

DESIRED OUTCOMES

All people have the knowledge and skills they need to participate fully in society. Lifelong learning and education are valued and supported. All people have the necessary skills to participate in a knowledge society.

Knowledge and Skills

INTRODUCTION

Knowledge and skills enhance people's ability to meet their basic needs, widen the range of options open to them in every sphere of life, and enable them to influence the direction their lives take. The skills people possess can also enhance people's sense of self-worth, security and belonging.

We live in a society where access to information and proficiency with technology are becoming increasingly important. An inclusive society will increasingly require all people to have high levels of knowledge and skills.

Knowledge and skills include not only education and training, but also abilities gained through work and daily life – for example, parenting skills or skills relevant to recreation or leisure activities.

For many people, the acts of learning and of mastering new skills are important in themselves. Possession of knowledge and skills can be integral to a person's sense of belonging and self-worth: many people define themselves by what they can "do", not only in employment but elsewhere in life.

Knowledge and skills relate directly to employment decisions and career choices. Those with relatively few educational qualifications are more likely to be unemployed and, on average, have lower incomes when in work. This affects not only the economic standard of living people are able to enjoy, but also their security and ability to make choices about their lives. Knowledge and skills are important for gaining access to services and for understanding and exercising civil and political rights.

INDICATORS

Five indicators are used in this chapter. Each provides a snapshot of New Zealanders' acquisition of knowledge and skills at a particular stage in their lives, from early childhood to school-leaving age to adulthood. They are: participation in early childhood education, school leavers with higher qualifications, the educational attainment of the adult population, adult literacy skills in English and participation in tertiary education. The focus of four of the five indicators is on formal education and training. This reflects both the importance of formal education and training and also the availability of data – there is little data that captures the contribution of informal, on-the-job training to knowledge and skill acquisition.

The indicators are relevant to both current and future social wellbeing. Participation in early childhood education is included because it contributes significantly to a child's later development. Going to a kindergarten, kōhanga reo or some other early childhood service prepares children for further learning and helps to equip them to cope socially at school. Quality early childhood programmes can help narrow the achievement gap between children from low-income families and more advantaged children.³⁶

Students who attain higher qualifications at school tend to have a wider range of options for higher education and future employment. Those who leave school early are at a greater risk of unemployment or having low incomes.³⁷

Educational attainment of the adult population provides a broad picture of New Zealanders' overall attainment of knowledge and skills. It is influenced by factors not measured in the other indicators, such as adults gaining new qualifications and new migrants arriving with qualifications.

Literacy is a fundamental skill. A good level of literacy in English, including numeracy and the ability to understand documents and tables, is vital in the workplace and in everyday life.

Participation in tertiary education opens up career opportunities and provides people with the skills they need to participate in society. This has become particularly important with the increasing dependence on "knowledge" industries that require well-educated, highly skilled workforces. It also captures aspects of lifelong learning through the participation of adults in tertiary education.

Participation in early childhood education

DEFINITION

The number of enrolments of children aged 3 and 4 years in early childhood centres or home-based education programmes as a proportion of all 3 and 4 year olds. The measure includes all forms of organised and sustained centre and home-based programmes designed to foster learning and emotional and social development in children. The measure overestimates participation because children enrolled in more than one early childhood centre will be double-counted. Information from an alternative measure which avoids double counting – the proportion of Year One students who participated in early childhood education – is also included.

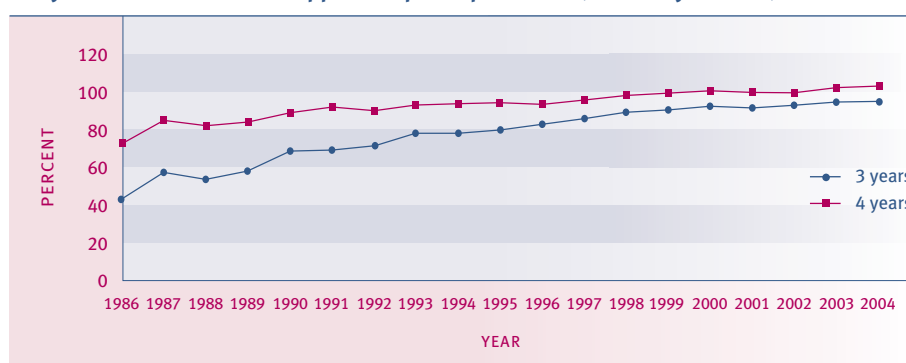
RELEVANCE

Evidence from New Zealand and international research shows that the early years of childhood are vital to a child’s development and future ability to learn.³⁸ Quality early childhood programmes prepare young children socially, physically and academically for entry into primary education and can help narrow the achievement gap between children from low-income families and those from more advantaged families.

