SVT Education 1999:4

Statistics Finland

Education in Finland 1999

STATISTICS AND INDICATORS

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SVT Suomen virallinen tilasto
Finlands officiella statistik
Official Statistics of Finland

Cover photograph: Fennopress
Cover desing: Irene Matis
Layout: Silja Kahra, Irene Matis

ISSN 1236 - 4746
= Education
ISBN 951 - 727 - 605 - 2

University Press, Helsinki 1999

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FOREWORD

Education and its evaluation have expanded into a joint international venture assuming numerous different manifestations. In order to promote this mutual co-operation, Statistics Finland[1] is publishing this compendium Education in Finland 1999. The book monitors significant developments and points out trends in major aspects of education using international concepts and classifications to provide basic information on the regular education system and other forms of Finnish education.

Finland is investing heavily in education, and the opportunities for studying are both wide and varied. The Finns are highly motivated to study. The vast amount of energy that went into the creation of institutional education for young people in the 1960s has been reflected in the extremely rapid rise in the educational level of the population and the labour force since the 1970s. This has been particularly marked in the attainment level of women (chapters 6: *Educational attainment of the Finns* and *7: The educational level of the labour force*).

The focus in the 1990s has shifted to tertiary education. Since the mid-1990s the participation rate in tertiary education has risen so that it is now among the highest in the EU countries. The level of vocational college education is also being raised by introducing a new type of educational establishment, the polytechnic. The 1990s have also been a decade of internationalisation for Finnish education. Information about the school system and participation in education is given in chapters *2: Educational institutions and enrolment* and *4: New students and participation in education*.

A good education is extremely significant to young people seeking their first job on the labour market. Considerable space has therefore been devoted here to graduation and the transition from school to work (chapter 5). The Statistics Finland individual data-based systems well permit the tracing of an individual's transition from school to work or further studies, or from work back to school.

Time and again research has proved the importance of education. One new feature of this publication is chapter *9 Social outcomes of education*, which gives a collection of brief statistics-based reviews of the significance of education in directing the course of a person's life. It deals with the social inheritance of education, and the strong connection between education and labour force activity, unemployment and earnings. It also examines the role of education in stimulating leisure pursuits and the correlation between educational level and the number of children in a family, state of health and mortality.

Education grows out of date in time; keeping up with working life necessitates life-long study. Details of this are to be found in chapter 8: *Adult education and foreign language skills*.

1 Statistics Finland is the national statistical institute engaged in the compilation and publication of statistics on conditions in Finnish society.

Fresh data, time series and indicators on education are given along with international comparisons in a condensed format that is easy to grasp. The book is intended for teaching and education professionals, persons active in organisations and various walks of society, and companies. It contains a wealth of new information for people speaking and writing about education, while researchers will find in it indications of the ongoing trends in the education system and working life.

The statistics are, as applicable, classified according to the new International Standard Classification of Education (ISCED 1997)[2]. This classification is so new that its terminology is not yet in established use. The international comparisons are based on the old ISCED 76 classification and are not therefore commensurable with those of the new ISCED 97. Most of the international comparisons are from the publication *Education at a Glance, OECD Indicators*.

The book was compiled and edited by Heikki Havén, Head of Education Statistics, chapter 8, on adult education and foreign language skills, by Senior Researcher Irja Blomqvist and Senior Statistician Timo Ruuskanen. The section on the internationalisation of education was written by Special Adviser Aaro Ollikainen from the Centre for International Mobility (CIMO).

Riitta Harala
Director, Population Statistics

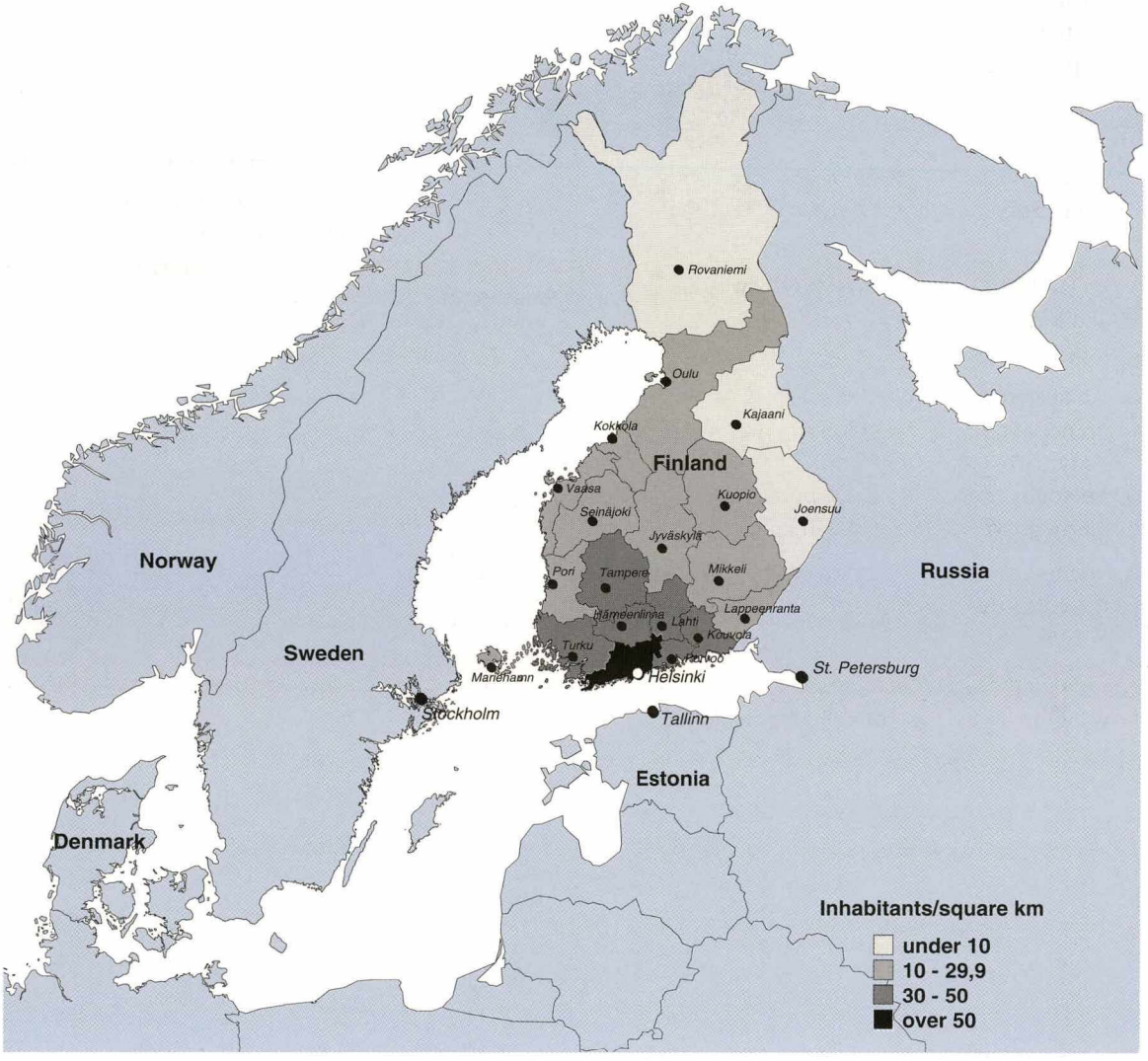
2 For further details see the Finnish Implementation Manual ISCED 1997, Statistics Finland 1999.

1

THE COUNTRY AND IT'S PEOPLE

This chapter gives a few basic facts about Finnish society to provide the context in which the education system operates. Familiarity with the context creates a basis for interpreting the structures, processes and outcomes of education.

1.1 Population density by region in Finland on 1 January 1999



The country

Finland is the fifth biggest EU Member State in terms of area, has the third smallest population (5.2 million) and the lowest population density, 17 persons per km^2 (EU15: 117)

- The capital of Finland is Helsinki. Together with neighbouring Espoo and Vantaa it has 0.9 million inhabitants
- Finland has land borders with Sweden, Norway and Russia (land boundary 1,269 km) and a sea border with Estonia
- Finland is a sparsely-populated country. There are great differences between the regions in their population density: over 200 persons per km^2 in Uusimaa on the south coast but only 2 per km^2 in the most northerly province, Lapland (Chart 1.1)
- Forest accounts for 68% of Finland's territory, water for 10%, cultivated land for 8% and other types of land for 14%
- There are about 188,000 inland lakes with an area of at least 500 m^2, 1,100 km of sea shoreline and about 81,000 sea islands with an area of at least 100 m^2
- In the most northerly parts of Finland the sun never sets for a good two months in the summer and never rises for around six weeks in the winter. The most southerly parts of Finland have about 19 hours of daylight and about two hours of twilight in the morning and evening at the height of summer. At the darkest time of year the sun rises above the horizon for only about six hours a day
- The mean daily temperature during the coldest month of the year is -5.7°C in Helsinki in Southern Finland and -15°C in Sodankylä in Northern Finland. The sea and lakes have a thick covering of ice in winter
- The mean daily temperature during the hottest month (July) is 17°C in Helsinki and 14°C in Sodankylä. On average the snow comes to stay on 25 December in Helsinki and on 26 October in Sodankylä. It has on average melted by 29 March in Helsinki in Southern Finland and by 14 May in Sodankylä in Northern Finland

Population

- 5.2 million on 1 January 1999
- The proportion of the population under the age of 15 is growing smaller, that of old age pensioners larger (Table 1.2)
- Language: Finnish 92.6%, Swedish 5.7%, other 1.7%
- Foreigners: 1.7% of the population
- About 60% of the Finns live in urban municipalities. Strong migration to the larger towns, chiefly in Southern Finland
- Finland has two national churches: 87.7% of the population belong to the Evangelical-Lutheran church and 1.1% to the Greek Orthodox church; 10% no religious affiliation
- Total fertility rate 1.7 (average number of children per woman)
- Life expectancy: males 74 years, females 81
- Doctors: 27 per 10,000 inhabitants, EU average 28 in 1994 (SACO 101 EN 1998)

1.2 Population by age group 1950–2030

	Total		Age group			
			0-14	15-64	65-	0-years-old
		%	%	%	%	
1950	4 029 800	100	30	63	7	96 110
1960	4 446 220	100	30	62	7	79 220
1970	4 598 340	100	24	66	9	60 980
1980	4 787 780	100	20	68	12	62 660
1990	4 998 480	100	19	67	13	65 280
2000	5 180 630	100	18	67	15	56 790
2010	5 255 780	100	16	67	17	55 580
2020	5 293 310	100	16	62	23	54 970
2030	5 249 760	100	16	59	26	50 770

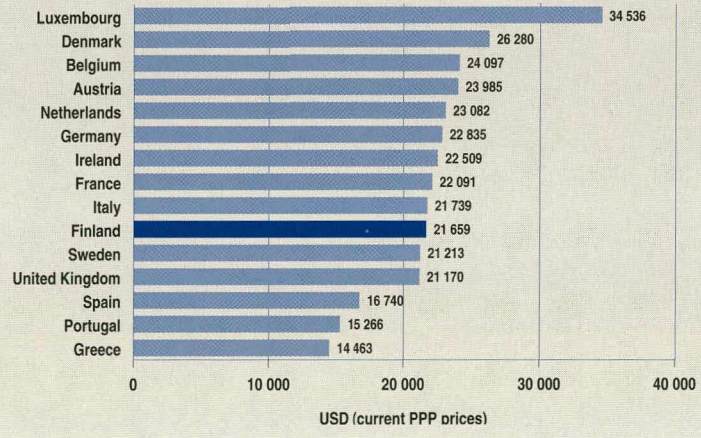
Source: Statistics Finland

Government

- Sovereign parliamentary republic since 1917
- President elected every six years
- 200 Members of Parliament elected for a four-year term. The most recent general election (March 1999; poll 68%) produced the following result: Social Democratic Party of Finland 51 seats, Centre Party of Finland 48, National Coalition Party 46, Left Alliance 20, Green League 11, Swedish People´s Party in Finland 11, Christian League of Finland 10, True Finns 1, Reform Group 1 and Åland 1 seat
- Women account for 37% of Finland's MPs: this is the third highest in the EU
- Member of the European Union since 1.1.1995, of the Economic and Monetary Union (EMU) along with 10 other EU Member States since 1.1.1999

The economy

- Gross domestic product (GDP) per capita USD 21,659 in 1998 (Chart 1.3)
- GDP grew by 4.8% per year in 1995-1998, compared with 2.4% for the EU. GDP regained the pre-recession level after the mid-1990s (Chart 1.4)
- Average inflation 1.1% a year 1995-1998
- Employed persons in 1998: agriculture and forestry 6%, industry and construction 27%, services 67% (Chart 1.5)
- Energy consumption per capita second highest in the EU after Luxembourg. This is due to the northern location and the structure of industry, which



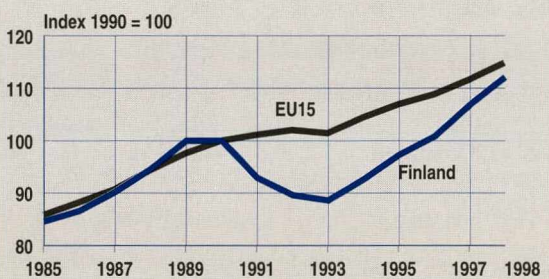
1.3 Gross domestic product (GDP) per capita in Finland and other EU countries in 1998

Source: OECD, National Accounts; Main Economic Indicators March 1999

is still much based on the energy-intensive forest industry

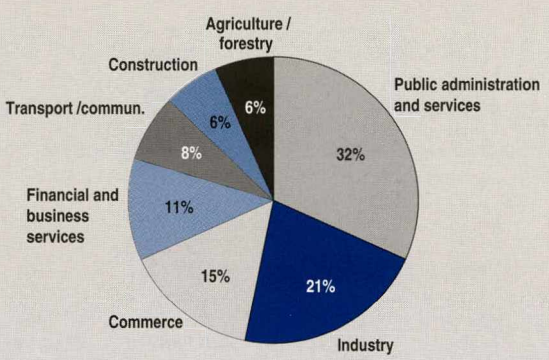
- Exports 39.5% of GDP in 1998
- EU accounted for 56% of Finland's exports and 60% of imports in 1998
- Exports by industry: metal and engineering products biggest sector in 1997 (Chart 1.6)
- Finland has become a major producer of high-technology in the latter half of the 1990s. In 1998 exports were 1.5 times the size of imports (Chart.1.7). The favourable trend in foreign high-tech trade is due especially to the growth in exports of electronics and information technology products. IT products accounted for 20% of total exports in 1998
- Finland's five main trading partners in 1998: Germany, Sweden, the United Kingdom, USA and Russia
- Finland rated third after the USA and Singapore in the International Institute for Management (IMD) comparison of competitiveness in 1999. Finland's education and training system was rated highest of the countries studied
- Investment in R&D activity is increasing briskly. Between 1995 and 1997, R&D expenditure grew yearly by 14 per cent in real terms. In 1997, R&D expenditure accounted for 2.8 per cent of the Finnish GDP. The proportion is among the highest in the OECD countries (Chart 1.8). According to preliminary data, the proportion will go up to 3 per cent in 1998

1.4 Gross domestic product (GDP) in Finland and the EU 1985–1998

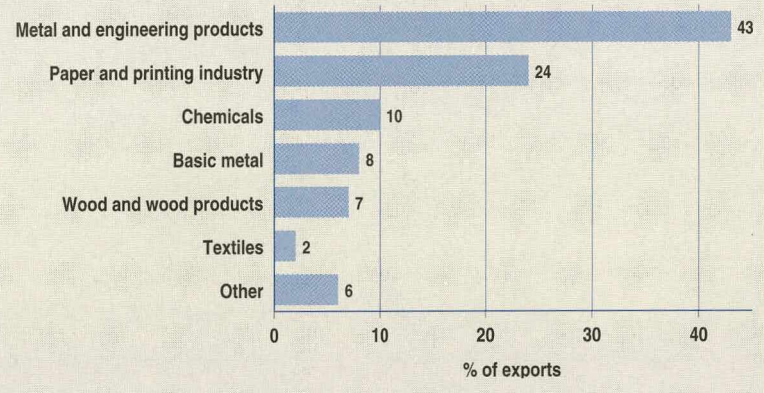


Source: OECD Statistics, National Accounts, Main Economics Indicators 1999

1.5 Employed persons by industry in 1998

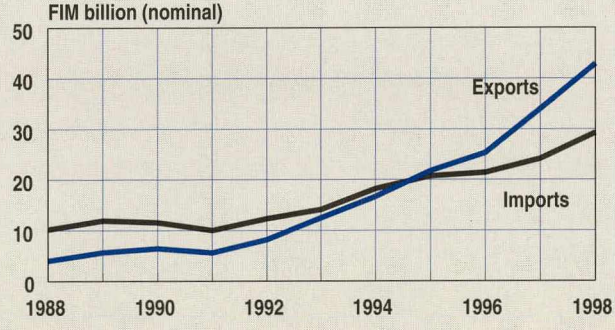


Source: Statistics Finland (LFS)



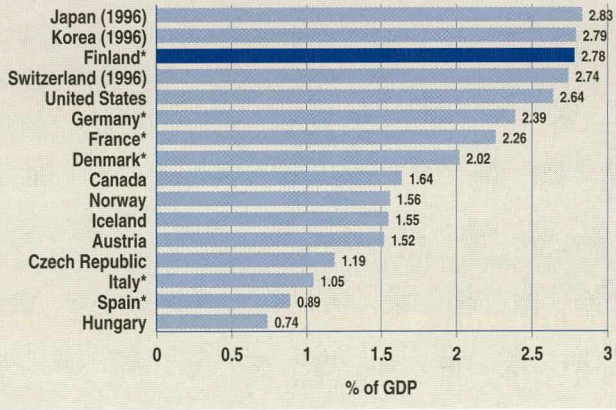
1.6 Exports by industry in 1997

Source: National Board of Customs



1.7 Finnish foreign trade in high-technology in 1988-1998

Source: National Board of Customs



1.8 Research and development (R&D) expenditure as a percentage of Gross domestic product (GDP) in certain OECD countries in 1997

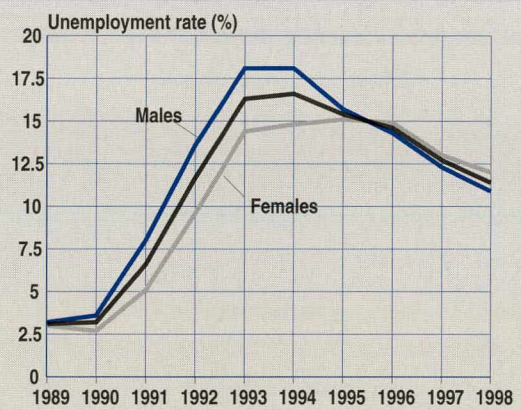
** mainly OECD secretariat estimate or projection based on national sources*

Source: Main science and technology indicators, OECD, 1998/2

The labour force

- 2.5 million in 1998
- Men 52.5%, women 47.5%
- 2.2 million employed persons in 1998
- Labour force rate 64.7%, men 68.4%, women 61.0% in 1998
- The unemployment rate has fallen rapidly from the 16.6% of the peak year, 1994, to 11.4% in 1998 (Chart 1.9)

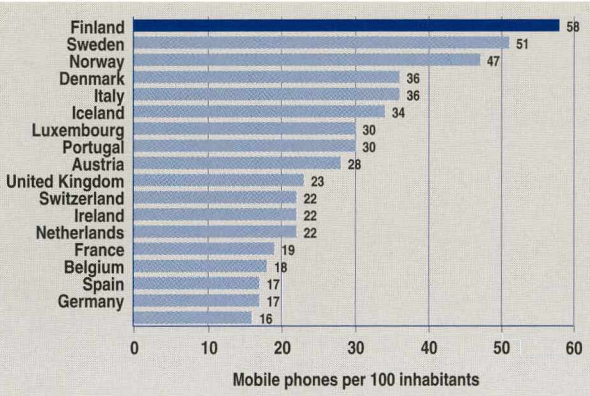
1.9 Unemployment rate 1989-1998



Source: Statistics Finland (LFS)

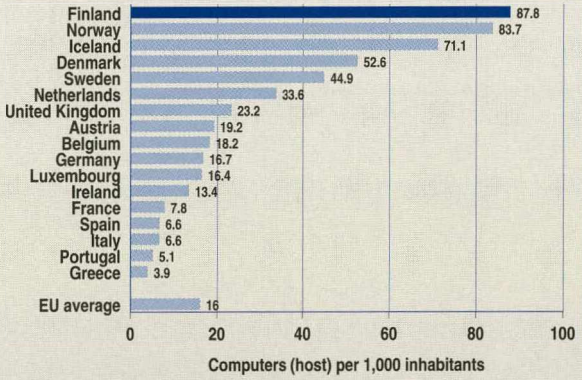
On the road to the information society

- Finland had about three million mobile phones (subscriptions), relatively more than any other country in the world or 58 per 100 inhabitants at the beginning of 1999 (Chart 1.10). The 60 per 100 limit was reached in spring 1999. More than 75 per cent of households had a mobile phone



1.10 Mobile phones per 100 inhabitants in certain European countries on 1 January 1999

Source: Mobile Communications



1.11 Computers (host) connected to the Internet per 1,000 inhabitants in certain European countries in January 1999

Source: RIPE, Statistics Finland

- 42% of households had a PC at the beginning of 1999. For PC frequency in schools, see Chapter 2, Table 2.8
- According to RIPE, Finland had more computers (host) connected to the Internet than in any other EU country in January 1999: 88 per 1,000 inhabitants (Chart 1.11)
- More than 18% of Finns aged 15-74 use the Internet daily
- The payment systems in Finland can claim to be the most advanced in the world in terms of their technology. Over 80% of all customer transactions took place by computer without the use of paper documents in 1998 (The Finnish Bankers' Association)
- The library network is dense in Finland and about half the population use lending services. Some 80% of libraries offer their clients access to the Internet (1998)
- The circulation of daily newspapers per 1,000 inhabitants is the highest in the EU (1997): 454
- The production of book titles per 10,000 inhabitants is the highest in the EU (1996): 26
- There are about 30 regularly performing symphony and chamber orchestras around the country and their audiences total about a million a year. In a country with only five million people, this is quite a high number

2

EDUCATIONAL INSTITUTIONS AND ENROLMENT

The information on educational institutions and students given in this chapter covers the formal education in the regular Finnish education system. The data are based on statistics compiled by Statistics Finland (National Statistical Institute of Finland), Ministry of Education, the National Board of Education, the National Research and Development Centre for Welfare and Health (STAKES), the Centre for International Mobility (CIMO) and Social Insurance Institution for Student Financial Aids.

The data have been classified by type of educational institution more or less in accordance with the new International Standard Classification of Education (ISCED 97). The international comparisons are from the publication "Education at a Glance, OECD Indicators" published by the OECD.

Pre-primary education expanding

There are no actual pre-primary schools in the Finnish education system, but pre-school instruction is provided in children's day care centres (kindergartens) and comprehensive schools. The pre-primary education is to undergo reforms in the next few years. Under the new system all 6-years old children will within the next couple of years be offered the opportunity for pre-school education.

The day care centres (for which a fee is charged) come under social services in Finland, but they are also responsible for providing children with preliminary instruction. Pre-primary education is here taken to mean education for children aged 3-6 provided by the local authority and corresponding private kindergartens in accordance with the international criteria (ISCED 97).

Some comprehensive schools arrange pre-primary teaching for 6-year-olds. This is free of charge. Systematic 2-year pre-primary education is provided for severely handicapped children, for whom the 11-year compulsory education begins at the age of 6, i.e. one year earlier than for normal children.

According to the preliminary data, some 125,000 children were in pre-primary education in 1998. Of these, about 94 per cent were in day-care centres and the remaining 6 per cent in pre-primary education provided by the comprehensive schools. About 10 per cent of children were in private institutions (Table 2.1). Many of the private institutions provide services

2.1 Children in pre-primary programmes 1990–1998

	Day-care centres (kindergartens)*			Pre-primary education in comprehensive schools	Total
	Municipal	Private	Total		
1990	78 200	6 000	84 200	2 200	86 400
1991	81 000	5 200	86 200	2 200	88 400
1992	81 600	5 700	87 300	2 400	89 700
1993	84 100	5 600	89 700	2 500	92 200
1994	87 000	5 800	92 800	3 100	95 900
1995	93 500	6 700	100 200	4 000	104 200
1996	102 200	6 700	108 900	5 300	114 200
1997**	103 300	9 200	112 500	6 500	119 000
1998**	105 200	12 000	117 200	7 400	124 600

** Whole- and half-day children aged 3-6, some data estimates*
*** Preliminary data*

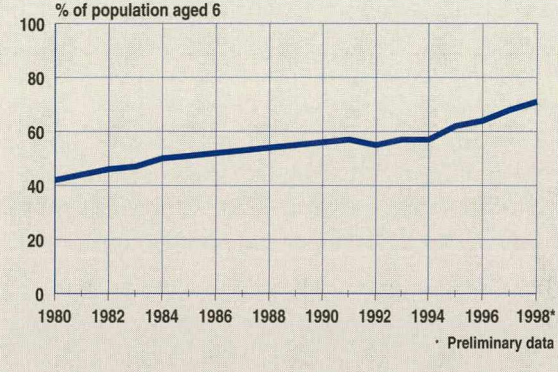
Source: Statistics Finland, STAKES

that are purchased by the municipalities. There were in 1997 2,313 municipal day-care centres and 371 private ones. 85 per cent of the kindergarten teachers had a university-level degree in 1996 (see chapter 3: *Educational expenditure and staff*).

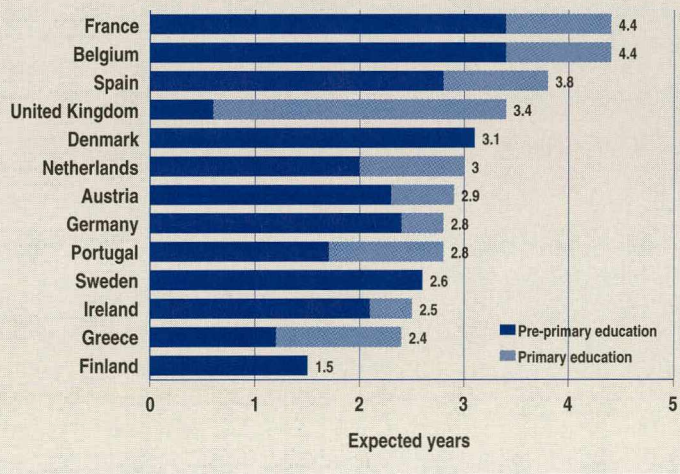
The number of children in pre-primary education has begun to rise steeply in the latter half of the 1990s, by about 4-5 per cent a year on average. The proportion of 6-year-olds in pre-primary education topped the 70 per cent mark in 1998 (Chart 2.2).

The pre-primary enrolment rate and the age at which children begin their primary education vary greatly from one country to another. In order to permit international comparisons, the OECD has developed an indicator (OECD Education at a Glance) for examining participation by young children as the average number of years a child can expect to be enrolled in either pre-primary or primary programmes before he or she reaches the age of 7. Using this indicator it is possible to estimate that Finland has clearly paid less attention to pre-primary education in the mid-1990s than the other EU countries (Chart 2.3).

2.2 The pre-primary enrolment rate of 6-year-olds 1980–1998



Source: Statistics Finland



2.3 Expected number of years of pre-primary and primary education for children up to the age of 6 in some EU countries in 1995

Source: Education at a Glance, OECD Indicators, 1997

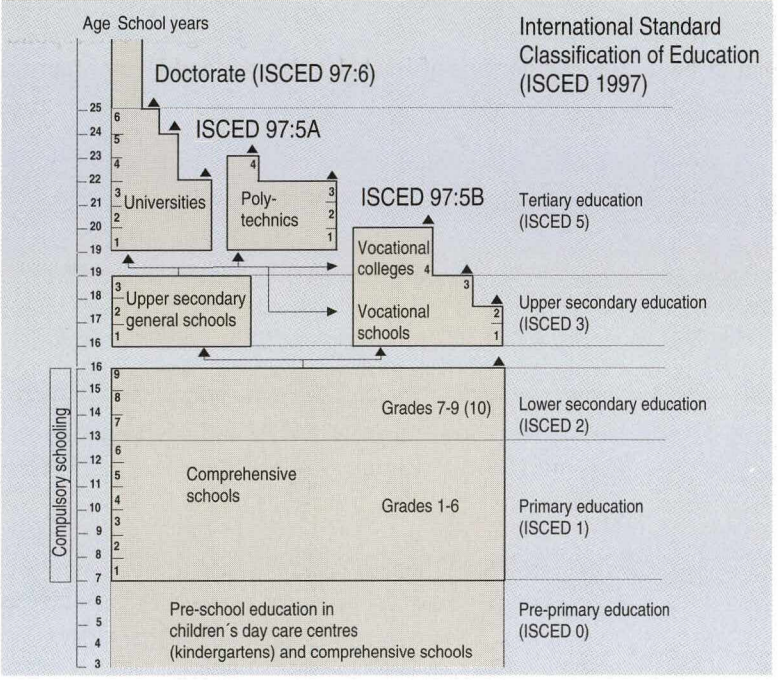
Regular education system reform

The regular education system takes in the educational institutions in which the objectives, operations and qualifications are subject to the national regulations on education. The Finnish regular education system is still highly educational institution-centred and uniform.

The basic structure of the Finnish education system is shown in Chart 2.4. This also shows approximately how the education provided by the various institutions corresponds to the levels in the revised Unesco International Standard Classification of Education 1997 (ISCED 97).

The regulations governing the education system have been extensively revised in the 1990s. To begin with, the decision-making has been significantly decentralised. The local authorities have been given much more power. According to a survey conducted in 1996, the local decision-making is more extensive in Finland than in almost any other OECD country (Education at Glance; OECD Indicators 1998). The schools have also been given greater autonomy. They are now permitted to specialise far more and students are offered a much wider choice of subjects. The third big reform is that of the state subsidy system. On the other hand, decentralisation has been accompanied by accountability and assessment, in many cases within a centrally established framework.

2.4 The regular education system in Finland in 1998



The comprehensive school (peruskoulu) is a nine-year compulsory general schooling for all children aged 7-16, i.e. eligible for compulsory education. Pupils normally begin the comprehensive school at the age of 7. The lower stage of the comprehensive school (primary education) consists of grades 1-6 and the upper stage of grades 7-9 (lower secondary education). Pupils can also take a voluntary 10th grade. Comprehensive schools also provide early childhood education, but most of the pre-primary education takes place outside the regular education system in the kindergartens subordinate

to the social services administration (see above, *Pre-primary education expanding*).

The upper secondary general schools (lukio) provide post-comprehensive general education. It usually takes 2 to 4 years to complete the upper secondary general school syllabus. The school concludes with the national matriculation examination giving the student the general qualification to apply for a university or for high-level vocational studies.

Vocational schools and colleges (ammatilliset koulut ja opistot). The vocational schools provide post-comprehensive vocational education. Obtaining a vocational diploma generally takes 2-4 years. The vocational upper secondary qualifications are in the process of reform and will all take three years to obtain by the year 2001. Under the new University Decree, students who have completed a 3-year qualification will be eligible for study at a university. In the early years of the decade the vocational schools and colleges began to be grouped together to form multi-field institutions. Meanwhile the municipal sector has become the primary owner of these institutions. The apprenticeship scheme has been developed and education is in other ways being more closely integrated with working life. The vocational education provided at the institutions includes work placements lasting at least six months.

The vocational college system is gradually being phased out as part of the polytechnic reform. Most of the places in vocational education will then be transferred to the polytechnics and the educational level of vocational education will rise.

Polytechnics (ammattikorkeakoulut). A new type of educational institution was born in Finland in the early 1990s: the polytechnic. Work on developing the polytechnics had, however, begun as an experiment in 1991, and the polytechnic network will be complete as of autumn 2000. Studies for a polytechnic degree take 3.5 to 4.5 years after the matriculation examination or some similar qualification. The polytechnic degrees are of the same level as lower university degrees but have a vocational orientation.

Universities (yliopistot). Finland has 20 universities. All of them are state-run and engage in both education and research. Most of the students selected for the universities are admitted for courses leading to a higher university degree. The higher university degree is designed to take 5-6 years to complete after the matriculation examination. Students may if they wish also work for a lower university degree taking 3-4 years to obtain. After the lower degree they can then continue for a higher degree or make the transition to the labour market. Students who have completed a higher degree may go on to take a doctorate-level degree. In most fields, students can also take an optional Licentiate's degree before going on to a doctorate. The Finnish university degrees correspond to the degrees of Bachelor, Master and Doctor known internationally.

Other educational institutions. The Finnish education system also includes folk high schools, adult education centres, study circle centres, physical education centres and military vocational institutes and academy. The summer universities provide education of a university level regardless of previous education.

Finland has a well-organised system of music schools, colleges and universities: 89 in 1997, and located all over the country. Many children start at music school before the age of 7 and many continue in the music college. There are also some comprehensive and upper secondary general schools with a musical orientation. Students wishing to make a career in music can study for a tertiary level qualification in music at one of the 11 conservatories in different parts of the country. The music education of the highest level is provided at the Sibelius Academy, where it is even possible to obtain a doctorate in music.

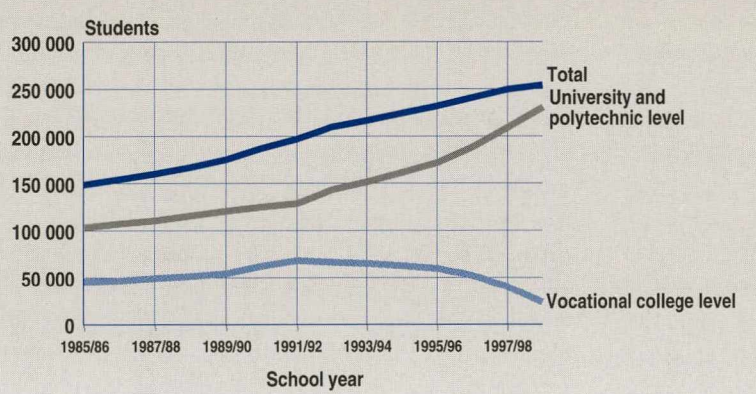
2.5 Educational institutions and students in the regular education system by type of institution in the 1998/99 school year

Type of institution	Institutions	Change on previous year	Students	Females %
Comprehensive schools	4 203	-91	591 700	48.8
Upper secondary general day schools	430	0	113 000	56.9
Vocational schools and colleges	327	-21	137 700	50.0
Polytechnics	34	3	82 200	54.5
Universities	20	0	147 300*	52.4
Total	**5 014**	**-109**	**1 071 900**	**50.7**

** Preliminary data*
Source: Statistics Finland; KOTA data base, Ministry of Education

There were in the 1998/99 school year more than 5,000 comprehensive schools, vocational schools and colleges, polytechnics and universities. Together they had over a million students working for a degree or qualification, i.e. about one fifth of the total Finnish population. The enrolment rate in education is among the highest in the EU (see chapter 4).

The number of students in the regular education system has risen steadily and topped the million mark in 1992. The growth in the number of students is due to the expansion of tertiary education, in particular, over the past ten years or so (Table 2.7). Whereas in 1985 the comprehensive school accounted for 63 per cent of all students, the percentage had by the 1997/98



2.6 Number of students in tertiary education in the 1985/86– 1998/99 school years

Source: Statistics Finland

school year fallen to 55. Meanwhile the proportion of students in tertiary education had risen from 16 to 24 per cent.

The reform of higher vocational education can be seen in Chart 2.6 as the drop in the number of students at vocational college level in the 1990s. Vocational college education is gradually being phased out and replaced by the higher level education at the new polytechnics. The last vocational college student intake was in 1998.

The number of pupils in pre-primary education has also risen in the regular education system due to the pre-primary education provided in conjunction with the comprehensive school. The number of pupils is, however, very small, accounting for only about six per cent of all pupils in pre-primary education (see above, *Pre-primary education expanding*).

The majority of the educational institutions are public: close on 95 per cent of students are in institutions maintained by the local authorities or state. The private institutions in the regular education system are government dependent, receive most of their funds from government sources and are subject to government regulation.

The bulk of the educational institutions are owned by one or more municipalities. All the universities are

2.7 Students in the regular education system by level of education in the 1985/86–1997/98 school years

School year	Pre-primary education [1]	Primary education	Secondary education			Tertiary education		Total
			Lower secondary	Upper secondary		Vocational college level	University and polytechnic level	
				General [2]	Vocational			
1985/86	1 170	379 339	188 943	99 582	91 150	45 420	103 010	908 614
1986/87	1 551	386 914	181 718	96 887	90 330	46 950	107 177	911 527
1987/88	1 795	388 674	182 450	93 578	88 628	49 452	110 576	915 153
1988/89	1 816	387 756	187 980	91 158	88 617	51 513	115 575	924 415
1989/90	2 067	387 951	197 195	87 940	87 409	54 511	120 675	937 748
1990/91	2 189	389 410	201 321	88 160	88 334	62 275	124 847	956 536
1991/92	2 240	392 059	201 698	92 278	95 452	68 295	128 777	980 799
1992/93	2 375	392 537	199 309	99 477	103 463	66 489	143 067	1 006 717
1993/94	2 454	390 892	196 960	105 096	107 313	65 110	151 472	1 019 297
1994/95	3 126	387 306	197 091	107 824	106 374	62 781	161 550	1 026 052
1995/96	3 973	384 369	199 820	109 108	103 681	59 666	172 130	1 032 747
1996/97	5 293	380 932	202 903	109 878	107 588	52 222	188 472	1 047 288
1997/98	6 520	381 078	204 777	111 328	108 829	40 107	209 328	1 061 967

[1] c. 6% of all pre-primary children, [2] Upper secondary general day schools

Source: Statistics Finland

2.8 PCs (min. 386 or the like) in educational institutions in the spring term of 1999

	PCs/institution	Students/PC
Primary schools	9	13
Lower secondary schools	26	12
Upper secondary schools	26	10
Vocational schools and colleges	82	5

Source: National Board of Education

state-owned, but there are only a few state institutions left among the other institutional groups as most of them have been transferred to the local authorities in the course of the 1990s.

