

## The Social Report 2002

te purongo oranga tangata 2002

[Introduction](#)[Health](#)[Knowledge and Skills](#)[Safety and Security](#)[Paid Work](#)[Human Rights](#)[Culture and Identity](#)[Economic Standard of Living](#)[Social Connectedness](#)[The Environment](#)[Summary](#)[Notes and References](#)

# Knowledge and Skills

## OUTCOMES

All have the knowledge and skills that provide the opportunity to participate fully in society. Lifelong learning and education are valued and supported. New Zealanders have the necessary skills to participate in a knowledge society and to become global citizens.

## INTRODUCTION

The knowledge and skills people gain as children and throughout adult life influence the opportunities available to them and their ability to participate in all facets of life. Learning often relates directly to employment decisions and affects career choices, incomes and the economic standard of living people are able to enjoy. Evidence shows those with relatively few educational qualifications are more likely to be unemployed and, on average, have lower incomes when in work.

Knowledge and skills also affect people's opportunities to participate in other aspects of society. For example, people's knowledge of their own and others' cultures and histories plays a crucial part in developing a sense of self and a shared sense of community and in how they interact with others. For many, the process of learning itself brings enjoyment and contributes to well-being.

The indicators chosen in this chapter are based on measures commonly used internationally to describe the state of a society's acquisition of knowledge and skills. They relate to critical points at different life stages. The first indicator, participation in early childhood education, is important because of the evidence linking high quality early childhood education to childhood development and subsequent outcomes. The next indicator is the level of qualifications achieved by those leaving the secondary school system. This plays a central role in determining both successful integration into the world of work and access to and achievement in tertiary education. The third indicator looks at trends in the overall level of qualifications within the population aged 25-64 years. Changes in this measure are influenced by the number of people continuing to gain qualifications during their adult life and by the inflows of young people and new migrants into the working age group. The next indicator focuses on a specific area of skills - adult literacy in English. A good level of literacy in English, including numeracy and the ability to use and interpret documents and tables, is becoming increasingly important in the workplace and in everyday life. The final indicator measures participation in tertiary education, an important indicator of skill and knowledge acquisition.

## KEY POINTS

- **Participation in early childhood education** has been rising steadily over the last 15 years and is high by international standards. Currently most (88 per cent) of new entrants at school have attended some form of early childhood education but Maori and Pacific new entrants are less likely to have done so than European children.
- In 2000, 64 per cent of school leavers left school with Sixth Form Certificate or a higher qualification. This proportion has remained fairly constant throughout the 1990s, after having risen from less than 50 per cent in 1986. Maori and Pacific students fare less well than others, with just 40 per cent of Maori school leavers and 55 per cent of Pacific school leavers attaining Sixth Form Certificate or higher.
- **The level of educational attainment among the population aged 25-64** has been rising steadily. Seventy-three per cent of this group have qualifications at upper secondary level or higher, while 13 per cent have a university bachelor's degree qualification or higher.

## In This Section...

## CONTENTS

- [Participation in early childhood education](#)
- [School leavers with higher qualifications](#)
- [Educational attainment of the adult population](#)
- [Adult literacy skills in English](#)
- [Participation in tertiary education](#)

## FOR COMPARISON

- [The Big Cities project](#)

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- Approximately half the adult population has **literacy** levels in English at or above the level needed to meet complex demands of work and life in the knowledge society. New Zealand compares well with other surveyed countries on prose literacy, but is below average on quantitative literacy.
- Levels of **participation in tertiary education** are high by international standards. Ten per cent of the population aged 16 and over participate in tertiary education, with over one-quarter of the 16-24 age group enrolled in a tertiary institution. Females have a higher participation rate than men and this is growing at a faster rate.

## SUMMARY

The knowledge and skills indicators show a mixed picture. Early childhood education participation is high and has been rising. New Zealand is unique in this area in that it is the only country that has a formal curriculum for early childhood education. The curriculum, Te Whariki, was established in 1996<sup>22</sup>.

The overall level of qualifications within the adult population aged 25-64 is also rising slowly, in terms of the proportion with higher school qualifications (or an equivalent) and with a university bachelor's degree or higher.

Less positively, approximately one-third of school leavers still leave school without Sixth Form Certificate or a higher qualification. Increasingly, achieving higher school qualifications is a necessary prerequisite for further education and training and for entering many jobs. It is of concern that the proportion of students with higher qualifications is not showing a sustained rate of growth.