CURRENT LEVEL AND TRENDS

As at 1 July 2004, the “apparent” early childhood education participation rate was 95 percent for 3 year olds and 103 percent for 4 year olds, confirming that some children attend more than one service. These figures represent a substantial increase from 43 percent and 73 percent respectively in 1986. Much of the growth in participation in early childhood education occurred in the five years between 1986 and 1991, with slower growth in subsequent years.

Figure K1.1 Early childhood education “apparent” participation rate, 3 and 4 year olds, 1986–2004



Source: Ministry of Education; Ministry of Social Development

Note: These figures overestimate the true participation rate. Rates in excess of 100 percent are possible because children can be enrolled in more than one service

A new measure of early childhood education participation, which avoids the problem of double-counting, comes from information collected when children are in Year One at school. This shows that, as at July 2004, 94 percent of all Year One students had attended some form of early childhood education service before starting school. This compares with 91 percent of Year One students in 2000.

ETHNIC DIFFERENCES

There are marked ethnic differences in the proportion of Year One students who had attended an early childhood education service, with European students being the most likely to have attended: 98 percent compared with 89 percent of Māori and 85 percent of Pacific Year One students in 2004. However the gap in participation rates has narrowed in recent years.

Table K1.1 **Early childhood education attendance by Year One students, by ethnic group, as at 1 July 2000–2004**

	European	Māori	Pacific	Asian	Other	Total
2000	95.4	84.8	76.1	89.2	83.0	91.0
2001	96.0	85.3	76.3	89.8	84.1	91.3
2002	96.6	86.5	79.4	92.1	86.6	92.3
2003	97.4	88.4	83.4	92.4	88.9	93.5
2004	97.6	89.3	84.7	94.1	89.4	94.0

Source: Ministry of Education

Note: These figures exclude cases for which attendance was unknown and differ from those published in The Social Report 2003

PARTICIPATION BY TYPE OF EARLY CHILDHOOD EDUCATION SERVICE

In 2004, childcare centres (40 percent) and kindergartens (39 percent) catered for the largest group of enrolments of 3 and 4 year olds in early childhood education. Much smaller proportions were enrolled in play centres (6 percent) and kōhanga reo (5 percent).

School leavers with higher qualifications

DEFINITION

The proportion of secondary school leavers who leave school with qualifications higher than National Certificate of Educational Attainment (NCEA) Level 1. These include Sixth Form Certificate, NCEA Level 2, Higher School Certificate, Entrance Qualification and University Bursary.

RELEVANCE

Upper secondary education serves as the foundation for higher (post-secondary) learning and training opportunities as well as preparation for direct entry into the labour market. Those who leave school early with few qualifications are at a much greater risk of unemployment or vulnerability in the labour force and of having low incomes.³⁹

