

# Entering Higher Education in Australia

## Introduction

*LSAY Briefings* is a series produced by the Australian Council for Educational Research (ACER). The aim is to bring summaries of findings from ACER research to a general audience – in an accessible format and language, and identifying some of the implications for policy and further research.

LSAY Briefings draw on data from the Longitudinal Surveys of Australian Youth (LSAY) program, which studies the experiences of young people as they move from school into post-secondary education, training and work. ACER and the Commonwealth Department of Education, Science and Training (DEST) jointly manage the program. Some LSAY reports published by ACER, on which this paper is based, are listed at the end of the paper.

## Patterns of participation – background

One of the most significant changes in Australian education during the last two decades has been the increase in the percentage of students who complete secondary school – rising from 35 per cent in 1980 to just over 73 per cent in 2001 (following a peak of 77 per cent in 1993). Partly as a flow-on from this, there has been a similar increase in

participation in higher education. The flow-on was facilitated by an expansion of the number of higher education places in the early 1990s. Total enrolments in bachelor degrees (including overseas students) increased from 210 600 in 1980 through 340 500 in 1990 to 530 730 in 2001 (these data are from the DEST Higher Education Statistics Collection). Even when only non-overseas students are considered, there was a 43 per cent increase in enrolments in bachelor degree courses from 322 570 in 1990 to 460 310 in 2001.

Although higher education enrolments have risen substantially, this does not necessarily mean that there would be greater equity in participation. In its LSAY program, ACER has investigated the participation and achievements of students from a range of social and educational groups. The research has posed questions about who stays on to complete Year 12; how well they perform in Year 12; and who goes on to higher education. Are there some groups that participate more than others? What patterns of participation can we identify, and what factors can we identify that influence this participation?

One issue for consideration is whether the increase in enrolments in higher education has been accompanied by greater equity in participation. LSAY Research Report Number 13 examined participation in education and training over the period from 1980



## Longitudinal Surveys of Australian Youth BRIEFING

### HIGHLIGHTS

- The factor having most effect on participation in Year 12 and entry to higher education is earlier achievement in numeracy and literacy.
- Socioeconomic differences in entry to higher education have been evident over the past 20 years despite a number of changes in the provision of higher education over that time.
- Female students are more likely to continue to final year of secondary school than male students, gain more from those final years of schooling in terms of the achievement outcomes measured in ENTER scores, and have higher participation rates in higher education.
- Differences between schools in educational outcomes need to be explored, in terms of environments that promote higher levels of performance.
- Indigenous students are the most educationally disadvantaged group in terms of entry to higher education, indicating the need for an ongoing focus on research, policy initiatives and support in this area.

to 1994 and covered participation in Year 12, apprenticeships, TAFE and higher education. LSAY Research Report Number 17 examined trends and issues in the patterns of participation in Year 12 and higher education in Australia up to 2000. Together these reports provide a picture of changing patterns over two decades.

## Participation in the final year of secondary school

The traditional entry route for young people into higher education is through Year 12 completion. It is the gateway for most aspirants to higher education, and patterns of access to higher education are similar to patterns of school completion.

Since the Australian Education Council review of post-compulsory education and training in 1992 (known as the Finn Review), there has been a broad commitment in Australia to achieve high levels of participation in Year 12 at school or its equivalent in vocational education and training. That review set a participation target to be achieved by 2001: 95 per cent of 19-year-olds should have participated in Year 12 or an equivalent vocational course. In 2001, the report from the Youth Pathways Action Plan Taskforce reiterated the view that all young people should have the opportunity to complete 12 years of schooling or its vocational equivalent.

In analyses of LSAY data over the period from 1980 to 1998, Year 12 participation was found to be strongly associated with higher levels of earlier school achievement in literacy and numeracy. In addition, these reports found that the students who were more likely to complete Year 12 were female, from higher socioeconomic backgrounds, from language backgrounds other than English, living in urban areas,

and attending a non-government school.