The International Adult Literacy Survey shows the need for considerable improvements in literacy levels in English, particularly in relation to quantitative literacy.

The indicators all show significant differences in formal educational qualifications and attainment between ethnic groups. While there has been some narrowing of the gaps, both Maori and Pacific peoples have, on average, fewer formal qualifications than do other ethnic groups. This is true for both the adult population and young people leaving the education system.

 [Back to Top](#)

## Participation in early childhood education

### DEFINITION

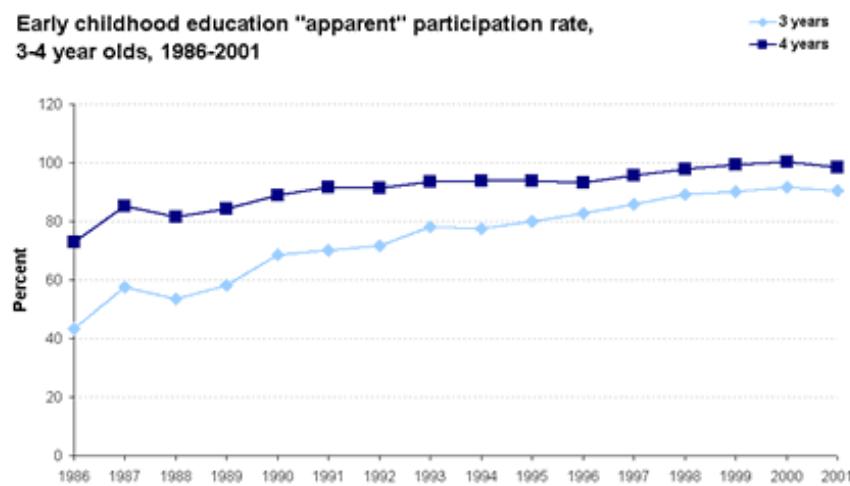
The number of enrolments of children aged three and four years in early childhood centres or home-based education programmes as a proportion of all three and four year olds. The measure includes all forms of organised and sustained centre and home-based programmes designed to foster learning and emotional and social development in children. The measure overestimates participation because children enrolled in more than one early childhood centre will be double-counted.

### 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. Quality early childhood programmes prepare young children socially and academically for entry into primary education and can help narrow the achievement gap separating low-income children from more advantaged children.

### CURRENT LEVEL AND TRENDS

As at 1 July 2001, the "apparent" early childhood education participation rate for three-year-olds was 91 percent and for four-year-olds it was 99 percent. This was an increase from 43 per cent and 73 per cent 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.



Source: Ministry of Education

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

A new measure of early childhood education participation data, which avoids the problem of double counting through children attending multiple programmes at the same time, comes from information collected when children are in Year One at school. This shows that, as at July 2001, 88 per cent of all Year One students had attended some of early childhood education service before starting school. This compares with 86 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: 94 per cent compared with 82 per cent of Maori and 73 per cent of Pacific Year One students in 2001.

Table K1.1, Early Childhood Education Attendance by Year One Students By ethnic group, 1 July 2001

	NZ European / Pakeha	Maori	Pacific	Asian	Other	TOTAL
2000	92	79	69	83	75	86.3
2001	94	82	73	85	78	88.2

Source: Ministry of Education

## PARTICIPATION BY TYPE OF EARLY CHILDHOOD EDUCATION SERVICE

Kindergartens are still the most widely used form of early childhood education service for three- to four-year-olds, accounting for around 41 per cent of all enrolments in 2001. Childcare centres cater for another large group (38 per cent), with much smaller proportions in Playcentres (6 per cent) and kohanga reo (5 per cent). Among children under three years attending early childhood education programmes, childcare services account for half of all enrolments (51 per cent), with playgroups (17 per cent) and

playcentres (13 per cent) the next most widely used.

## INTERNATIONAL COMPARISON

Compared with other countries, participation in early childhood education is high in New Zealand. In 1999, New Zealand ranked sixth out of 29 OECD countries in the proportion of under five-year-olds enrolled in early childhood education programmes , behind Iceland, Belgium, France, Italy and Spain.

↑ [Back to Top](#)

## School leavers with higher qualifications

### DEFINITION

Proportion of secondary school leavers who leave school with Sixth Form Certificate in at least one subject, or with a higher qualification.