According to an estimate made by the National Board of Education, primary schools had on average about 9 PCs of at least 386 standard per school, i.e. one per 13 pupils in the spring term of 1999. The corresponding figures for lower secondary schools were 26 and 12, for the upper secondary general schools 26 and 10, for the vocational schools and colleges 82 and 5 (Table 2.8).

The National Board of Education estimates that 90 per cent of primary and lower secondary schools, 95 per cent of upper secondary general schools and 100 per cent of vocational schools and colleges were connected to the Internet in the spring term of 1999.

Comprehensive schools

The comprehensive school is a nine-year compulsory general schooling for all children aged 7-16, i.e. eligible for compulsory education. Pupils normally begin the comprehensive school at the age of 7. During the autumn term 1997 there were 3,200 children of compulsory school age, i.e. about 0.5 per cent, in some form of institution other than the comprehensive school. Just on half of them had had their school deferred and a fifth were temporarily resident abroad. About 0.8 per mille of all children of compulsory school age were in private education, either at home or in schools without school rights.

The lower stage of the comprehensive school (primary education) consists of grades 1-6 and the upper stage of grades 7-9 (lower secondary education). It is also possible to take a voluntary 10th grade. The comprehensive schools also provide pre-primary education, but most of this is provided outside the regular education system in the kindergartens subordinate to the social services (see above, *Pre-primary education expanding*).

There was in autumn 1998 a total of 21,700 pupils, i.e. 3.7 per cent of the total in the comprehensive school, in special education by official decision. The figure does not include those receiving part-time special tuition, who are far more numerous. A good half of those transferred to special education were in special schools. More special schools were established in 1997 due mainly to the fact that compulsory education was extended to include children with even the most severe mental impairments: nine special schools were founded for them.

There were 591,700 pupils in the comprehensive school in the 1998/99 school year (Table 2.9): 65 per cent at the primary level, 34 per cent at the lower secondary level and one per cent at the pre-primary level.

2.9 Comprehensive schools and pupils by type of school in the 1998/99 school year

Type of institution	Institutions	Pupils	Change on previous year
			%
Primary schools	3 256	373 811	0.5
Lower secondary schools	626	187 356	-1.7
Private schools	37	8 254	1.8
Special schools	284	12 144	1.8
Teacher training schools [1)]	13	5 759	0.2
Other schools [1)]	12	4 355	2.5
Total	**4 228**	**591 679**	**-0.1**

1) These also provide upper secondary education
Source: Statistics Finland

Girls represented 48.8 per cent, i.e. the percentage of girls in the population. The number of pupils has not varied much in recent years as there have not been any marked changes in the number of pupils of compulsory school age.

There were in the 1998/99 school year 4,228 comprehensive schools; this was 91 fewer than in the previous year. The language of instruction in the comprehensive schools is as a general rule either Finnish or Swedish. The number of pupils in the Finnish- and Swedish-speaking comprehensive schools is in proportion to the number of children in the population speaking Finnish or Swedish as their mother tongue. About 94 per cent of the comprehensive school pupils were in Finnish-speaking schools and just under 6 per cent in Swedish-speaking ones.

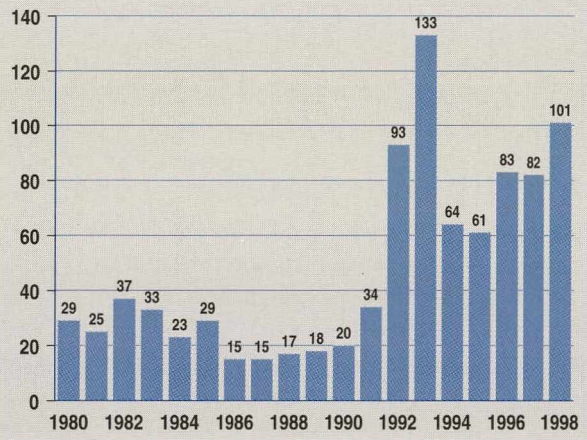
671 primary schools have been closed in the1990s (Chart 2.10). This has been due greatly to the dwindling number of pupils in the rural areas. Most of the primary schools that were closed were in the northern and eastern parts of Finland. Rationalisation has been another major reason for closing primary schools, mainly small ones, in the 1990s.

Despite Finland's low population density, the accessibility of schools is on average good. More than 80 per cent of comprehensive school pupils lived less than five kilometres from their schools in 1996. The distances and the time spent travelling to school have, however, grown longer in the sparsely-populated regions of Northern Finland. The longest distance for pupils in grades 1-6 of the comprehensive school may nowadays be over 50 kilometres and sometimes as much as 75. In grades 7-9 it is not unusual for a pupil to travel over 100 kilometres even. These long distances nevertheless affect only a small number of pupils, since only about one fifth of all pupils live in rural municipalities.

The average size of the comprehensive schools has increased annually in the 1990s as schools have been closed and the number of pupils has grown in the urban centres and towns. This is a consequence of mobility and the ageing of the rural population.

Due to the low population density, the comprehensive schools are on average relatively small. In the 1998/98 school year the average primary level school had 115 pupils. The regional differences are great: the urban schools had 215 pupils on average and the rural schools 64. The ten smallest primary level schools had fewer than ten pupils and the seven biggest more than 650 in the 1998/99 school year. The average size of lower secondary level schools was 299 pupils in 1998 (Table 2.11). The ten smallest had fewer than 50 pupils and the biggest over 900. Some of the small comprehensive schools are in the archipelago.

Pupils usually begin studying their first foreign language in grade 3, with the first compulsory language. Some pupils in special education may be exempt from studying a foreign language. Pupils in grades 1-6 may also begin an optional language.



2.10 Primary schools closed in 1980–1998

Source: Statistics Finland

2.11 Average number of pupils in comprehensive schools by degree of urbanisation in 1998

	Lower stage (primary education)	Upper stage (lower secondary education)
Urban municipalities[1)]	215	351
Semi-urban municipalities[2)]	94	377
Rural municipalities[3)]	64	206
Whole country	**115**	**299**

% of inhabitants live in urban settlements: [1)] over 90, [2)] over 60 but under 90, 3) under 60.
Source: Statistics Finland

2.12 Choice of foreign language in the comprehensive school in 1997

Foreign language	Primary education (grades 3-6) % of pupils	Lower secondary education (grades 7-9)
English	93.2	98.5
Swedish	6.0	91.7
German	12.9	21.0
French	2.9	8.3
Finnish	5.4	5.4
Russian	0.4	1.2
Other [1)]	0.3	0.9

[1)] e.g. Sami, Spanish, Italian, Hebrew
Source: Statistics Finland

Pupils in the lower secondary school (grades 7-9) read at least two foreign languages: the one already begun and a second one. The second language is also compulsory: Swedish, Finnish or English. Pupils at lower secondary level can again take another optional language.

English is by far the most popular foreign language; 93 per cent of pupils in grades 3-6 and 99 per cent of those in the lower secondary school chose it as either a compulsory or a voluntary language in the autumn term 1997. Pupils with Swedish as their mother tongue take Finnish and those with Finnish as their mother tongue take Swedish. One fifth of the pupils in the lower secondary school took German and 8 per cent French (Table 2.12).

Immigrants (refugees, asylum seekers, returnees and children temporarily resident in Finland) are also offered instruction in their own language in the comprehensive school, usually for two hours a week. More than thirty such languages were taught in the Helsinki comprehensive schools in the 1996/97 school year.

At the lower secondary level the total intended instruction time for 14-year olds was 950 hours a year in 1996. This is average for the EU (Education at a Glance 1998; OECD Indicators).

Upper secondary general schools

The upper secondary general schools provide post-comprehensive general education. It usually takes 2 to 4 years to complete the upper secondary general school syllabus. Although students in almost all the upper secondary general schools are free to study at their own pace, only 4.3 per cent took a fourth year to complete the syllabus in the 1998/99 school year. 94 per cent of the pupils were in Finnish-speaking schools and 5.5 per cent in Swedish-speaking ones.

The school concludes with the national matriculation examination giving the student the general qualification to apply for a university or high-level vocational studies.

2.13 Upper secondary general schools and students in the 1998/99 school year

Type of institution	Institutions	Students	Change on previous year %
Upper secondary general schools	430	109 387	1.4
Teacher training schools [1]	8	2 099	-1.5
Other schools [1]	9	1 440	7.8
Upper secondary schools for adults [2]	28	16 502	11.1
Total upper secondary general education	**475**	**129 428**	**2.6**

1) Also provide comprehensive school education
2) Includes students in the 26 day school adult departments
Source: Statistics Finland

2.14 Daytime upper secondary general schools and their students 1990/91–1998/99 school years

School year	Upper secondary general schools	1st year students	Total no. of students	Girls %
1990/91	463	33 388	88 160	57.6
1991/92	463	35 443	92 278	57.4
1992/93	464	37 292	99 477	57.2
1993/94	463	38 053	105 096	56.9
1994/95	456	38 107	107 824	56.9
1995/96	450	37 565	109 108	56.9
1996/97	448	37 153	109 878	57.0
1997/98	447	37 268	111 328	56.9
1998/99	447	37 900	112 926	56.9

Source: Statistics Finland

The upper secondary general schools are of two types : day schools and schools for adults. Those for adults are intended for persons aged at least 18 and most of the tuition is given in the evenings. Practical and arts subjects are not taught in the adult upper secondary general schools and the there is less face-to-face teaching than in the day schools. The courses are also less extensive in the adult schools. The adult upper secondary general schools prepare students for the matriculation examination. Students can also study individual subjects and the comprehensive school syllabus. There were 28 upper secondary general schools in autumn 1998. The day schools also provide upper secondary general school education for adults in their adult departments.

An upper secondary general education was provided at 475 institutions in the 1998/99 school year. There were 129,400 students, i.e. more than ever before: 112,900 in day schools and 16,500 in adult schools (Table 2.13). The number of students in the day schools has grown by about 3 per cent a year on average. About 57 per cent of the students were girls. There have not been any marked changes in the number of female students in the past few years (Table 2.14). The day school intake in 1998 was 37,900. For further details of student enrolment see chapter 4: *New students and participation in education*

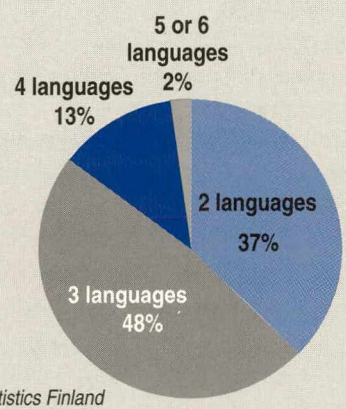
The network of upper secondary general schools is relatively dense and covers the whole country. As a result, the schools are rather small. In the 1998/99 school year the day schools had 253 students on average: those in the towns 341 and those in the rural areas 137. The biggest schools had over 800 students and there were six with fewer than 50. The average size of the day schools in towns has grown in recent years, the main reason being the combining of schools.

All the students learn at least two foreign languages in the upper secondary general school, one of which is the other domestic language (Swedish or Finnish). The Finnish speakers take Swedish, and vice versa. A good third of the students read two foreign languages in the 1998/99 school year and about one

half three; 15 per cent of the day students took four, five or six languages in the 1997/98 school year (Chart 2.15).

Practically all the students in the day schools took English, either as a compulsory or an optional language; 44 per cent took German and 21 per cent French (Table 2.16).

2.15 Students in the upper secondary general day school according to number of foreign languages taken in the 1997/98 school year



Source: Statistics Finland

2.16 Languages chosen in upper secondary general day schools in the 1997/98 school year

Foreign language	% of students
	%
English	99.2
Swedish	93.3
German	44.0
French	21.2
Finnish	5.9
Russia	4.5
Spanish	2.9
Italian	1.2
Latin	1.1
Other [1]	0.3

[1] *e.g. Japanese, Estonian, Sami*

2.17 Matriculation examinations 1990–1998

	Examinations	Of which international ones	Girls	In Swedish-speaking upper secondary general schools	In adult upper secondary general schools
		%	%	%	%
1990	27 469	-	59.6	6.1	6.0
1991	26 724	2	59.0	6.4	6.4
1992	26 169	5	59.5	6.4	6.9
1993	29 351	43	59.6	6.0	7.2
1994	32 069	102	58.5	6.1	7.1
1995	33 853	145	58.7	5.7	6.6
1996	34 695	151	58.2	5.8	6.7
1997	35 026	169	58.6	5.9	7.4
1998	34 701	187	58.5	5.9	7,0

Source: Statistics Finland

34,700 students took the matriculation examination in 1998, 7 per cent of them in an adult upper secondary general school. 187 students at nine upper secondary general schools took an international equivalent (19 the Reifeprüfung and 168 the International Baccalaureate). (Table 2.17)

The age distribution of those taking the matriculation examination was as follows: under 19 just under one per cent, 19-year-olds 80 per cent and 20-year-olds just on 14 per cent. The remaining six per cent were aged 21 or more. For further details of the matriculation examination see chapter 5: *Graduation and transition from school to work.*

Vocational schools and colleges

Vocational schools cater for post-comprehensive vocational education. Obtaining a vocational diploma generally takes 2-4 years. The first vocational qualification took 2, 2.5 or 3 years to obtain in 1998. These qualifications are, however, being renewed and will by the year 2001 all take 3 years. On the other hand, the duration of studies depends greatly on the student's educational background and work experience. Some of the education is designed and arranged specifically with adults in mind.

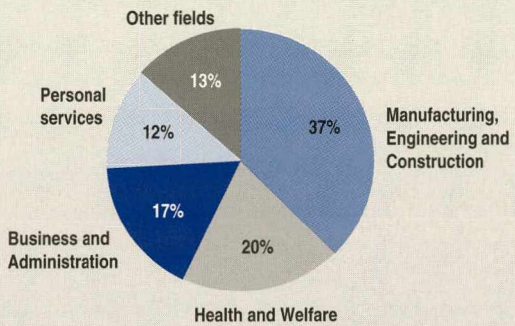
The vocational schools and colleges had 137,700 students working for a qualification in the 1989/99 school year. 80 per cent of them were upper secondary level students and 20 per cent tertiary level. The number of students has dropped in the past few years due to the fact that the vocational college education in the vocational schools and colleges category is being con-

2.18 Vocational schools and colleges and students working for a vocational qualification 1990/91–1998/99 school years

School year	Institutions	Students	Females	Students in adult programmes
			%	%
1990/91	546	162 535	54.5	8.7
1991/92	541	177 018	55.1	10.5
1992/93	570	184 368	54.9	14.0
1993/94	529	185 047	53.8	15.7
1994/95	495	179 275	52.9	15.3
1995/96	458	171 577	52.6	15.4
1996/97	401	166 009	52,0	13.7
1997/98	350	153 656	50.5	11.9
1998/99	327	137 741	50.0	10.7

Source: Statistics Finland

2.19 Students in vocational schools and colleges by field of study in the 1998/99 school year



Source: Statistics Finland

verted to polytechnic level. When the vocational college education ceases in a few years' time, the only students in the vocational schools and colleges category will be upper secondary ones working for a vocational diploma.

Half the students in the vocational schools and colleges were women. The proportion of women has fallen as the college education has been phased out. Adults represented about 11 per cent of the students working for a vocational qualification (Table 2.18). 94.8 of the students were in Finnish-speaking education and 4.7 in Swedish. About 0.5 per cent were studying in some other language. There were most students, 37 per cent, in manufacturing, engineering and construction in the 1998/99 school year (Chart 2.19).

There were in the 1998/99 school year 372 vocational schools and colleges providing education leading to a vocational qualification. The drop in the number of schools and colleges is due to the of combining institutions started in the early 1990s to form larger administrative units, to the closing of institutions, and to the conversion of vocational colleges into polytechnics (Table 2.18).

Institutions providing education in one field only have now been expanded to cover many fields and to operate in many municipalities. The three biggest in-

2.20 Qualifications completed in vocational schools and colleges 1990–1997

	Upper secondary qualifications	Vocational college qualifications	Total
1990	33 272	22 394	55 666
1991	32 844	24 977	57 821
1992	36 646	27 661	64 307
1993	41 205	29 267	70 472
1994	41 462	28 778	70 240
1995	41 683	25 168	66 851
1996	40 775	21 636	62 411
1997	39 247	20 559	59 806

Source: Statistics Finland

stitutions had over 3,000 students in education leading to a qualification in the 1998/99 school year. Yet about 50 still had fewer than 100 students. In addition to the education leading to a qualification the vocational institutions also arrange many courses.

Apprenticeship training has been systematically developed in the past few years. In 1997 there were 36,300 participants in apprenticeship training, 53 per cent of them women. 7,200 diplomas were awarded on the completion of apprenticeship training. This is more than twice the number at the beginning of the decade.

Apprenticeship training leads to the same vocational qualifications as that provided by the vocational institutions. The student's knowledge and skills are measured by a skills examination. The apprenticeship training is a fixed-term agreement between the student and the employer, the length varying from six months to four years. Most of the apprenticeship training involves studying in actual work situations at work places supplemented by theoretical studies at educational institutions. The student is paid a salary during the apprenticeship that is usually equivalent to the minimum wage for the field. The employer receives compensation from the government for the costs of training the student.

59,800 qualifications were completed at vocational schools and colleges in 1997, one third of them at tertiary level. There was a drop of four per cent on the previous year in the number of qualifications. Due to the polytechnic reform, the number of vocational qualifications is falling, but the number of upper secondary qualifications was also down[1]. 22 per cent of the qualifications were completed in adult education; this was 0.5 per cent more than in the previous year. Women represented 55 per cent of those completing a qualification.

Under the Vocational Qualifications Act vocational qualifications have, since 1995, been taken at a proficiency test: 5,200 in 1997. Proficiency tests can be taken on the basis of private study, work experience or apprenticeship training.

2.21 Polytechnics and their students 1991/92–1998/99 school years

School year	Polytechnics		Students	1st year students
	Experimental units	Polytechnics		
1991/92	2	-	148	148
1992/93	22	-	6 915	6 611
1993/94	22	-	14 478	8 302
1994/95	22	-	23 584	10 227
1995/96	22	-	31 557	10 540
1996/97	19	9	42 722	18 153
1997/98	15	16	62 258	27 493
1998/99	13	21	82 211	29 337

Source: Statistics Finland

Polytechnics

A new form of educational institution was introduced into the Finnish regular education system in the early 1990s: polytechnics. Studies for a degree at a polytechnic take 3.5 to 4.5 years after the matriculation examination or the equivalent. The qualification ranks as a lower level university degree.

The development of the polytechnics began as an experiment in 1991. By the 1998/99 academic year

1 For further details of qualifications see chapter 5: *Graduation and transition from school to work* .

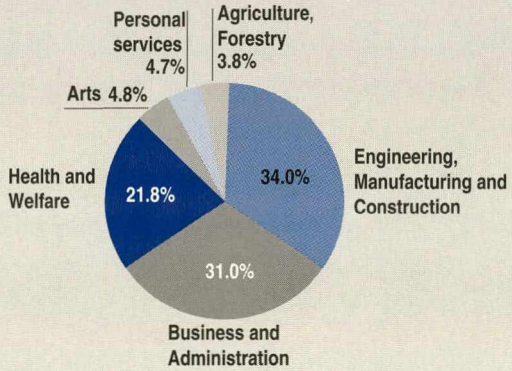
there were 21 regular and 13 experimental units in operation (Table 2.21).

The polytechnics varied in size from 1,000 to 5,000 students in the 1998/99 school year. Most of them are multi-field ones and operate in many municipalities. They are usually made up of several educational institutions.

The polytechnics had 82,200 students in the 1998/99 school year, roughly three quarters of them at the regular polytechnics. About 17 per cent were adult students and 54.5 per cent women. Tuition mainly in a foreign language (as a rule English) was provided for four per cent of the students. About a third of the students were studying engineering, manufacturing and construction, one third business and administration, and a good fifth health and welfare (Chart 2.22).

By the end of 1997 12,200 polytechnic qualifications had been completed, the first of them in 1994.

2.22 Students at polytechnics according to field of education in the 1997/98 school year



Source: Statistics Finland

Universities

Finland has 20 universities. In a country with only five million people, this is quite a high number. The universities are in different parts of the country, some of them in relatively small towns (Chart 2.23). They also have several branches in other localities. Half the universities are, however, in the metropolitan region.

2.23 The university towns in 1999

The universities consist of ten multidisciplinary institutions, six specialist institutions and four art academies. All the universities are state-run and engage in both education and research. The University of Helsinki is the biggest with over 33,000 students. The smallest, the Academy of Fine Arts, had 230 students in the 1997/98 school year (Table 2.25).

In the 1997/97 school year the universities had 143,000 students. The number of students has grown at a rate of about 3.4 per cent a year on average during the 1990s (Table 2.24). According to the OECD data for 1996, participation in university-level education is higher in Finland than in other EU countries (for further details see chapter 4: *New students and participation in education*).

Engineering is the biggest field of study, accounting for one fifth of all students in the 1997/98 school year. This is followed by the humanities and natural sciences (Table 2.26).

The students were on average 26 years of age and 52 per cent of them were women. Women represent over 80 per cent of the students in health science, veterinary medicine and pharmacy. Engineering (18%) is the only field of study in which less than 40 per cent of the students were women (Table 2.26).

The student intake was 18,000 (Table 2.24)[2]. Most of the new university students are admitted to work for a higher university degree and only a small proportion for a lower university degree. The higher university degree is designed to take 5-6 years to complete after the matriculation examination. Students can if they wish also work for a lower university degree, designed to take 3-4 years to complete. After the lower degree they can then continue for a higher degree or make the transition to working life. Students who have com-

2.24 University students and degrees 1990/91–1997/98 school years

School year	Students		1st year students		Degrees	
		Female		Female		Female
		%		%		%
1990/91	112 921	51.7	15 329	55.7	10 982	54.2
1991/92	115 358	51.7	15 909	55.8	11 195	55.0
1992/93	121 736	51.9	16 439	55.0	11 414	55.0
1993/94	124 370	52.0	16 478	54.8	12 358	55.3
1994/95	127 846	52.0	16 119	54.6	12 843	55.7
1995/96	133 359	52.3	17 132	53.9	13 521	55.9
1996/97	140 129	52.4	17 757	53.7	14 865	57.7
1997/98	142 962	52.3	17 985	54.4	16 050	58.1

Source: Statistics Finland

2 For further details of the student intake see chapter 4: *New students and participation in education.*

2.25 The universities, their students and degrees in 1997/98 school year

	Students	1st year students	Degrees in 1997
Multidisciplinary institutions			
University of Helsinki	33 452	3 529	3 941
University of Tampere	13 293	1 375	1 335
University of Turku	13 047	1 586	1 473
University of Oulu	12 641	1 732	1 458
University of Jyväskylä	11 127	1 783	1 634
University of Joensuu	6 127	958	759
Åbo Akademi University	5 901	860	600
University of Kuopio	4 315	603	640
University of Vaasa	3 473	530	336
University of Lapland	2 958	493	375
Specialist institutions			
Helsinki University of Technology	13 035	1 465	1 114
Tampere University of Technology	8 289	1 041	664
Lappeenranta University of Technology	3 930	592	328
Helsinki School of Economics and Business Administration	3 789	446	440
Swedish School of Economics and Business Administration	2 170	271	224
Turku School of Economics and Business Administration	1 978	270	220
Art academies			
University of Art and Design Helsinki	1 465	206	253
Sibelius Academy	1 415	157	135
Theatre Academy	329	58	86
Academy of Fine Arts	228	30	35
Total	**142 962**	**17 985**	**16 050**

Source: Statistics Finland

2.26 University students by field of study in 1997/98 school year

	Students	Female
		%
Engineering	29 201	17.8
Humanities	24 085	75.5
Natural sciences	20 185	41.7
Social sciences	14 612	61.6
Economics	14 024	44.0
Educational sciences	13 072	80.0
Medicine	6 504	60.6
Law	4 474	51.1
Agriculture and forestry	3 162	51.4
Health sciences	2 588	92.9
Theology	2 151	53.2
Art and design	2 071	62.1
Psychology	1 754	78.7
Music	1 415	54.6
Pharmacy	1 407	80.4
Sport sciences	669	50.7
Dentistry	567	67.7
Veterinary medicine	414	83.6
Theatre and dance	379	53.8
Fine arts	228	64.5
Total	**142 962**	**52.3**

Statistics Finland

pleted a higher degree may go on to take a doctor-level degree. In most fields, students can also take an optional Licentiate's degree before going on to a doctorate. The Finnish university degrees correspond to the degrees of Bachelor, Master and Doctor known internationally.

A total of 16,100 university degrees were completed in 1997[3]. During the 1990s the number of degrees has risen by 5.6 per cent on average. The biggest growth on the previous year has been in the number of lower degrees. This is a result of the degree reform carried out from 1993 onwards (since when most fields of study have introduced a lower degree taking 3-4 years) and of the transfer to the universities of kindergarten teacher training in 1995.

The number of doctorate-level degrees has also risen rapidly. In 1997 a total of 1,790 advanced research degrees were completed: 860 licentiates and 930 doctorates. Women accounted for over half the degrees at all levels except the doctorate, where they accounted for 40 per cent. The proportion of women has, however, risen quickly at the highest level in the 1990s (Table 2.27).

Graduate schools were established in 1995 to supplement the existing arrangements for researcher training. The purpose of the reform is to raise the efficiency of doctoral education. The graduate schools form a network ranging from units concentrated in a single faculty or locality to nationwide establishments combining the resources of several faculties. In 1999 the one hundred or so graduate schools provided about 1,300 full-time research positions financed by the Ministry of Education. The graduate schools cover all the main areas of research.

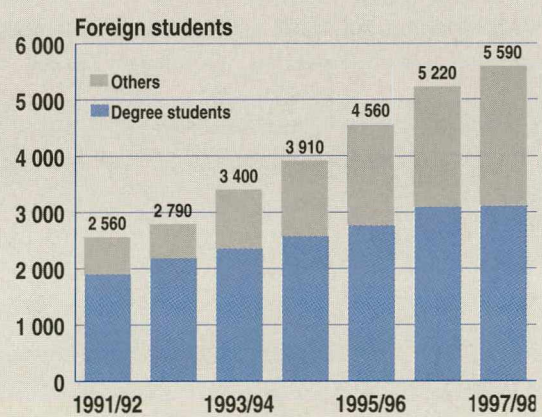
3 See also chapter 5: *Graduation and transition from school to work.*

2.27 University degrees completed by level of education 1990–1997

	1990	1991	1992	1993	1994	1995	1996	1997
Lower degree	**858**	**848**	**792**	**830**	**976**	**1 455**	**1 948**	**2 610**
Female (%)	82.2	83.0	84.3	81.8	79.6	74.0	72.3	72.9
Higher degree	**8 419**	**8 411**	**8 714**	**9 438**	**9 617**	**9 807**	**10 611**	**10 894**
Female (%)	54.1	54.7	54.7	55.5	56.2	56.1	57.5	57.2
Licentiate degree	**541**	**604**	**669**	**728**	**786**	**793**	**738**	**859**
Female (%)	31.8	35.8	33.6	36.8	37.3	41.6	40.4	39.8
Doctorate	**490**	**523**	**524**	**648**	**701**	**758**	**851**	**934**
Female (%)	31.8	32.3	30.5	37.0	35.9	36.9	40.2	40.1
Other degrees	**674**	**809**	**715**	**714**	**763**	**708**	**717**	**753**
Female (%)	54.5	57.2	63.1	56.9	56.6	52.1	58.9	62.3
Yhteensä	**10 982**	**11 195**	**11 414**	**12 358**	**12 843**	**13 521**	**14 865**	**16 050**
Female (%)	54.2	55.0	55.0	55.3	55.7	55.9	57.7	58.1

Source: Statistics Finland

2.28 Foreign students at Finnish universities 1991/92–1997/98 school years



Source: KOTA data base of Ministry of Education

Internationalisation

The internationalisation of education has taken a quick upward turn in Finland in the 1990s, mainly due to the progressively enlarged EU education programmes over the past few years. Internationalisation is manifest in many ways: students and teachers are going abroad to study, education in a foreign language is becoming more common, the curricula are being developed in international projects, students are actively informed of opportunities for studying abroad, etc. Another manifestation is the development of education statistics that are internationally commensurable. The internationalisation of education, especially through student and staff mobility, has been an education policy priority in Finland in the 1990s.

Some 5,600 foreign students studied at the Finnish universities in the 1997/98 academic year. This is

twice the figure for the early 1990s. 56 per cent of them were aiming at a Finnish degree and the remainder were other foreign exchange students (Chart 2.28). A good half of the degree students came from Europe, about a quarter from Asia and just under a quarter from the other continents. Of the other foreign exchange students, three quarters were from Europe, just on 10 per cent from Asia and the remainder from other parts of the world.

No precise data are available on the Finnish students completing a degree entirely abroad. But although the grant decisions of the Finnish Social Insurance Institution do not cover all the Finnish students going abroad to study, they do give a reliable picture of the trend. During the 1997/98 academic year 5,400 students were awarded grants to study abroad. The number of students going abroad has increased 2.5-fold in just over 10 years (Chart 2.29). Close on 90 per cent of those in receipt of a grant study at a foreign university or college.

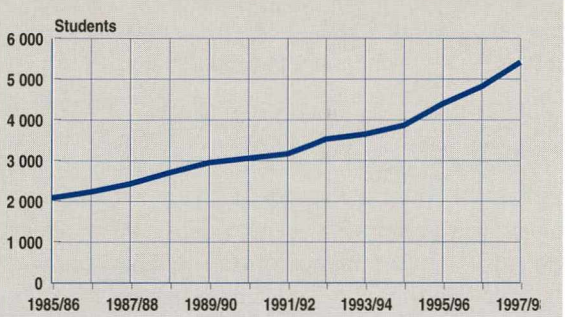
In 1998, about 6,850 Finnish university and polytechnic students participated in international student and trainee exchange programmes. The figure includes exchanges lasting at least three months. Correspondingly, about 3,950 foreign exchange students came to Finland. In other words, the number of outgoing students greatly exceeded that of incoming ones, but the reciprocity of student exchange has improved significantly since the early 1990s (Table 2.30).

Finnish universities attracted most German, French, Italian, Spanish, British and American students. Finland is increasingly attractive to students from the Mediterranean countries.

Finnish university students participated in exchanges to 67 countries in 1998. The most popular target countries were Germany, the United Kingdom, Sweden, France and the United States. The Finnish art academies were active in international student exchange, and the schools of economics and business administration and the universities of technology were on average more active than the multidisciplinary universities.

The Finnish polytechnics attracted most students from the United Kingdom, Germany, Russia, the

2.29 Finnish students in receipt of a grant for degree studies abroad 1985/86–1997/98 school years



Source: Social Insurance Institution Center for Student Financial Aid

2.30 Student and trainee exchange to and from Finnish universities and polytechnics in 1998

	Outgoing students	Incoming students
Universities	3 840	2 600
Polytechnics	3 000	1 340
Total	**6 840**	**3 940**

Source: AMKOTA, Ministry of Education

Netherlands, France, China and Sweden. They in turn sent students to 58 countries, the most popular being the United Kingdom, Germany, the Netherlands, Sweden, the United States and France.

The provision of programmes in languages other than Finnish or Swedish has increased rapidly at the Finnish universities and polytechnics in the past few years. The universities offered just on 50 degree programmes in foreign languages (95 per cent of them in English) and about 150 subsidiary subject programmes in the 1998/99 academic year. The corresponding figures for the polytechnics were 72 and 93. The universities and the polytechnics offered programmes in foreign languages in nearly all fields of education in 1998.

The **Erasmus** higher education chapter of the programmes funds European student exchange (for a period of 3-12 months), teacher exchange, curriculum development in European co-operation and intensive programmes (seminars), among other things.

The volume of Erasmus student exchange practised by Finnish higher education institutions has grown strongly over the past six years.[4] Compared with the 1992/93 academic year, when 820 Finnish Erasmus students travelled abroad, the exchange volume had in 1997/98 increased to 3,050 students. For the 1998/99 academic year, the European Commission approved as many as 7,458 Erasmus student exchanges from Finland. As a percentage of the overall student population, this is more than in any other EU country.

Finnish institutions have also participated actively in other parts of the Erasmus programme. For the 1997/98 academic year, 1,553 short (lasting from one week to one month) Erasmus teacher exchanges were approved from Finland. Of these, 747 were planned by universities and 806 by polytechnics. Correspondingly, 1,624 teacher exchanges to Finland were approved: 767 to universities and 857 to polytechnics.

Furthermore, some information is available on the participation of Finnish institutions in the curriculum development and intensive programmes actions of the Erasmus programme. For 1997/98, the European Commission approved 114 such intensive programmes and 83 curriculum development projects in which Finnish institutions participated either as partners or co-ordinators.

In a way a corresponding EU programme in the domain of vocational training is **Lenoardo da Vinci**. The programme funds pilot and dissemination projects on the development of education, exchanges (placements) of students, young workers and experts, and studies and analyses of vocational training. The participation rate of Finnish vocational colleges in Leonardo is very high. Finland is among the most active countries in the programme.

480 students went abroad and 130 came to Finland through the **Nordplus** programme of the Nordic Council of Ministers.

4 Finland was admitted to the original Erasmus programme (established in 1987) while still an EFTA country, from the academic year 1992/93 onwards.

3

EDUCATIONAL EXPENDITURE AND STAFF

The information on expenditure given in this chapter is based on administrative data from the education authorities and from the National Accounts of Statistics Finland (the National Statistical Institute of Finland). The data on staff are drawn from the individual data-based registers of Statistics Finland. The data on the level of education of staff are classified according to the new ISCED 97.

The figures for educational expenditure in Finland are given in euros (EUR) and Finnish marks (FIM). The FIM were converted into EUR at the rate fixed on 1.1.1999 at 1 EUR = FIM 5.94573. The international comparisons are from "Education at a Glance, OECD Indicators 1998" published by the OECD and are based on the old ISCED 76 classification. In the international comparisons the OECD has converted the national currencies into equivalent US dollars.

EDUCATIONAL EXPENDITURE

University-level expenditure rising

The current educational expenditure was in real terms only slightly higher in 1996 than in the previous year. Yet 8 per cent more funds were spent on university education than a year before (Table 3.1). Research accounted for about 40 per cent of the universities' total expenditure.

The expenditure of the polytechnics showed a real increase of 22 per cent on the previous year. The rapid rise in polytechnic expenditure is due to the polytechnic reform and the accompanying rise in the number of students. The vocational college education at present provided at vocational colleges is now being phased out and developed to polytechnic education.

The category 'other education' in Table 3.1 includes expenditure on courses at educational institutions and other education not leading to a degree or qualification. 'Administration' covers the current expenditure on administration by the Ministry of Education, the National Board of Education and the municipal education administration. Institutions' own administrative expenditure is included under their current expenditure. Current educational expenditure also includes student scholarships, which amounted to 8.5 per cent less than in the previous year.

Personnel expenditure accounted on average for 66 per cent of the current expenditure in 1996, varying

3.1 Current educational expenditure by type of educational institution in 1996

	EUR Million	FIM Million	Real change on prev. year	Expenditure on government-dependent private institutions
			%	% of all institutions
Comprehensive schools	2 187.7	13 007.3	1.7	2.0
Upper secondary general schools	387.4	2 303.2	0.6	6.4
Vocational schools and colleges	1 161.0	6 903.2	-7.0	16.5
Polytechnics	194.3	1 155.0	22.2	20.1
Universities	1 030.0	6 124.3	8.2	-
Other education	517.0	3 073.8	4.9	43.9
Administration	122.9	730.8	4.8	
Student scholarships	574.6	3 416.2	-8.5	
Total	**6 174.8**	**36 713.8**	**0.7**	**9.6**

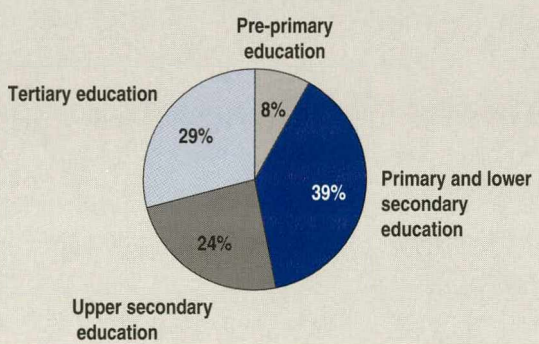
Source: Statistics Finland

between 77 per cent for upper secondary general schools and 61 per cent for vocational schools and colleges.

The pre-primary education provided by kindergartens is not included in Table 3.1, but it is included in Chart 3.2. The combined pre-primary expenditure for children aged 3-6 in kindergarten and in pre-primary education in comprehensive schools totalled about EUR 589 million (about FIM 3500 million) in 1996. Pre-primary education accounted for about 8 per cent of the total educational expenditure.

The biggest sums were spent in 1996 on the compulsory education (primary and lower secondary education), which accounted for about 39 per cent of the total current educational expenditure. This is now followed by tertiary education with 29 per cent. Upper secondary education represented 24 per cent of the total educational expenditure in 1996 (Chart 3.2).