However, over this period of time there have been some changes in the relative strength of these influences. The impacts of family background (parental occupations and education) and type of school have become less marked since the late 1980s. The influence of achievement in literacy and numeracy on participation in Year 12 also declined since the early 1980s. These trends have accompanied an important change in the nature of the senior secondary school years in Australia occurring at a time of changing employment opportunities, increased parental expectations and broadened curriculum offerings in the senior school years.

Participation in Year 12 has been higher for females than males since 1976. Between 1981 and 1991, the gap in participation rates widened from six to 11 percentage points during a period of overall increasing participation. Since 1991, the overall participation rate has declined, but the gap between male and female participation has remained around 11 percentage points. The higher Year 12 participation rates among females compared to males are partly compensated by higher rates of participation among males in vocational education.

## From school to higher education

Forty-one per cent of the LSAY cohort that participated in Year 12 in 1998 entered higher education in 1999 and an additional six per cent entered higher education one year later in 2000. This means that some 47 per cent of this Year 12 cohort had participated in higher education within two years after completing Year 12. This transfer rate has been remarkably constant across the LSAY cohorts from 1980 to 2000 and for the years 1994 and 2000

corresponds closely to transfer rates estimated from official statistics. Of course some who entered higher education in 1999 discontinued their studies: five per cent of the Year 12 cohort who entered university in 1999 discontinued their university studies at or before the end of their first year.

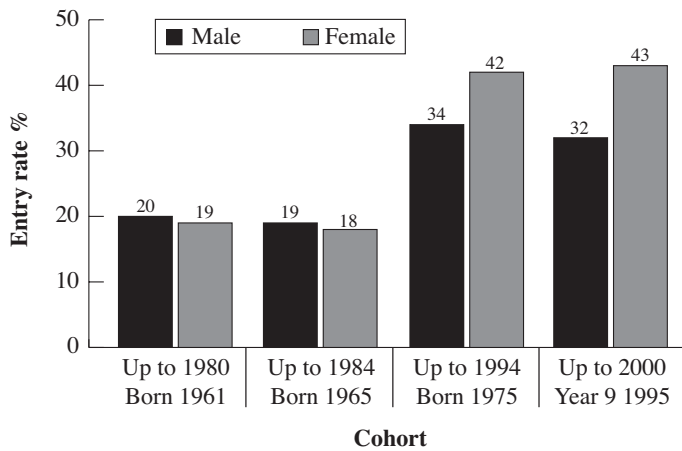
Over two decades there has been steady growth in the relative participation of young women in higher education. The DEST Higher Education Statistics Collection shows that the percentage of bachelor degree students who were female has increased from 41 per cent in 1979 to 57 per cent in 2001. In 1991 the balance exceeded 50 per cent for the first time.

## Who enters higher education

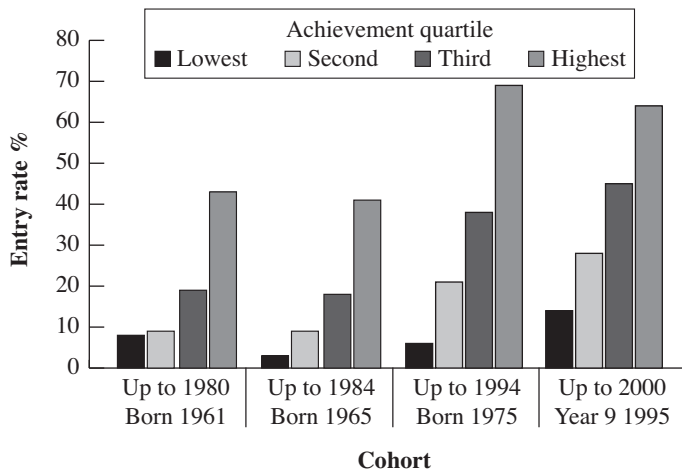
What is the relationship between student participation in Year 12 and patterns of entry to higher education? The LSAY Research Reports found that students from the groups identified as more likely to complete Year 12 were also those who were more likely to participate in higher education: those with high levels of earlier school achievement; females; those from higher socioeconomic backgrounds; those from language backgrounds other than English; those from urban locations; and those from non-government schools.