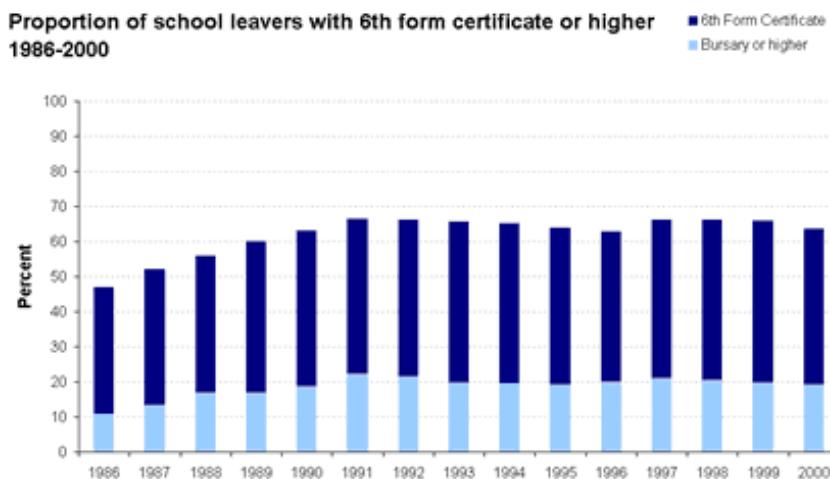
### RELEVANCE

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 much greater risk of unemployment or vulnerability in the labour force and of having low incomes.

### CURRENT LEVEL AND TRENDS

In 2000, 64 percent of school leavers (or 35,000) left school with at least Sixth Form Certificate. This proportion has increased considerably from 47 per cent in 1986. However, after increasing in the late 1980s, the proportion has changed little over the decade to 2000 falling between 63 percent and 66 percent. This may have been due to the increasing range of post-school training opportunities available through polytechnics and private training establishments. The upward trend in the late 1980s is also likely to have been caused partly by the declining number of job opportunities during that period.

The proportion of school leavers attaining an A or B Bursary or Scholarship also increased during the period 1986 to 1991 and remained around 19-22 per cent over the past decade.



Source: Ministry of Education. Note: Bursary or higher includes A or B Bursary, Scholarship (to 1989) and National Certificate Level 3 or above (from 1996).

## GENDER DIFFERENCES

In 2000, 68 percent of female school leavers had Sixth Form Certificate or higher qualifications compared to 60 percent of males. Since 1986, the proportion of school leavers with at least Sixth Form Certificate has improved at a faster rate for females than for males.

Table K2.1 Proportion of school leavers with higher qualifications, by gender, selected years, 1986-2000

	6th Form Cert. 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
1999	61.9	70.2	17.2	22.5
2000	60.0	67.6	17.1	21.5

Source: Ministry of Education Note: Bursary or higher includes A or B Bursary, Scholarship (to 1989) and National Certificate Level 3 or above (from 1996).

## ETHNIC DIFFERENCES

In 2000, 40 percent of Maori school leavers and 55 percent of Pacific school leavers attained Sixth Form Certificate or a higher qualification. This compares to 68 percent for European/Pakeha students and a significantly higher rate of 84 percent for Asian students. While the proportion of Maori leaving school with higher qualifications has been increasing faster than the average, Maori still lag considerably behind other groups in the qualifications they attain at school.

There is also a substantial difference between ethnic groups in the proportions leaving school with Bursary or similar higher qualifications. In 2000, 3.9 percent of Maori and 5.2 percent of Pacific school leavers gained an A or B Bursary or National Certificate at Level 3 or above, compared with 19.2 percent of all school leavers. These proportions did not change significantly between 1991 and 1999, except for some decrease in the proportion of Pacific students gaining these higher qualifications.

Table K2.2: Proportion of school leavers with higher qualifications, by ethnic group, 1991, 1996, 1999, 2000

	European	Maori	Pacific	Asian	Other	Total
<b>6th Form Cert. or higher</b>						
1991	na	37.4	52.2	na	na	66.3
1996	68.9	37.4	53.7	81.5	60.0	62.7
1999	71.3	43.0	53.8	84.9	66.8	66.0
2000	68.3	40.1	54.6	83.5	66.0	63.7
<b>Bursary or higher</b>						
1991	na	5.1	7.4	na	na	22.3
1996	23.7	4.1	5.8	41.7	18.8	19.9
1999	22.7	4.5	4.2	44.2	23.8	19.8

<b>2000</b>	21.9	3.9	5.2	42.0	23.4	19.2
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Source: Ministry of Education. Note: Bursary or higher includes A or B Bursary, Scholarship (to 1989) and National Certificate Level 3 or above (from 1996). 1996 and 1999 figures for Europeans, Bursary or higher, have been revised.