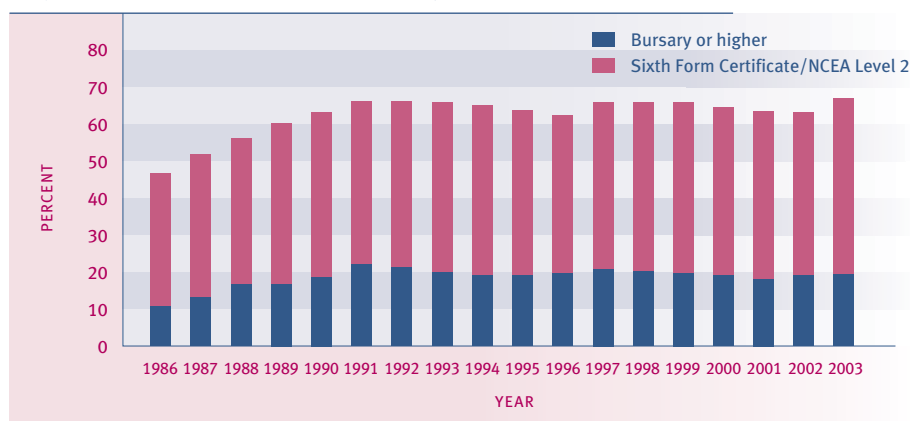
CURRENT LEVEL AND TRENDS

In 2003, 67 percent of school leavers (36,000) left school with qualifications higher than NCEA Level 1, an increase from 63 percent in 2002. The proportion of school leavers with at least Sixth Form Certificate or NCEA Level 2 qualifications has increased considerably from 47 percent in 1986. However, most of the increase occurred in the late 1980s. Since 1990, the proportion has fluctuated between 63 percent and 67 percent.

The proportion of school leavers attaining an A or B Bursary or Scholarship also increased during the period 1986–1991 and has remained around 18–22 percent over the past decade. In 2003, 20 percent of school leavers (10,500) had attained an A or B Bursary, an increase from 19 percent in 2002.

The lack of sustained growth in the proportion of school leavers with higher qualifications since the early 1990s may be explained, in part, by an increase in employment and training opportunities for those without higher qualifications.

Figure K2.1 **Proportion of school leavers with higher qualifications, 1986–2003**



Source: Ministry of Education

Notes: [1] Bursary or higher includes: A or B Bursary, Scholarship (to 1989) and National Certificate Level 3 or above (from 1996)

[2] Sixth Form Certificate/NCEA Level 2 includes Higher School Certificate and Entrance Qualification

SEX DIFFERENCES

In 2003, 71 percent of female school leavers had qualifications higher than NCEA Level 1, compared to 63 percent of males. Between 1986 and 2003 the proportion of school leavers with at least Sixth Form Certificate/NCEA Level 2 or Bursary improved at a faster rate for females than for males.

Table K2.1 **Proportion (%) of school leavers with higher qualifications, by sex, selected years, 1986–2003**

	Sixth Form Certificate/NCEA Level 2 or higher		Bursary or higher	
	Male	Female	Male	Female
1986	45.2	48.1	11.6	10.0
1991	63.5	69.2	21.1	23.4
1996	59.0	66.5	17.8	22.0
2001	59.4	68.1	15.8	21.2
2002	59.0	67.6	16.7	21.5
2003	63.2	71.2	17.5	21.9

Source: Ministry of Education

Notes: [1] Bursary or higher includes: A or B Bursary, Scholarship (to 1989) and National Certificate Level 3 or above (from 1996)
[2] Sixth Form Certificate/NCEA Level 2 or higher includes Higher School Certificate and Entrance Qualification

ETHNIC DIFFERENCES

The proportion of Māori school leavers with qualifications higher than NCEA Level 1 increased sharply between 2002 and 2003, from 39 percent to 45 percent. Among Pacific school leavers, the proportion with higher qualifications increased from 54 percent in 2002 to 59 percent in 2003. However, these improved outcomes for Māori and Pacific students had little effect on ethnic differences in school attainment because there were also increases in the proportion of European and Asian school leavers with higher qualifications between 2002 and 2003 (from 68 to 72 percent for Europeans and from 84 to 86 percent for Asians).

There is also a substantial difference between ethnic groups in the proportions leaving school with Bursary or similar higher qualifications. In 2003, 4 percent of Māori and Pacific school leavers gained an A or B Bursary or National Certificate at Level 3 or above, compared with 23 percent of European and 42 percent of Asian school leavers. There has been little change in these proportions over the decade to 2003.

Table K2.2 **Proportion (%) of school leavers with higher qualifications, by ethnic group, selected years, 1991–2003**

	European	Māori	Pacific	Asian	Other	Total
Sixth Form Certificate/ NCEA Level 2 or higher						
1991	na	37.4	52.2	na	na	66.3
1996	68.9	37.4	53.7	81.5	60.0	62.7
2001	68.5	40.6	54.7	84.7	63.7	63.6
2002	68.4	38.9	53.5	84.4	67.7	63.3
2003	71.6	45.0	58.9	86.4	70.7	67.1
Bursary or higher						
1991	na	5.1	7.4	na	na	22.3
1996	23.7	4.1	5.8	41.7	18.8	19.9
2001	21.2	4.0	4.7	42.2	20.5	18.4
2002	22.2	3.9	4.2	41.3	21.1	19.1
2003	22.7	4.5	4.4	41.9	20.4	19.7