LSAY reports document changes in the percentage of males and females in each cohort that enter higher education after completing school – by 2000 the gap had reached around ten percentage points in favour of females (see Figure 1). Those LSAY reports also show that by the 1990s this difference was associated partly with the higher proportions of

**Figure 1: Entry rates to higher education by gender**



**Figure 2: Entry rates to higher education by earlier achievement**



females who participate in Year 12 and partly with the higher proportions of females who proceed directly from Year 12 to university. Through the 1980s a smaller percentage of females proceeded from Year 12 to university even though more females than males completed Year 12. From the cohort that was in Year 12 in 1998 some 45 per cent of females, compared with 38 per cent of males, proceeded to university the next year.

From the full sample that was in Year 9 in 1995, 31 per cent entered university immediately following Year 12 at school and 38 per cent

had participated in university within two years of first being in Year 12.

Not surprisingly, there is a strong association between participation in higher education and earlier school achievement (see Figure 2). For the cohort who were in Year 9 in 1995, 64 per cent of those from the top quartile of Year 9 achievement measures entered higher education within two years after Year 12, compared with 14 per cent of those from the lowest achievement quartile. Earlier achievement is the strongest factor associated with entry to higher education. Figure 2 also shows that entry rates to higher

education increased over time for all achievement quartiles.

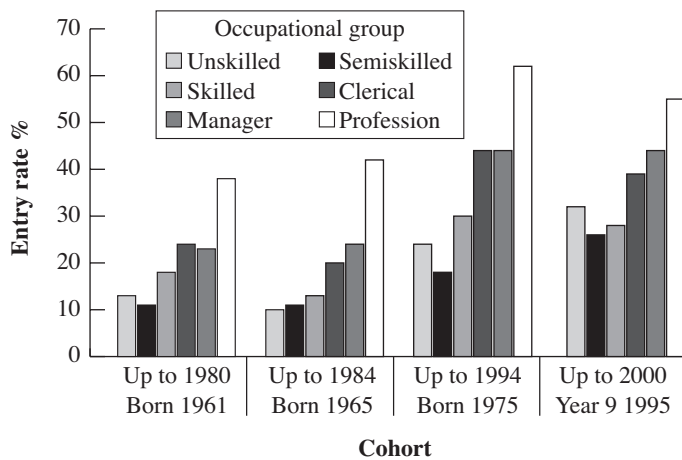
Socioeconomic background also influences entry to higher education. More than half (55 per cent) of those whose parents worked in professional occupations entered university within two years after Year 12 compared with 32 per cent of those whose parents were in unskilled manual occupations (see Figure 3). Multivariate analysis indicates that socioeconomic background influences entry to higher education (and Year 12) both through its association with school achievement and as a direct effect on entry (i.e. after allowing for associated differences in achievement).

Young people from a language background other than English were also more likely to enter university within two years: 49 per cent compared to 34 per cent of those from an English language background.

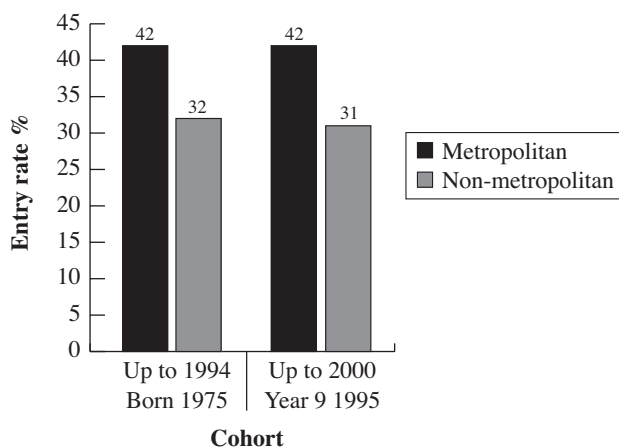
Students from metropolitan home locations were more likely to enter higher education than their peers from non-metropolitan locations. In the year 2000 the figures were 42 per cent compared to 31 per cent (see Figure 4). These outcomes correspond to students' educational expectations expressed when they were in Year 9.