↑ [Back to Top](#)

## Educational attainment of the adult population

### DEFINITION

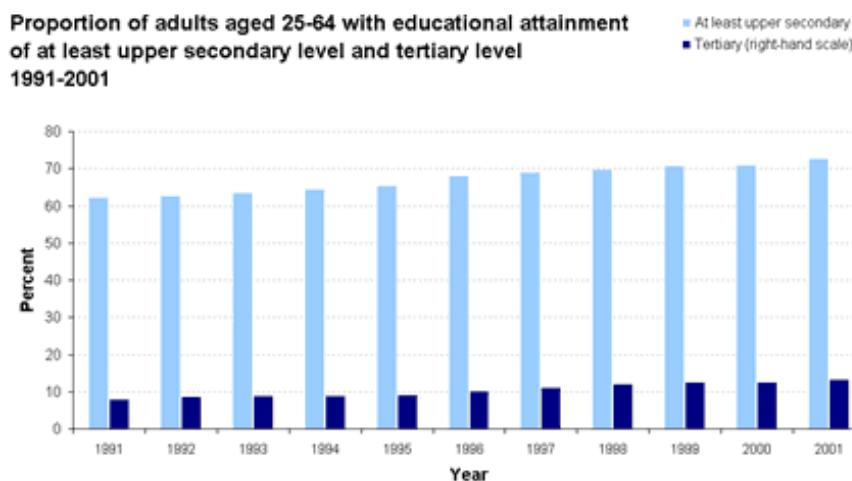
The proportion of adults aged 25-64 years with educational attainment of at least upper secondary school level.

### RELEVANCE

The educational attainment of the adult population is an important 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", that is, the skills available in the population and labour force. Ideally such a measure would include the skills and competencies people gain through work and daily life but for which they have no formal qualification. Currently no such data exists.

### CURRENT LEVEL AND TRENDS

In the year ended June 2001, 72.7 percent of the population aged 25-64 years had attained an educational qualification of upper secondary level or above. This proportion has steadily increased from 62.3 percent in 1991. Over the same period the proportion of adults with a bachelor's degree or higher qualification has risen from 8.0 percent to 13.2 percent. 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.



Source: Statistics New Zealand, Household Labour Force Survey  
Note: Tertiary = Bachelor's degree or higher

### AGE AND GENDER DIFFERENCES

Younger adults aged 25-34 years are much more likely to have at least upper secondary school qualifications than adults aged 55-64 (79.5 percent, compared to 57.4 percent). Similarly, young adults are more likely than older people to have tertiary qualifications (16.2 percent, compared to 6.7 percent).

Gender differences in educational attainment have narrowed over time. At ages 25-34, the proportions of men and women with higher qualifications are similar. In contrast, at older ages men are much more likely than women to have higher educational qualifications.

Table K3.1: Population aged 25-64 by level of qualification, age and gender, 2001

	25-34	35-44	45-54	55-64	Total 25-64
<b>At least upper secondary</b>					
<b>Males</b>	79.9	77.6	73.9	62.9	74.7
<b>Females</b>	79.0	75.5	69.0	52.0	70.9
<b>Total</b>	79.5	76.5	71.4	57.4	72.7
<b>Tertiary</b>					
<b>Males</b>	16.4	15.7	15.3	9.6	14.7
<b>Females</b>	15.9	12.6	11.5	3.9	11.8
<b>Total</b>	16.2	14.1	13.4	6.7	13.2

Source: Statistics New Zealand, Household Labour Force Survey

Note: Tertiary = Bachelor's degree or higher

## ETHNIC DIFFERENCES

Maori and Pacific adults are much less likely than European and other ethnic groups to have higher qualifications. In the year ended June 2001, 58 percent of Maori and 53 percent of Pacific adults aged 25-64 held upper secondary qualifications, compared to three-quarters of Europeans. Similarly, just five percent of Maori and Pacific adults held a tertiary qualification at bachelor's degree level or above, compared to 13 percent of Europeans. However, since 1991, growth in the proportion of adults with higher qualifications was fastest among Maori and Pacific adults.