Source: Ministry of Education

Notes: [1] Bursary or higher includes: A or B Bursary, Scholarship (to 1989) and National Certificate Level 3 or above (from 1996)
[2] Sixth Form Certificate/NCEA Level 2 or higher includes Higher School Certificate and Entrance Qualification

SOCIO-ECONOMIC DIFFERENCES

Young people from schools that draw their students from low socio-economic communities are less likely than other young people to attain higher school qualifications. In 2003, only 52 percent of school leavers from decile 1–3 schools (in the most disadvantaged communities) attained NCEA Level 2 or higher qualifications, compared with 64 percent of those leaving decile 4–7 schools and 79 percent of those leaving decile 8–10 schools.

Educational attainment of the adult population

DEFINITION

The proportion of adults aged 25–64 years with educational attainment of at least upper secondary school level.

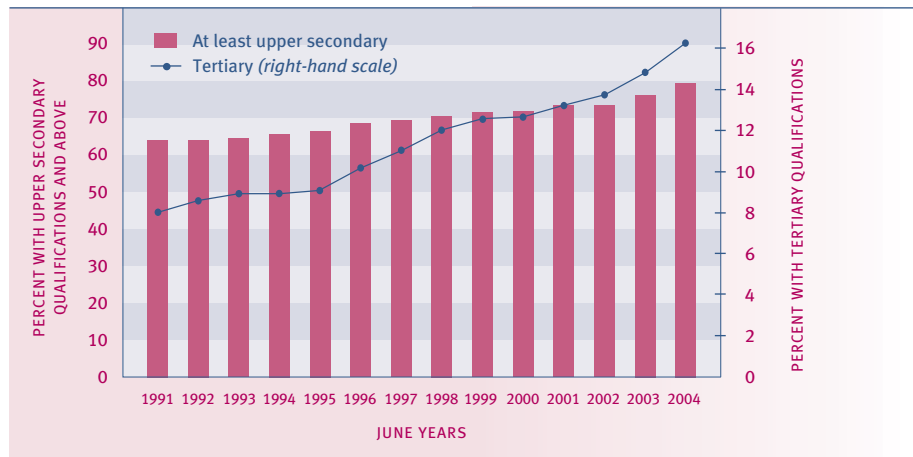
RELEVANCE

The educational attainment of the adult population is an indicator of the skills available in the economy. The level of formal educational qualifications in the population is a commonly used proxy for the stock of “human capital”, ie the skills available in the population and labour force.

CURRENT LEVEL AND TRENDS

In the year ended June 2004, 79 percent of the population aged 25–64 years (1.7 million people) had attained an educational qualification of upper secondary level or above. This proportion has steadily increased from 64 percent in 1991. Over the same period the proportion of adults with a bachelor’s degree or higher qualification has risen from 8 percent to 16 percent (338,000). While some of the increase is due to adults gaining additional qualifications, most of the upward trend is due to new entrants to the 25–64 age group (young people and migrants) being better qualified on average than people reaching retirement age.

Figure K3.1 **Proportion of adults aged 25–64 with educational achievement of at least upper secondary level and tertiary level, 1991–2004**



Source: Statistics New Zealand, Household Labour Force Survey (1991–2004)
 Note: Tertiary equals bachelor’s degree or higher

AGE AND SEX DIFFERENCES

Younger adults aged 25–34 years are much more likely to have at least upper secondary school qualifications than adults aged 55–64 (86 percent, compared to 67 percent). Similarly, young adults are more likely than older people to have tertiary qualifications (21 percent, compared to 9 percent).

Sex differences in educational attainment have narrowed over time. In 2004, women were more likely than men to have higher educational qualifications at ages 25–34. In contrast, at older ages men are much more likely than women to have higher educational qualifications.