There were differences between school sectors, with 31 per cent of those from government schools, 48 per cent of those from Catholic non-government schools and 59 per cent of those from other non-government schools entering university directly from school. Multivariate analysis indicates that the differences between school sectors remain significant after making a statistical allowance for the influence of other factors.

**Figure 3: Entry rates to higher education by socioeconomic background**



**Figure 4: Entry rates to higher education by home location**



LSAY data confirm that the group suffering most educational disadvantage in terms of participation in higher education is Indigenous students. An estimated 17 per cent of the Indigenous students in the cohort from Year 9 in 1995 participated in university by the year 2000. This figure probably presents an overly favourable perspective, because the sample was drawn from students still at school in Year 9 and present at school on the day of the initial data collection. According to DEST administrative data, Indigenous students made up 1.1 per cent of higher education

students in 1999 compared to 0.9 per cent in 1991. If Indigenous participation in university were proportionate to representation in the relevant age group, the figure would be 2.5 per cent.

## Tertiary entrance performance

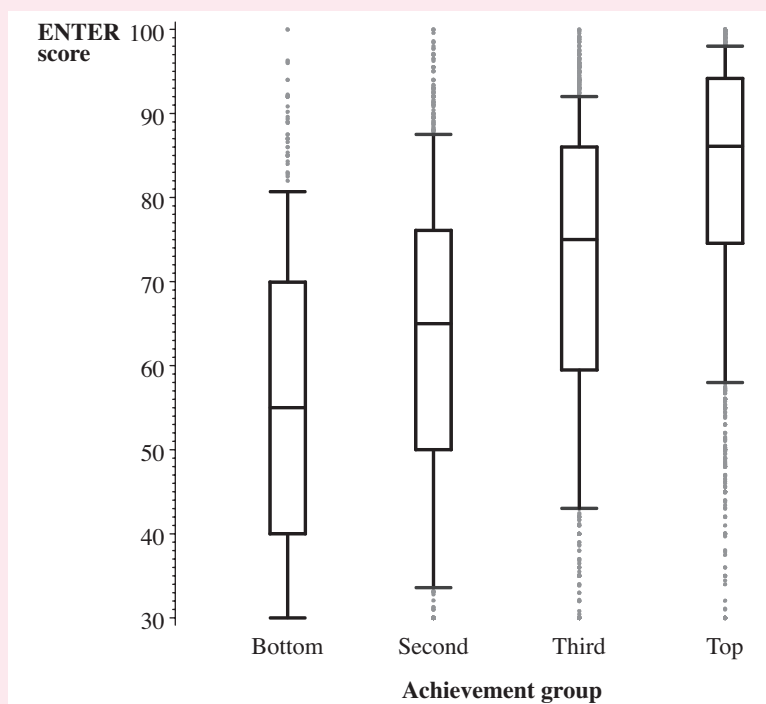
Student performance in senior secondary school is a major factor in determining entry to many courses in higher education. For the purpose of entry to these courses, students' assessments in their Year 12 subjects are scaled to produce an

overall measure of performance that is expressed as a percentile rank: the Equivalent National Tertiary Entrance Rank (ENTER).

Analysis of data from the LSAY cohort that was in Year 9 in 1995 and reached Year 12 in 1998 indicated that the major influences on a student's ENTER score were, in descending order of influence: earlier achievement in literacy and numeracy; the particular school that a student attended, regardless of its sector; socioeconomic background; gender; and home location. Taken together, all the factors identified in the LSAY analysis explain at most 40 per cent of the variation in ENTER scores. Factors such as motivation, perseverance, study habits, interest, enthusiasm and other factors over which students can exercise control can have a substantial effect on performance.