The growth in the proportion of Pacific peoples with higher qualifications reflects the increasing proportion of the Pacific population who are born and educated in New Zealand. The relatively high percentage of the "Other" ethnic group with higher qualifications reflects the selective process of immigration, which targets those who meet occupational priority conditions.

Table K3.2: Population aged 25-64 by level of qualification and ethnic group, 1991, 2000, 2001

	European	Maori	Pacific	Other	Total
<b>At least upper secondary</b>					
<b>1991</b>	66.1	39.3	27.9	57.7	62.3
<b>2000</b>	75.1	55.3	47.1	63.8	71.1
<b>2001</b>	76.5	57.6	52.5	65.3	72.7
<b>Tertiary</b>					
<b>1991</b>	8.4	1.3	.s	19.7	8.0
<b>2000</b>	12.6	4.1	4.1	30.8	12.6
<b>2001</b>	13.2	4.7	5.3	30.5	13.2

Source: Statistics New Zealand, Household Labour Force Survey  
Note: .s = sampling error too high for publication; Tertiary = Bachelor's degree or higher

## INTERNATIONAL COMPARISON

In 1999, New Zealand ranked 11th among 28 OECD countries in the proportion of the population aged 25-64 years having at least an upper secondary educational qualification, and 14th among 29 countries in the proportion who have completed tertiary qualifications to Bachelor's degree or higher<sup>27</sup>.

 [Back to Top](#)

## Adult literacy skills in English

### DEFINITION

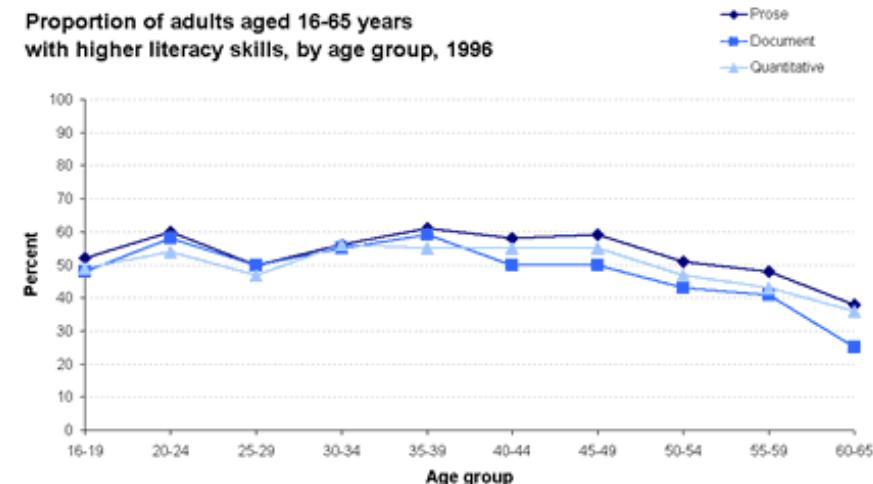
The proportion of the population aged 16-65 with higher literacy skills in English (defined as prose, document and quantitative skills at Level 3 or above), as measured in the 1996 International Adult Literacy Survey (IALS)<sup>28</sup>.

### 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 comprehend and apply information of varying difficulty from a range of sources to function effectively at work and in everyday life. The International Adult Literacy Survey (IALS) was designed to measure adult literacy skills in English by assessing proficiency levels, using test materials derived from specific contexts within countries. IALS Level 3 is the level considered the minimum required for individuals to meet the complex demands of everyday life and work in the emerging knowledge society.

### CURRENT LEVEL (NO TREND DATA AVAILABLE)

Results from the first international literacy survey in 1996 show that 54 per cent of New Zealand's population aged 16-65 had higher level prose literacy skills (Level 3 or above); 51 per cent had higher level document skills, and 50 per cent had higher level quantitative skills.



Source: Walker et al 1997

## AGE DIFFERENCES

Across all three domains the proportion of people with higher level literacy skills 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 over time.

## GENDER DIFFERENCES

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

## ETHNIC DIFFERENCES

Europeans consistently had the largest proportions with higher levels of literacy across all three domains, with a clear majority having skills at Level 3 or above. Pacific peoples consistently had the smallest proportions at this level (less than a third in each domain). Maori had a larger proportion than other non-European ethnic groups in the higher levels of prose literacy but a smaller proportion in the document and quantitative literacy domains.