Table K3.1 Proportion (%) of population aged 25–64 with higher qualifications, by age and sex, 2004

	25–34	35–44	45–54	55–64	Total 25–64
At least upper secondary					
Males	85.4	82.1	79.7	71.5	80.3
Females	86.9	82.6	76.5	63.1	78.6
Total	86.1	82.4	78.1	67.3	79.4
Tertiary					
Males	20.0	19.3	16.4	11.9	17.3
Females	22.8	15.7	13.1	7.1	15.3
Total	21.4	17.5	14.7	9.5	16.3

Source: Statistics New Zealand, Household Labour Force Survey (2004)

Note: Tertiary equals bachelor's degree or higher

ETHNIC DIFFERENCES

Māori and Pacific adults are much less likely than European and “Other” ethnic groups to have higher qualifications. In the year ended June 2004, 65 percent of Māori and 70 percent of Pacific adults aged 25–64 held at least upper secondary qualifications, compared to 81 percent of Europeans. Similarly, just 6 percent of Māori and 7 percent of Pacific adults held a tertiary qualification at bachelor's degree level or above, compared to 16 percent of Europeans. However, since 1991, growth in the proportion of adults with at least upper secondary qualifications was faster among Māori and Pacific adults than among Europeans.

Table K3.2 Proportion (%) of population aged 25–64 with higher qualifications, by ethnic group, selected years, 1991–2004

	European	Māori	Pacific	Other	Total
At least upper secondary					
1991	67.9	41.0	30.4	58.4	64.0
1996	72.8	48.1	38.5	60.2	68.6
2001	77.0	58.6	56.2	66.2	73.4
2004	81.1	64.9	69.8	86.7	79.4
Tertiary					
1991	8.4	1.3	..s	19.6	8.0
1996	10.4	2.4	2.1	27.2	10.2
2001	13.2	4.7	5.3	30.6	13.2
2004	15.8	6.1	7.2	37.3	16.3

Source: Statistics New Zealand, Household Labour Force Survey (1991–2004)

Notes: [1] “Other” in this data includes the Asian population [2] Tertiary equals bachelor's degree or higher

[3] ..s equals sampling error too high for publication

REGIONAL DIFFERENCES

Regional variations in the proportion of adults with higher qualifications reflect in part the location of tertiary education institutions and tertiary sector employment. In 2004, Auckland and Wellington had the highest proportion of adults with tertiary qualifications (22 percent) and Southland had the lowest proportion (5 percent).

INTERNATIONAL COMPARISON

In 2002, 76 percent of New Zealand adults had at least upper secondary level qualifications, compared with an OECD median of 69 percent.⁴⁰ New Zealand ranked 12th out of 30 OECD countries. New Zealand ranked 16th in the proportion of adults who have completed tertiary qualifications to bachelor's degree or higher, with a rate of 15 percent (the same as the OECD median). Countries which had higher proportions of adults with tertiary qualifications at this level included the United States (29 percent – the highest rate), Canada (21 percent), Australia (20 percent), and the United Kingdom (19 percent).

Adult literacy skills in English

DEFINITION

The proportion of the population aged 16–65 with literacy skills in English (defined as prose, document and quantitative skills at Level 3 or above), as measured in the 1996 International Adult Literacy Survey (IALS). Level 3 is a “suitable minimum for coping with the demands of everyday life and work in a complex, advanced society. It denotes roughly the skill level required for successful secondary school completion and college entry”.⁴¹ Prose literacy is the ability to understand and use information from texts, including editorials, news stories, brochures and instruction materials. Document literacy is the ability to locate and use information contained in formats, including maps, tables and job application forms. Quantitative literacy is the ability to apply arithmetic operations to numbers embedded in printed materials, such as balancing a chequebook or completing an order form.

RELEVANCE

The increasing complexity of our society and the need for a more flexible and highly educated workforce mean that individuals need to be able to understand and apply information of varying difficulty from a range of sources to function effectively at work and in everyday life. The IALS was designed to measure adult literacy skills in English by assessing proficiency levels, using test materials derived from specific contexts within countries.

CURRENT LEVEL

Results from the first international literacy survey in 1996 show that 54 percent of New Zealand’s population aged 16–65 had prose literacy skills at Level 3 or above, 50 percent had document skills at Level 3 or above and 51 percent had quantitative skills at Level 3 or above.

Figure K4.1 Proportion of adults aged 16–65 years with higher literacy skills, by age, 1996



Source: Ministry of Education (2001b)

AGE DIFFERENCES

Across all three domains, the proportion of people with literacy skills at Level 3 or above was broadly similar for people aged 16–49 but then declined with age for people aged over 50. Poorer literacy levels among those aged over 50 may be due either to differences in the education received by older people or to a decline in these skills as people age.