3.2 Educational expenditure by level of education (ISCED 76) in 1996

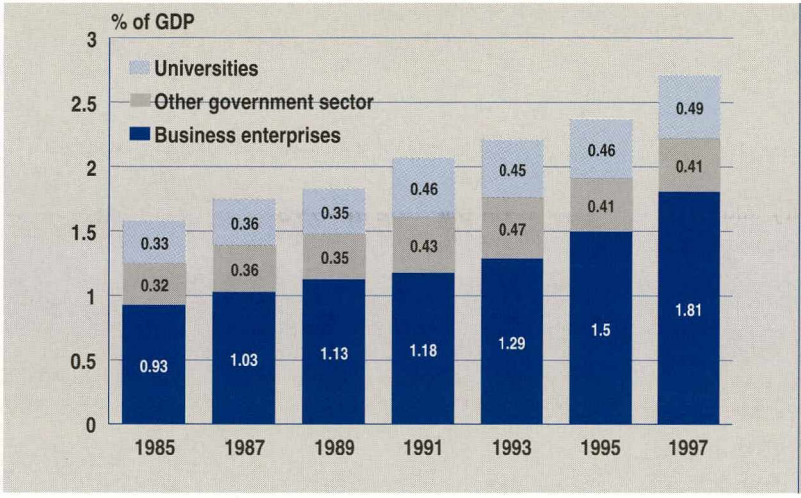


Source: Statistics Finland

R&D expenditure in the university sector one fifth of R&D expenditure in Finland as a whole

The expenditure on research and development carried out at the universities amounted to EUR 515 million (FIM 3060 million) in 1997. This represents one fifth of the R&D expenditure in Finland as a whole. Finland spent 2.8 per cent of its GDP on R&D in 1997, which was higher than the OECD average. The corresponding figure for R&D by the universities was 0.49[1)] per cent in 1997 (Chart 3.3).

Research by the universities and university hospitals is greatly increasing, the increase being financed out of growing outside funds. In 1997 already half the research carried out by the universities and university hospitals had outside funding.



3.3 R&D by the universities and other sectors as a percentage of GDP in 1985-1997

Source: Statistics Finland

Almost no change in expenditure per student

The expenditure per student rose only slightly between 1995 and 1996. The rise was greatest, 1.6 per cent, in the comprehensive school.

The expenditure per university student was 1.1 per cent higher in 1996 than in the previous year (Table 3.4).

1 Allowing for the EUR 65 million (FIM 386 million) spent on R&D by the university central hospitals as well, the percentage of GDP of the university sector rises to 0.55.

3.4 Current expenditure per student by type of institution in 1996

Type of educational institution	EUR per student	FIM per student	Real change on prev. year
			%
Comprehensive schools	3 690	21 940	1.6
Upper secondary general schools	2 945	17 510	-0.1
Vocational schools and colleges	6 867	40 830	-1.3
Universities	7 350	43 700	1.1
Total	**4 773**	**28 380**	**0.5**

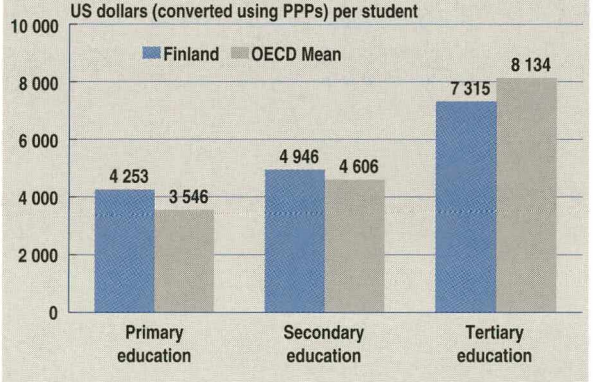
Source: Statistics Finland

Although the comparisons of expenditure per student in different countries should be viewed with reservations, the expenditure per student seems to be about one fifth higher in Finland at primary and secondary level than in the OECD countries on average, but clearly below the OECD average at tertiary level (Chart 3.5). National currency is converted into US dollars by dividing the national currency figure by the purchasing power parity (PPP) index.

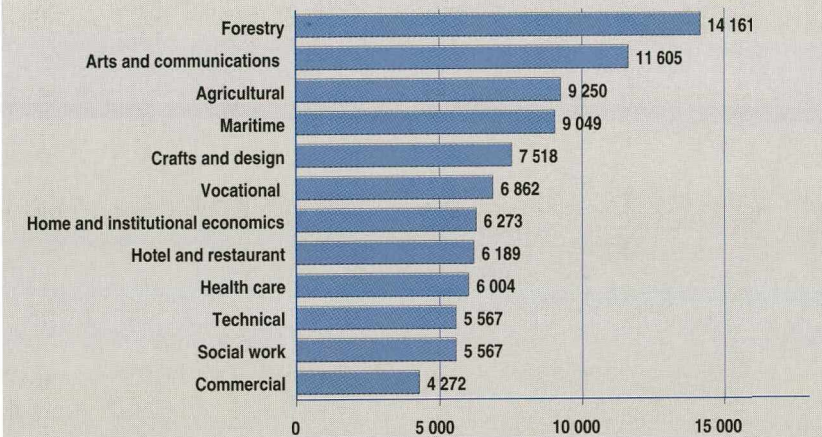
The expenditure per student varies considerably from one field of study to another. Chart 3.6 examines vocational schools and colleges by type of institution. The education provided at forestry institutions is most expensive due to the heavy machinery and small size of the institutions, while the education in commercial institutions is cheapest of all.

The expenditure per student at the universities varies greatly from one field of study to another, being highest in dentistry, veterinary medicine and medicine, which require considerable technical equipment, and lowest in law, theology and the humanities (Chart 3.7).

3.5 Expenditure per student by level of education in Finland and OECD countries on average in 1995

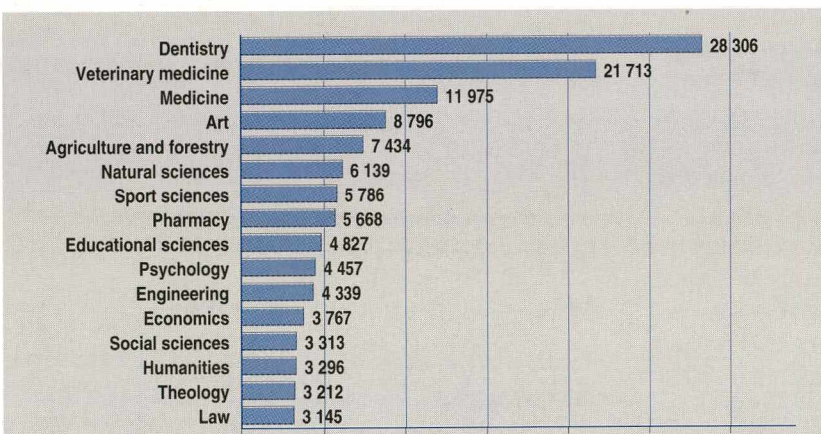


Source: Education at a Glance, OECD Indicators 1998



3.6 Current expenditure per student of vocational schools and colleges by type of institution in 1996

Source: National Board of Education



3.7 Current expenditure per university student by field of study in 1996

Source: Ministry of Education

Finland invests more in education than the other OECD countries on average

3.8 Educational expenditure (public and private) on educational institutions as a percentage of GDP by level of education in certain OECD countries in 1995

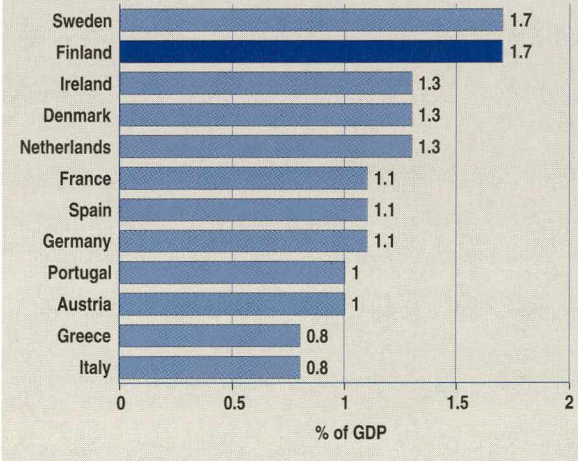
Countries ranked in descending order of all levels of education combined	Primary and secondary education	Tertiary education	All levels of education combined (including pre-primary and undistributed)
	%	%	%
Denmark	4.3	1.3	7.1
Canada	4.3	2.5	7.0
Sweden	4.5	1.7	6.7
United States	3.9	2.4	6.7
Finland	**4.2**	**1.7**	**6.6**
France	4.4	1.1	6.3
Korea	3.8	1.9	6.2
Germany	3.8	1.1	5.8
Czech Republic	3.9	1.0	5.7
Spain	4.0	1.1	5.7
Australia	3.7	1.8	5.6
Mexico	4.0	1.1	5.6
Hungary	3.6	1.0	5.5
Austria	3.9	1.0	5.5
Portugal	4.1	1.0	5.4
Ireland	3.4	1.3	5.3
Iceland	3.6	0.7	5.2
Netherlands	3.2	1.3	4.9
Japan	3.1	1.0	4.7
Italy	3.2	0.8	4.7
Greece	2.8	0.8	3.7
Country mean	**3.7**	**1.3**	**5.6**

Source: Education at a Glance, OECD Indicators 1998

Finland clearly spends more on education as a percentage of gross domestic product (GDP) than the OECD countries on average. In terms of spending it ranked as one of the highest of the OECD countries, spending 6.6 per cent of its GDP on education in 1995 (Table 3.8). The participation rate in education as a whole was also among the highest in the OECD countries and that in tertiary education among the highest in the EU (for details see chapter 4).

The expenditure on tertiary education as a percentage of GDP varied in the EU member states from 0.8 to 1.7 in 1995. The percentage of GDP was higher in Sweden and Finland than in any of the other EU countries, 1.7 per cent (Chart 3.9).

3.9 Expenditure on tertiary education as a percentage of GDP in certain EU countries in 1995



Source: Education at a Glance, OECD Indicators 1998

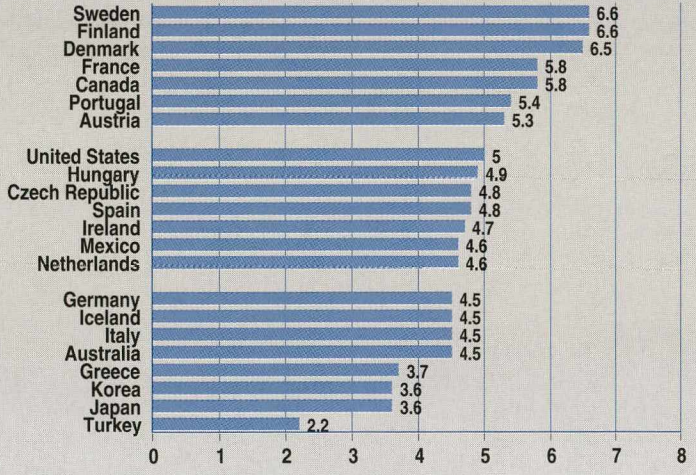
Finland's regular education system financed almost entirely out of public funds

Schooling leading to a qualification in Finland has traditionally been free of charge. The responsibility for financing education is transferred via the tax system to the tax payer so that the end user of the education service does not in practice participate in its funding. Students have received free tuition, free teaching materials, school meals and if necessary accommodation and school transport at the primary and secondary schools. At the higher levels some of the social costs of education have been paid for by the students themselves, but the government has, by means of student grants, tried to assure equal access to education for all.

Public expenditure on educational institutions came to 6.6 per cent of gross domestic product (GDP) in Finland in 1995. This is one of the highest percentages in the OECD countries, along with the other Nordic countries (Chart 3.10).

The government-dependent private institutions in the education system spent less than 10 per cent of the funds allocated for education (Table 3.1). Since these institutions receive the bulk of their funds from the public sector, the proportion of private funding in these institutions is small. So far the role of corporate and household funding in education leading to a degree or qualification has been slight in Finland in proportion to GDP.

The importance of private funding is, however, expected to grow at the tertiary level of education. For example: about 44 per cent of the research funding for the universities, which are government institutions, came from outside sources in 1997. This was three percentage points more than in 1995. There are, however, no comprehensive data on the role played by

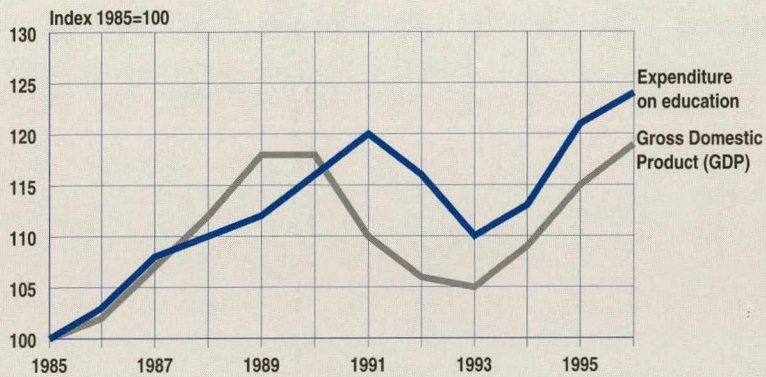


3.10 Public expenditure on educational institutions as a percentage of GDP in certain OECD countries in 1995

Source: Education at a Glance, OECD Indicators 1998

companies, foundations, international and other sources in funding the education system.

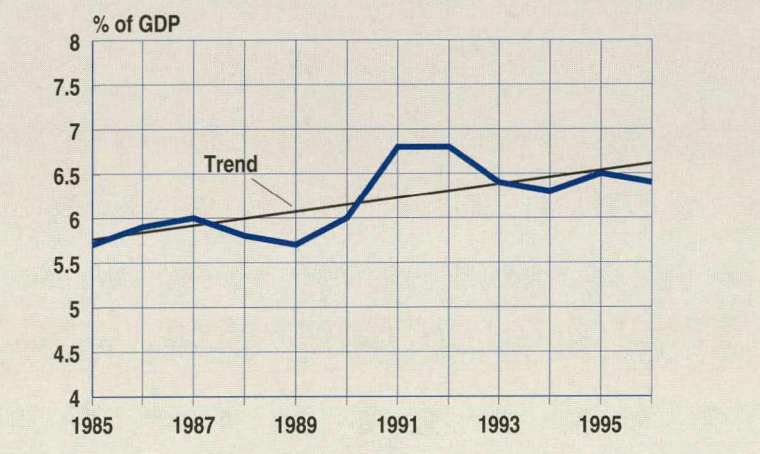
Charts 3.11 and 3.12. examine the trend in funds allocated for the current and investment expenditure of public educational institutions. Although this expenditure does not apply to the entire education system, it well reflects the general trend in the education system 1985–1996. The trend in educational expenditure has been parallel with that in the GDP. The expenditure of the public educational institutions grew in real terms at a rate of about 3 per cent a year between 1985 and 1991. As a consequence of the economic recession be-



3.11 Real change in the expenditure[1] on public educational institutions and in GDP 1985–1996

1) The expenditure covers the current and investment expenditure of educational institutions in the government and municipal sectors and the vocational labour education provided by the labour administration.

Source: Statistics Finland



3.12 Expenditure on public educational institutions in relation to GDP 1985–1996

Source: Statistics Finland

3.13 Public expenditure on education as a percentage of total public expenditure by level of education in certain OECD countries in 1995

Countries are ranked in descending order of all expenditure on education	Primary and secondary education	Tertiary education	All expenditure on educational services	All public expenditure for all purposes as percentage of GDP
Mexico	16.7	4.1	22.8	20
Korea	14.2	1.4	17.5	21
Switzerland	10.7	2.8	14.3	38
Norway	8.5	3.1	14.2	48
United States	9.8	3.2	14.0	34
Spain	9.2	2.2	12.5	38
Ireland	8.6	2.4	12.2	39
Czech Republic	8.6	1.8	12.2	40
Canada	8.4	3.1	11.9	48
Iceland	8.6	1.7	11.4	40
Australia	8.3	3.0	11.4	39
Finland	**7.1**	**2.8**	**11.2**	**59**
Denmark	6.9	2.1	10.6	61
France	7.5	1.8	10.6	54
Austria	7.2	1.8	10.0	53
Japan	7.8	1.2	9.8	36
Sweden	6.6	2.3	9.8	67
Hungary	6.2	1.5	9.2	54
Germany	5.8	2.0	9.1	50
Italy	6.2	1.3	8.7	52
Greece	6.3	1.8	8.2	45
Netherlands	5.0	1.9	7.6	60
Country mean	**8.4**	**2.2**	**11.8**	**45**

ginning in 1990, the educational expenditure fell in 1993 to the level of 1988.

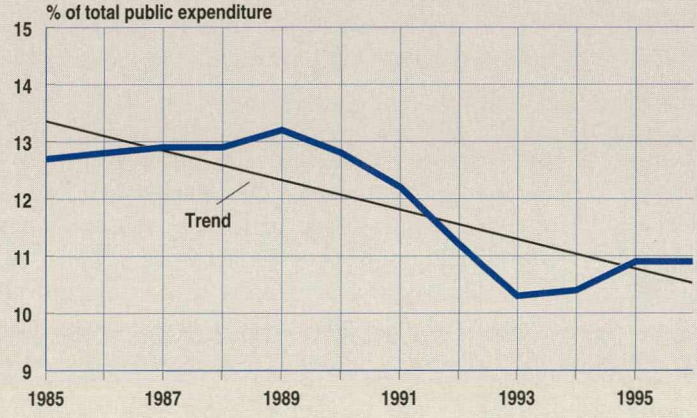
The expenditure of the public educational institutions in proportion to GDP was highest (6.8 per cent) in 1991 and 1992, when GDP had taken a downward turn but the educational expenditure was still growing. In 1996, corresponding proportion was 6.4 per cent. The trend in proportion to GDP was un upward one in 1985–1996 (Chart 3.12).

The recession of the early 1990s necessitated cuts in education as in other sectors of the public administration. The educational expenditure fell by about 4 per cent a year on average in 1991–1993, despite the steady increase in the number of students.

The savings targeted at education were achieved in the comprehensive school by combining schools, reducing the range of tuition (remedial teaching and club activities) and increasing the size of the teaching groups. The biggest relative cuts were, however, made in the administrative expenditure. Savings on real estate and student welfare were made at the general and vocational upper secondary level. One of the items cut in student welfare was the number of students receiving transport assistance. In the vocational institutions it meant giving fewer lessons, raising the minimum number of students required for a group, and cuts in meal benefits.

Finland started to recover from the recession after 1993 and the funds for education once again began to increase. By 1995 the level of the previous peak year, 1991, had once again been achieved (Chart 3.11).

11.2 per cent of the total expenditure in the public sector was spent on education in 1995. This was average for the OECD countries (Table 3.13). The trend in expenditure on public educational institutions as a percentage of total public expenditure was a downward one in Finland in 1985–1996 (Chart 3.14).



3.14 Expenditure on public educational institutions as a percentage of total public expenditure in 1985–1996

Source: Statistics Finland

STAFF

There were in 1996 some 157,000 persons employed in educational institutions and kindergartens, i.e. 8 per cent of the employed labour force. The staff of private companies providing education are not included in this figure.

Of the staff, around 81,000 were teachers; this is 4.1 per cent of the employed labour force. A person who has taught in educational institutions of one or more types is included only once in the Table 3.15, under his or her main type of institution. 'Teachers' here includes principals but not part-time fee-paid teachers, visiting lecturers or persons on leave of absence.

More than half the staff consisted of teachers, but the proportion of teachers varied from one type of institution to another. Only a quarter of the kindergarten staff were teachers, since the staff also included many nursery nurses and other welfare personnel. The emphasis in the kindergartens is mainly on child care, and the kindergartens have many children under the age of three.

At the universities teachers accounted for less than 30 per cent of the total staff. The other members of the university staffs consisted of teaching and research assistants, administrative personnel, maintenance and operations personnel, researchers and research assistants paid out of outside funds, and persons providing services for which a fee was charged. There has been a brisk increase in the number of persons employed with outside funding.

Over half the teachers women

The majority of the teachers in the regular education system were women in all types of institution apart from the universities. Just under one third of the principals were women, apart from in the new polytechnics, where a good half of the principals were women. Women made up 96 per cent of the kindergarten teachers.

The median age of the teachers in the institutions and kindergartens in the regular education system was 43 in 1996. The oldest teachers were in the upper secondary general schools, where the median age was 47, and the youngest in the kindergartens, where the median age was 35. (Table 3.16).

Teachers' level of education high

80 per cent of the teachers in the regular education system and kindergartens had a university-level degree in 1996. The highest level of education was naturally in the universities, where 58 per cent of those engaged in teaching held a doctorate. Measured by the ELP indicator [2] the educational level of the university teachers (index 1042) was one third higher than that of teachers on average (index 764). The lowest level of education was among the kindergarten teachers, but even here, 85 per cent had a university-level degree or qualification (Table 3.17).

The comprehensive school teachers include class and subject teachers. 80 per cent of them had either a lower or a higher university degree in 1996. The new

3.15 Teachers and other staff of educational institutions and kindergartens by type of institution in 1996

Type of educational institution	Teachers	Teachers as % of staff	Other staff	Total
Kindergartens	8 737	26.3	24 501	33 238
Comprehensive schools	39 966	69.8	17 252	57 218
Upper secondary general schools	5 766	75.9	1 827	7 593
Vocational schools and colleges	15 063	58.6	10 628	25 691
Polytechnics (permanent)	1 019	79.6	261	1 280
Universities	7 115	28.6	17 754	24 869
Adult educational instititutions providing general education	3 200	44.4	4 000	7 200
Total	**80 866**	**51.5**	**76 223**	**157 089**

Source: Statistics Finland

2 The Educational Level of Population (ELP) indicator measures the level of education of population groups by per capita average length of the highest education completed after lower secondary level compulsory education. For example, the ELP number 764 indicates that the time in education per person is average 7.6 years. See note to Table 6.2 in chapter 6 for details of how the indicator is calculated.

3.16 Age structure of the teachers in the institutions and kindergartens in the regular education system by type of institution in 1996

			Age						
	Teachers	Women	Under 30	30-39	40-49	50-59	Over 60	Total	Median
		%	%	%	%	%	%	%	age
Kindergartens	8 737	96	23.2	46.2	24.9	5.5	0.2	100.0	35
Comprehensive schools	39 966	68	11.6	26.8	32.2	28.5	0.8	100.0	43
Upper secondary general schools	5 766	64	8.0	20.4	28.8	36.3	6.4	100.0	47
Vocational schools and colleges	15 063	53	4.1	26.4	41.5	25.2	2.7	100.0	44
Polytechnics (permanent)	1 019	57	1.3	24.6	46.5	25.2	2.4	100.0	44
Universities	7 115	38	11.1	28.1	31.2	24.9	4.7	100.0	43
Total	**77 666**	**65**	**11.0**	**28.5**	**33.1**	**25.5**	**1.9**	**100.0**	**43**

Source: Statistics Finland

class and subject teachers have all completed a higher university (Master's) degree taking 5-6 years. Three out of four comprehensive school teachers under the age of 40 already had a higher university degree in 1996.

One of the aims of the polytechnic reform was to raise the educational level of the teachers. 11 per cent of the teachers in the permanent polytechnics held a doctorate in 1996, but the percentage will grow in the next few years due to the wide-scale further education scheme now under way and taking in the completion of scientific doctorates and other academic studies.

Teachers' salaries EU average

Judging from the data in the OECD publication 'Education at a Glance 1998', the salaries of teachers in the Finnish comprehensive school and upper secondary general school are approximately average for the EU countries. Rising from the starting salary to the top salary takes 20 years in Finland.

The statutory annual salary paid to primary level teachers with 15 years' service was slightly below the EU average, USD 23,384 in 1996 (Chart 3.18). Allowing for the additional bonus mainly paid for extra lessons, the salary was average for the EU countries. The highest salaries were paid to primary level teachers in Germany and Ireland and the lowest in Greece and Sweden.

The annual statutory salary excluding additional bonus paid to Finnish lower secondary level teachers was USD 27,758 in 1996. As with primary level, the highest salaries were paid to lower secondary level teachers in Germany and Ireland and the lowest in Greece and Sweden.

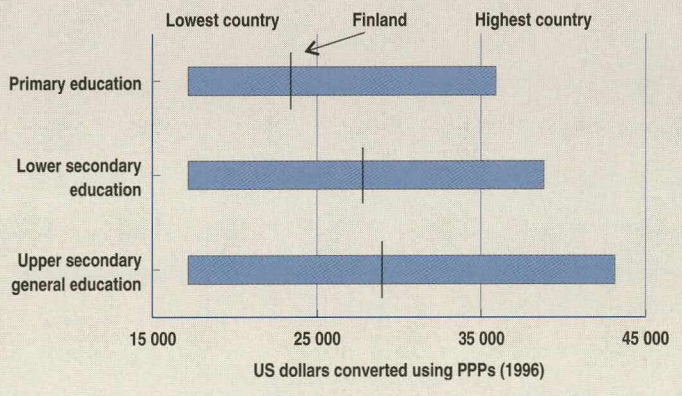
The annual statutory salary paid to teachers in the Finnish upper secondary general school was USD 28,939 (Chart 3.18), which, allowing for the additional bonus, was average for the EU in 1996. The highest salaries were paid to upper secondary general school teachers in the Netherlands and Germany and the lowest in Greece and Sweden.

3.17 Level of education of teachers in the institutions and kindergartens in the regular education system by type of institution in 1996

Type of educational institution	Teachers		Level of education					ELP-indicator *
			Below tertiary level of education	Vocational college qualification	Lower university or polytechnic	Higher university degree	Doctorate-level degree	
		%	%	%	%	%	%	
Kindergartens	8 737	100.0	5.6	9.5	84.0	0.9	0.0	661
Comprehensive schools	39 966	100.0	5.5	14.0	33.6	46.5	0.4	745
Upper secondary general schools	5 766	100.0	3.0	0.6	7.6	85.7	3.1	874
Vocational schools and colleges	15 063	100.0	7.7	28.9	25.3	35.8	2.3	695
Polytechnics (permanent)	1 019	100.0	2.3	7.9	14.4	64.8	10.6	858
Universities	7 115	100.0	3.6	1.3	2.5	34.7	57.9	1 042
Total	**77 666**	**100.0**	**5.5**	**14.2**	**32.6**	**41.4**	**6.2**	**764**

** See note to Table 6.2 Chapter 6.*
Source: Statistics Finland

The teachers' salary ratio to per capita GDP indicating a country's paying capacity and the prestige enjoyed by teachers was average for the EU in Finland in 1996. For example, the salary ratio to per capita GDP of upper general secondary school teachers was in Finland 1.5 and in the EU countries on average 1.7 without additional bonuses. Allowing for the additional bonus, the ratio for Finland is average for the EU. In proportion to the country's paying capacity, the highest general upper secondary teachers' salaries were paid in Spain, the Netherlands and Ireland, the lowest in Italy and Sweden.



3.18 Variation in annual statutory teachers' salaries (excluding additional bonus) after 15 years' service in public institutions in Finland and the EU in 1996

Source: Statistics Finland

4

NEW STUDENTS AND PARTICIPATION IN EDUCATION

The information on the students given in this chapter covers the formal education in the regular Finnish education system. The data are official statistics and are drawn from the individual data-based student registers of Statistics Finland (National Statistical Institute of Finland) and the nationwide scheme for joint selection maintained by the National Board of Education.

The data have been classified by type of educational institution more or less in accordance with the new International Standard Classification of Education (ISCED 97). The international comparisons are from the publication "Education at a Glance, OECD Indicators 1998", published by the OECD and are based on the old ISCED 76 classification.

NEW STUDENTS

95 per cent of those who complete compulsory education pursue further studies

Practically the entire age group begins school at the age of seven. The number of pupils entering primary education thus corresponds to the number of 7-year-olds in the population (Table 4.1). The 9-year compulsory general education ends with the completion of the comprehensive school at the age of 16. The entire age group completes lower secondary general education.

For most young people full-time study does not, however, end here, since more than 90 per cent continue at the upper secondary level in the same year they complete the compulsory education. As some of those who have completed the lower secondary level resume their studies in later years, about 95 per cent of Finland's 16-year-olds have in the 1990s entered upper secondary education.

The number of students embarking on upper secondary general education has varied in the past few years according to the size of the cohort, but the proportion of pupils in relation to the cohort has remained at around 58 per cent. The number of pupils seeking admission to upper secondary general education was, however, still rising in the latter half of the 1980s (Table 4.1).

4.1 First year students at the primary and upper secondary levels of education 1985–1997

	Primary education	Upper secondary education				
		General education		Vocational education		Average size of 16-18-year cohort
			First-year places in relation to cohort %		First-year places in relation to cohort %	
1985	64 580	33 890	48.8	47 260	68.0	69 501
1986	64 310	33 420	50.5	45 000	68.0	66 224
1987	63 900	32 870	52.1	42 770	67.8	63 100
1988	64 470	32 240	52.9	39 010	64.0	60 956
1989	66 980	30 890	52.6	38 890	66.3	58 697
1990	67 430	33 390	56.5	38 190	64.6	59 100
1991	66 320	35 440	57.7	41 630	67.8	61 404
1992	63 840	37 290	57.5	46 940	72.4	64 807
1993	62 060	38 050	57.5	51 440	77.8	66 124
1994	61 000	38 110	57.8	48 560	73.6	65 983
1995	64 360	37 560	57.6	50 000	76.6	65 248
1996	64 340	37 150	57.4	53 410	82.5	64 743
1997	66 540	37 270	57.5	51 650	79.7	64 789

Source: Statistics Finland

International Standard Classification of Education 1997 (ISCED 97)

The data on participation by level of education have in this chapter been classified by type of educational institution more or less in accordance with the new ISCED 97 as follows:

ISCED 97 levels	**Main content in Finland**
ISCED 1 Primary education	Grades 1-6 of comprehensive school
ISCED 2 Lower secondary education	Grades 7-9 (10) of comprehensive school
ISCED 3 Upper secondary education	Upper secondary general schools Upper secondary vocational schools
Tertiary education	
ISCED 5B	Vocational colleges
ISCED 5A and Level 6	Polytechnics and universities

International comparisons are still based on data classified according to the old ISCED 76 classification. The data classified in accordance with the old ISCED 76 are not comparable with those classified according the new ISCED 97.

Compared with the size of the cohort, there is an extremely large number of places available in vocational and technical education at upper secondary level. The supply of and demand for places grew in the 1990s. The ratio of pupils to cohort rose to 4:5 in the mid-1990s. The reasons for the rise in the number of new students in the early 1990s were the deep recession, the training targeted at young unemployed people and the brisk increase in adult education (Table 4.1).

The large number of places in vocational and technical education in proportion to the cohort is partly explained by the fact that not all the pupils are entering upper secondary level for the first time. Only 60 per cent were aged 16-18 in 1997 (Table 4.2). The statistics also include adult education courses leading to a qualification. A quarter of those entering education had, furthermore, already completed some other qualification before being admitted.

4.2 First year students by age at the upper secondary level of education in 1997

Age	General education	Vocational education
	%	%
-15	0.7	0.1
16	95.1	38.2
17	3.6	14.0
18	0.4	7.3
19	0.1	6.8
20-24	0.1	20.7
25-29	-	4.7
30-	0.0	8.1
Total	**100.0**	**100.0**
Male %	42	52
Female %	58	48

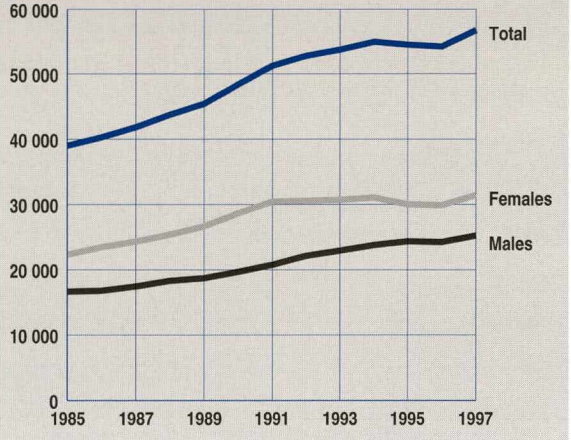
Source: Statistics Finland

In the latter half of the 1990s the 16-18 cohort accounted for more than half the students starting on a general education course and for less than half of those embarking on a vocational or technical course at the upper secondary level.

Approximately 40 per cent of first year students at the upper secondary level of vocational education are aged over 18. Many have already completed either general, or some other vocational, upper secondary education. The statistics also cover adult education leading to a qualification (Table 4.2).

Boys and girls tend to follow different study routes after completing the general compulsory education. The majority of the girls go into upper secondary general education and the majority of the boys into vocational or technical education at the upper secondary level. Home background is another factor influencing the choice of education (see Chapter 9.1).

4.3 First year students at the tertiary level of education by gender 1985–1997



Source: Statistics Finland

More women than men enter tertiary education

The number of first year students in tertiary education has been rising rapidly in the past few years. In the 1990s about 55 per cent of them have been women and 45 per cent men (Chart 4.3).

The number of places offered at the tertiary level grew by 45 per cent in just over a decade 1985-1997, though the population of the relevant age on average grew smaller over the same period (Table 4.4). The entry rates for tertiary level education were in the mid-1990s among the highest in the EU countries (Chart 4.18).

The level of vocational tertiary education has risen in step with the polytechnic reform begun in the 1990s. The last vocational college intake was in autumn 1998, since when most of the first year vocational college places have been transferred to the polytechnics. The number of first year polytechnic students will, as a consequence, continue to rise to some extent.

From the net entry rate one can conclude that more than a quarter of young people can today be expected to enter university. The corresponding proportion for first year polytechnic students was one third in 1997 (Chart 4.6) and will rise in the next few years due to the polytechnic reform.

The median age of first year university students was 21 in 1997, that of first year polytechnic students 22 and that of first-year students in an adult education course leading to a polytechnic degree 32. As Table 4.5 shows, there were many mature students among the first-year students.

There is a great gender bias towards women in tertiary education. The university net entry rate (propor-

4.4 First year students at the tertiary level of education by type of institution 1985–1997

	Vocational colleges	Polytechnics	Universities	Total	Average size of 19-22 year cohort	First-year places in relation to cohort %
1985	26 370		12 630	39 000	74 891	52.1
1986	27 200		13 090	40 290	73 790	54.6
1987	28 040		13 800	41 840	72 308	57.9
1988	29 360		14 390	43 750	70 023	62.5
1989	30 480		14 930	45 410	67 518	67.3
1990	33 050		15 330	48 380	64 686	74.8
1991	35 180	150	15 910	51 240	62 083	82.5
1992	29 700	6 610	16 440	52 750	60 081	87.8
1993	28 920	8 300	16 480	53 700	59 887	89.7
1994	28 560	10 230	16 120	54 910	60 897	90.2
1995	26 780	10 540	17 130	54 450	62 870	86.6
1996	18 270	18 150	17 760	54 180	65 188	83.1
1997	11 240	27 490	17 990	56 720	65 860	86.1

Source: Statistics Finland

4.5 First year students by age and type of institution at the tertiary level of education in 1997

Age	Vocational colleges	Poly-technics	Universities
	%	%	%
Under 19	5.1	0.9	0.6
19	12.8	16.6	29.4
20	14.1	18.1	20.7
21	12.9	17.6	14.7
22	8.1	9.5	8.7
23	6.0	6.5	5.5
24	4.0	4.1	3.4
25-29	13.8	10.7	8.3
30-	23.3	15.9	8.8
Total	**100.0**	**100.0**	**100.0**
Male %	39	45	45
Female %	61	55	55

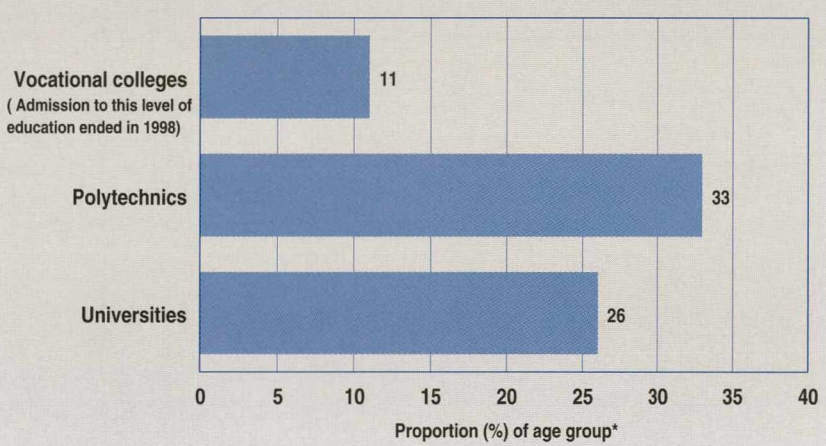
Source: Statistics Finland

tion of synthetic age cohort) for women was 29 per cent and for men 23 per cent in 1997. The polytechnic net entry rate was 36 per cent for women and 30 per cent for men.

Net entry rate

The net entry rate indicates the proportion of a synthetic age-cohort which, assuming the current entry rates, can be expected to start education at some stage in their lives. Irrespective of the age structure of first-time entrants and changes in the population, the net entry rate is obtained by adding up the net entry rates for each single age. Here the net entry rate for tertiary level of education is the sum of the net entry rates for all single ages in the 19 to 29 years-old age group.

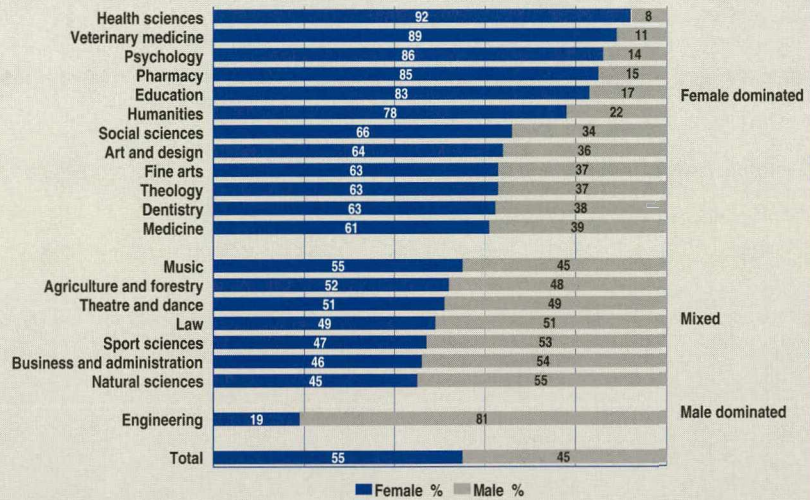
The demand for education was greatly gender-oriented. Popular fields of study at university among women have, for example, been health sciences, the humanities and social sciences. Over half the university fields of study were female dominated (more than 60 per cent women) in 1997. A third of the fields had men and women in equal proportion (40-60 per cent men and women). Engineering is the only field of study in which less than 20 per cent of the first year students were women (Chart 4.7).