Table K4.1: Proportion (per cent) of adults aged 16-65 years with higher level literacy skills (Level 3 or above), 1996

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

Source: Walker et al 1997

Among Maori and Pacific adults, there were considerable gender differences favouring males in the document and quantitative domains that were not evident among Europeans. For example, only 18 per cent of Pacific females were at the higher levels of quantitative literacy compared with 42 per cent of Pacific males. The gender disparity was not as great among Maori but was still substantial, with 26 per cent of females at the higher levels of quantitative literacy compared with 36 per cent of males<sup>29</sup>.

## INTERNATIONAL COMPARISON

Of the 13 countries surveyed so far, only two had average prose literacy scores significantly higher than New Zealand's. Five had significantly higher average document literacy scores and eight had significantly higher average quantitative literacy scores.

 [Back to Top](#)

## Participation in tertiary education

## DEFINITION

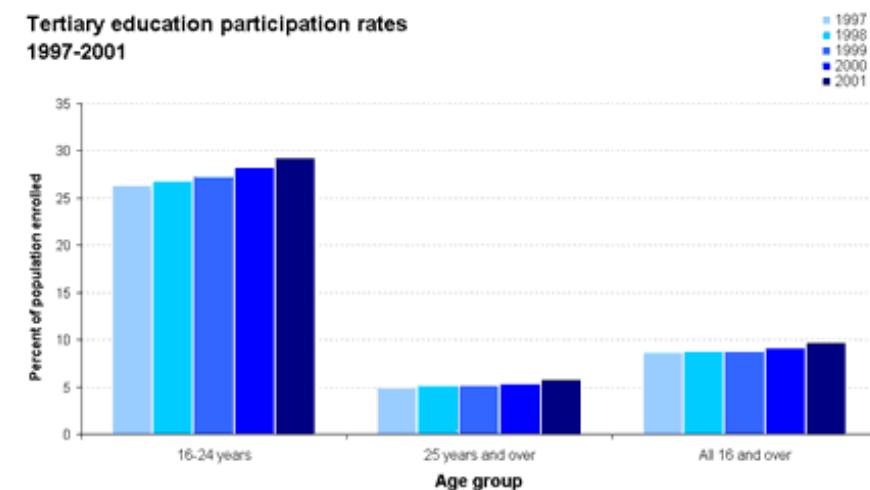
The proportion of the population aged 16 and over studying for a New Zealand registered tertiary qualification. This includes universities, polytechnics, colleges of education, wananga, private training establishments and industry training.

## RELEVANCE

Participation in tertiary education provides individuals with skills and knowledge that allow them to participate in society and the economy.

## CURRENT LEVEL AND TRENDS

In 2001, 9.7 percent of the population over 16 years old was enrolled in tertiary education. The proportion of those aged 16-24 years enrolled in tertiary education was 29.3 percent compared with 5.8 percent for those aged 25 and over. Participation in tertiary education increased in the late 1980s and early 1990s, although growth is now slowing.



Source: Ministry of Education

## AGE AND GENDER DIFFERENCES

Most of the overall increase in participation in tertiary education have resulted from increased participation in the high incidence age group (those aged 16 to 24) whose rates increased from 26.3 per cent in 1997 to 29.3 per cent in 2001. The rate of participation of people aged 25 and over increased from 5 per cent to 5.8 per cent over the same period.

Women are increasingly more likely than men to participate in tertiary study. The period 1997 to 2001 showed a larger increase in tertiary participation for women than for men.

Table K5.2: Trends in Tertiary Education Participation Rates for those Aged 16 and Over, by Gender, 1997- 2001

	1997	2000	2001
<b>Males</b>	8.0%	8.2%	8.6%
<b>Females</b>	9.3%	10.0%	10.7%
<b>All Students</b>	8.7%	9.1%	9.7%

Source: Ministry of Education, Statistics New Zealand  
Note: 1997 figure for all students has been revised

## OTHER DIFFERENCES

Students from schools drawing from lower socio-economic communities are significantly less likely to go on to tertiary education than students from other schools. It is estimated that only 32 per cent of students leaving schools from low socio-economic communities in 1998 (deciles 1-3) were enrolled in tertiary education in 1999. This compared with 71 per cent of students leaving deciles 8-10 schools.

## INTERNATIONAL COMPARISONS

New Zealand has high participation in tertiary education both in absolute terms and relative to other OECD countries. In 1995, New Zealand ranked eighth out of 22 OECD countries in its rate of participation in tertiary education for both women and men.

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 [Back to Top](#)