The strongest influence on ENTER scores was Year 9 achievement in literacy and numeracy. This can be seen in Figure 5 in which the distributions of ENTER scores for four groups of students, based on Year 9 achievement, are displayed. For each group the distribution is shown as a 'box-and-whisker plot'. The top of each box indicates the top quartile of ENTER scores for the group (one quarter of the group have ENTER scores greater than this value), the bottom indicates the lowest quartile (one quarter of the group have ENTER scores lower than this value) and the middle represents the median (half the students in the group have ENTER scores greater than this value). The whiskers show that the range of scores extends out further. The strength of association between Year 9 achievement and ENTER scores is indicated by the difference of 25 points between the top quartile of ENTER scores of students in the lowest and highest achievement groups. It is not

**Figure 5: Box and whisker plots of the distribution of ENTER scores by Year 9 achievement.**



surprising that measures of earlier competence in foundation academic skills should correlate with performance on later assessments in largely academic subject areas. However, Figure 5 also shows that there is some overlap in ENTER scores between the achievement groups.

There were differences among schools, accounting for about 20 per cent of the variation in individual student scores. These variations in student scores were partly, but not entirely, associated with differences in the social and academic composition of the schools. Part of the influence of schools was associated with differences between government and non-government schools, but there were greater differences among schools within each sector than between sectors. After making an allowance for differences in the social and academic composition of schools, there was an average difference of six percentage points between government and non-government schools.

Socioeconomic background also influenced tertiary entrance scores. About 12 ENTER points separated the average scores of students from professional backgrounds from the scores of students from manual backgrounds. This influence operated partly through its influence on earlier achievement and partly independently of earlier achievement. In other words, for students of the same level of Year 9 achievement, there was still an influence of socioeconomic background.

The ENTER scores of students with Language Backgrounds Other Than English (LBOTE) were higher than those of other students, especially for students of Asian backgrounds, whose scores were about eight points higher than other students. It is likely that this relates to cultural factors rather than differences in Year 9 achievement or socioeconomic background.

On average, females showed slightly higher ENTER scores than males with the difference being

about three percentile points. Females also showed greater achievement growth than males over the final years of schooling. In other words, the relative difference between males and females in ENTER scores was greater than the difference in Year 9 achievement.

Although most of the preceding discussion has focussed on social and demographic factors, a number of psychological factors also influence tertiary entrance scores. These include both student and parental aspirations and self-concept of ability.

Other things being equal, higher aspirations for university and a stronger self-concept of ability were associated with higher ENTER scores.

## Policy implications

Developing competence and confidence in foundation skill areas of literacy and numeracy appears to be crucial for both continued participation in education and performance in more specific learning areas. Recent emphases on student development in the middle and early years of school are therefore of crucial importance in providing the foundations for entry to higher education.

There remains a need to improve our understanding of school factors that influence student entry to higher education. Analyses of these longitudinal data have indicated that there are differences among schools in educational outcomes. Understanding the clusters of influences that shape those differences may require different research methods, perhaps involving the examination of schools that appear to be more effective.

Differences in participation in higher education associated with social background have remained evident over the period covered by

## The Longitudinal Surveys of Australian Youth

The Longitudinal Surveys of Australian Youth (LSAY) is a research program jointly managed by ACER and the Commonwealth Department of Education, Science and Training (DEST).

The program includes more than 20 years of data on young Australians as they move through school and into tertiary education, the labour market and adult life.

LSAY commenced in its present form in 1995 with a national sample of 13 000 Year 9 students. Another sample of Year 9 students was drawn in 1998. Data is collected by mail and telephone interviews.

Guidance is provided by a Steering Committee, with representatives from DEST, other Commonwealth departments, the Australian Education Systems Officials Committee (AESOC), the Conference of ANTA Chief

Executive Officers, non-government schools, academics and ACER.

The data collected through LSAY are deposited with the Social Science Data Archives for access by other analysts.

Further information on the LSAY program is available from the ACER Website:

[www.acer.edu.au](http://www.acer.edu.au). Reports and other documents are available from the website.

these data, despite changes in overall levels of participation and changes in many of the organisational arrangements in higher education. Some of the social background influences operate over and above the influences that are transmitted through earlier achievement.

The relatively high levels of participation in higher education, and in performance at the end of secondary school, of students of an Asian background suggest that cultural factors may be important in shaping educational outcomes. An understanding of those factors might have implications for the wider population of young people.

## References

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