* *The sum of net entry rates for all single ages between 19 and 29.*

4.6 Net entry rates for tertiary education by type of institution in 1997

Source: Statistics Finland



4.7 First year students at universities by gender and field of study in 1997

Source: Statistics Finland

University most difficult to get in to

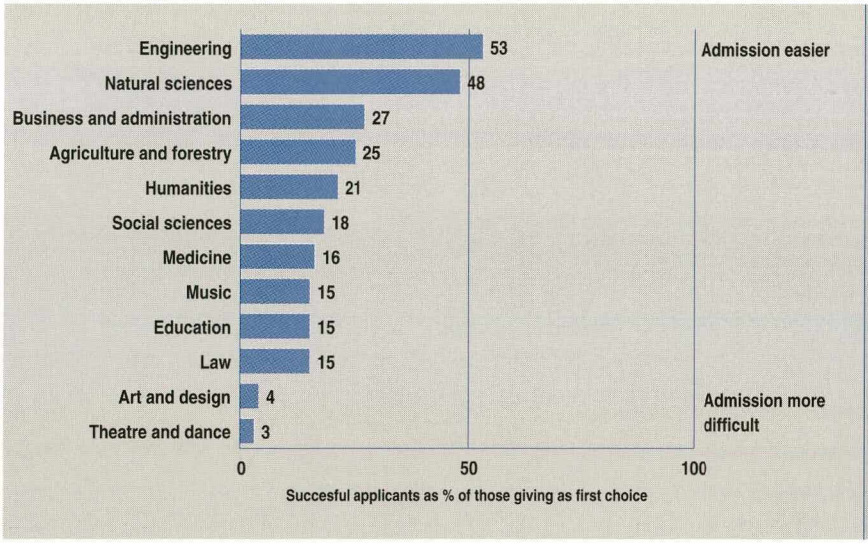
At the upper secondary level the supply more or less meets the demand for places in general education, since more than 90 per cent of applicants were able to begin their studies in 1997. A good 60 per cent of the applicants were granted a place in vocational education (Table 4.8). The vocational schools in fact had some vacancies, but the places on offer are not always in the fields the applicants wish to study.

The demand is greatest for university and other tertiary education, where there are far more applicants than places. One of the main reasons for this is that the proportion of students completing an upper secondary qualification each year is now very high, and young people want to continue their studies to a higher level

4.8 Students applying for and gaining places in upper secondary and tertiary education in 1997

	Applicants	% of successful applicants
Upper secondary education		
General schools	39 840	92
Vocational schools	78 060	63
Tertiary education		
Vocational colleges	14 530	68
Polytechnics	72 800	36
Universities	61 040	30
Total	**266 270**	**53**

Source: Statistics Finland



4.9 University intake by field of study in 1997

Source: Statistics Finland

than before in order to improve their chances of getting a job.

Of all the students who applied for university in 1997, only 30 per cent got a place to begin the same year. Because it is difficult to get into a university, many students try several times. The university intake therefore consists of students from several cohorts. For example, only a third of the students beginning at university in 1997 had passed the matriculation examination that year. Many apply for a place at a university or in some other form of tertiary education several years in succession.

The acceptance rates vary from one field of study to another and reflect the correlation between the popularity of the fields of study and the student intake. The subjects young people want to study do not always coincide with the number of places on offer. The Government draws up plans for the number of new graduates by education level and field. The number of student places at various levels and in various fields of education is determined on the basis of estimated workforce needs.

Chart 4.9 shows the university intake by field of study. The differences between fields of studies are considerable: it is most difficult to gain admission to the arts academies and easiest to get a place in technology and the natural sciences. The situation is the same in vocational upper secondary and tertiary education, where some fields of study are more popular than others. It is most difficult to get a place for media studies and the arts and easiest for technical fields.

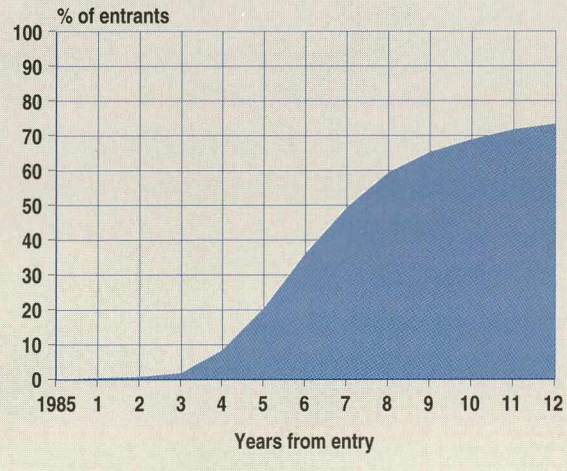
Three quarters of those starting at university complete their studies

73 per cent of the first year university students in 1985 had completed their studies 12 years later (Chart 4.10). It may be estimated that a few per cent more would complete their degree even after this. In other words, about three quarters of the cohort complete their studies and one quarter drop out. This result appears to be better than average, because on average across the OECD countries, about a third of all entrants leave university without graduating.

Examination of the cohort entering university in 1990 shows that the proportion of students completing their university degrees in the space of seven years is four percentage points higher than the proportion of the cohort beginning in 1985. Much of this is due to the degree reform. In the 1990s it has been more widely possible to take a Bachelor's degree.

The number of drop-outs for upper secondary general education took a downward turn in the early 1990s. At mid-decade about 4 per cent of the students were dropping out. This is largely explained by the fact that the upper secondary general schools adopted a flexible system of courses instead of set yearly classes.

The drop-out rate in vocational schools and colleges was about 10 per cent a year in the mid-1990s. There were more drop-outs at the lower than at the upper level. The drop-out rate also seems to vary according to the state of the economy. At the height of the recession in the early 1990s there were fewer drop-outs than in the years with a higher employment rate.



4.10 Graduation of students beginning at university in 1985 by the end of 1997

True cohort method

Source: Statistics Finland

PARTICIPATION IN EDUCATION

Participation in tertiary education growing rapidly

All children aged 7-15 – even the severely handicapped – attend school in Finland. Although attendance in education is compulsory only up to the age of 16, it is very common for students to continue in upper secondary education until they are 18 (Table 4.13).

In 1996, the approximate number of students in post-compulsory educational institutions was 0.5 million, in other words 44 per cent of the total number of students within the education system. Of these upper secondary or tertiary level students 53 per cent were female and 47 per cent male. More than one half of the students were aged 20 or over (Table 4.11).

Calculated by the situation in 1996 , the expected average number of years[1] of formal education in the school system of persons aged 16 was 7 at the current enrolment rate. The average for males (6.4 years) was lower than that for females (7.5 years). Surveys have shown that young Finns have great faith in education and the opportunities it provides for entering and remaining on the labour market (Youth barometer, Ministry of Education).

On average, and under current conditions, a 17-year-old can expect to receive 3.2 years of tertiary education over his or her lifetime. Measured by the school expectancy indicator, the rate of participation in tertiary level education in Finland is among the highest in the OECD countries as, in addition to Finland, only Australia, Canada, New Zealand and the United States exceeded the value of 3 years in 1996 (Education at a Glance, OECD Indicators 1998).

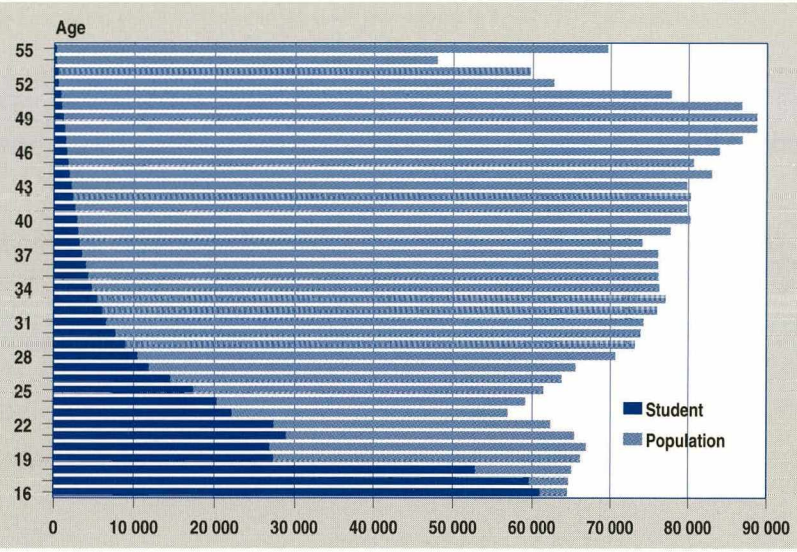
The transition from secondary to tertiary education takes place in Finland at around the age of 20. By that age there are more students in tertiary than in secondary education. Participation in tertiary education by the over-20 age groups has begun to rise steeply in the 1990s.

4.11 Number of students in upper secondary and tertiary education by age and type of institution in 1996

	Total		Age			
			16-19	20-24	25-34	35-
Upper secondary education		%	%	%	%	%
General schools	110 468	100.0	99.5	0.5	0.0	0.0
Vocational schools	105 964	100.0	65.9	20.2	8.5	5.4
Tertiary education						
Vocational colleges	58 401	100.0	9.1	51.8	26.0	13.0
Polytechnics	40 453	100.0	9.0	53.6	27.5	10.0
Universities	140 129	100.0	3.9	37.0	41.5	17.6
Total	**455 415**		**194 139**	**125 738**	**93 569**	**41 969**
Male %	47		49	44	50	40
Female %	53		51	56	50	60

Source: Statistics Finland

1 The average duration of formal education that a 16-year-old can expect to enrol in over his or her lifetime is calculated by adding up the net enrolment rates for each year in the age group of 16 to 49-year-olds, and diving the sum by 100.



4.12 Students in the regular education system and population aged 16–55 in 1996

Source: Statistics Finland

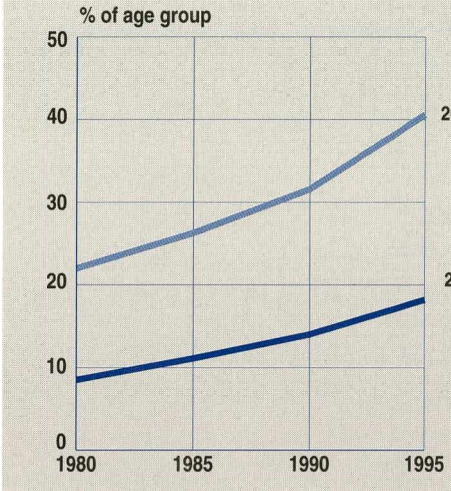
4.13 Students as a percentage of the population aged 16–30 by level of education in 1996

Age	Population	Studying total	Upper secondary education			Tertiary education		
			General education	Vocational education	Total	Polytechnics Vocational colleges	Universities	Total
	%	%	%	%	%	%	%	%
16	100.0	**94.5***	53.9	29.8	**83.7**	-	-	-
17	100.0	**92.2**	55.3	36.8	**92.2**	0.0	0.0	**0.0**
18	100.0	**81.3**	52.0	26.3	**78.3**	2.8	0.1	**3.0**
19	100.0	**41.4**	8.0	14.6	**22.6**	10.7	8.1	**18.8**
20	100.0	**40.2**	0.7	10.6	**11.3**	15.7	13.3	**28.9**
21	100.0	**44.2**	0.1	8.4	**8.5**	19.4	16.3	**35.7**
22	100.0	**43.9**	0.0	6.3	**6.3**	19.4	18.2	**37.6**
23	100.0	**39.0**	0.0	4.8	**4.8**	16.2	18.0	**34.2**
24	100.0	**34.3**	0.0	3.6	**3.6**	12.5	18.2	**30.7**
25	100.0	**28.3**	0.0	2.5	**2.6**	9.2	16.6	**25.8**
26	100.0	**22.8**	0.0	2.1	**2.1**	6.6	14.1	**20.7**
27	100.0	**18.1**	0.0	1.6	**1.6**	4.9	11.5	**16.4**
28	100.0	**14.8**	0.0	1.4	**1.4**	3.9	9.5	**13.4**
29	100.0	**12.2**	0.0	1.1	**1.1**	3.2	7.9	**11.1**
30	100.0	**10.4**	0.0	1.0	**1.0**	2.7	6.8	**9.4**

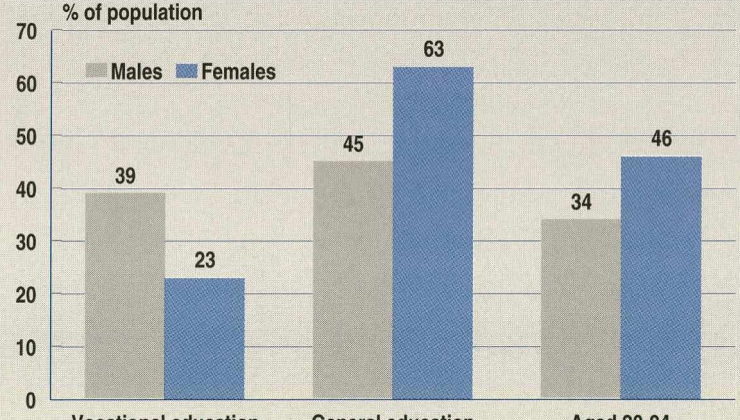
** Includes 10.8 percentage points lower secondary level students*
Source: Statistics Finland

The growth in tertiary education is due mainly to the much greater participation of women. In 1996, 46 per cent of the women aged 20-24 were studying. This is over 10 percentage points more than for the men, 34 per cent (Chart 4.15). One reason for this is the differentiation according to gender taking place at the upper secondary level. Women clearly participate more than men in general education leading to further study. The men in turn participate more widely in vocational education permitting their transfer to the labour markets immediately after their upper secondary education.

4.14 Students as a percentage of the 20–29 age groups 1980–1995



Source: Statistics Finland



4.15 Students as a percentage of the population aged 16–24 by gender 1996

Source: Statistics Finland

Participation rate in tertiary education in Finland among the highest in EU countries

Measured according to participation in education, Finland invests more in education than the EU countries on average. Nearly 70 per cent of the population aged 5-29 was in some form of formal education in 1996 (Table 4.16).

The enrolment rate of persons aged 15-19 in Finland is about average for the EU countries. This is mainly because a large number of the students who complete general upper secondary education do not continue in tertiary education immediately after matriculating, but prefer to take a year out, and in some cases one year may stretch to several before they begin

4.16 Enrolment rates by age in Finland and the other EU countries in 1996

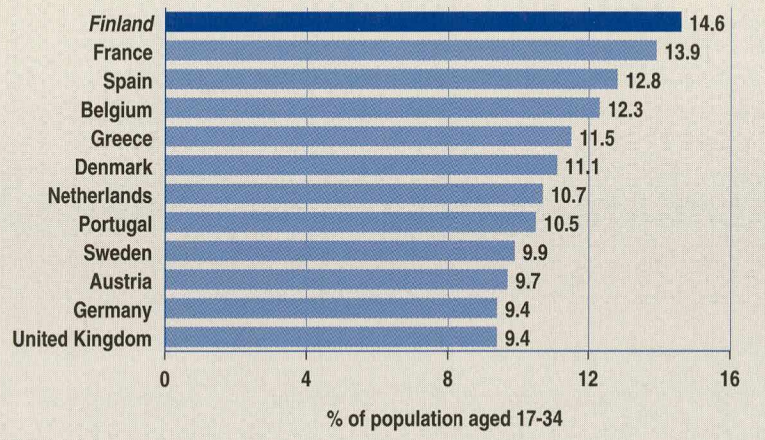
Countries are ranked in descending order of enrolment rates at age 5-29	Ending age of compulsory schooling	Age range at which over 90% of the population are enrolled	Students aged			Expectancy of formal education per persons aged 5 and over
			5 and older as a percentage of the population aged 5-29	15-19 as a percentage of the population aged 15-19	20-29 as a percentage of the population aged 20-29	
Belgium	18	3 - 17	70.8	92.1	m	18.3
Sweden	16	6 - 18	69.8	83.3	23.6	18.0
Finland	**16**	**7 - 17**	**69.1**	**81.8**	**29.6**	**17.2**
United Kingdom	16	4 - 15	66.8	72.1	17.5	17.3
Netherlands	18	4 - 17	65.3	88.5	23.7	17.5
Ireland	15	5 - 15	64.9	79.3	14.6	15.6
France	16	3 - 17	64.5	88.3	19.1	16.5
Denmark	16	6 - 16	63.9	79.6	26.0	17.1
Spain	16	4 - 15	63.0	73.8	21.8	17.5
Portugal	14	6 - 1	62.0	67.5	20.5	16.9
Germany	18	7 - 17	61.8	87.9	20.5	16.6
Austria	15	5 - 16	58.0	75.7	16.8	15.8
Italy	14	4 - 13	53.8	m	m	m
Greece	14.5	6 - 14	53.0	72.0	12.0	14.2
Luxembourg	15	m	52.3	m	m	m

m = data not available

Source: Education at a Glance, OECD Indicators 1998

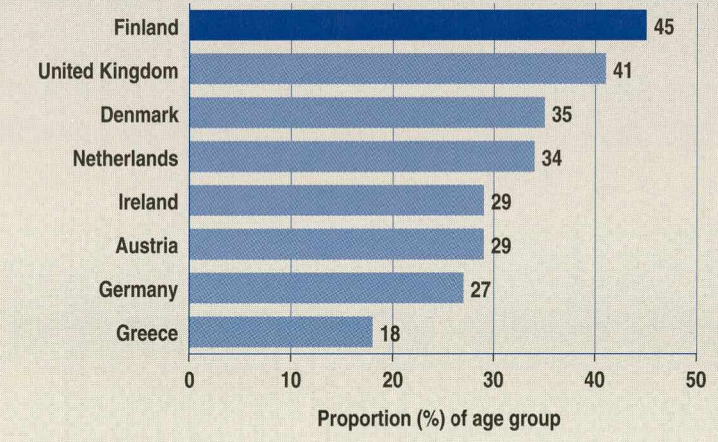
their further studies. There are various reasons for this, such as the difficulty of getting a place at university or, in the case of boys, a desire to do their compulsory military service before starting in further education. This accounts for the "dip" in the Finnish participation rate for 19- and 20-year-olds (Chart 4.12 and Table 4.13).

According to the data for 1996, participation in tertiary education is higher in Finland than in other EU countries. 14.6 per cent of the 17-34 year-olds were studying (Chart 4.17). On the basis of the net entry rate, 45 per cent of the 17 year-olds can be expected to enter university level education at some stage in their lives (Chart 4.18).



4.17 Enrolment rate in tertiary education (ISCED 76: 5/6/7) for persons aged 17–34 in Finland and certain other EU countries in 1996

Source: Education at a Glance , OECD Indicators 1998



4.18 Net entry rates for university level education (ISCED 76: 6) in Finland and certain EU countries in 1996

Source: Education at a Glance, OECD Indicators 1998

5

GRADUATION AND TRANSITION FROM SCHOOL TO WORK

The information on graduates and the transition from school to work given in this chapter covers the degrees and qualifications obtained in the regular Finnish education system. The data are official statistics and are drawn from the individual data-based registers of Statistics Finland (National Statistical Institute of Finland). The data on education are classified according to the new International Standard Classification of Education 1997 (ISCED 97). The international comparisons are taken from the book Education at a Glance OECD Indicators 1998 published by the OECD and are based on the old ISCED 76 classification.

GRADUATION

The compulsory 9-year general education ends in Finland with the completion of the syllabus for the comprehensive school. Following the educational reform of the 1970s, the entire age-cohort has, since the early 1980s, completed a lower secondary education. By the early 1980s only seven per cent of the school leavers had completed only the basic primary level education (Table 5.1). By the mid-1990s only about 0.5 per cent of the age-cohort failed to complete the comprehensive school before the statutory school leaving age.

5.1 Completion of the compulsory education by level of education in 1975–1997

	Primary education	Lower secondary education	Total	
	%	%	%	
1975	26.1	73.9	100.0	69 400
1980	6.7	93.3	100.0	75 800
1985	-	100.0	100.0	65 050
1990	-	100.0	100.0	61 100
1995	-	100.0	100.0	63 800
1996	-	100.0	100.0	63 500
1997	-	100.0	100.0	64 200

Source: Statistics Finland

International Standard Classification of Education 1997 (ISCED 97)

The levels of education used in this chapter are according to the new ISCED 97 classification as follows:

ISCED 97 levels	**Main content in Finland**
ISCED 1 Primary education	Primary school, now abolished
ISCED 2 Lower secondary education	Comprehensive school grade 9 or 10 Middle school, now abolished
ISCED 3 Upper secondary education	Matriculation examination, Vocational school level qualifications
Tertiary level of education	
ISCED 5B	Vocational college qualifications
ISCED 5A: 3-4 year degrees	Lower university and polytechnic degrees
ISCED 5A: at least 5 year degrees	Higher university master-level degrees and specialist's degrees in medicine, dentistry and veterinary medicine
ISCED 6 Doctorate-level degrees	Advanced research degrees: licentiate's and doctor's degrees

The data on field of education are classified in accordance with the broad fields grouping (1-digit) of the new ISCED 97 classification.

The international comparisons are based on the old ISCED 76 classification and are not therefore commensurable with those of the new ISCED 97 classification.

Net graduation rate

Many Finns complete more than one qualification at the same level of education, and their ages differ considerably on completion of the qualification. In order to determine the percentage of an age-cohort completing a qualification at a particular level, it is necessary to calculate the net graduation rate. This shows the percentage of a given cohort that can be expected to complete a qualification at a given level at some stage in their lives, assuming the current graduation rates. In calculating this the charts for those who have already completed a qualification at that level or in that type of education are subtracted from the data obtained from the individual date based register. It is then possible to calculate the net proportion of persons of a synthetic age-cohort irrespective of the age structure of graduates and changes in the population. The net graduation rate is here calculated as the sum of the net graduation rates for all single ages between 17 and 49.

95 per cent of the age-cohort completing compulsory education receives upper secondary education

The education provided at the upper secondary level is nowadays so broad that the number of upper secondary qualifications exceeds the size of the cohorts of the relevant ages. Many Finns complete more than one qualification at the upper secondary level, and qualifications are taken by people of many ages.

Eliminating these multiple qualifications yields the net graduation rate, which shows that about 95 per cent of the present comprehensive school leavers will go on to complete an upper secondary qualification at some point in their lives. It can thus be expected that only about five per cent of the age-cohort leaving the comprehensive school in the latter half of the 1990s will complete only a lower secondary general education.

There is a great difference between men and women in the net graduation rate. Almost all the women comprehensive school leavers will probably complete at least an upper secondary qualification at some point in their lives, as against less than 90 per cent of the men. It can thus be expected that more than 10 per cent of the men leaving the comprehensive school in the latter half of the 1990s will complete only a lower secondary general education.

5.2 Qualifications at the upper secondary level of education by type of education in 1975–1997

	Total	General qualification (Matriculation examination)		Vocational qualifications	
			Female %		Female %
1975	75 675	24 822	60	50 853	46
1980	95 957	28 692	62	67 265	46
1985	97 832	31 614	62	66 218	51
1990	77 338	27 467	60	49 871	53
1995	78 045	34 337	59	43 708	52
1996	76 075	34 694	58	41 381	51
1997	74 793	35 024	59	39 769	51

Source: Statistics Finland

The proportion of the age-cohort completing the matriculation examination, i.e. the **upper secondary general qualification**, has been rising steadily in recent years. About 55 per cent of those completing their compulsory education in the latter half of the 1990s can be expected to take the matriculation examination (Chart 5.3).

There is a great difference between men and women in the graduation rate at the upper secondary level. About 44 per cent of the men completing the comprehensive school in the mid-1990s and about 64 per cent of the women will probably take the matriculation examination before they reach the age of 50 (Table 5.4).

The matriculation examination is usually taken at the age of 19 (80% of the candidates). Only about 6 per cent of all the candidates are over the age of 20.

Students of all ages complete **upper secondary vocational qualifications**; 43 per cent were under 20, 30 per cent aged 20-24 and 27 per cent 25 or more in 1997. The data include those with multiple qualifications and also persons taking adult education programmes leading to a qualification.

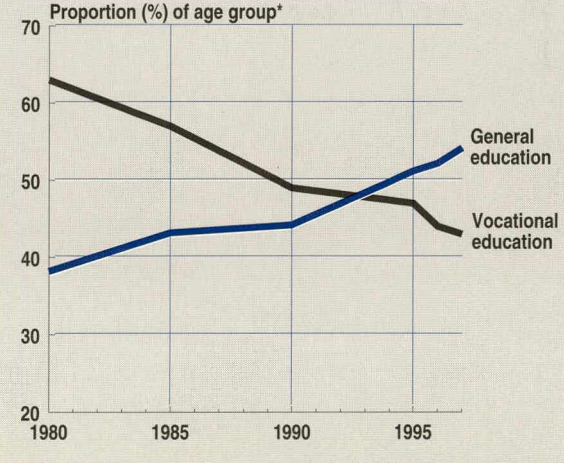
The number of students completing a vocational qualification at the upper secondary level has been falling since the 1980s (Table 5.2). The number in proportion to the age-cohort has also decreased (Chart 5.3).

Judging from the net graduation rate for upper secondary vocational qualifications, 43 per cent of the 17-year-olds in 1997 will complete their first upper secondary vocational qualification before they reach the age of 50 (Chart 5.3 and Table 5.4).

Among those completing vocational education there has in the past few years been a relatively high proportion of students taking an upper secondary vocational qualification after completing an upper secondary general qualification. Allowing for them as well, the net graduation rate rises to about 60 per cent in, for example, 1996-97. It should further be pointed out that some of those completing a vocational upper secondary qualification will not finish their studies at this point but will continue at a higher level.

The net upper secondary vocational graduation rate of those obtaining their first qualification in 1997 was 45 per cent for men and 41 per cent for women (Table 5.4). Allowing for those who took an upper secondary vocational qualification after completing an upper secondary general qualification, the difference in the net graduation rate is clearly in favour of women. 58 per cent of men and 60 per cent of women aged 17 can be expected to complete a vocational upper secondary qualification.

5.3 Upper secondary net graduation rate by type of education in 1980–1997



*Sum of net graduation rates for all single ages between 17 and 49

Source: Statistics Finland

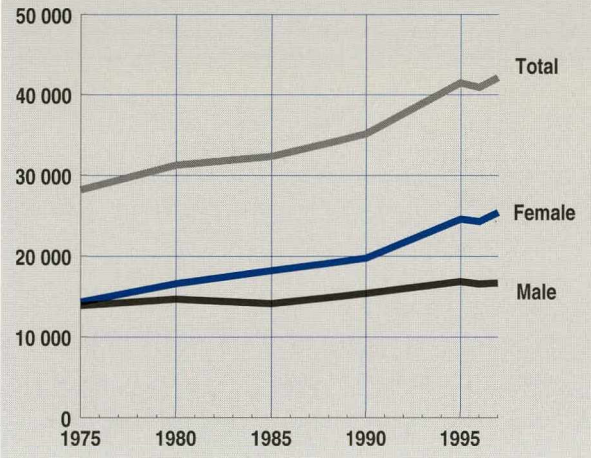
5.4 Upper secondary net graduation rate by type of education and gender in 1980–1997

	General qualification			Vocational qualification		
	Total	Males	Females	Total	Males	Females
	Proportion of age group*					
	%	%	%	%	%	%
1980	37.8	27.8	48.2	63.4	68.9	57.6
1985	42.9	32.0	54.1	56.5	59.1	53.8
1990	44.4	35.4	53.7	48.6	50.5	46.6
1995	51.4	41.8	61.5	46.9	49.8	43.8
1996	52.3	43.0	62.0	44.0	46.7	41.2
1997	53.7	43.5	64.3	43.1	45.2	41.0

*Sum of net graduation rates for all single ages between 17 and 49.

Source: Statistics Finland

5.5 Degrees at the tertiary level of education by gender in 1975–1997



Source: Statistics Finland

Over half of young adults obtain a tertiary degree or qualification

The number of persons completing a degree or qualification at the tertiary level of education has gone up more rapidly than before in the past ten years. This trend has been given special impetus by the growing participation of women in tertiary education (Chart 5. 5). Judging from the net graduation rate, more than half of today's young adults (20-year-olds) will obtain a tertiary degree or qualification at some stage in their lives (Chart 5.8 and Table 5.9).

The increase has been most rapid in the number of doctorate-level degrees. In 1997 the number of advanced research degrees was more than three times that in 1975 (Table 5.6). Doctorate-level degrees are

5.6 Tertiary degrees by level of education in 1975–1997

	Total	Vocational colleges qualifications	Lower university and polytechnic degrees	Higher university degrees	Doctorate level degrees (doctors and licentiates)
1975	28 197	13 772	8 894	4 988	543
1980	31 254	16 714	8 383	5 540	617
1985	32 328	19 531	4 921	7 211	665
1990	35 115	20 395	4 360	9 335	1 025
1995	41 437	21 833	6 882	11 135	1 587
1996	40 871	19 880	8 072	11 348	1 571
1997	42 095	18 824	10 073	11 426	1 772

Source: Statistics Finland

the licentiate and the doctorate. About 850 licentiates were obtained in 1997 and over 920 doctorates.

Two thirds of those obtaining higher (master level) university degrees were under 30 years of age (Table 5.7), the median age being 27.6 years. This is slightly higher than the OECD average. In 1997 the median time spent working for a higher university degree was 6.5 years. The shortest graduation times were recorded among master graduates in pedagogics (5 years on average). The majority of these graduates qualified as class teachers. Architects took longest to graduate, the median time being 10 years.

One third of those obtaining a doctorate were over the age of 40 on completing their degrees. The median age was 36.6 years. The doctorate graduates were youngest in technical subjects, where the median age was 33 years, the oldest (median age 45 years) in pedagogics.

Graduation rates for women exceed those for men

There is an extremely large difference between men and women in the tertiary graduation rate, and it seems to be growing in favour of women (Chart 5.8).

Judging from the net graduation rate, 64 per cent of the young women (aged 20) in 1999 will obtain a tertiary degree at some stage in their lives. The corresponding chart for men was only 40 per cent in 1997. The tertiary net graduation rate for women rose very sharply in the first half of the 1990s, but the rate for men only slowly.

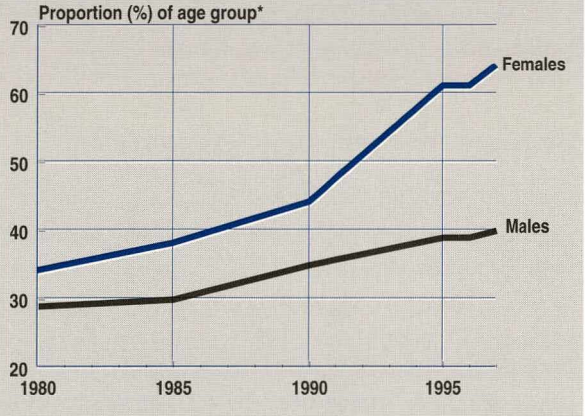
About 16 per cent of today's young adults can be expected to complete a higher university degree: 19 per cent of the women and 14 per cent of the men. There are more female than male graduates at all levels of tertiary education apart from the doctorate level, where the net rate was 1.9 per cent for men and 1.3 per cent for women in 1997 (Table 5.9).

5.7 Tertiary graduates by age in 1997

Age	Vocational college qualifications	Lower university and polytechnic degrees	Higher university degrees	Doctorate-level degrees (doctorates and licentiates)
	%	%	%	%
under 20	6.4	0.0	-	-
20-24	46.4	29.8	7.5	0.6
25-29	20.7	42.5	57.4	15.2
30-34	9.8	12.4	18.9	31.2
35-39	7.2	6.9	7.7	20.6
40-44	5.3	4.6	4.5	14.6
45-49	3.2	2.3	2.5	9.6
50-	1.1	1.6	1.6	8.2
Total	**100.0**	**100.0**	**100.0**	**100.0**
	18 824	10 073	11 426	1 772

Source: Statistics Finland

5.8 Tertiary net graduation rate in 1980–1997



**Sum of net graduation rates for all single ages between 17 and 49.*

Source: Statistics Finland

It may be estimated that the lower university-level net graduation rate will double, i.e. that it will rise to about 30 per cent in the very near future due to the polytechnic reform and the university degree reform (Table 5.9).

Women accounted for more than half of all tertiary degrees in 1997 at all levels of education apart from the doctorate level. Here again the proportion of women is growing fast, and by 1997 more than half the doctorate-level graduates were women in the fields health and welfare, education and services. The 50 per cent mark was achieved in higher university degrees at the beginning of the 1990s (Table 5.10).

Examination by field of education reveals that some fields are clearly male- or female-dominated. In 1997 there were most women, 85 per cent, in tertiary education in health and welfare. The proportion of women had, furthermore, risen by five percentage points in just over 20 years (Table 5.11).

5.9 Tertiary net graduation rate by level of education and gender in 1985–97

	Tertiary level of education	Vocational college qualifications	Lower university and polytechnic degrees	Higher university degrees	Doctorate-level degrees
	Proportion of age group*				
	%	%	%	%	%
Both genders					
1985	33.7	22.6	5.8	9.0	0.6
1990	39.1	24.8	5.6	11.3	0.9
1995	49.8	29.4	9.9	14.4	1.4
1996	49.8	27.8	11.9	15.3	1.4
1997	51.6	27.3	15.0	16.2	1.6
Males					
1985	30.0	17.4	6.5	9.1	0.8
1990	34.5	19.8	6.4	10.3	1.3
1995	39.3	20.2	9.8	12.6	1.6
1996	38.9	19.3	11.1	12.9	1.6
1997	40.1	18.7	13.0	13.8	1.9
Females					
1985	37.6	27.9	5.0	8.9	0.4
1990	43.8	30.0	4.8	12.2	0.6
1995	60.7	39.1	10.0	16.2	1.2
1996	61.1	36.6	12.7	17.9	1.2
1997	63.6	36.3	17.1	18.8	1.3

* Sum of net graduation rates for all single ages between 17 and 49.

Source: Statistics Finland

Engineering, manufacturing and construction is clearly a male-dominated field of education, 84 per cent of the tertiary graduates being men in 1997. The percentage of men had, however, fallen by ten points in just over 20 years.

More than 20 years ago the services field of education was still male-dominated, mainly due to the security services degrees, but by 1997 the field had become female-dominated, due to the marked growth in personal services. Agriculture also used to be clearly male-dominated, but the proportion of women has grown so much that by 1997 both sexes were equally represented, men and women accounting for 40-60 per cent of the graduates.

5.10 Women graduates as a percentage of all tertiary level graduates in 1975–1997

	Vocational college qualifications	Lower university and polytechnic degrees	Higher university degrees	Doctorate-level degrees (doctorates and licentiates)	Total
	%	%	%	%	%
1975	57.4	50.3	37.1	18.2	50.8
1980	58.4	51.2	43.4	21.9	53.1
1985	63.4	45.1	47.5	29.3	56.4
1990	62.4	42.8	51.7	31.8	56.2
1995	66.7	48.9	54.4	39.3	59.4
1996	65.7	52.0	56.6	40.3	59.5
1997	66.8	55.7	57.3	40.0	60.4

Source: Statistics Finland

5.11 Tertiary degrees by field of education and gender in 1975 and in 1997

Field of education (ISCED 97)	**1997**		**1975**
		Women %	Women %
Female dominated (over 60 % women)			
7 Health and Welfare	9 389	85	80
1 Education*	2 519	81	72
2 Humanities and Arts	3 490	71	71
8 Services	2 614	67	23
3 Social sciences, Business and Law	12 473	66	64
Mixed (40-60 % men and women)			
4 Science	2 982	46	38
6 Agriculture	1 135	41	19
Male dominated (over 60 % men)			
5 Engineering, Manufacturing and Construction	7 493	16	5
Total	42 095	60	51

* Class teachers and graduates of education science. The figure does not include those qualifying as subject teachers; these are classified according to their main subject

Source: Statistics Finland

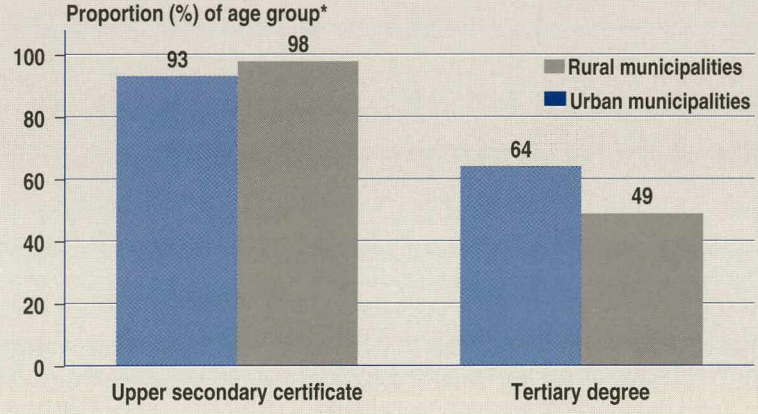
Urban young people attain a higher level of education than their rural counterparts

There is a clear difference between the educational levels attained by young people living in the towns and the rural areas. To begin with, almost all the rural comprehensive school leavers in the mid-1990s will complete at least an upper secondary qualification at some stage in their lives, as against only 93 per cent of the urban school leavers. Judging from the net graduation rate, more than five per cent of the urban comprehensive school leavers in the mid-1990s will not complete any further qualification (Chart 5.12).