SEX DIFFERENCES

Women performed better than men in prose literacy (58 percent at Level 3 or above compared with 50 percent for men). The reverse was true in respect of quantitative skills: 55 percent of men had quantitative literacy skills at Level 3 or above, compared with 47 percent of women. Differences between men and women in respect of document literacy skills at those levels were negligible.

ETHNIC DIFFERENCES

Across all three domains, over half of all Europeans had literacy skills at Level 3 or above. Pacific peoples consistently had the smallest proportions at this level (less than a third in each domain). Māori had a larger proportion than other non-European ethnic groups in prose literacy at Level 3 or above but a smaller proportion in the document and quantitative literacy domains. Among Māori and Pacific adults, there were considerable sex differences favouring males in the document and quantitative domains that were not evident among Europeans. For example, only 18 percent of Pacific females were at Level 3 or above for quantitative literacy compared with 42 percent of Pacific males. The sex disparity was not as great among Māori but was still substantial, with 26 percent of females at Level 3 or above for quantitative literacy compared with 36 percent of males.⁴²

Table K4.1 **Proportion (%) of adults aged 16–65 years with higher level literacy skills (Level 3 or above), 1996**

	Prose literacy	Document literacy	Quantitative literacy
European	61	56	57
Māori	36	30	30
Pacific	27	25	28
Other	32	34	37
Total	54	50	51

Source: Ministry of Education (2001b); OECD (2000a)

INTERNATIONAL COMPARISON

New Zealand's prose literacy rate of 54.2 percent was close to the OECD median of 53.5 percent, and placed New Zealand seventh out of 17 OECD countries.⁴³ The top prose literacy performer in the OECD was Sweden with 72.1 percent. Outcomes for other countries included Canada 57.8 percent, Australia 55.8 percent, the United States 53.5 percent and the United Kingdom 47.9 percent. New Zealand had a document literacy score of 49.5 percent, slightly lower than the OECD median of 52.9 percent. This placed New Zealand 13th in the OECD for document literacy. Scores for other countries included Canada 57.2 percent, Australia 55.1 percent, the United States 50.4 percent and the United Kingdom 49.6 percent. Concerning quantitative literacy, New Zealand scored 50.6 percent. This was significantly lower than the OECD median of 57.0 percent and ranked New Zealand at 12th place. Other countries' outcomes included Canada 57.0 percent, Australia 56.8 percent, the United States 53.8 percent and the United Kingdom 49.0 percent.⁴⁴

Participation in tertiary education

DEFINITION

The proportion of the population aged 15 and over enrolled on 31 July in formal tertiary education leading to a recognised New Zealand qualification. Tertiary education providers include public institutions (universities, polytechnics, colleges of education, wānanga), and private tertiary education providers receiving government funding or approval, or registered with the New Zealand Qualifications Authority. Qualifications range from certificates and diplomas to bachelor and post-graduate degrees.

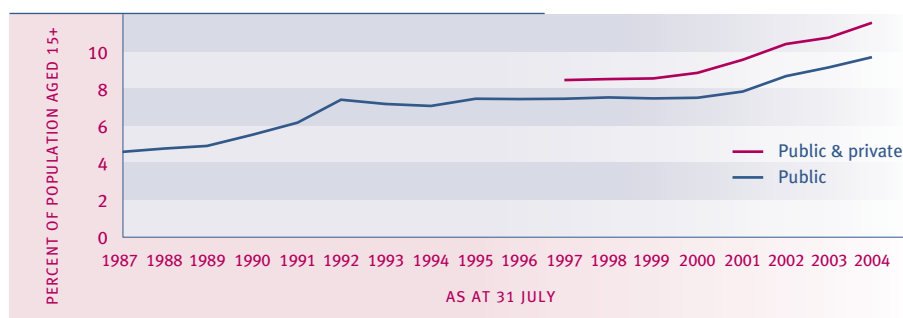
RELEVANCE

The acquisition of a tertiary qualification provides individuals with skills and knowledge that allow them to participate in society and in the economy.