On the other hand, the young adults in the urban municipalities where the educational level of the population is high will complete a higher level of education than their counterparts in the rural municipalities with a low level of education. About 65 per cent of today's urban 20-year-olds can be expected to complete a tertiary degree at some stage in their lives, whereas the net graduation rate will be under 50 per cent for the rural young people (Chart 5.12).

At the upper secondary level the urban young people tend to complete the upper secondary general school more than their rural counterparts. By contrast, there is a higher percentage of rural young people in vocational education (Table 5.13).

The difference in level of education is even more apparent at the tertiary level. Whereas the differences between urban and rural young people in the net graduation rates of vocational college qualifications and lower university and polytechnic degrees are fairly small, there is already a clear difference at the higher



5.12 Net graduation rate by degree of urbanisation of municipality of residence and level of education in 1997

** Sum of net graduation rates for all single ages between 17 and 49.*

Source: Statistics Finland

5.13 Net graduation rate by degree of urbanisation of municipality of residence and level of education in 1997

	Urban municipalities	Semi-urban municipalities	Rural municipalities	Total
	Proportion of age group *			
	%	%	%	%
Upper secondary certificate (ISCED 97:3 or 4)	**93**	**98**	**98**	**96**
General education	56	52	49	54
Vocational education	37	48	52	43
Tertiary degree (ISCED 97: 5 or 6)	**64**	**51**	**49**	**59**
Vocational college (ISCED 97: 5B)	28	27	26	27
Lower university or polytechnic (ISCED 97: 5A)	16	13	13	15
Higher university (ISCED 97: 5A)	19	10	11	16
Doctorate level (ISCED 97:6)	2.2	0.6	0.4	1.6

* Sum of net graduation rates for all single ages between 17 and 49

Source: Statistics Finland

university level: 19 per cent of the urban young adults can be expected to complete a higher university degree, as against only 11 per cent of rural young adults in 1997. The difference is most marked at the doctorate level (Table 5.13).

Percentage of tertiary degrees in science and technology among the highest in the OECD countries

The completion of an upper secondary qualification has more or less become the minimum requirement for entry into the labour market in the EU member states. The ratio of upper secondary graduates to population at the typical graduation age is in fact already over 80 per cent in most EU countries. In Finland, Portugal and Belgium (Flemish community) the rate was over 90 per cent in 1996.

In most EU member states more vocational than general qualifications are taken at the upper secondary level. The proportion of vocational qualifications is highest in Austria, Belgium, Italy and Germany, where the vocational rates were over 60 per cent of the typical age-cohort in 1996. There are, however, some countries where most of the qualifications are general qualifications. An example here is Ireland, where al-

most all students complete a general qualification. Vocational and general qualifications are in Finland completed in almost equal proportions at the upper secondary level (Education at a Glance, OECD Indicators 1998).

The ratio to population at the typical age of graduation for higher university degrees was in Finland still approximately average for the OECD countries in 1996 (Table 5.14). The table does not include short university-level degrees or master degrees completed as second degrees.

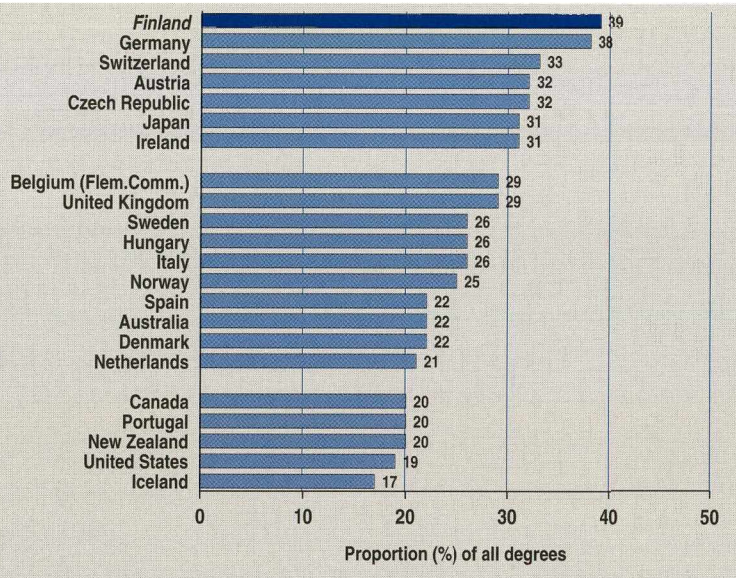
Technological innovations are of great significance in determining a country's ability to compete internationally. There is a growing demand for knowledge based on science and technology. Chart 5.15 shows the degrees taken in these fields as a proportion of all university-level degrees completed in certain OECD countries in 1996. The data include engineering and architecture, natural science, mathematics and computer science, and agriculture, forestry and fishery programmes according to the old ISCED 76.

Although the data are not entirely commensurable, it would nevertheless appear that more university-level degrees are completed in science and technology in Finland than in any other OECD country in proportion to the population. In 1996 the degrees completed in these fields outnumbered those taken in the humanities and arts, even though degrees in the humanities and arts represent the biggest category in most countries. Other countries with a higher proportion of

5.14 Ratio of long first university degrees (ISCED 76) by gender to population at the typical age of graduation in Finland and certain other EU member states in 1996

Countries are ranked in descending order of percentage of both genders	Both genders %	Males %	Females %
Netherlands	20	18	21
Germany	16	18	14
Belgium (Flemish Community)	16	17	15
Spain	15	13	17
Portugal	14	10	18
Finland	**13**	**12**	**15**
Greece	13	11	15
Italy	12	11	13
Ireland	11	12	10
Austria	10	11	10
Sweden	8	9	7
Denmark	8	8	7

Source: Education at a Glance, OECD Indicators 1998



5.15 University-level degrees (ISCED 76) in science and technology as a percentage of all university-level degrees in Finland and certain other OECD countries in 1996

Source: Education at a Glance, OECD Indicators 1998

degrees in science and technology than in the humanities and arts were Switzerland, Austria, the Czech Republic, Japan and Belgium (Flemish community).

Fewer degrees in law and business appear to be completed in Finland and Germany than in the other OECD countries. The OECD includes in this category commercial and business administration, law, transport and communication, service trades, mass communication and documentation programmes (Table 5.16).

5.16 Percentage distribution of university-level degrees (ISCED 76: 6/7) between subject categories in Finland and the OECD countries in 1996

	Engineering and architecture	Natural science	Mathematics and computer science	Medical science	Law and business	Humanities	Total
	%	%	%	%	%	%	%
Australia	8	11	4	14	26	37	100
Austria	15	13	5	9	29	29	100
Belgium (Flemish Community)	19	8	2	12	33	25	100
Canada	8	9	4	7	17	56	100
Czech Republic	23	8	2	10	26	32	100
Denmark	15	4	3	15	23	40	100
Finland	**25**	**8**	**6**	**12**	**12**	**37**	**100**
Germany	21	11	5	9	13	40	100
Hungary	17	7	2	6	23	45	100
Iceland	6	9	2	16	17	50	100
Ireland	11	14	6	4	26	39	100
Italy	14	9	3	17	30	27	100
Japan	21	10	x	6	37	26	100
Netherlands	12	7	2	12	22	45	100
New Zealand	6	14	1	10	30	40	100
Norway	17	7	1	19	16	40	100
Portugal	12	5	3	5	27	48	100
Spain	12	6	4	11	39	28	100
Sweden	15	6	5	17	20	36	100
Switzerland	12	17	3	14	29	24	100
United Kingdom	13	10	6	8	23	41	100
United States	7	8	3	9	25	47	100

X = Data included in another column

Source: Education at a Glance, OECD Indicators 1998

TRANSITION FROM SCHOOL TO WORK

The information in this chapter is based on the data from register-based employment statistics and a Register of Completed Education and Degrees. These are individual data-based systems that can be used to monitor an individual's transition from school to work or further studies, or from work back to school. The examination in this chapter is based on the true cohort method.

Young adults enter the labour market at a later age than before

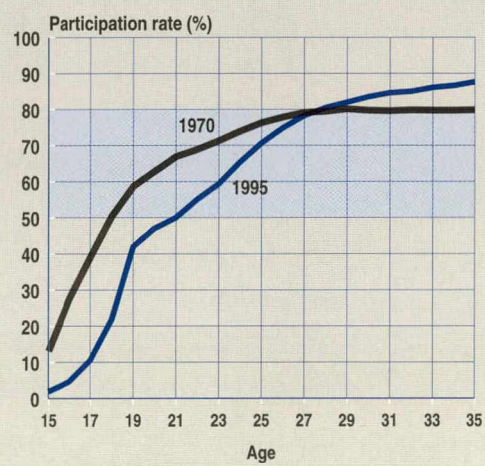
Prolonged education is the reason why young people are entering the labour market at a later age than before. In 1970, at least half of all 18-year-olds were part of the labour force. In 1995, the 50 per cent mark was crossed by 21-year-olds. Thus, this way of calculating the age of transition shows an increase of 3 years over a period of 25 years.

Both in 1970 and 1995, the 80 per cent mark was reached at the age of 28. The significant increase in young people's level of education has affected the labour force participation rate. In 1995, the proportion of the labour force was increasing steadily after the age of 28, but by 1970 the labour force participation rate had reached its peak level.

Gender affects the labour force participation rate. In 1995, the labour force participation rate crossed the 50 per cent mark at the age of 20 for men, and at the age of 23 for women. The difference is due to the fact that women study for longer than men before entering the labour market.

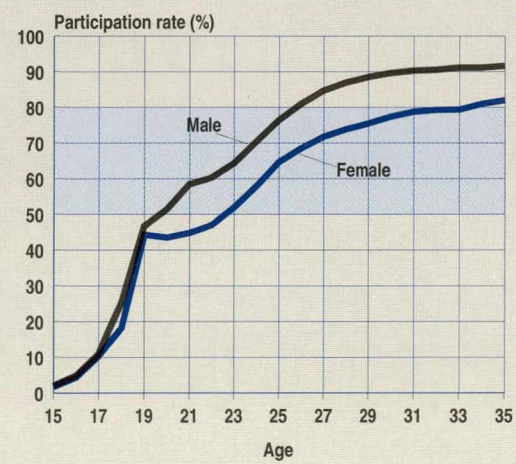
The labour force participation rate for men crossed the 80 per cent mark at the age of 26, but the mark for women was crossed as late as the age of 33. The significant difference between men and women is explained by the fact that women typically have children and stay at home to care for them at or around the age of thirty.

5.17 Labour force participation of young adults by age in 1970 and in 1995



Source: Statistics Finland

5.18 Labour force participation of young adults by age and gender in 1995



Source: Statistics Finland

Working whilst studying

The transition from school to work is gradual. Young people usually start working while they are still studying. Most students work part-time at some stage during the year, either during the holidays or while studying. Nowadays study programmes and curricula include more and more practical training in firms and offices.

In 1996 about 90 per cent of students in post-comprehensive school education worked for at least part of the year, 15 per cent of them for the whole year (10-11 months). About 60 per cent worked for less than 3 months (Table 5.19).

Working whilst studying is directly related to the level of education and age. For example, 80 per cent of those studying for a doctorate were working at the end of 1996, as against only 13 per cent of those in vocational upper secondary education (Table 5.19).

5.19 Students in employment by level of education and time at work in 1996

Level of education	Working in 1996			Students in 1996
	Under 3 months	Whole year (10-11 months)	At the end of 1996	
	%	%	%	
Upper secondary education (ISCED 97: 3)				
General education	89.4	1.8	6.7	110 468
Vocational education	78.8	5.6	13.4	106 964
Tertiary education				
Vocational colleges (ISCED 97: 5B)	50.4	19.0	33.4	51 098
Lower university and polytechnic education (ISCED 97: 5A)	39.5	21.4	35.6	51 985
Higher university education (ISCED 97:5A)	43.5	24.0	39.4	118 023
Doctorate level education (ISCED 97:6)	17.6	66.1	79.1	16 812
Total	**62.3**	**15.0**	**25.7**	**455 415**

Source: Statistics Finland

Work via education

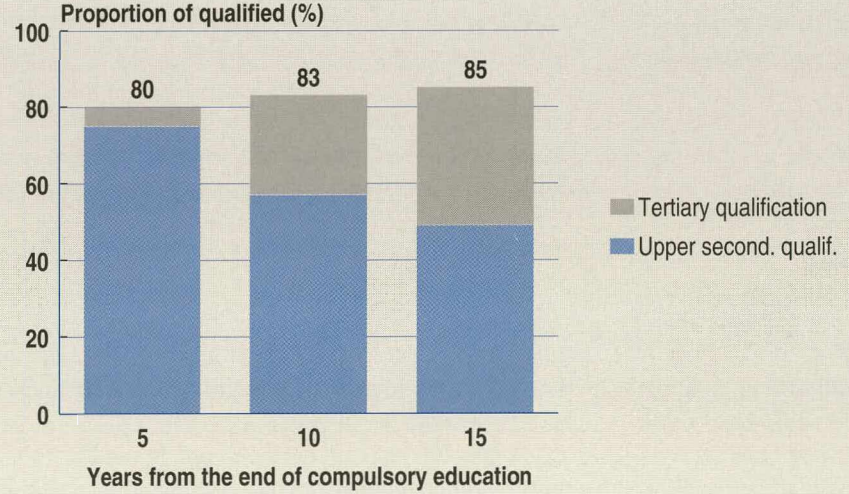
This chapter examines the transition from general to further education over a time span of 15 years. Deaths and emigrants (about 4.5 per cent) are excluded. The examination concerns two groups: the 16-year-old age-group (comprehensive school leavers) and students taking the matriculation examination in 1980. The transition from vocational education to work will be examined in the chapter *Long transition period from school to work*.

General education aims at further studies, instead of the skills required for the job market. A small proportion of each age-cohort nevertheless transfers to the labour market after receiving only a general education.

From compulsory education to further study and the labour force

Although there is no obligation to study after compulsory education, nearly all young people (about 95%) nowadays continue their studies after the lower secondary level. The termination of education before an upper secondary qualification greatly increases the risk of social exclusion.

About 80 per cent of the comprehensive school leavers in 1980 had completed at least an upper secondary qualification five years later and 83 per cent ten years later. By 1995 the proportion had risen to about 85 per cent, and a good third had completed a higher degree (Chart 5.20).



5.20 Attained educational qualification by length of time from the end of compulsory education in 1980

Source: Statistics Finland

5.21 Main activity 15 years later of those completing their compulsory general education in 1980

	Same education as in 1980 (compulsory general education)	Qualification completed in 1995			Total
		Upper secondary qualification		Tertiary qualification	
		General	Vocational		
Holders of	% 15.7	7.1	41.7	35.6	100.0
qualification	11 551	5 204	30 731	26 197	73 683
Main activity in 1995	%	%	%	%	%
Employed	54.4	64.4	69.7	79.1	70.3
Unemployed	25.8	11.3	17.0	9.0	15.1
Students	3.3	13.6	4.3	5.1	5.1
Others	16.5	10.6	9.0	6.9	9.6
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Statistics Finland

Some 15 per cent of the comprehensive school leavers in 1980 had still not completed an upper secondary qualification in 1995. This number includes those who did not continue their studies after comprehensive school and those who dropped out of upper secondary education. More men than women do not continue their education after the comprehensive school level. Only some five per cent of those completing their compulsory education in the latter half of the 1990s will, in all probability, fail to obtain some upper secondary qualification (see the previous chapter, *Graduation*).

Since there are few students with only a compulsory education entering further education after about the age of 30, the proportion of the population with no upper secondary qualification can be regarded as relatively stable, and the examination can therefore proceed to the situation of those transferring to the labour market with only a general education.

Of the comprehensive school leavers in 1980, 12.6 per cent were in the labour market (employed or unemployed) without any upper secondary qualification in 1995. These people had most difficulty in finding work. About one third of those on the labour market were unemployed (the unemployed as a percentage of the labour force). Without the subsidised measures by the Ministry of Labour, the rate of unemployment would have been higher. The percentage (16.5) of those outside the labour market and education among those with no further qualification was also highest in1995 (Table 5.21).

A good 40 per cent of those completing their compulsory education in 1980 had completed a vocational upper secondary qualification 15 years later. Since

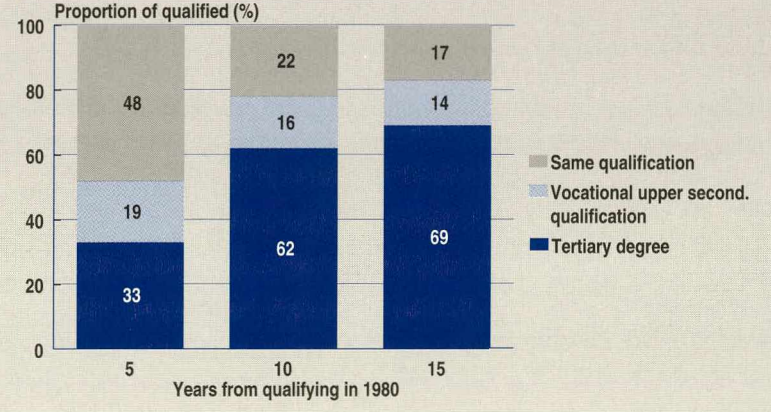
they showed little tendency to continue their studies after that, the percentage can be regarded as relatively stable and it can be concluded that about 36 per cent of the comprehensive school leavers in 1980 were on the labour market in 1995 having completed an upper secondary qualification. About 20 per cent of these were on the labour market but unemployed in 1995. 9 per cent of those with a vocational upper secondary qualification were outside the labour force and education.

From matriculation examination to further education and work

Of the students taking their upper secondary general qualification, i.e. the matriculation examination, in 1980, 52 per cent had completed either a tertiary degree or a vocational upper secondary qualification five years later, 78 per cent ten years later and 83 per cent 15 years later (Chart 5.22). By the age of about 35 a quarter had obtained a higher university degree (Table 5.23).

Since about eight per cent of the matriculated students were still studying 15 years later (Table 5.23), it may be estimated that a good 85 per cent of the students who matriculated in 1980 will complete a higher qualification. It may further be estimated that over 70 per cent will obtain a tertiary degree and about 12-13 per cent will obtain a vocational upper secondary qualification.

About 14 per cent of the students who had matriculated 15 years earlier were on the labour market with an upper secondary general qualification. Of these, about 14 per cent were unemployed (the unemployed as a percentage of the labour force).



5.22 Attained educational qualification by length of time from the completion of an upper secondary general qualification in 1980

Source: Statistics Finland

5.23 Main activity 15 years later of those completing an upper secondary general qualification in 1980

	Same qualification as in 1980 (Matriculation examination)	Qualification obtained in 1995					Total
		Upper secondary vocational educational qualification	Tertiary educational qualification				
			Vocational colleges	Lower university or polytechnic	Higher university	Doctorate level	
Holders of	% 17.0	13.8	32.1	10.7	24.9	1.5	100.0
qualification	4 670	3 791	8 792	2 923	6 835	418	27 429
Main activity in 1995	%	%	%	%	%	%	%
Employed	70.5	75.0	80.5	82.9	87.3	85.9	80.1
Unemployed	11.3	9.6	7.7	6.7	4.3	2.6	7.6
Students	7.6	6.0	3.8	4.1	3.7	5.3	4.8
Others	10.6	9.3	8.0	6.2	4.7	6.2	7.6
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Statistics Finland

Long transition period from school to work

Entering working life does not stop with the first job. Only after a few years – after periods of employment, unemployment, and further studies – will most people find jobs that are more permanent. The following examines the transition from vocational and tertiary education to work.

The gradual transition to work has been examined by taking as an example the transition to work over a period of two years of students completing an upper secondary level vocational qualification in 1994 (Table 5.24).

Of those completing their qualification in 1994, 42 per cent were employed and 28 per cent unemployed the following year, in **1995** (left side of Table 5.24) The situation in **1996** was as follows:

- of those employed in 1995, only 76 per cent were still in a job, 14 per cent were unemployed, 7 per cent had begun studying and 3 per cent were outside the labour force and education
- of those unemployed in 1995, 41 per cent were still unemployed, 39 per cent had found employment and 14 per cent had begun studying

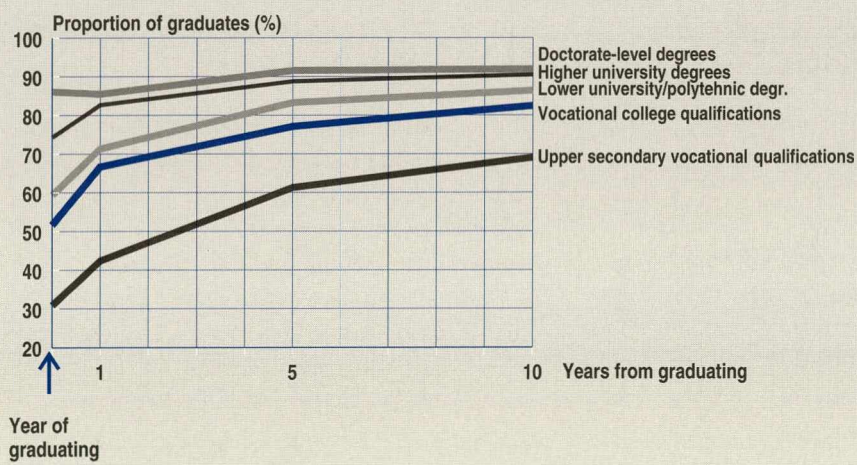
– of those who had begun studying in 1995, 56 per cent were still studying, 23 per cent were employed and 15 per cent were unemployed

– of those outside the labour force and education in 1995, 39 per cent had found employment in 1996, 19 per cent were unemployed and 11 per cent had begun studying (Table 5.24).

5.24 The transfer to work in 1995–1996 of students completing a vocational upper secondary qualification in 1994

Main activity at the end of 1995			Main activity at the end of 1996				
			Employed	Unemployed	Students	Others	Total
	%		%	%	%	%	%
Employed	42	17 790	76	14	7	3	100
Unemployed	28	11 705	39	41	14	7	100
Students	21	8 808	23	15	56	7	100
Others	9	3 678	39	19	11	31	100
Total	**100**	**41 981**					

Source: Statistics Finland



5.25 Employment rate in 1996 by lenght on time from graduating and level of qualification

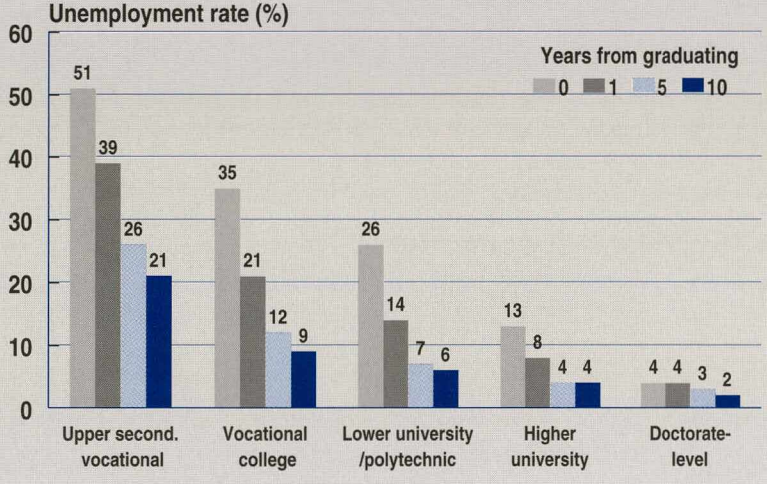
Source: Statistics Finland

Chart 5.25 shows the length of the transition to the labour force. After the graduating year, the proportion of those employed grows rapidly. As time passes, the proportion of graduates who have entered the labour market increases. However, the employment profiles vary from one qualification or degree to another.

The level of a degree affects the transition from school to work. The higher the degree, the higher the proportion of employed graduates is (Chart 5.25). The main reason for this is the better employment situation of graduates with a tertiary degree and the smaller proportion of students (Table 5.27).

The problems of recent graduates entering the labour market are highlighted by the fact that recent graduates have a much higher unemployment rate (the unemployed as a percentage of the labour force) than those with longer job histories.

The higher the level of a qualification or degree, the lower the unemployment rate is. For instance, one year after graduation the unemployment rate of vocational graduates at the upper secondary level was nearly five times as high as that of graduates with a master's degree. Ten years after graduation the unemployment rate was considerably lower at all levels. The unemployment rate of doctorate-level graduates also fell considerably during the ten years after graduation (Chart 5.26).



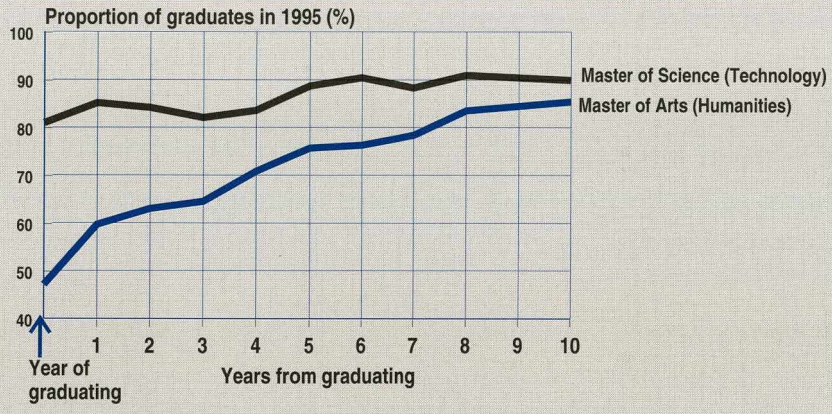
5.26 Unemployment rate in 1996 by length of time from graduating and educational level of qualification

Source: Statistics Finland

5.27 Main activity at the end of 1996 of persons with an upper secondary vocational or tertiary qualification by length of time from graduating

Main activity at the end of 1996	Year of graduating	1	5	10
Upper secondary vocational qualification (ISCED 97:3)				
Employed	30.9	42.4	61.3	69.1
Unemployed	31.5	27.3	21.5	18.0
Students	24.2	20.5	7.4	3.4
Others	13.4	9.8	9.9	9.5
Total	**100.0**	**100.0**	**100.1**	**100.0**
	38 891	39 012	32 795	35 382
Vocational college qualification (ISCED 97:5B)				
Employed	51.6	66.7	77.1	82.4
Unemployed	27.5	18.2	10.4	7.9
Students	13.0	9.5	5.9	2.7
Others	7.9	5.6	6.7	7.1
Total	**100.0**	**100.0**	**100.1**	**100.1**
	19 549	21 268	17 825	15 762
Lower university or polytechnic degree (ISCED 97:5A)				
Employed	59.4	71.4	83.3	86.4
Unemployed	20.5	11.9	6.4	5.3
Students	14.9	11.9	4.0	2.7
Others	5.1	4.8	6.3	5.6
Total	**99.9**	**100.0**	**100.0**	**100.0**
	7 680	5 134	3 928	3 527
Higher university degree (ISCED 97:5A)				
Employed	74.3	82.7	88.8	90.5
Unemployed	11.2	7.2	4.1	3.8
Students	11.2	5.6	2.5	1.3
Others	3.3	4.5	4.7	4.5
Total	**100.0**	**100.0**	**100.1**	**100.1**
	11 084	10 805	8 345	5 864
Doctorate-level degree (ISCED 97:6)				
Employed	86.1	85.5	91.6	92.0
Unemployed	3.8	3.8	2.4	1.9
Students	6.3	5.3	0.6	0.7
Others	3.8	5.3	5.5	5.4
Total	**100.0**	**99.9**	**100.1**	**100.0**
	1 497	1 459	713	427
All qualifications				
Employed	46.0	57.4	71.0	75.7
Unemployed	26.1	20.5	14.9	13.1
Students	18.3	14.6	6.0	3.0
Others	9.6	7.5	8.0	8.2
Total	**100.0**	**100.0**	**99.9**	**100.0**
	78 701	77 678	63 606	60 962

Sorce: Statistics Finland



5.28 Employment rate in 1995 of those with a master's degree in humanities or technology by length of time from graduating

Source: Statistics Finland

Employment profiles are also strongly affected by the field of study. Graduates in some fields quickly find jobs and their employment rate reaches its final level in a relatively short time. The reason for this is that the labour market situation differs from one field to another. Chart 5.29 shows one example of a comparison between university degrees.

The employment rates of technical graduates are initially higher than those for humanities graduates. In 1995, one year after graduation, 85 per cent of graduates with a Master of Science in technology were employed. The corresponding figure for graduates with a Master of Arts in humanities was only 60 per cent.

However, the rate of employment for graduates with Master of Arts degrees grew steadily and reached the level of 85 per cent during the tenth year after graduation, about the same level as the graduates in technical fields. When comparing technical sciences and humanities, it should be remembered that most graduates with a Master of Arts degree are women, whereas the technical sciences are male-dominated.

The trend in the annual income of employed persons also reflects the gradual transition from education to work. The per capita incomes of graduates rise at all levels of education as the years from graduation increase. The incomes of graduates do, however, vary in that the higher the graduates' level of education is, the more they earn (salaries and entrepreneur income).

The incomes of those with the least education on entering the labour market grew most of all. The annual incomes of those who entered the labour market in 1986 with only a general lower secondary qualification were, for example, five times those of persons who had been on the labour market for only one year in 1996. The corresponding rise for persons with a higher university degree was 1.4-fold. On the other

5.29 The annual income of persons employed in 1996 by length of time from graduation and level of qualification or degree

Educational level of qualification or degree	Years from graduation				Change on after one year from graduating
	Year of graduating	1	5	10	
	EUR[1] per person				%
Lower secondary education	2 274	2 846	10 810	14 550	411
Upper secondary education (ISCED 97: 3)					
General education	4 779	5 953	11 767	18 048	203
Vocational education	8 388	10 372	15 322	16 838	62
Tertiary education					
Vocational college (ISCED 97: 5B)	10 972	15 002	18 599	20 858	39
Lower university or polytechnic (ISCED 97: 5A)	14 150	18 492	22 694	27 439	48
Higher university education (ISCED 97:5A)	18 685	23 717	30 154	33 606	42
Doctorate -level education (ISCED 97:6)	29 714	31 361	41 963	46 030	47

[1] *FIM converted to EURO at the fixed rate of 5.94573.*

Source: Statistics Finland

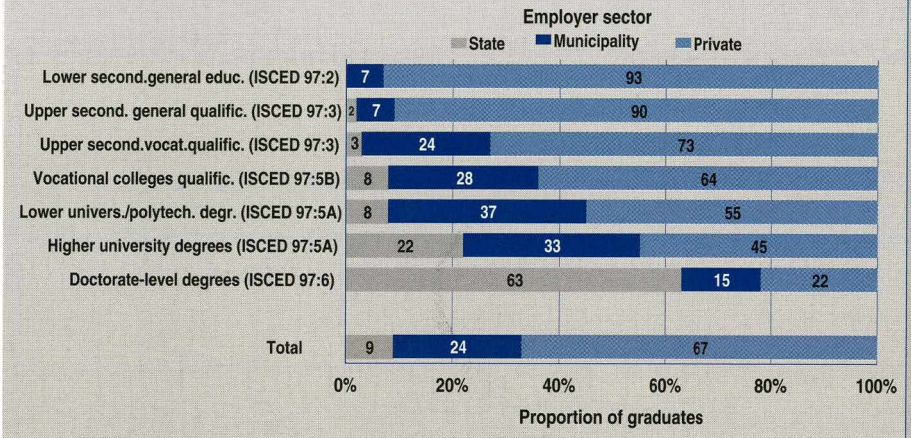
hand, the annual incomes of those with only a compulsory general education had reached only the starting salary of those with a lower university degree in ten years. Ten years from the end of compulsory education their annual incomes were 43 per cent of those of graduates with a master's degree in 1996 (Table 5.29).

It is interesting to note that the annual incomes of persons with an upper secondary general education (i.e. who had passed the matriculation examination) were ten years later higher than those of persons with a vocational upper secondary qualification.

Two thirds of graduates find their first job in the private sector

Two thirds of the graduates in 1995 were employed in the private sector one year from graduation and one third in the public sector. The higher the degree was, the more likely graduates were to find jobs in the public sector (Chart 5.30).

A fifth of those completing their compulsory education and entering the labour market in 1995 were employed in the wholesale and retail trade at the end of 1996. About half of those with an upper secondary qualification had found jobs in industry, health care



5.30 Graduates in 1995 at the end of 1996 by employer sector and level of qualification

Source: Statistics Finland

and social work, and trade. Many of the vocational college graduates held a health care qualification, which explains why 30 per cent of them were employed in health care and social work one year from graduation (Table 5.31).

A third of the higher university graduates found jobs in an educational establishment. The reason for this is that this group contains many class and subject teachers. Half the doctorate graduates were also employed at a university or some other educational establishment one year from graduation (Table 5.31).

5.31 Graduates in 1995 and industry of those in employment by level of completed education in 1996

Standard Industrial classification (EU NACE Rev. 1)		Total	Qualification: Lower secondary education	Upper secondary qualification	Vocational colleges qualification	Lower university or polytechnic degree	Higher university degree	Doctorate-level degree
		%	%	%	%	%	%	%
A-B	Agriculture and forestry	2.9	5.7	4.0	1.9	1.6	0.7	0.5
C-E	Manufacturing, electricity, water supply	16.7	13.2	18.7	13.9	26.4	13.5	5.4
F	Construction	3.0	4.8	3.8	2.6	3.4	0.5	0.2
G	Wholesale and retail trade	13.0	20.0	15.5	13.4	10.7	4.4	1.1
H	Hotels and restaurant	5.0	7.9	7.8	3.9	1.2	0.3	0.0
I	Transport, storage and communication	4.2	4.7	4.7	5.1	3.6	1.9	0.3
J	Financial intermediation	0.9	0.3	0.5	1.4	0.7	1.8	0.7
K	Real estate and business activities	9.8	14.9	7.9	7.5	12.9	13.5	18.2
L	Public administration and defence	7.5	4.5	6.3	9.2	5.3	10.4	9.2
M	Education	9.9	3.8	3.4	4.1	12.7	33.7	49.4
N	Health and social work	18.9	4.1	18.3	30.2	16.4	13.0	10.6
O-X	Other and unknown industry	8.2	16.0	9.0	7.0	5.1	6.2	4.6
	Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
	Graduates in 1995	60 122	4 585	25 896	14 422	4 929	9 002	1 288

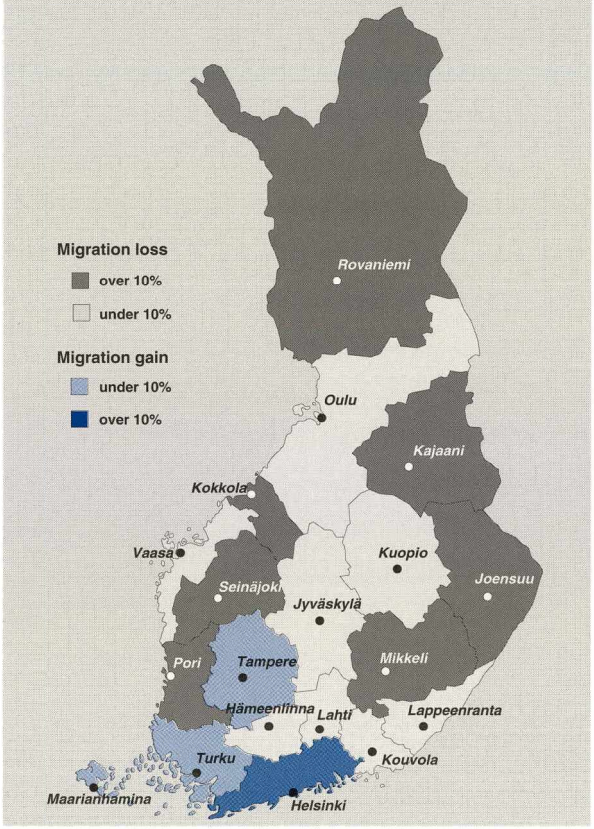
Source: Statistics Finland

Migration of recent graduates

For many graduates, entering the labour market or further studies means moving to another region. Some areas have only a few jobs near the school producing the graduates. In these areas the unemployment rate may be much higher than the Finnish average.

The metropolitan region comprising the capital, Helsinki, and other parts of Uusimaa province has gained most from the migration of graduates. Negative effects have been felt in the eastern and northern parts of the country. The job prospects for young educated people are much better in the south than anywhere else in Finland (Chart 5.32).

5.32 Net migration of upper secondary and tertiary graduates in 1990–1992 by region at the end of 1996



6

THE EDUCATIONAL ATTAINMENT OF THE FINNS

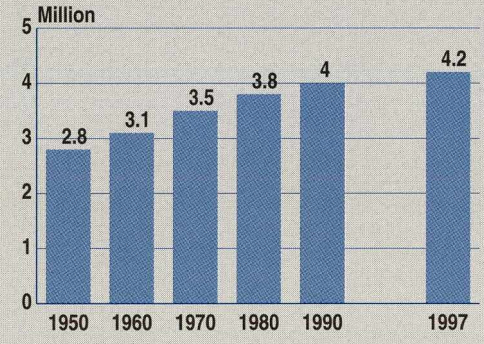
The information on the educational level of the Finns given in this chapter covers qualifications and degrees completed in the regular Finnish education system. The data are official statistics and are drawn from individual data based registers of Statistics Finland (National Statistical Institute of Finland). The data concerning education have been classified according to the new International Standard Classification of Education (ISCED 97). The international comparisons are from the publication "Education at a Glance, OECD Indicators 1998", published by the OECD and are based on the old ISCED 76 classification.

Educational level rapidly rising

The educational level began to rise rapidly in Finland in the 1960s. In 1950, only 15 per cent of the population aged 15 or more had completed at least an upper secondary education. By 1997 the figure had risen to 57 per cent. During this period the number of the population completing an upper secondary qualification rose one-and-a-half times (Chart 6.1).

The number of highly-educated persons has risen many times over. The rise has been most rapid among those with a tertiary level qualification, and that in the number of persons completing an doctorate-level degree has been particularly marked (Tables 6.2 and 6.4). In a good 20 years the educational level measured by the ELP-indicator rose 95 per cent (Table 6.2). In around the mid-1990s the educational level of Finns of working age was among the highest in the EU (Charts 6.13 and 6.14).

6.1 Finns with at least an upper secondary education attained in 1950–1997



Source: Statistics Finland

International Standard Classification of Education 1997 (ISCED 97)

In this chapter, the highest education levels completed have been classified according to the new ISCED 97 as follows:

ISCED 97 LEVELS	MAIN CONTENT IN FINLAND
Below upper secondary education (ISCED 97: 1/2)	Primary and middle schools, combined in the 1970s to form the 9-year comprehensive school providing a general education
Upper secondary level (ISCED 3/4)	Upper secondary general and vocational schools
Third level (ISCED 5/6)	Vocational colleges, polytechnics, universities

Data on the fields of education have been classified according to the broad fields grouping of the new ISCED 97.

International comparisons are still based on data classified according to the old ISCED 76. Data classified in accordance with the old ISCED 76 are not comparable with those classified in accordance with the new ISCED 97.

6.2 Finns aged 15 years and over by the highest educational level 1975–1997

Level of education (ISCED 97)	1975	1985	1995	1997	Change on 1975 %
Below upper secondary education	2 567 425	2 173 052	1 866 232	1 804 583	–29.7
Upper secondary (ISCED 3/4)	727 838	1 180 993	1 414 313	1 460 411	100.7
Tertiary (ISCED 5/6)	392 743	605 087	864 511	921 005	134.5
Population aged 15 and over	**3 688 006**	**3 959 132**	**4 145 056**	**4 185 999**	**13.5**
*Educational level of population **(ELP-indicator)** **	*126*	*186*	*235*	*246*	*95.2*

Source: Statistics Finland

6.3 The proportion of Finns aged 15 years and over by the highest educational level 1975–1997

Level of education (ISCED 97)	1975 %	1985 %	1995 %	1997 %
Below upper secondary education	69.6	54.9	45.0	43.1
Upper secondary (ISCED 3/4)	19.7	29.8	34.1	34.9
Tertiary (ISCED 5/6)	10.6	15.3	20.9	22.0
Total	**100.0**	**100.0**	**100.0**	**100.0**

Source: Statistics Finland

*Educational Level of Population (ELP) indicator

The Educational Level of Population (ELP) indicator measures the level of education of population groups by per capita average length of the highest education completed after lower secondary level compulsory education. For example, the ELP number 246 indicates that the time in education per person is on average 2.5 years. The indicator is calculated as follows:

$$ELP = \sum_{i=1}^{8} f_i x_i \; / \; \sum_{i=1}^{i=8} f_i * 100 \text{ , where}$$

f = *number of persons*
x = *designed duration of the educational level after lower secondary education*
i = *educational level*

Highest education level (i) completed according to Finnish Standard Classification of Education	Designed duration (x) after lower secondary education, years
Levels:	
1 Primary education	0
2 Lower secondary education	0
3 Upper secondary education	3
Tertiary education	
5 Vocational college degrees	5
6 Polytechnic and lower university degrees	7
7 Higher university degrees	9
8 Doctorate degrees	12

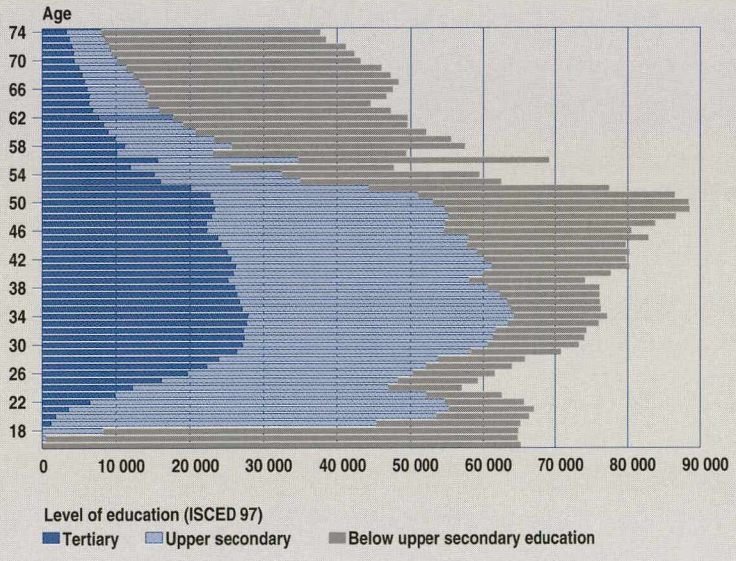
6.4 Finns with a tertiary qualification in 1997

Level of education		Change on 1975 %
Vocational college qualifications (ISCED 97:5B)	525 139	128.4
Lower university and polytechnics degrees (ISCED 97:5A)	172 819	102.0
Higher university degrees (ISCED 97:5A)	203 330	185.0
Doctorate-level degrees (ISCED 97:6)	19 717	229.8
Total	**921 005**	**134.5**

Source: Statistics Finland

Young adults highly educated

6.5 Educational attainment of the population aged 16–74 in 1997



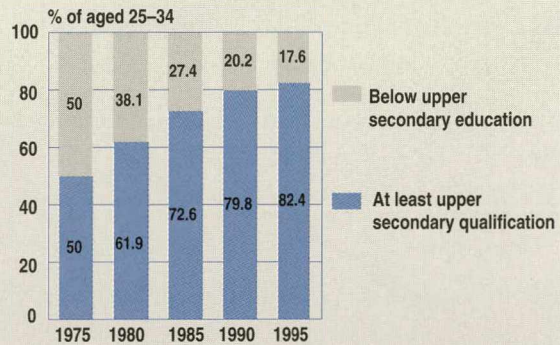
Source: Statistics Finland

The rapid rise in the level of education is manifest in the large differences between the age groups. These differences have in this respect been among the biggest in the EU.

The younger age groups are more highly educated than their elders. About 83 per cent of persons aged 20–34 had at least an upper secondary qualification in 1997, as against only 23 per cent of the population over the age of 65.

The strong investment by society in education in the past three

6.6 Young persons aged 25 to 34 with at least upper secondary educational qualification, and those who have only completed compulsory education 1975–1995



Source: Statistics Finland

decades and the continuing high confidence of young persons in better opportunities available through education has meant that the proportion of young adults who have only completed compulsory education has been diminishing rapidly. While in the mid-1970s one half of the population aged between 25 and 34 did not have post-lower secondary level qualifications, by the mid-1990s their respective proportion had fallen to 17.6 per cent (Chart 6.6). The figures presented in chapter 5 would support the estimate that, in another two decades, the proportion of young people who have only completed lower secondary level education will fall to below 10 per cent and be as low as five or so per cent of the cohort.

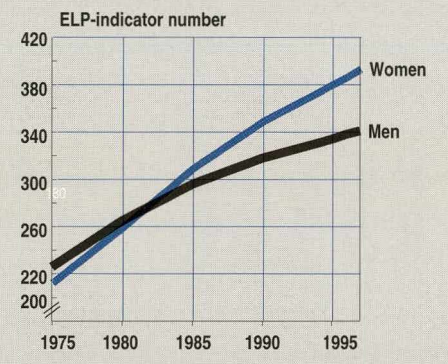
There are most people with a tertiary qualification in the cohort aged about 30. In 1997, 37 per cent of them had a vocational college, polytechnic or university qualification or degree. The high educational level of the young adults indicates that the strong rise in the educational attainment of the population will continue in the next few decades.

Women of working age better educated than men

The educational attainment of all men aged 15 or more measured by the ELP-indicator is still higher than that of women. The reason for this is that the women of retirement age have received far less education than the men. By contrast, the educational attainment of women at the height of their working career is already clearly higher than that of men. Nearly 80 per cent of the women aged 25–49 and 75 per cent of the men had completed at least an upper secondary qualification in 1997 (Table 6.8).

The educational attainment of women aged 25–34 was more than 15 per cent higher than that of men in 1997. The educational level of women had in a good 20 years or so risen much faster than that of men (Chart 6.7). The educational level of the entire female population will in the next few decades become much higher than that of men.

6.7 The educational level of Finns (ELP-indicator)[1] aged 25–34 years by gender 1975–1997



Source: Statistics Finland

6.8 The educational level of Finns aged 15 years and over by age and gender in 1997

	Population (15 years and over)	%	Below upper secondary education %	Upper secondary qualification %	Tertiary qualification %	ELP-indicator[1]
Total	**4 185 999**	**100.0**	**43.1**	**34.9**	**22.0**	**246**
15–24	644 802	100.0	50.8	43.7	5.5	161
25–49	1 892 869	100.0	23.0	44.4	32.7	343
50–	1 648 328	100.0	63.2	20.6	16.2	167
Men	**2 018 504**	**100.0**	**42.2**	**36.9**	**20.9**	**250**
15–24	329 618	100.0	52.2	44.4	3.4	151
25–49	963 803	100.0	25.3	46.7	28.0	328
50–	725 083	100.0	60.2	20.5	19.3	191
Women	**2 167 495**	**100.0**	**43.9**	**33.0**	**23.0**	**242**
15–24	315 184	100.0	49.4	42.9	7.7	170
25–49	929 066	100.0	20.6	42.0	37.4	359
50–	923 245	100.0	65.6	20.6	13.8	148

Source: Statistics Finland

1 See note to Table 6.2

Women's fields of education becoming more female-dominated, men's more male-dominated

The gender distributions of the various fields of education have not become any more equal over the past 20 years or so. On the contrary, the male fields have tended to become even more male-dominated, and the women's more female-dominated. The only exceptions are agriculture, where there has been a slight increase in the proportion of women taking a degree, and services, which have attracted slightly more men (Table 6.9).

There are only two fields of education in which the proportion of men and women is approximately equal: Science and General. Those in the General field have passed the matriculation exam, most of them are studying and will at some point complete a further degree or qualification.

Men tend to favour engineering, manufacturing, construction and agriculture programmes, women particularly health, welfare, education, services and humanities programmes.

6.9 Finns who have complete at least an upper secondary education by field of education and gender in 1997

Field of education (ISCED 97)	Upper secondary or tertiary qualification	Men		Women	
		1997 %	Change on 1975 percentage point	1997 %	Change on 1975 percentage point
Male dominated fields (over 60% men)					
5 Engineering, Manufacturing and construction	760 336	82.8	2.0	17.2	–2.0
6 Agriculture	127 693	71.3	–1.9	28.7	1.9
Female dominated fields (over 60% women)					
7 Health and Welfare	282 295	10.8	0.0	89.2	0.0
1 Education*	76 936	24.9	–5.1	75.1	5.1
8 Services	302 580	26.9	2.9	73.1	–2.9
2 Humanities and Arts	79 622	29.6	–2.7	70.4	2.7
3 Social sciences, Business and Law	429 561	32.1	–4.1	67.9	4.1
Mixed (40–60% men and women)					
0 General Programmes	277 428	46.4	2.3	53.6	–2.3
4 Science	44 965	53.3	–7.6	46.7	7.6
Total	**2 381 416**	**49.0**	**–1.9**	**51.0**	**1.9**

* Class teachers and graduates of education science. The figure does not include those qualifying as subject teachers; these are classified according to their main subject.

Source: Statistics Finland

The proportion of the population that has completed a qualification in science (physical science, life science, mathematics, statistics and computing) programmes has risen most in relative terms in just over 20 years. The proportion of the population completing social science, business and law programmes at tertiary levels has also risen at the same rate (Table 6.10).

6.10 Finns who have completed at least an upper secondary education by field of education in 1997

	Field of education (ISCED 97)	Upper secondary qualification	Change on 1975	Tertiary qualification	Change on 1975	Total	Change on 1975
			%		%		%
0	General Programmes	277 428	100.4	–	–	277 428	100.4
1	Education*	*1 542	667.2	**75 394	103.0	76 936	69.0
2	Humanities and Arts	20 374	297.2	59 248	161.3	79 622	132.0
3	Social sciences, Business and Law	110 378	48.4	319 183	205.2	429 561	118.6
4	Science	2 710	303.9	42 255	134.6	44 965	209.8
5	Engineering, Manufacturing and construction	554 559	94.0	205 777	69.6	760 336	103.6
6	Agriculture	98 075	52.0	29 618	136.8	127 693	55.8
7	Health and Welfare	133 169	214.0	149 126	186.8	282 295	167.9
8	Services	262 176	125.5	40 404	134.5	302 580	132.2
Total		**1 460 411**	**100.7**	**921 005**	**134.5**	**2 381 416**	**112.5**
	Women %	49.0		54.2		51.0	

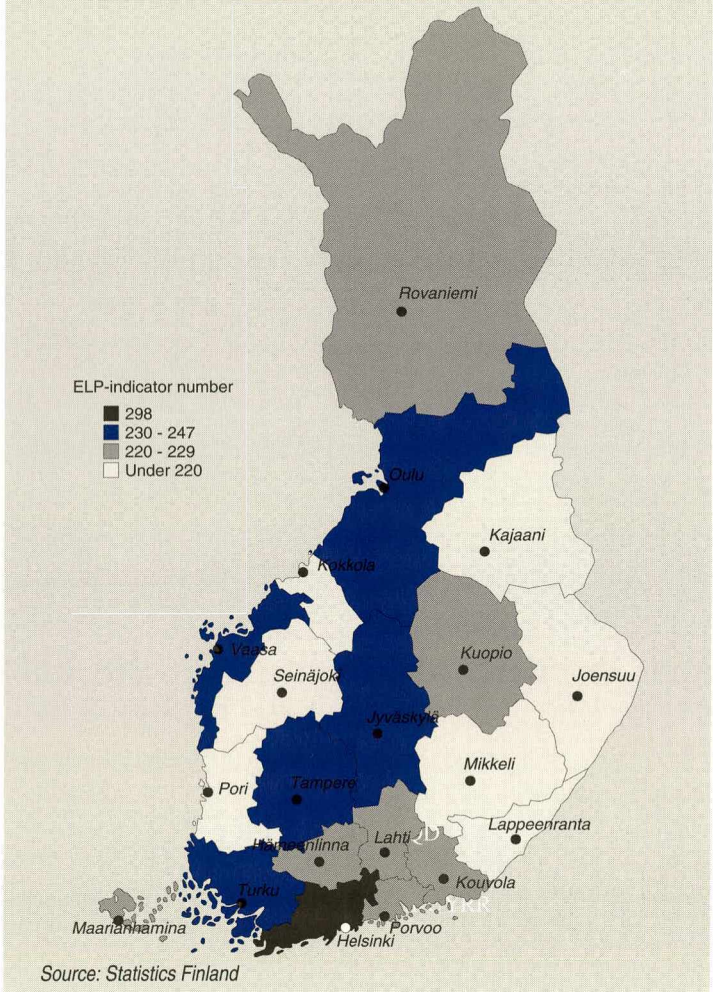
* Driving school teachers, etc.

** Class teachers and graduates of education science. The figure does not include those qualifying as subject teachers; these are classified according to their main subject.

Source: Statistics Finland

Regional differences in educational level

6.11 The educational level of Finns (ELP-indicator)[2] aged 15 and over by region in 1997



Source: Statistics Finland

The educational level of the population is highest in and around the capital, Helsinki, and there are only minor differences between the regions elsewhere in the country (Chart 6.11).

The strong movement in the latter half of the 1990s has increased the differences between the regions, because the migrants are young and well educated. Helsinki, Turku, Tampere, Oulu and their surroundings have benefited most of all from the migration, while the northern and eastern regions and other regions with a low educational level have suffered most.

The educational level of the population varies according to the degree of urbanisation of the municipality. The higher degree of urbanisation a municipality has, the higher the educational level of its population is. The educational level of urban Finns was, according to the ELP-indicator, 47 per cent higher than that of the rural Finns.

The difference is due primarily to the age structure. The inhabitants of the urban municipalities are younger and hence better educated. The discrepancy is to a great extent explained by the wide difference in the number of persons with a tertiary education. Migration is another reason accounting for the differences between municipalities in educational level, since the movement is away from the country into the towns.

2 See note to Table 6.2

6.12 The educational level of Finns aged 15 and over by degree of urbanisation in 1997

Degree of urbanisation and age	Population (15 years and over)		Level of education				
		Age structure	Below upper secondary education	Upper secondary qualification	Tertiary qualification	Total	ELP-indicator[3]
		%	%	%	%	%	
Urban municipalities	**2 524 286**	**100.0**	**39.1**	**34.8**	**26.1**	**100.0**	**275**
15-24	404 107	16.0	47.8	46.2	6.0	100.0	171
25-49	1 184 957	46.9	21.6	41.5	36.9	100.0	368
50-	935 222	37.0	57.6	21.4	21.0	100.0	204
Semi-urban municipalities	**679 150**	**100.0**	**45.7**	**35.6**	**18.7**	**100.0**	**220**
15-24	103 907	15.3	55.2	40.1	4.8	100.0	145
25-49	303 988	44.8	23.6	47.7	28.7	100.0	319
50-	271 255	39.9	66.9	20.3	12.8	100.0	139
Rural municipalities	**982 563**	**100.0**	**51.6**	**34.6**	**13.8**	**100.0**	**187**
15-24	136 788	13.9	56.7	39.0	4.3	100.0	140
25-49	403 924	41.1	26.6	50.4	23.0	100.0	290
50-	441 851	45.0	72.8	18.9	8.3	100.0	107

Source: Statistics Finland

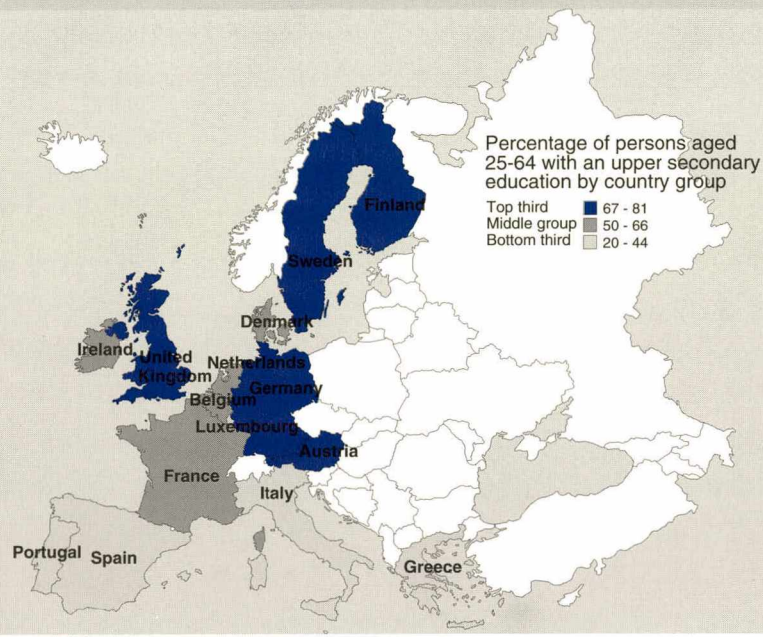
Educational level of the Finns among the highest in the EU

The educational level of the population says a lot about the stage of development of a society. It affects the viability of the economy and provides the guidelines for the individual's progress through life. The educational level of the population differs greatly from one EU country to another.

Taking at least an upper secondary education as the indicator of the educational level of the population aged 25–64, Finland, with 67 per cent, ranked among the top five EU countries in 1996, along with Germany, the United Kingdom, Sweden and Austria (Chart 6.13). Of all the EU countries, the educational level of women was higher than that of men only in Ireland, Sweden and Finland.

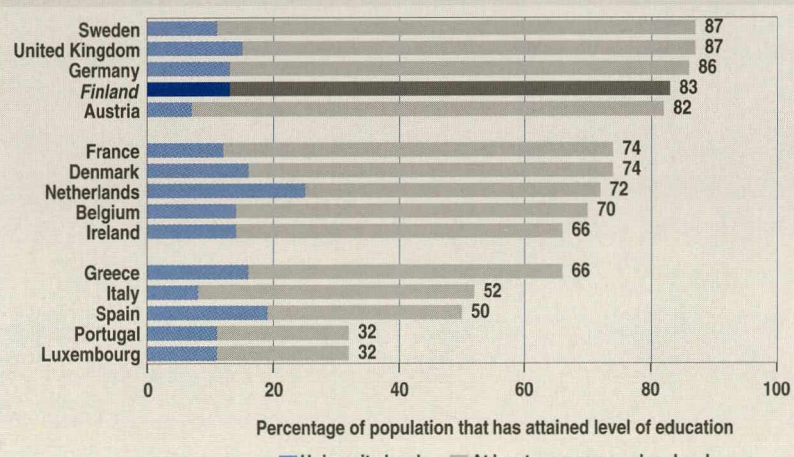
3 See note to Table 6.2

6.13 The percentage of the population aged 25–64 that has attained at least an upper secondary education in Finland and other European Union countries in 1996



Source: Statistics Finland

6.14 The educational attainment of the population aged 25–34 in Finland and other European Union countries in 1996



Source: Statistics Finland

Participation in education has increased rapidly in all the EU countries since the Second World War. The 25–34 age group has received most education. Taking at least an upper secondary education as the indicator of the educational level of the population aged 25–34, Finland, with 80 per cent, ranked among the top five EU countries in 1996, along with Germany, the United Kingdom, Sweden and Austria (Chart 6.14).

7

THE EDUCATIONAL LEVEL OF THE LABOUR FORCE

The information on the educational level of the labour force given in this chapter covers the degrees and qualifications obtained in the regular Finnish education system. The data are official statistics and are drawn from the individual data-based employment register of Statistics Finland (National Statistical Institute of Finland). They apply to the situation at the end of the year and are based on administrative data. The data for 1997 are preliminary. The data on education are classified according to the new International Standard Classification of Education 1997 (ISCED 97). The international comparisons are taken from 'Education at a Glance, OECD Indicators 1998' and the Eurostat Labour Force Survey (LFS) Results 1997 and are based on the old ISCED 76 classification.

Educational level of labour force rising fast

The heavy investment in the provision of institution-form education for young people beginning in the 1960s is reflected in the extremely fast rise in the educational level of the labour force (both employed and unemployed) from the 1970s onwards. The educational level of the labour force in fact rose to a com-

7.1 Labour force (aged 15–74) by educational attainment 1975–1997

Level of education	1975	1980	1985	1990	1995	1996	1997
Below upper secondary education	1 321 583	1 163 395	1 034 492	884 182	727 662	691 402	667 873
Upper secondary qualification (ISCED 97:3/4)	488 598	665 921	877 408	987 763	999 049	1 020 036	1 028 899
Tertiary education	**307 470**	**390 462**	**504 092**	**601 298**	**682 608**	**713 564**	**732 252**
Vocational college qualification (ISCED 97: 5B)	180 680	223 380	287 267	343 872	389 761	404 342	411 352
Lower university or polytechnic degree (ISCED 97:5A)	63 614	85 797	108 013	119 589	125 503	131 704	137 005
Higher university degree (ISCED 97:5A)	58 225	74 537	99 994	126 621	152 840	162 052	167 712
Doctorate-level degree (ISCED 97:6)	4 950	6 749	8 818	11 216	14 504	15 466	16 183
Total	**2 425 120**	**2 610 241**	**2 920 083**	**3 074 541**	**3 091 927**	**3 138 566**	**3 161 276**

Source: Statistics Finland; Population censuses and Register-based Employment Statistics

International Standard Classification of Education 1997 (ISCED 1997)

The levels of education used in this chapter are according to the new ISCED 97 classification as follows:

ISCED 97 levels	Main content in Finland
Below upper secondary education (ISCED 1 & 2)	Comprehensive school Primary school and Middle school, now abolished
ISCED 3 Upper secondary education	Matriculation examination Vocational school level qualifications
Tertiary level of education	
ISCED 5B	Vocational college qualifications
ISCED 5A: 3-4 year degrees	Lower university and polytechnic degrees
ISCED 5A: at least 5 year degrees	Higher university master-level degrees and specialist's degrees in medicine, dentistry and veterinary medicine
ISCED 6 Doctorate-level degrees	Advanced research degrees: licentiate's and doctor's degrees

The data on field of education are classified in accordance with the broad fields grouping (1-digit) of the new ISCED 97 classification.

The international comparisons are based on the old ISCED 76 classification and are not therefore commensurable with those of the new ISCED 97 classification.

pletely new level. The number of highly educated persons more than doubled and the size of the labour force with less than an upper secondary education was halved in a good 25 years. By the mid-1990s the supply of persons with a tertiary level degree exceeded that of persons with a below upper secondary education. (Tables 7.1 and 7.2).

Another major change has been the rise in the level of education of the women on the labour market, which has been particularly marked since the early 1980s. The ELP indicator developed in order to compare educational attainments shows that the level of education of the labour force rose extremely fast and that the educational level of the women in the labour force exceeded that of men in the late 1980s. Judging

7.2 Educational structure of the labour force (aged 15–74) by level of education 1975–1997

Level of education	1975	1985	1995	1997
	%	%	%	%
Below upper secondary education	62.3	42.8	30.2	27.5
Upper secondary qualification (ISCED 97:3/4)	23.1	36.3	41.5	42.4
Tertiary education	**14.6**	**20.9**	**28.3**	**30.1**
Vocational college qualification (ISCED 97: 5B)	8.5	11.9	16.2	16.9
Lower university or polytechnic degree (ISCED 97:5A)	3.0	4.5	5.2	5.6
Higher university degree (ISCED 97:5A)	2.8	4.1	6.3	6.9
Doctorate-level degree (ISCED 97:6)	0.2	0.4	0.6	0.7
Total	**100.0**	**100.0**	**100.0**	**100.0**

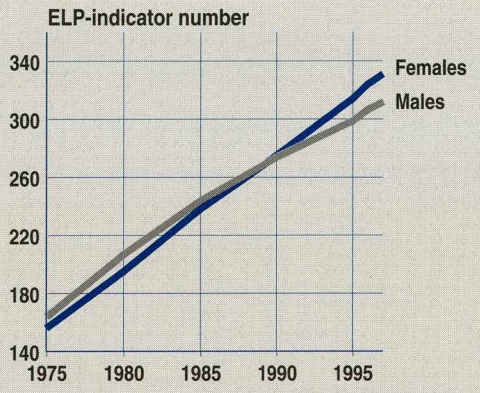
Source: Statistics Finland; Population censuses and Register-based Employment Statistics

7.3 Women as a percentage of the labour force (aged 15–74) by level of education 1975–1997

Level of education	1975	1985	1995	1997
	%	%	%	%
Below upper secondary education	44.5	47.6	45.5	45.5
Upper secondary qualification (ISCED 97:3/4)	44.0	47.1	45.7	45.8
Tertiary qualification (ISCED 97:5/6)	44.4	49.0	53.3	54.1
Total	**44.4**	**47.7**	**47.8**	**48.2**

Source: Statistics Finland; Population censuses and Register-based Employment Statistics

7.4 Educational level of the labour force (aged 15–74) measured by the ELP-indicator* and according to gender 1975–1997



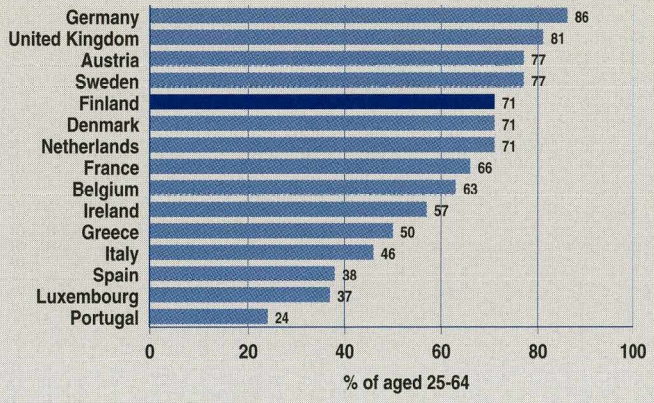
Source: Statistics Finland

** The Educational Level of Population (ELP) indicator measures the level of education of population groups by per capita average length of the highest education completed after lower secondary level compulsory education. For example, the ELP number 320 indicates that the time in education per person is on average 3.2 years. See note to Table 6.2 in chapter 6 for details of how the indicator is calculated.*

from the data for the young age cohorts, the rise in the educational level of the labour force will continue, and the difference between men and women will in this respect continue to the advantage of women (Chart 7.4).

The proportion of women in the highly educated labour force has risen by about 10 percentage points in just over 20 years. In 1997 highly educated women represented about 54 per cent of the labour force, as against a good 44 per cent in 1975. Women accounted for about 48 per cent of the total labour force in 1997 (Table 7.3).

The educational level of the labour force aged 25-64 was in Finland a good average for the EU countries in 1996. 71 per cent of the labour force had completed at least an upper secondary education (Chart 7.5).



7.5 Persons with at least an upper secondary education as a percentage of the labour force (aged 25-64) in Finland and other EU countries in 1996

Source: Education at a Glance, OECD Indicators 1998

Educational level of the unemployed lower than that of the employed

The unemployed are on average less well educated than those in employment. In 1997, for example, about 15 per cent of the unemployed had completed a tertiary education; this was less than half the percentage for the unemployed, 33 per cent. Persons with an education below upper secondary level represented close on 40 per cent of the unemployed but only 25 per cent of the employed (Table 7.6).

The rapid rise in the educational level of the labour force is reflected in the great differences between the various age groups in their level of education. Among the employed, those with the highest educational level are aged 25-34, about 40 per cent of whom had completed a tertiary qualification in 1997. The corresponding figure for the 55-64 age-group was a good 28 per cent. The educational level of those leaving the labour force is low and of those entering the labour force high.

7.6 The employed and unemployed by level of education and age in 1997

Level of education	Total	Age 15-24	25-34	35-44	45-54	55-64	65-74
	%	%	%	%	%	%	%
Employed persons							
Below upper secondary education	25.1	24.2	13.3	18.5	34.3	46.9	68.4
Upper secondary qualification (ISCED 97:3/4)	41.8	63.8	46.4	44.2	35.1	24.7	15.5
Tertiary qualification (ISCED 97:5/6)	33.1	12.0	40.3	37.3	30.6	28.4	16.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
	2 022 521	165 002	477 341	596 322	594 719	183 766	5 371
Unemployed persons							
Below upper secondary education	39.5	25.8	30.6	32.2	47.3	61.5	76.0
Upper secondary qualification (ISCED 97:3/4)	45.2	63.5	47.5	51.1	39.9	26.9	16.0
Tertiary qualification (ISCED 97:5/6)	15.3	10.7	21.9	16.7	12.8	11.6	8.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
	406 503	54 931	91 788	94 706	95 409	69 594	75

Source: Statistics Finland; Register-based Employment Statistics

Fourteen other members of the population for every 10 employed persons

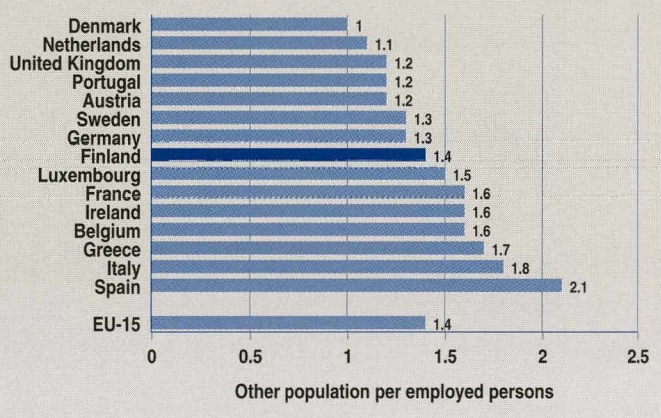
According to the Eurostat Labour Force Survey (LFS) made in spring 1997, 41 per cent of the Finns were in active employment and 59 per cent were not. For each 10 in employment there were thus 14 who were not. Although international comparisons must be viewed with some reservations, Finland's economic dependency ratio was average for the EU countries in 1997 (Chart 7.7). The high ratio in Spain (2.1) is explained by the higher-than-average proportion of unemployed persons and students in the population.

The economic dependency ratio incorporates the idea that employed persons provide for the children, students, unemployed, pensioners, persons occupied in the home, etc. The lower the ratio is, the less support has to be provided out of the national economy. The ratio is calculated according to the classification of the population's main activity.

The rapid increase in unemployment in the early 1990s meant that the economic dependency ratio took a sharp turn for the worse in Finland. The exceptional rise in the ratio was caused by the major reduction in the number of persons in active employment and the marked increase in the number of persons who were unemployed, combined with a growing number of students.

After 1993 the economic dependency ratio slowly began to improve as the number of persons in employment grew and the unemployment rate fell. The recovery was, however, slowed down by the steady increase in the number of students.

At the end of 1997 about 63 per cent of the population aged 15-74 belonged to the labour force (employed + unemployed). The labour force participation rate varies from one educational level to another in that the higher the level of education is, the higher the participation rate is. In 1997 about 82 per cent of the population aged 15-74 with a tertiary qualification were in the labour force, as against only 32 per cent of



7.7 The economic dependency ratio in Finland and other EU countries in 1997

Source: Eurostat, LFS

7.8 The labour force as a percentage of the population aged 15–74 by level of education and age in 1997

Level of education	Labour force participation rate	Age 15-24	25-34	35-44	45-54	55-64	65-74
	%	%	%	%	%	%	%
Below upper secondary education	32	11	42	62	70	32	1
Upper secondary qualification (ISCED 97:3/4)	72	50	81	90	88	52	1
Tertiary qualification (ISCED 97:5/6)	82	73	87	92	92	62	2
Total	**63**	**34**	**82**	**89**	**87**	**49**	**1**

Source: Statistics Finland; Register-based Employment Statistics

those with an education below the upper secondary level (Table 7.8)[1]. A larger proportion of the population belongs to the labour force at all educational levels in Finland than in the EU countries on average. Further details of the labour force participation rate are given in chapter 9: *Social outcomes of education*.

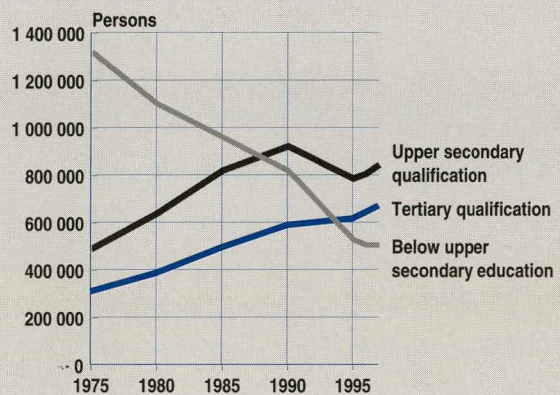
Number of tertiary level jobs growing fastest

The demand for labour is greatest among the highly educated. The number of employed persons with a tertiary education more than doubled between 1975 and 1997. Meanwhile the number of persons with an education below upper secondary level fell to less than 40 per cent from the 62 per cent in 1975. The number of employed persons with a tertiary qualification outstripped the number of those with an education below upper secondary during the first half of the 1990s (Chart 7.9 and Table 7.10).

The rise in the level of education of the employed persons gained momentum during the deep recession of the early 1990s, when persons with a low level of education found themselves excluded from working life or unemployed. The employed labour force was about 17 per cent smaller in 1995 than it had been in 1990. During this five-year period the number of jobs for persons with an education below upper secondary level fell by more than a third, but the number of jobs for persons with a tertiary education grew even during the recession. The number of jobs for persons with an upper secondary education also fell, but took an upward turn again after 1995.

1 See chapter 9 for further details of participation in the labour force.

7.9 Employed persons (aged 15–74 years) by level of education 1975–1997



Source: Statistics Finland

The educational level of the employed persons has risen very fast over the past 20 years. Measured by the ELP indicator, the level of education of the employed persons aged 25-64 was twice as high in 1995 as it was in 1975. The educational level of the employed women exceeded that of men in 1995. Since the young people entering the labour market are far better educated than their older colleagues, the educational level of the employed persons will continue to rise sharply in the next few decades (Chart 7.11).

The educational level of employed persons aged 25-34 calculated by the ELP indicator was one fifth higher than that of persons aged 25-64 in 1997. The educational level of the employed young women overtook that of young men in 1980 and from then onwards rose clearly faster. By 1997 the difference had grown to 16 per cent.

In 1997, there were five per cent less employed persons than in 1980. During this period the number of employed persons with a vocational or academic edu-

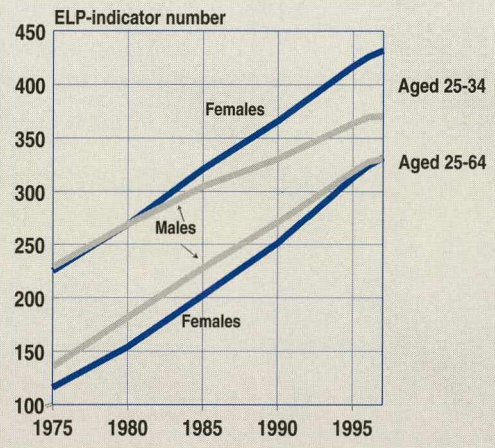
7.10 The employed labour force (age 15–74) by level of education 1975–1997

	1975	1980	1985	1990	1995	1996	1997
Below upper secondary education	1 321 583	1 102 053	962 257	820 388	530 141	507 186	507 150
Upper secondary qualification (ISCED 97:3)	488 598	638 820	821 155	923 235	786 925	807 386	845 214
Tertiary education	**307 470**	**385 422**	**493 475**	**588 659**	**615 686**	**642 572**	**670 157**
Vocational college qualification (ISCED 97: 5B)	180 680	220 511	279 741	334 860	341 230	353 749	367 543
Lower university or polytechnic degree (ISCED 97:5A)	63 614	84 365	106 107	117 463	115 158	120 400	126 793
Higher university degree (ISCED 97:5A)	58 225	73 832	98 857	125 184	145 159	153 430	160 122
Doctorate-level degree (ISCED 97:6)	4 950	6 714	8 771	11 152	14 139	14 993	15 699
Total	**2 117 650**	**2 126 294**	**2 276 887**	**2 332 282**	**1 932 752**	**1 957 144**	**2 022 521**

Source: Statistics Finland; Population censuses and Register-based Employment Statistics

cation grew by about 45 per cent. The relative growth was most pronounced in science and least marked in agriculture. The number of persons with no vocational education fell, by close on 46 per cent (Table 7.12); these people represented 55 per cent of the employed persons in 1980 but only 31 per cent in 1997.