CURRENT LEVEL AND TRENDS

In July 2004, 12 percent of the population aged 15 and over (368,000 people) were enrolled in formal tertiary education, an increase from 11 percent (337,000 people) in 2003. Long-term trend data is only available for public tertiary education institutions. In 1986, 4 percent of the population aged 15 and over were enrolled in public tertiary education, compared to 10 percent in July 2004.

Figure K5.1 Tertiary education participation rate, 1987–2004



Source: Ministry of Education; Ministry of Social Development

Enrolments for courses that lead to qualifications below the level of a bachelor's degree have risen faster than enrolments at degree level or above in recent years. In July 2004, 7 percent of the population aged 15 and over were enrolled in sub-degree tertiary education courses, an increase from 3 percent in 1994. In comparison, 5 percent of the population were enrolled in degree and post-graduate courses in 2004, a rise from 4 percent in 1994.

AGE AND SEX DIFFERENCES

Tertiary education participation is highest among 18–24 year olds. Recent increases in tertiary participation rates have been greatest at ages 25 and over, while the participation rate for those under 18 years has fluctuated.

Women are increasingly more likely than men to participate in tertiary study at ages 18 and over. The difference is greatest in the high-incidence age group of 18–24 year olds, where the difference in male and female rates of participation increased from one to eight percentage points between 1994 and 2004. There is little difference between males and females in the level of tertiary study at which they are enrolled. Of all tertiary students enrolled in mid-2004, 35 percent of

students of both sexes were enrolled in degree courses and 8 percent were enrolled in post-graduate courses.

Table K5.1 **Tertiary participation rates (%), by age and sex, selected years, 1994–2004**

Sex, year	15–17 years	18–24 years	25–39 years	40+ years	Total
Males					
1994	4.4	25.7	6.5	1.6	6.8
1996	4.7	26.3	7.0	1.7	7.0
2001	9.0	32.7	9.1	2.4	8.5
2004	9.0	34.5	11.0	3.5	9.9
Females					
1994	3.6	26.6	7.2	2.4	7.3
1996	4.6	28.4	8.3	2.7	7.9
2001	8.5	37.3	12.4	4.0	10.6
2004	8.3	42.4	16.0	5.9	13.1

Source: Ministry of Education; Ministry of Social Development

Note: From 1997 includes participation in both public and private tertiary education institutions

ETHNIC DIFFERENCES

Māori participation in tertiary education has increased sharply in recent years. In July 2004, the age-standardised tertiary education participation rate for Māori was 16 percent, almost double the rate in 1999 (9 percent). In comparison, non-Māori participation increased from 9 percent in 1999 to 11 percent in 2004. The age-standardised rate has been higher for Māori than for non-Māori since 2001.⁴⁵

Māori participation in tertiary education is higher than non-Māori participation among those under 18 and over 25, but considerably lower than non-Māori participation at the core tertiary education ages of 18–24 years. However, participation in this age group has been growing. In 2004, 27 percent of Māori aged 18–24 were enrolled in tertiary education, compared with 20 percent in 1999. The non-Māori participation rate at 18–24 years was 35 percent in 1999 and 41 percent in 2004.

Table K5.2 **Tertiary participation rates (%), by age and sex, Māori and non-Māori, 2004**

Age group	Māori %			Non-Māori %		
	Male	Female	Total	Male	Female	Total
15–17	12.0	13.3	12.6	8.2	6.9	7.5
18–24	20.0	34.5	27.3	37.5	44.1	40.7
25–39	13.0	26.0	19.8	10.6	14.1	12.4
40+	8.0	16.0	12.2	3.0	4.9	4.0
Total	12.3	22.3	17.5	9.6	11.8	10.7

Source: Ministry of Education; Ministry of Social Development

There are marked ethnic differences in the level at which tertiary students are enrolled, with Māori and Pacific students being less likely to be enrolled in degree-level courses than students from European, Asian or “Other” ethnic groups.

INTERNATIONAL COMPARISON

There are currently no robust measures of tertiary participation across OECD countries. Some indication of New Zealand’s relative standing can be gained from the proportion of the population enrolled in education at various ages. Taking the 20–29 year age group, who are more likely to be enrolled in tertiary than secondary education, in 2002, New Zealand ranked 12th out of 27 countries with a rate of 25 percent – the same as the OECD median. The New Zealand rate was about the same as that of the United States but below the rates for Australia (33 percent) and the United Kingdom (27 percent).⁴⁶