The proportion of women was highest among those with a health and welfare qualification, 88 per cent, and lowest with a qualification in engineering, manufacturing and construction, 14 per cent in 1997. Engineering, manufacturing and construction be-



7.11 Educational level (ELP*) of employed persons aged 25–64 and 25–34 by gender 1975–1997

Source: Statistics Finland

** The Educational Level of Population (ELP) indicator measures the level of education of population groups by per capita average length of the highest education completed after lower secondary level compulsory education. For example, the ELP number 400 indicates that the time in education per person is on average 4 years. See the note to Table 6.2 in chapter 6 for details of how the indicator is calculated.*

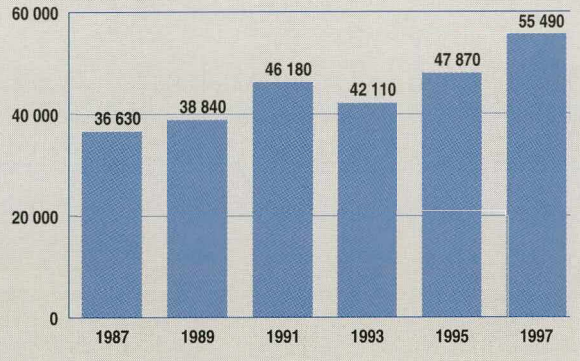
7.12 Employed persons (aged 15–74) by field of education in 1997

Field of education (ISCED 97)	Employed persons	Change on 1980	Women 1997	Change on 1980
		%	%	percentage points
0 General programmes	633 450	-45.7	47.0	-0.7
1 Education*	51 456	34.9	76.0	8.7
2 Humanities and Arts	50 915	69.2	69.8	3.2
3 Social sciences, Business and Law	296 413	54.3	67.9	4.0
4 Science	34 879	128.3	46.0	8.2
5 Engineering, Manufacturing and Construction	503 929	30.6	14.0	-2.3
6 Agriculture	74 220	8.1	23.3	1.9
7 Health and Welfare	195 016	95.4	88.1	-0.5
8 Services	182 243	40.7	71.0	-2.4
Total	**2 022 521**	**-4.9**	**48.4**	**1.7**

** Class teachers and graduates of education science. The figure does not include those qualifying as subject teachers; these are classified according to their main subject.*

Source: Statistics Finland; Register-based Employment Statistics

7.13 R&D personnel 1987–1997

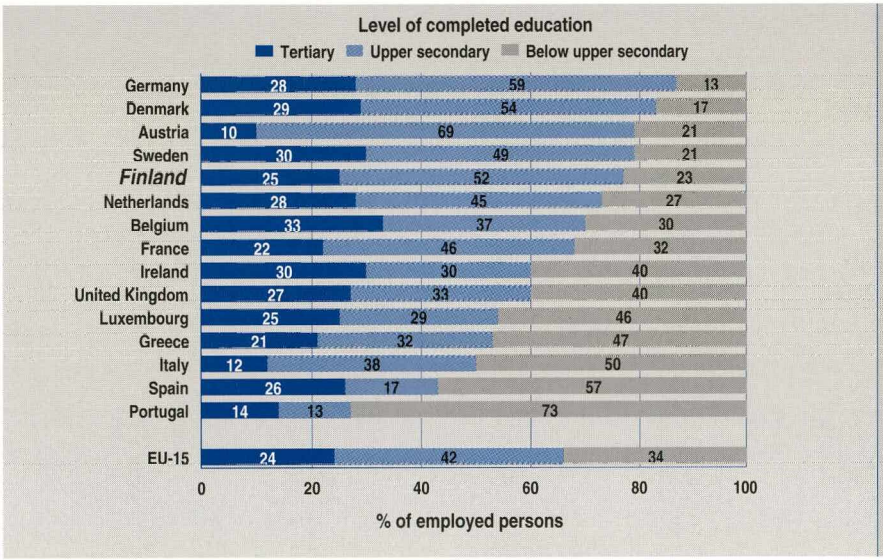


Source: Statistics Finland

came increasingly male-dominated and education female-dominated.

Knowledge has become an increasingly important competitive factor alongside the traditional production factors. The volume and significance of information work are rising briskly. The shift towards the information society is in fact already being described by such factors as the number of persons engaged in information professions, such as scientists, providers of expert services, teachers, communications specialists, data retrievers and processors, and users and installers of information technology.

In 1996 about 44 per cent of the employed persons were employed in information occupations. Although the effect of the recession of the early 1990s was felt in these professions, too, the relative proportion has nevertheless grown steadily. In 1980 these occupations accounted for one third of the employed persons. The growing significance of new knowledge is further manifest by the relatively rapid increase in the number of persons employed in R&D. In 1997 there were one-and-a-half times as many as in 1987 (Chart 7.13).



7.14 Employed persons by educational level in Finland and other EU countries in 1997

(Countries are ranked in descending order of percentage of at least upper secondary education completed)

Source: Eurostat, LFS

The educational level of the employed persons is a good EU average in Finland. About 77 per cent of the employed persons (aged 25-59) had at least an upper secondary qualification in 1997, the corresponding EU average being about 66 per cent. A good fifth had no upper secondary qualification in Finland, compared with one third in the EU as a whole. Judging from the EU Labour Force Survey, the proportion of the Finnish employed persons (aged 25-59) with a tertiary qualification was approximately average for the EU in 1997 (Chart 7.14).

Branches differ greatly in educational level of staff

There are great differences between the branches in the educational level of the employed persons. The branch with the highest level of education is education (M). Other high-education branches are public administration (L), computer and related activities, research and development, other real estate and business activities (K), and financial intermediation (J) (Table 7.15).

The branches employing persons with the least education are agriculture and forestry (A-B), well over a third of whom have no vocational or academic qualification. The educational level of those employed in transport and construction is also lower than average.

15,700 members of the employed labour force or about 0.8 per cent held a doctorate level degree in 1997. The corresponding figure for education was 4.8 per cent. More than one per cent of the persons employed in computer and related activities, research and development, other business services (K) and public administration (L) held a doctorate level degree (Table 7.15).

High educational level in hi-tech branches

The educational level of persons employed in hi-tech branches is much higher than in other branches of industry. The bulk of the hi-tech products consist of electrical and optical equipment, chemicals, chemical products and man-made fibres (DL, DG). The educational level of persons employed in the manufacture of electrical and optical equipment was, according to the ELP indicator, about 30 per cent higher than that for manufacturing on average in 1997 (Table 7.16).

More than 10 per cent of employees in manufacturing had at least a higher university degree in branches DL, DG and DF, as against nearly 5 per cent on average in manufacturing as a whole.

Of the persons employed in manufacturing, an average of 0.3 per cent had a doctorate level degree in 1997. The proportion was highest, 1.3 per cent, in branch DG. Other branches with a percentage of at least 0.5 were DL and DF (Table 7.16).

7.15 Educational level of employed persons (aged 15–74) by Standard Industrial Classification in 1997

NACE-code[1]	Industries are ranked in descending order of ELP-indicator	**Level of education (ELP-idicator)***	Below upper secondary education	Upper secondary qualification	Tertiary education: Vocational college qualification	Tertiary education: Lower university or polytechnic degree	Tertiary education: Higher university degree	Tertiary education: Doctorate-level degree	Total	
M	Education	**610**	9.7	20.5	15.2	16.7	33.1	4.82	100.0	135 419
L	Public administration and defence	**441**	15.6	32.7	27.8	7.0	15.6	1.17	100.0	118 073
K	Real estate and business activities	**408**	21.1	33.1	21.9	9.7	12.7	1.40	100.0	187 058
J	Financial intermedition	**404**	21.0	24.7	37.5	4.9	11.5	0.36	100.0	43 835
N	Health and social work	**381**	15.3	44.3	26.6	5.7	7.3	0.78	100.0	279 835
O-X	Other and unknown industry	**335**	25.6	44.4	15.3	5.1	8.8	0.85	100.0	153 259
C-E	Manufacturing, electricity,water supply	**297**	28.0	47.4	13.7	6.0	4.7	0.26	100.0	428 435
G	Wholesale, retail trade, repair	**291**	30.4	41.2	19.5	5.5	3.3	0.11	100.0	240 856
H	Hotels and restaurants	**258**	24.9	61.0	12.4	1.1	0.6	0.01	100.0	57 874
F	Construction	**253**	32.3	49.2	12.9	4.5	1.0	0.02	100.0	110 729
I	Transport, storage and communication	**238**	37.9	43.6	13.5	3.0	2.0	0.05	100.0	148 772
A-B	Agriculture and forestry	**225**	38.1	48.2	9.8	2.4	1.6	0.05	100.0	118 376
	Total	**341**	**25.1**	**41.8**	**18.2**	**6.3**	**7.9**	**0.78**	**100.0**	
			507 150	845 214	367 543	126 793	160 122	15 699		2 022 521

[1] *EU NACE Rev.1*

Source: Statistics Finland; Register-based Employment Statistics

** The Educational Level of Population (ELP) indicator measures the level of education of population groups by per capita average length of the highest education completed after lower secondary level compulsory education. For example, the ELP number 610 indicates that the time in education per person is on average 6.1 years. See note to Table 6.2 in chapter 6 for details of how the indicator is calculated.*

7.16 Educational level of employed persons (aged 15–74) in manufacturing by Standard Industrial Classification in 1997

NACE-code[1]	Industries are ranked in descending order of ELP-indicator	**Level of education (ELP-idicator)***	Below upper secondary education	Upper secondary qualifi-cation	Tertiary education: Vocational college qualifi-cation	Tertiary education: Lower university or polytech-nic degree	Tertiary education: Higher university degree	Tertiary education: Doctorate-level degree	Total	
DL	Electrical and optical equipment	**387**	19.5	42.2	15.5	12.0	10.2	0.62	100.0	54 325
DG	Chemicals, man-made fibres	**360**	24.8	40.1	16.6	6.5	10.6	1.26	100.0	16 908
DF	Refined petroleum prod etc	**360**	25.8	37.2	18.7	6.5	10.9	0.88	100.0	2 855
DK	Machinery and equipment n.e.c.	**344**	18.8	51.9	14.1	9.9	5.1	0.20	100.0	57 480
DE	Pulp, paper, publishing etc	**288**	31.1	44.4	14.5	4.3	5.5	0.23	100.0	66 877
DM	Transport equipment	**285**	22.9	59.9	9.9	5.2	2.1	0.06	100.0	21 675
DJ	Metals, fabricated metal prod	**275**	27.8	53.2	11.7	4.8	2.4	0.16	100.0	48 370
DH	Rubber and plastic prod	**260**	34.1	45.5	12.8	4.6	2.9	0.12	100.0	14 415
DI	Non-metallic mineral prod	**251**	36.0	44.8	11.8	4.6	2.7	0.09	100.0	13 270
DN	N.e.c.	**247**	33.7	48.5	12.9	3.3	1.4	0.09	100.0	18 731
DA	Food, beverages, tobacco	**243**	36.4	45.6	13.0	2.1	2.8	0.12	100.0	41 498
DB	Textiles	**240**	33.9	51.0	11.0	2.3	1.8	0.03	100.0	16 269
DD	Wood	**237**	36.1	48.0	10.8	3.8	1.3	0.03	100.0	27 408
DC	Leather	**178**	47.9	42.9	7.9	0.7	0.5	0.00	100.0	2 946
	Total	**296**	**28.1**	**47.7**	**13.3**	**6.0**	**4.6**	**0.26**	**100.0**	
			113 413	192 280	53 596	23 993	18 702	1 043		403 027

[1] *EU NACE Rev.1*

Source: Statistics Finland; Register-based Employment Statistics

** The Educational Level of Population (ELP) indicator measures the level of education of population groups by per capita average length of the highest education completed after lower secondary level compulsory education. For example, the ELP number 387 indicates that the time in education per person is on average 3.9 years. See note to Table 6.2 in chapter 6 for details of how the indicator is calculated.*

8

ADULT EDUCATION AND FOREIGN LANGUAGE SKILLS

The data on participation in adult education and training and the foreign language skills of Finns are based on the Adult Education Survey 1995 (AES95). AES95 is the third survey carried out by Statistics Finland on participation in adult education. The population for the AES95 comprised all persons aged 18-64 registered as permanently resident in Finland.
The main results of the survey can be found in the Statistics Finland's publication 'Participation in Adult Education and Training in Finland'.
The data for persons who have completed labour market training are based on the register of job seekers maintained by the Ministry of Labour, the Statistics Finland data on unemployed persons, and the Statistics Finland data on students in adult education in educational institutions.
The data on participation in staff training yielded by the survey of adult education have been compared with the corresponding data for certain OECD countries based on the IALS - International Adult Literacy Survey (OECD - Statistics Canada, International Adult Literacy Survey, Microdata Package.)

ADULT EDUCATION AND TRAINING

Adult education and training refer to activities organised for the specific intention of producing learning results in adults who have, since completing or discontinuing their studies within the regular education system, been employed on the labour market. A distinctive characteristic of adult education and training is that they are specifically organised with a view to the needs and interests of adult learners. They may differ from education within the school system in terms of the time of day when teaching is provided as well as the teaching methods employed.

Half the population attends adult education or training yearly

In Finland 1.6 million persons attended adult education in 1995. This represents 48 per cent of the Finnish population aged 18-64.

In 1995 the numbers attending adult education in Finland were at roughly the same level as five years previously. This indicates a slowdown in the steady growth that has been recorded in participation rates since 1980 (Table 8.1). On the other hand, the numbers attending adult education in 1995 were certainly reduced by mass unemployment. Indeed, for those

8.1 Participation in adult education and training in 1980, 1990 and 1995 (population aged 18–64)

	1980		1990		1995	
		%		%		%
Male	400 000	27	698 000	43	706 000	43
Female	541 000	37	829 000	52	850 000	53
Total	**941 000**	**32**	**1 527 000**	**47**	**1 556 000**	**48**

Source: Statistics Finland, AES95

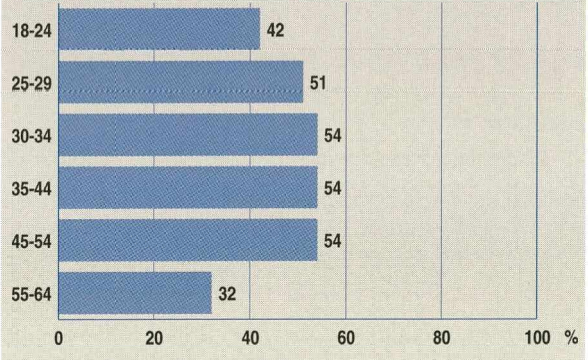
with jobs the growth rates have been higher: in 1990 the rate of participation was 55 per cent, in 1995 60 per cent. For those out of work, the figures were 21 per cent and 27 per cent, respectively.

Women were far more active than men in terms of participation in adult education. Over half or 53 per cent of the female population took part in adult education, which is ten percentage points more than the corresponding figure for men. (Table 8.1.)

People aged 30-54 years were the most active: 54 per cent of them took part in adult education. The youngest and the oldest age groups were the least active: in the 18-24 age group 42 per cent and in the 55-64 age group 32 per cent took part. (Chart 8.2.)

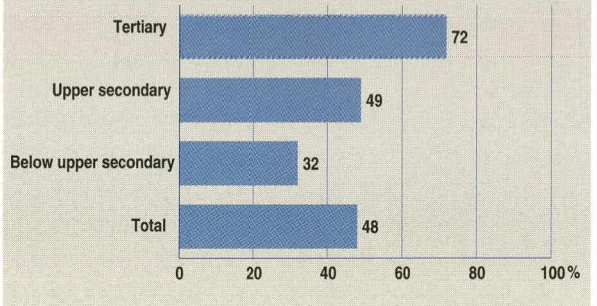
Participation in education and training in adulthood correlates strongly with the level of education attained. People with the highest level of initial education are the most active participants in adult education.

8.2 Participation in adult education and training by age group in 1995 (population aged 18-64)



Source: Statistics Finland, AES95

8.3 Participation in adult education and training by highest level of educational attainment (ISCED76) in 1995 (population aged 18-64)



Source: Statistics Finland, AES95

8.4 Participation in adult education and training by work status, socio-economic status and degree of urbanisation in 1995 (population aged 18–64)

	Participated in adult education and training during the 12 months preceding the survey		
	Yes	No	All
	%	%	%
Work status			
Labour force	53	47	100
Employed	60	40	100
Unemployed	27	73	100
Not in labour force	33	67	100
Socio-economic status			
Agricultural entrepreneurs	44	56	100
Entrepreneurs (not agricultural)	37	63	100
Upper white-collar employees	78	22	100
Lower white-collar employees	66	34	100
Blue-collar workers	37	63	100
Students	51	49	100
Pensioners	20	80	100
Others/unknown	27	73	100
Degree of urbanisation			
Urban	52	48	100
Semi-urban	45	55	100
Rural	42	58	100
Total	**48**	**52**	**100**

Source: Statistics Finland, AES 95

In the population aged 18-64 with a tertiary-level qualification, 72 per cent attended adult education in 1995; the corresponding proportion among those with an upper secondary qualification was one-half and among those with a below upper secondary education about one-third. (Chart 8.3.)

The employment situation is a major determinant of participation in adult education among people aged 18-64 who are in the labour force. The rate of participation for those in employment was 60 per cent, for those out of work only 27 per cent. (Table 8.4.) However, the unemployed spent considerably longer periods of time in education (median 17.5 days) than those with a job (7 days).

Examined by socio-economic status, participation in adult education was highest among upper white-collar employees, with 78 per cent attending. The second highest figure was recorded for lower white-collar employees, followed by students. (Table 8.4.)

Participation in adult education is highest among people living in urban areas: 52 per cent in this cate-

gory attended adult education in 1995. In semi-urban municipalities the rate of participation was 45 per cent and in rural municipalities 42 per cent. (Table 8.4). However, these differences between municipalities are explained by the respective socio-economic structures. Urban municipalities, for example, have the highest proportion of upper white-collar employees, who are the most active participants in adult education.

Most of the adult education is work-related, i.e. people attend training for work or professional reasons. 43 per cent of those in the labour force stated that they had attended training because of their work or profession. The bulk of this training is, in terms of participation volume, financed by the employer.

Eighteen per cent of the population had studied during the previous year in connection with their personal hobbies, other leisure activities or positions in societies, associations, etc.

Adult education is provided in educational institutions, at places of work and by various organisations. The studies of the majority of those attending adult education in 1995 had been arranged at the place of work or by a company specialising in further education. The next most common place of study was an adult education centre (13 per cent of the population), and the third most common a training centre connected with an organisation, association or society (10 per cent of the population).

Rate of attendance in staff training among the highest in the OECD countries

Employer-sponsored training or staff training is defined as adult education whose expenses are fully or partly covered by the employer and which takes place fully or partly during working hours.

In 1995 around 830,000 persons attended employer-sponsored training, representing 52 per cent of all wage-earners aged 18-64. This marks an increase of about five percentage points on the figure recorded in 1990. (Table 8.5). In this comparison, however, we need to bear in mind the changes that have happened in the wage earner structure: the number of wage earners has fallen since 1990 and their level of education has risen.

Women are more active than men in employer-sponsored training, too: 55 per cent of women took part in employer-sponsored training in 1995, as against 49 per cent of men. In both genders the partici-

8.5 Participation in employer-sponsored training by gender in 1990 and 1995 (employees aged 18–64)

	1990		1995	
		%		%
Male	468 000	45	394 000	49
Female	501 000	50	437 000	55
Total	**969 000**	**47**	**831 000**	**52**

Source: Statistics Finland, AES95

pation rate has increased since 1990 by roughly the same amount. (Table 8.5.)

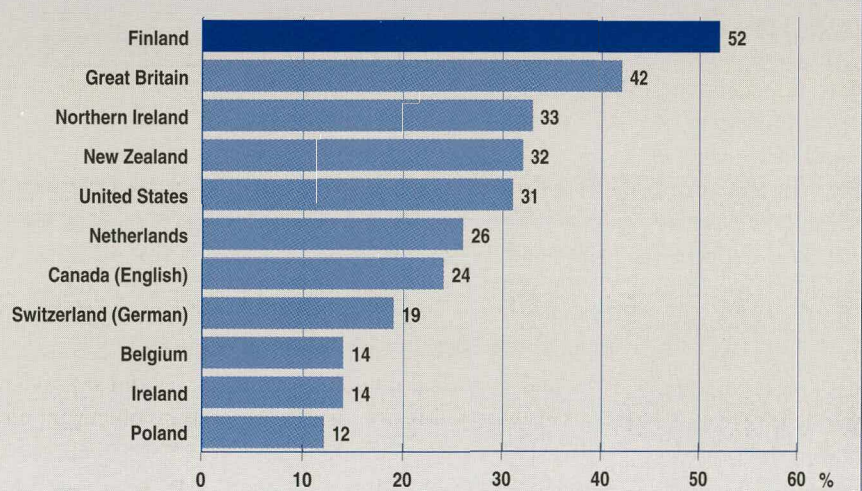
As far as socio-economic status and initial education are concerned the trends in employer-sponsored education are consistent with the patterns for adult education in general: participation rates are highest among people with a high level of education and in higher positions.

By age group, participation in employer-sponsored training was highest among employees aged 45-54, with an attendance rate of 57 per cent. The figure was lowest (33 per cent) in the youngest age group of wage earners, i.e. those aged 18-24. The trend towards greater equality in adult education is very clearly in evidence in employer-sponsored training. Examination of the participation rates by age group up to 1990 reveals that the sharpest increase has occurred in the oldest age group (55-64 years).

The rate of attendance in staff training is in Finland among the highest in the OECD countries. Whereas just over half of employees in Finland attended staff training in 1995, the corresponding figures in the countries for comparison varied from just over 10 to just over 40 per cent. The country closest to Finland in this respect was Great Britain, where 42 per cent of employees had attended staff training during the year. (Chart 8.6.)

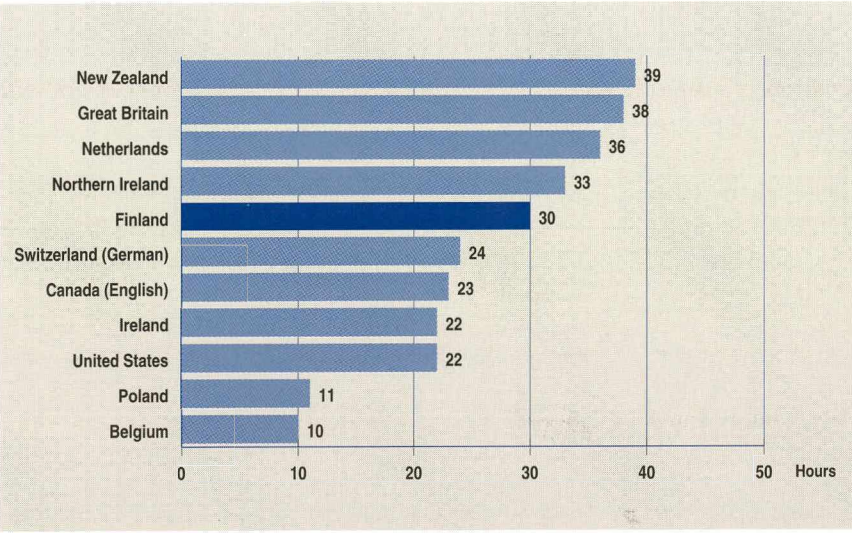
It seems to be a typical feature of staff training in Finland that while the rate of attendance is high, rather little time is spent per employee in training.

Of the countries in the comparison, Finland came fifth with an average of 30.3 hours in training per employee per year. The highest rate was recorded in New Zealand (39.3 hours per employee per year on average). (Chart 8.7.)



8.6 Participation in employer-sponsored training in certain OECD-countries, 1994–95 (employees aged 18–64)

Sources: Statistics Finland, AES95; OECD and Statistics Canada, IALS

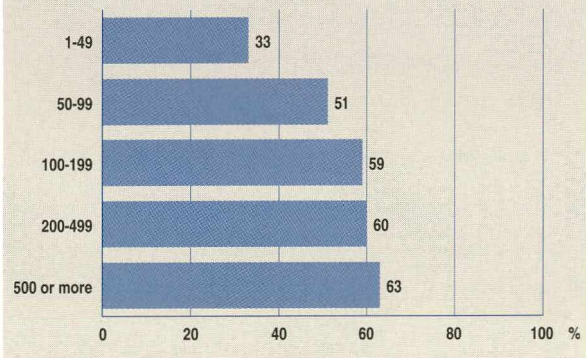


8.7 Participation in employer-sponsored training, hours/employee in some OECD countries in 1994–95 (employees aged 18–64)

Sources: Statistics Finland, AES95; OECD and Statistics Canada, IALS

Participation lowest in small firms

8.8 Participation in employer-sponsored training by number of employees in the firm in 1995 (employees aged 18-64)



Source: Statistics Finland, AES95

The size of a company correlated clearly with staff training: the more employees there were in a firm, the more its employees participated in staff training. For example: in firms with fewer than 50 employees, one third participated in staff training in 1995, compared with nearly two thirds (63 per cent) in companies with 500 employees or more. (Chart 8.8.)

The subject of employer-sponsored training depends largely on the sector or industry concerned. The most common subject of employer-sponsored training was information technology: 26 per cent of those who attended training sponsored by the employer took courses that had to do with new information technology. The second most common subject was law and social sciences, including management and supervisor skills, with 24 per cent of those involved in employer-sponsored training taking part. Seven per cent of those participating in employer-sponsored training studied foreign languages.

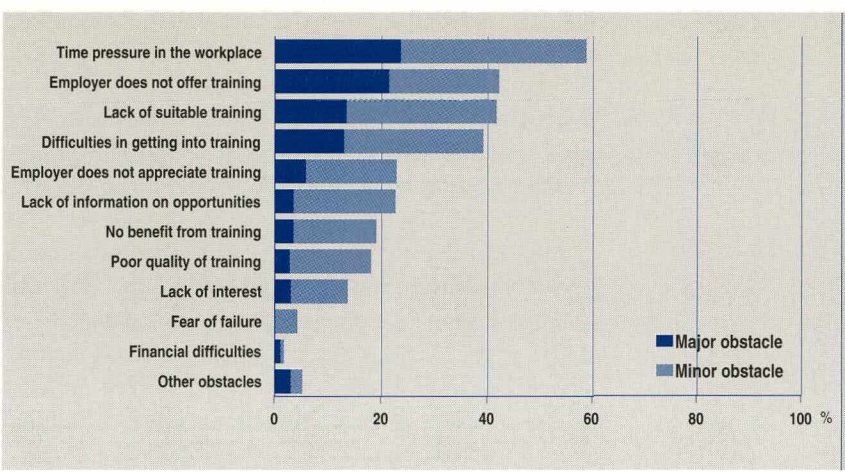
Almost half of employees stated that they needed language tuition because of their work. About half likewise claimed they needed training to develop other vocational skills. The need for training was felt to be greatest by the groups that also participated most in training. Upper white-collar employees felt most in need of training and blue-collar workers least. The differences in the need experienced by employees in firms of different sizes were not so high as in participation in training.

It is interesting from the point of view of assessing training needs that less than half the employees, i.e. 42 per cent, felt that it was very likely or quite likely that their existing working methods and tools, for example, would change decisively during the next five years, while 26 per cent regarded changes as extremely unlikely. White-collar employees viewed the likelihood of such changes as being greater than did blue-collar workers.

Time pressure the biggest obstacle to participation

Time pressure in the workplace is regarded as the biggest obstacle to participation in employer-sponsored training: 59 per cent of wage earners aged 18-64 identified time pressure as a difficulty. 42 per cent reported that their employer does not arrange training at all. The same proportion said no suitable training was available, 39 per cent complained that it was difficult to get into training courses that interested them. Overall it seems that there is at least no lack of interest: only 14 per cent identified lack of interest as an obstacle to participation in training. (Chart 8.9.)

Upper white-collar employees refer more often than others to the quality of training as an obstacle to participation. Likewise, time pressure in the workplace is most often a problem for upper white-collar employees. Blue-collar workers refer more often than others to the difficulty of getting into interesting training courses. For blue-collar workers the practical side



8.9 Obstacles to participation in employer-sponsored training in 1995 (employees aged 18–64)

Source: Statistics Finland, AES95

of training is mentioned more often than average as an obstacle: training is either not arranged or the information about it is inadequate.

Employees in medium-sized companies (staff of 50-499) identify more obstacles to participation in training than people working in small and big firms. Employees in medium-sized companies refer more often than others to the poor quality of training and to time pressure in the workplace. They also mention more often than others the employer's lack of respect for education. People in smaller companies refer more often than others to the lack of employer-sponsored training.

Labour market training reached peak in 1997

Labour market training here means training commissioned by the labour authorities on labour policy grounds and targeted primarily at persons who are either already unemployed or are threatened with unemployment.

Labour market training is provided in over two-hundred areas of working life. Many of the courses may count towards some vocational qualification or lead to a qualification direct. The training may take the form of vocational basic or further education. Entrepreneur training and employment orientation training are also provided as a means of promoting employment.

8.10 Completion of labour market training in 1990 – 1997

Source: Ministry of Labour

8.11 Number of persons completing labour market training by gender and as a percentage of the unemployed in 1987 – 1998

	Persons completing training	women %	Persons completing training as % of unemployed
1987	25 805	46.5	17.4
1988	26 904	47.5	20.8
1989	25 467	49.8	23.5
1990	27 800	49.8	19.7
1991	40 256	38.1	13.4
1992	54 957	40.4	12.4
1993	64 406	41.9	12.0
1994	60 464	41.9	12.3
1995	67 171	45.8	14.1
1996	96 520	49.5	20.6
1997	104 737	51.9	25.8
1998	87 238	53.7	23.2

Source: Ministry of Labour; Statistics Finland

The number of persons completing labour market training grew steadily in the 1990s up to 1997, which was a peak year in this respect. The growth in labour market training was particularly marked in 1996. The relative proportion of the unemployed of those who had completed labour market training was 21 per cent in 1996 and as high as 26 per cent in 1997.

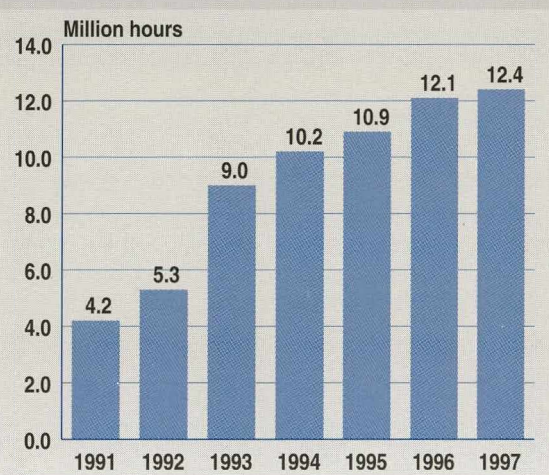
87,200 persons completed labour market training in 1998 - a drop on the previous year of 17 per cent. (Chart 8.10, Table 8.11.) 71 per cent underwent training at an educational institution and 29 per cent in a company.

46 per cent of those completing labour market education in 1998 were men and 54 per cent women. The difference between male and female participation shifted in favour of women in 1997. (Table 8.11.)

Increase in adult education within the regular education system

More than 2.8 million cases of participation in adult education provided by educational institutions and over 12 million teaching hours were recorded in 1997. There was a 1.6 per cent increase on the previous year in the number of participants and an increase of just over two per cent in the number of hours' tuition. More than a thousand institutions were providing adult education.

8.12 Hours of adult education provided by educational institutions in 1991 – 1997



Source: Statistics Finland

The main type of education provided by educational institutions consisted of voluntary study the costs of which were usually met by the participants themselves. There were about two million participants and over four million hours in training of this kind. The courses arranged by employers were attended by a good 300,000 participants and amounted to just under 500,000 teaching hours. The numbers of participants and teaching hours on these courses were clearly lower than in the previous year.

The largest number of hours was recorded in labour market training, accounting for nearly one third of all the adult education hours provided by educational institutions in 1997. The numbers of both participants and hours in labour market training provided by educational institutions showed a rise on 1996. (Chart 8.12.)

There were in 1997 close on 100,000 students attending the just under 200,000 hours of open univer-

sity tuition. Under the open university system students are allowed to take university courses without first passing an entrance exam or completing some initial education. Open university tuition is provided by a number of educational institutions and the volume corresponds to the regional demand. The education is always backed by a university and may include multi-form teaching.

The number of hours in adult education provided by the educational institutions has on the whole increased throughout the 1990s. The volume of tuition has been greatest in the vocational and other adult education centres.

Over one-fifth of Finns in self-directed study

The learning environment is changing. People are also learning at home, at work or elsewhere outside the formal education system.

The Finnish Adult Education Survey 1995 defined self-learning or self-directed studies as any non-formal learning taking place outside the formal education system. The key criterion was learning a new skill or new theoretical knowledge outside the formal education system. The question concerned self-learning during the 12 months prior to the interview. The minimum duration of non-formal self-learning was set at 20 hours.

Twenty-two per cent of the Finnish population aged 18-64 were studying independently for self-improvement, working on their own or with friends or colleagues without the intervention of any organisation. Most of the reported self-learning (68%) took place outside working hours: 8 per cent said they studied during working hours only, 24 per cent engaged in self-learning both during and outside working hours.

FOREIGN LANGUAGE SKILLS IN FINLAND

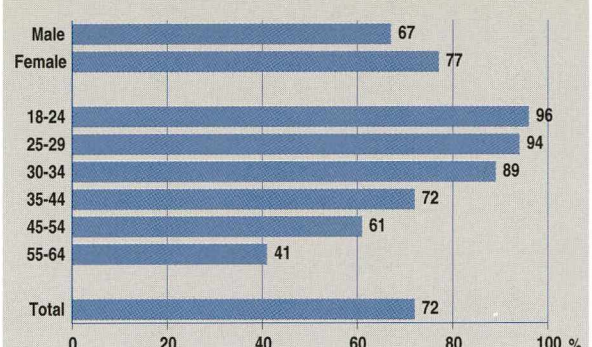
Three Finns out of four can speak at least one foreign language

72 per cent of the Finns claim to be able to speak at least one foreign language. English is the language spoken most and best of all.

The persons interviewed for the 1995 Adult Education Survey were asked to assess their language proficiency on a scale of 1 to 5. The lowest level meant they could handle familiar routine situations, the highest that they spoke the language almost as well as a native. (Table 8.14.) The scale was a modified version of the international nine-point scale to make it more suitable for use in the interviews.

Young people clearly have a better command of foreign languages than older people, and women better than men. (Chart 8.13.) The reason for the good command of languages among young people is the transition to the comprehensive school system in 1972-75 and the vast increase in education after the compulsory comprehensive school. Almost all Finns under the age

8.13 Persons with some command of at least one foreign language by gender and age in 1995 (population aged 18-64)



Source: Statistics Finland, AES95

of 35 have completed the comprehensive school, the curriculum for which has, right from the beginning, included tuition in at least the other national language (Finnish or Swedish) and one foreign language.

The further a person has continued his or her education, the more likely he or she is to speak foreign languages. Almost all (98 per cent) of those with a tertiary degree said they could speak at least one foreign language, and 78 per cent of those with a upper-secondary qualification. Half of those with a below upper secondary education said they could speak some foreign language. The proficiency in a language grows in proportion to the length of time spent in education.

English best and most of all

English is the foreign language spoken most of all in Finland; 66 per cent of the Finns said they could speak at least some English. Next came Swedish (55% of the respondents) and third German (29%). Eight per cent said they could speak some French and five per cent Russian. (Table 8.14.)

English is also the foreign language in which the Finns are most proficient; 13 per cent of adults said they could cope in English in public situations, such as representing their company or organisation. The corresponding figure for Swedish was only 5 per cent. Including those who said they could manage in practical

8.14 Percentages of persons speaking foreign languages by level of proficiency in 1995 (population aged 18–64)

Level of proficiency	English	Swedish	German	French	Russian
	%	%	%	%	%
Speak almost as a native	2	2	0	0	0
Can use the language fluently in public situations	11	3	1	0	0
Can cope well in the practical use of language	19	12	3	1	0
Can cope fairly well in ordinary spoken situations	20	21	9	2	1
Can cope in familiar routine situations	14	17	16	5	3
Cannot speak the language at all	34	45	71	92	95
Total	**100**	**100**	**100**	**100**	**100**

Foreign language = language other than mother tongue
0 = less than 0.5 can speak language

Source: Statistics Finland, AES95

8.15 Command of different foreign language combinations in Finland in 1995 (population aged 18-64)

Language Combination	Command %
English-Swedish	51
English-German	27
Swedish-German	26
English-French	8
Swedish-French	7
German-French	6
English-Russian	4
Swedish-Russian	4
German-Russian	3

Source: Statistics Finland, AES95

situations, the percentage of those with a good command of English rose to 32, as against 17 per cent for Swedish.

When Finland joined the European Union in 1995, a pan-European recommendation was issued on foreign languages (White Paper on education and training 1995). According to the recommendation, the Member States should be able to speak two official EU languages other than their own.

The most common language combination is English and Swedish; 51 per cent of adults have at least some command of both. The next most common combination is English and German (27 per cent). Both Swedish and German are spoken by 26 per cent, English and French by 8 per cent, Swedish and French by 7 per cent and German and French by 6 per cent. (Table 8.15.)

Allowing for the proficiency level of the speakers of two languages, only 14 per cent of the population have at least good command of both English and Swedish, even though just over half the population have at least some command of the two languages.

25 per cent of the adult population have at least some command of the three-language combination English-Swedish-German, but only 2.5 per cent can speak all three at least moderately well.

9

SOCIAL OUTCOMES OF EDUCATION

This chapter is a collection of brief statistics-based reviews of the significance of education in directing the course of a person's life. The length of the time spent in education and the level of attainment correlate strongly with the type of work people do, how much they earn, their hobbies, and their state of health. The chapter also examines the correlation between education and the number of children in a family, and between education and mortality. Parents' educational capital appears to be passed on to their children. The data are official statistics and are drawn from the individual data-based registers of Statistics Finland (National Statistical Institute of Finland). Other sources are Statistics Finland's Adult Education Survey 1995 (AES95) and Living Condition Survey 1994.

SOCIAL INHERITANCE OF EDUCATION

This chapter examines the influence of the home background on the educational career of young people in 1995. The social background of the home is here measured by the level of educational attainment of the father. The correlation between the mother's educational level and her children's choice of education is similar to that between father and children. The data are taken from total statistics containing about 450,000 students. In the case of the small number for which no data is available on the educational attainment of the biological father, the educational level of the mother is used instead. The data on education are classified according to the level of the old Finnish Standard Classification of Education.

Educational level of father has a strong impact on the decision regarding the route of education of his children

The regular education system covering the entire age cohort and all social groups ends at the age of 16. Young people aged 17-18 can be divided into three groups according to their participation in further education. Those who decide to continue their studies choose one of two parallel paths: general or vocational upper secondary education. 52 per cent of 17-18 year-olds were studying in daytime general upper sec-

ondary schools in 1995 and 32 per cent in vocational upper secondary schools. The third group consists of those who decide not to continue their studies: 14 per cent in 1995 (Table 9.1).

There is a strong correlation between the father's educational level and the educational route chosen by his children. The higher the father's educational attainment level is, the more likely his children are to continue in general upper secondary education. And vice versa: the higher the father's educational attainment level is, the less likely his children are to choose a vocational education or no further education at all.

39 per cent of the 17-18 year-olds whose fathers had attained a below upper secondary level education, 52 per cent of those whose fathers had completed an upper secondary qualification and 79 per cent of those whose fathers had completed a tertiary qualification were studying in the upper secondary general school in 1995 (Table 9.1). More than 80 per cent of the 17-18 year-old children of fathers with a Master's or Doctor's degree were in the upper secondary general school in 1995.

The educational level of the fathers of students in the upper secondary general school was high compared with the other types of educational institution and approximately as high as at the universities. The home backgrounds of the upper secondary general schools differ in the major towns but are small in the rural areas. The achievement studies of the upper secondary general schools indicate that the educational level of the students' parents goes a long way to explaining the variation in the schools' achievements.

39 per cent of the 17-18 year-old children of fathers with a below upper secondary education were studying in a vocational school and 11 per cent of the children of fathers with, for example, a tertiary qualification. The parents of the students in the vocational

9.1 Participation in education of 17–18 year-olds according to father's level of educational attainment and type of educational institution in 1995

17-18 year-olds by type of educational institution	Educational level of father			Population aged 17-18	
	Below upper secondary education	Upper secondary qualification	Tertiary qualification		
	%	%	%		%
Upper secondary general school	39	52	79	67 900	52
Upper secondary vocational school	39	34	11	41 841	32
Other educational institutions	2	2	3	2 472	2
Not in school	20	13	7	18 909	14
Total	**100**	**100**	**100**	**131 122**	**100**
Population aged 17-18 according to educational level of father %	37	46	17		100

Source: Statistics Finland

schools have completed least education compared with the other types of educational institution.

20 per cent of the 17-18 year-old children of fathers with a below upper secondary education and 7 per cent of the children of fathers with, for example, a tertiary qualification were not in education in 1995 (Table 9.1).

Educational level of father influences labour market position of his children

The decision to study in the upper secondary general school affects a student's further education. It is generally true to say that the children of families with a high level of education proceed via the upper secondary general school to university or some other form of tertiary education. 17-18 year-olds who choose a vocational education are aiming at a relatively swift transition from education to working life. The two routes lead to very different positions on the labour market.

The link between the educational level of the father and the length of his children's education can be examined in the 20-24 age group, since this is the age at which young people generally make the transition to working life and only some continue their studies even further.

The higher the level of education of the father is, the longer the children will continue their studies. The children of fathers with less education transfer to the

9.2 Main activity of young people aged 20–24 according to educational level of father in 1995

Main activity of 20-24 year-olds	Educational level of father			Population aged 20-24	
	Below upper secondary education	Upper secondary qualification	Tertiary qualification		
	%	%	%		%
Student	31	39	59	115 826	38
Employed	39	36	26	108 066	35
Unemployed	22	19	10	58 597	19
Other	8	6	5	22 562	7
Total	**100**	**100**	**100**	**305 051**	**100**
Population aged 20-24 according to educational level of father %	45	40	15		100

Source: Statistics Finland

labour market earlier and after a shorter education than the children of fathers with more education.

59 per cent of the children aged 20-24 of highly educated fathers continued their studies in 1995, 39 per cent of the children of fathers with an upper secondary qualification and 31 per cent of the children of fathers with a below upper secondary education (Table 9.2).

61 per cent of the children of fathers with a below upper secondary education were on the labour market, either employed or unemployed. The corresponding percentage for the children of fathers with an upper secondary qualification was 55 and that for the children of fathers with a tertiary education 36 in 1995.

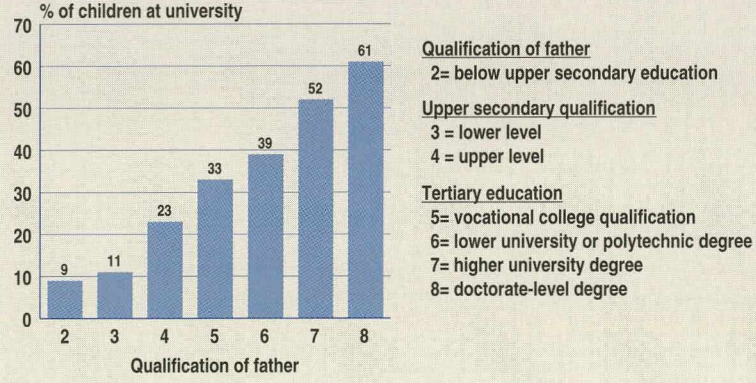
The level of education of the father also correlates with the unemployment experienced by his children. For example, 22 per cent of the children of fathers with a below upper secondary education and 10 per cent of the children of fathers with a tertiary education were unemployed in (Table 9.2).

The higher the educational level of the father, the more likely his children are to go to university

The children of highly educated parents reach for the highest rungs on the educational ladder and those of less highly educated parents proceed to vocational education.

There is a clear link between family background and choice of study. For example, the vocational colleges in music, art and communications can choose their students from families with a high level of education. At the universities, law and medicine are among the popular subjects for children from highly educated families.

There is an extremely strong and regular correlation between university study and the family's educational background. Chart 9.3 shows that a rise by one



9.3 University students aged 20–24 according to level of educational attainment of father in 1995

Source: Statistics Finland

qualification in the educational attainment of the father raises the likelihood that his children will go to university by several percentage points.

Whereas some ten per cent of the children of fathers with a below upper secondary education (2) or an upper secondary vocational education (3) were studying at university, the corresponding figure for the children of fathers with a vocational college level qualification (5) was three times as high. Proceeding to the children of fathers with a higher university degree (7) or a doctorate level degree (8), the percentage is a close on ten percentage points higher still, rising from 52 to 61.

LABOUR-FORCE ACTIVITY AND EARNINGS BY LEVEL OF EDUCATIONAL ATTAINMENT

The data are official statistics and are drawn from the individual data-based employment register of Statistics Finland. This chapter also contains data from the Adult Education Survey 1995 (AES95) and Living Condition Survey 1994. The data on education are classified according to the new International Standard Classification of Education 1997 (ISCED 97).

Highly educated actively employed

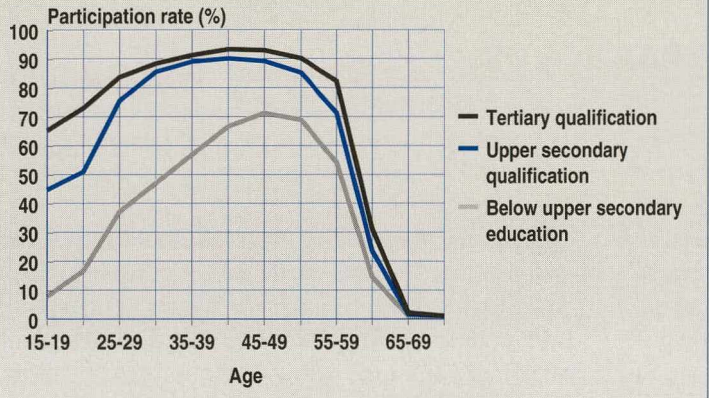
Persons with a high level of education are more active on the labour market than those with less education. For example, about 82 per cent of persons under the age of 75 with a tertiary qualification were either in or seeking employment, as against only 32 per cent of those with a below upper secondary level education. At its peak the labour force participation of persons with a tertiary qualification was as high as about 94 per cent, compared with a good 70 per cent for those with a below upper secondary education in 1997 (Table 9.4 and Chart 9.5).

Age and gender also affect the labour force participation rate. The low participation of those with the lowest level of educational attainment in the youngest age groups is partly due to the fact that they are still studying. Participation in the labour force begins to

9.4 Labour force participation rates by level of educational attainment, age and gender in 1997

Age	Total	Level of education				
		Below upper secondary education	Upper secondary qualification	Tertiary education		
				Total	Vocational college qualification	University or polytechnic degree
	%					
15-19	14.9	8.0	44.6	**65.4**	65.4	33.3
20-24	53.9	16.9	50.9	**73.2**	73.0	74.5
25-29	77.8	37.3	75.5	**83.9**	82.7	85.7
30-34	85.3	47.2	85.5	**88.6**	88.1	89.4
35-39	88.5	57.0	89.0	**91.5**	91.1	92.0
40-44	89.6	66.8	90.1	**93.5**	93.2	93.8
45-49	88.5	71.4	89.2	**93.2**	92.8	93.6
50-54	84.7	69.1	85.2	**90.4**	89.5	91.3
55-59	70.9	54.4	71.3	**82.5**	80.7	84.6
60-64	22.9	14.6	23.5	**31.2**	24.8	39.5
65-69	1.5	1.0	1.5	**2.3**	2.0	2.6
70-74	1.0	0.7	1.1	**1.2**	1.2	1.2
Total	**62.7**	**31.6**	**72.1**	**81.8**	**80.6**	**83.4**
Males	65.4	35.4	75.9	**82.1**	80.0	84.2
Females	60.1	28.1	68.1	**81.6**	81.0	82.5

Source: Statistics Finland; Register-based Employment Statistics



9.5 Labour force participation rates by level of educational attainment and age in 1997

Source: Statistics Finland; Register-based Employment Statistics

fall off quickly after the age of 60, but those with a longer education are more active in the labour force at all ages than those with a shorter education.

Women have a lower labour force participation rate than men in the younger age groups, firstly because women study for longer than men. Secondly, women have children and stay at home to care for them, especially after the age of 25. For example, the labour force participation rate of women with a university level degree rose steadily and reached its peak after the age of 50, while the peak for men came five years earlier. The participation rate was slightly higher for women than for men aged 50-60 at all levels of education.

Work-related training brings new job tasks

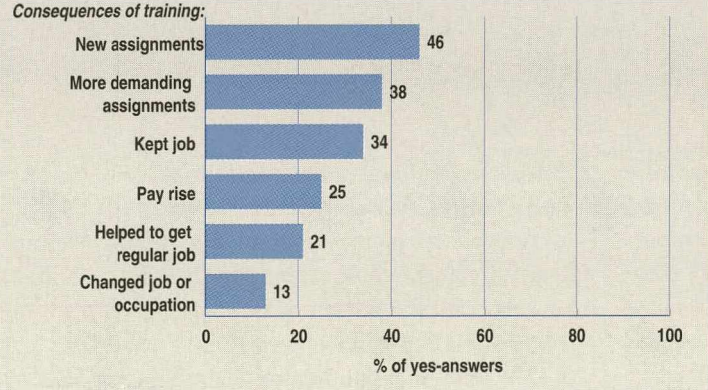
According to the Adult Education Survey 1995, four persons out of five aged 18-64 have at some point in their careers attended work-related training. The percentage was higher among those with a high level of educational attainment than it was among those with a lower level (see chapter 8: *Adult education and foreign language skills*).

Nearly half of those in training believed they had been assigned new tasks as a result of their training. The second most common consequence of training was being assigned more demanding tasks, and the third job security. One in four had received a pay rise as a result. (Chart 9.6.)

Although women attend work-related training more than men, the men appeared to have derived more benefit from it than the women. For the men, training seemed more often to have resulted in a pay rise or being given more demanding assignments.

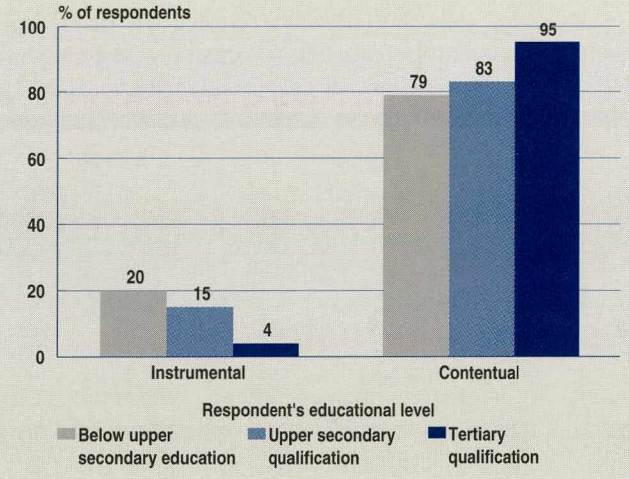
People with a below upper secondary education feel that work-related training has helped them to get more pay and more demanding job tasks more often than those with a higher initial education.

People who have attended employer-sponsored education feel that it has had many positive impacts even in the short term. Virtually all of those attending employer-sponsored training during the previous 12



9.6 The career impact of work-related training in 1995

Source: Statistics Finland, AES95



9.7 The perceived significance of work by educational level in 1994

Source: Statistics Finland; Living Condition Survey 1994

months felt that they had received useful new information. 92 per cent said that the training had helped them cope in their job or occupation, 89 per cent felt it had improved their job motivation. Persons of high socio-economic status and those with a high level of educational attainment had derived more benefit than the other groups.

Chart 9.7 examines the significance of work to the employed persons, who stressed that work brought them personal satisfaction in addition to a salary. The contentual significance was particularly stressed by those with a long education, 95 per cent of the respondents. The claim that work has no meaning apart from bringing in a salary received very little support. The percentage of those who supported the claim was, however, highest among those with the least education, 20 per cent.

Work ranks second in importance, after family and home. The third item, recreation outside the home, was clearly assigned a lesser role. It appears that work gives those with a higher education more content in life than those with a lower education.

Education reduces risk of unemployment

The unemployment rate is highest among those with a low level of educational attainment. 24 per cent of the labour force with a below upper secondary education were registered as unemployed in 1995, about 18 per cent of those with an upper secondary education and 8.5 of those with a tertiary qualification. The unemployment rate of those with a below upper secondary education was, for example, four times that of persons with a university level qualification (Table 9.8).

A good education is extremely significant, especially to young people seeking their first job on the labour market (see chapter 5: *Graduation and transition from school to work*).

The unbroken duration of unemployment also varies according to educational attainment. The higher a

9.8 Unemployment rates of persons having completed their education at various levels of education, by age and gender in 1997

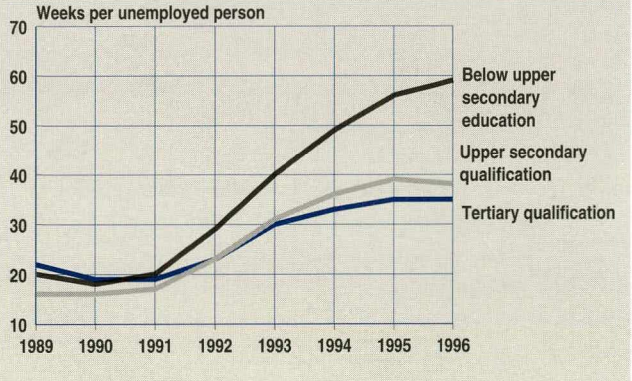
		Level of education					
				Tertiary education			
Age	Total	Below upper secondary education	Upper secondary qualification	Total	Vocational college qualification	University or polytechnic degree	Doctorate-level degree
	Unemployment rate %						
15-24	25.0	26.2	24.9	22.9	23.3	21.1	10.0
25-34	16.1	30.7	16.4	9.5	11.5	6.7	3.5
35-44	13.7	21.7	15.5	6.6	8.3	4.6	3.1
45-54	13.8	18.1	15.4	6.3	7.9	4.6	2.7
55-64	27.5	33.2	29.3	13.4	17.7	9.6	3.2
65-74	1.4	1.5	1.4	0.7	0.9	0.5	0.0
Total	**16.7**	**24.1**	**17.9**	**8.5**	**10.7**	**5.8**	**3.0**
Unemployed	406 503	160 723	183 685	62 095	43 809	17 802	484
Males	17.0	24.2	18.0	7.7	10.2	5.5	2.8
Females	16.4	24.0	17.7	9.2	10.9	6.3	3.5

Source: Statistics Finland; Register-based Employment Statistics

person's educational level is, the shorter the unemployment period seems to be. The unbroken unemployment period of persons unemployed at the end of 1996 was 48 weeks. The average for those with a tertiary qualification was 35 weeks, as against 59 weeks for those with e.g. a below upper secondary education in 1996. The period of unemployment of those with a below upper secondary grew even longer in 1996 as well (Chart 9.9). Unemployment affects those with little education hardest of all: the possibility of being unemployed is higher and the periods of unemployment longer.

Another factor influencing the employment situation is field of education. For example: the employment situation of university graduates was poorest for those with a Master's degree in the hu-

9.9 Periods in continuous unemployment of persons aged 20–64 according to educational attainment in 1996



Source: Statistics Finland

manities and arts and best for teachers and those with a higher degree in engineering, economics and business administration, and medicine.

Age and gender also affect unemployment. The lowest unemployment rate is, in relative terms, in the 35-54 age group. It is higher in the younger age groups making the transition to working life and is for various reasons high in the age groups leaving the labour force (Table 9.8).

The unemployment rate of women is on average lower than that of men, but the situation at tertiary level is the opposite. This is to a great extent explained by the fact that women tend to choose fields of education in which finding jobs is more difficult.

Highly educated earn well

Earnings here refer to wages, salaries and entrepreneurial income. The mean per capita annual earnings of employed persons aged 20-64 were a good EUR 21,700 in 1997. The higher a person is educated, the more he or she is likely to earn. For example: the annual earnings of persons with an upper secondary qualification were 53 per cent of the earnings of those with a higher university degree in 1997. Only those with a below tertiary qualification were approximately the same (Table 9.10).

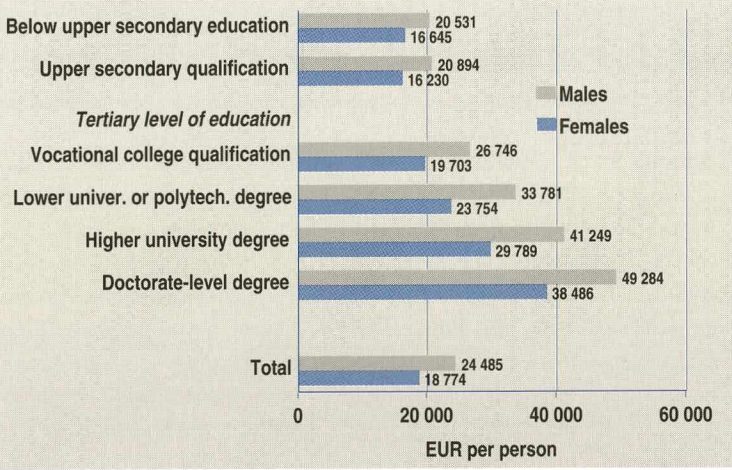
The annual earnings of women were 77 per cent of those of men in 1997. The differences were smallest among those with the lowest level of education, i.e. below upper secondary (Chart 9.11).

Earnings rise up to a certain age and then fall off. The higher a person's level of education is, the longer

9.10 Annual earnings of employed persons aged 20–64 by level of educational attainment in 1997

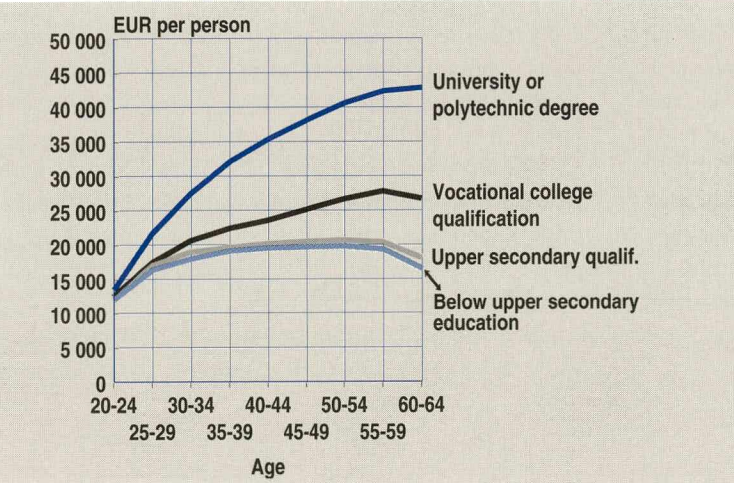
Level of education	Employed persons aged 20-64	EUR per person (Mean)	FIM per person (Mean)
Below upper secondary education	478 407	18 765	111 573
Upper secondary qualification (ISCED 97:3 & 4)	824 551	18 758	111 532
Tertiary level of education	666 836	27 508	163 553
Vocational college qualification (ISCED 97:5B)	365 272	22 496	133 755
Lower university or polytechnic degree (ISCED 97:5A)	126 264	29 322	174 339
Higher university degree (ISCED 97:5A)	159 665	35 713	212 341
Doctorate-level degree (ISCED 97:6)	15 635	46 144	274 360
Total	**1 969 794**	**21 722**	**129 153**

Source: Statistics Finland; Register-based Employment Statistics



9.11 Mean annual earnings of employed persons aged 20–64 by level of educational attainment and gender in 1997

Source: Statistics Finland



9.12 Mean annual earnings of employed persons aged 20–64 by level of educational attainment and age in 1997

Source: Statistics Finland

his or her earnings will continue to rise. The annual earnings of those with a below tertiary qualification reached their peak at age 50-54, those of persons with a vocational college qualification at age 55-59 and those with a university level degree at age 60-64 (Chart 9.12).

EDUCATION AND LEISURE PURSUITS

Educational attainment also has a clear correlation with leisure pursuits. The more education people have, the more likely they are to be active in their leisure time. The examples of participation in leisure activities given in this chapter are taken from the Statistics Finland Living Condition Survey 1994. This applied to the population aged 15 or more. The data on education are classified according to the level of the old Finnish Standard Classification of Education.

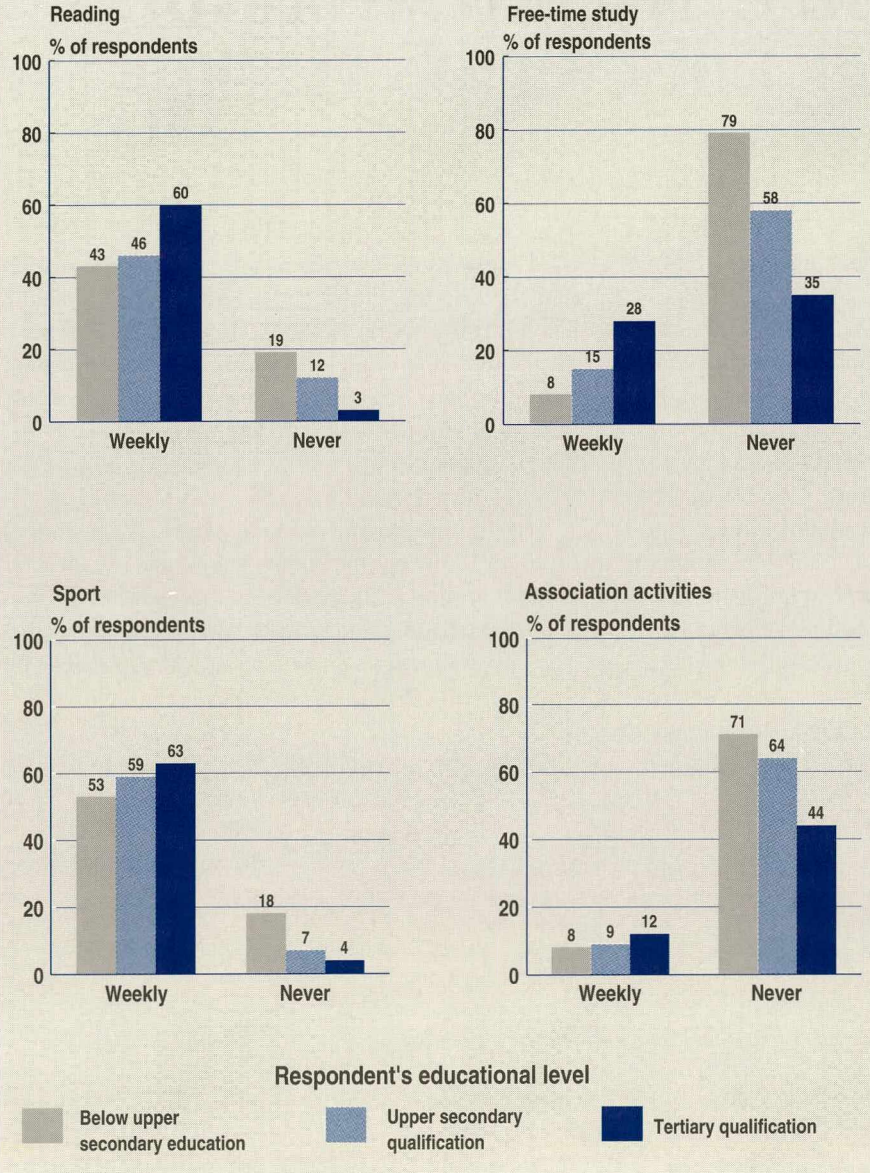
One of the most common leisure pursuits is sport. Over half the Finnish population aged 15 or more stated in spring 1994 that they did some kind of weekly sport. Those with a high level of educational attainment were more active than those with a shorter education. The differences were, however, small. There was a bigger difference between the educational groups among those who did not engage in any form of exercise. A clearly larger percentage of those with a below upper secondary education said they did not do any kind of sport than those with more education (Chart 9.13).

Reading is another popular leisure pursuit among the Finns, nearly half of whom said they regularly read every week. Education had a clear impact on reading habits. The most active readers were those with a tertiary qualification. The differences between the groups with less education were slight. About one fifth of those with a below upper secondary education said they did not read at all. The higher the educational attainment level, the smaller the proportion of non-readers is.

14 per cent of the Finns aged 15 or more in spring 1994 said they were studying something. Those with a tertiary qualification were most active in this respect. Among them, study was 3.5 times as common as among those with a below upper secondary education.

The differences between educational groups with regard to leisure participation in societies and associations were not very big, yet even so the highest participation rate was among those with a tertiary qualification (Chart 9.13).

The more education people have, the more they also tend to attend cultural events (concerts, cinema, theatre, art exhibitions, etc.).



9.13 Leisure pursuits of the population aged 15 or more by level of education in 1994

Source: Statistics Finland, Living Condition Survey 1994

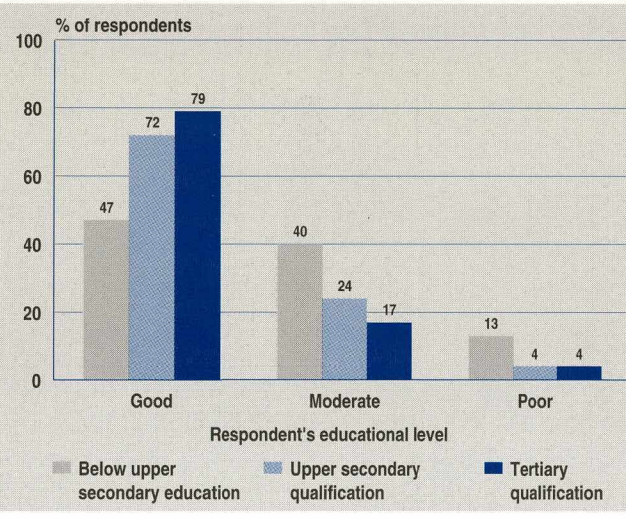
STATE OF HEALTH AND MORBIDITY BY LEVEL OF EDUCATIONAL ATTAINMENT

This chapter examines the correlation between level of educational attainment and state of health and morbidity. The data for the examples given are taken from the Living Condition Survey carried out by Statistics Finland in 1994. The interview survey concerned the population aged 15 or more. The data on education are classified according to the level of the old Finnish Standard Classification of Education.

A good 60 per cent of the population aged 15 or more felt their health was good, just on a third moderate and just under ten per cent poor. Naturally the state of health deteriorated with age. There seemed to be some sort of watershed between the ages of 40 and 50, after which their health began to deteriorate.

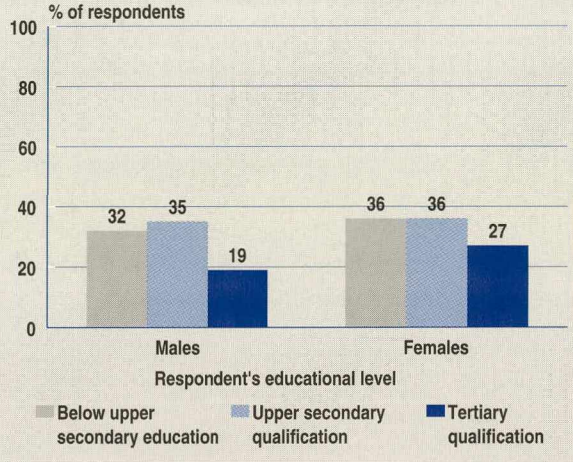
There was a clear correlation between the respondent's educational level and perceived state of health. Those with a tertiary qualification felt their state of health was best of all. Close on 80 per cent of those with a tertiary qualification said their state of health was good and just under 50 per cent of those with a below upper secondary education in 1994 (Chart 9.14).

The differences in morbidity between persons of different levels of educational attainment are clear according to most of the indicators: those with less education are ill more than those with more education. The only indicators in which no differences can be ob-



9.14 Perceived state of health according to level of educational attainment in 1994

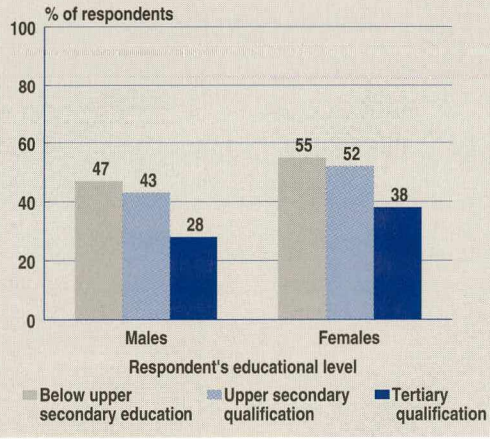
Source: Statistics Finland; Living Condition Survey 1994



9.15 Incapacitating long-term illness by level of educational attainment in 1994
Population aged 25–74[1]

[1] *Standardised by age*

Source: Statistics Finland; Living Condition Survey 1994



9.16 Physical disability among persons aged 50 or more[1] by level of educational attainment in 1994

[1] *Standardised by age*

Source: Statistics Finland; Living Condition Survey 1994

served are those for brief physical incapacity and mental disorders.

As an example of morbidity, this chapter takes incapacitating long-term illness, including physical disability.

In 1994 the morbidity of persons with a below upper secondary and upper secondary qualification was approximately the same for women and men alike. Those with a tertiary qualification clearly had less incapacitating long-term illness than those with less education. The morbidity rate was slightly higher among women than among men (Chart 9.15).

Examples of long-term illnesses are diseases of the circulatory system, musculoskeletal system and connective tissues, and ranging from allergies to severe cancers. Respondents who stated that their illness

greatly or to some extent prevented them from working, studying, doing household work or other everyday activities were classified as having an incapacitating long-term illness.

The connection between education and physical disability is clear: the higher the level of educational attainment is, the fewer men and women there are with one or more physical disability.

Physical disabilities were measured by whether or not the respondent has difficulty going up stairs, running 100 metres, walking briskly for five minutes or carrying an item weighing five kilos for a short distance.

Almost half of the 50-year-old men with a below upper secondary education had some physical disability in 1994, as against less than 30 per cent of those with a tertiary qualification (Chart 9.16).

Women tend to have physical disabilities more than men. The number of women who said they had some physical disability was about ten percentage points higher than that of men.

FERTILITY AND MORTALITY BY LEVEL OF EDUCATIONAL ATTAINMENT

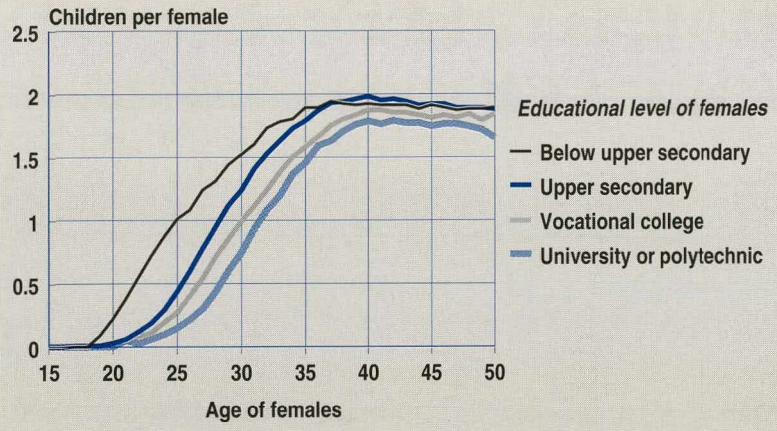
This chapter examines the correlation between level of educational attainment, fertility and mortality of the middle-aged. The data are drawn from the individual data-based population statistics and cause-of-death statistics of Statistics Finland.

Fertility by level of educational attainment

Education and study clearly influence the age at which people have their first child. The higher the level of education is, the longer the time spent in study and the higher the age at which people start a family will be. For example: there was in 1997 on average one child for each woman aged 25 who had completed a below upper secondary education. Women with a university or polytechnic degree did not reach the one child level until seven years later, at the age of 32. In time, the differences between women with different levels of education nevertheless get smaller (Chart 9.17).

By the time women reach the age of 40 it is possible to draw a more or less definite conclusion about the number of children they will have. The women with the highest education have given birth to fewer children than those with less education, though the differences are not very great. For example: there were in 1997 about 1.8 children per woman aged 40 with a university level degree and about 1.9 per woman with a below tertiary qualification (Chart 9.17).

It is also possible to see from the registers how many children men have fathered. The influence of



9.17 Average number of children per woman aged 15–50 by level of educational attainment in 1997

Source: Statistics Finland

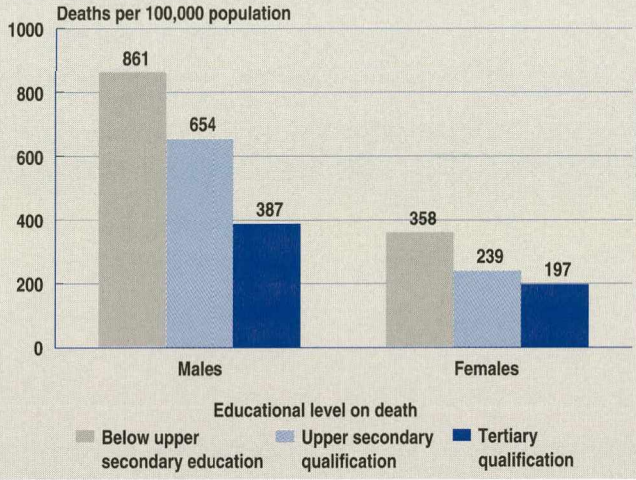
education on the number of children appears to be the opposite to that for women in that the higher the level of a man's educational attainment is, the more children he is likely to have fathered. The differences are more pronounced than for women.

Mortality among persons aged 35–64 by level of educational attainment

The differences between the educational groups with regard to mortality of the middle-aged are clear: the higher the level of education, the lower the mortality rate.

The mortality rate (deaths per 100,000 population) of men aged 35-64 with a below upper secondary education was more than double that of men with a tertiary education in 1995. The risk of a person with an upper secondary education dying was 1.7 times that of a person with a tertiary qualification.

The mortality rate of middle-aged women in 1995 was well under half the rate of men. The differences between the educational groups are smaller for women than for men. The mortality rate of women with a below upper secondary education was less than twice that of women with a tertiary qualification. The risk of dying of women with an upper secondary education was 1.2 times that of women with a tertiary qualification. The difference between the educational groups was clearly smaller for women than for men.



9.18 Mortality among persons aged 35-64[1] by level of educational attainment in 1995

[1] *Standardised by age*

Source: Statistics Finland, Health 1996:5

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ISBN 951-727-605-2

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ISSN 1236 – 4746
= Education
ISBN 951 – 727 – 605 – 2
Product number 9923
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