

Education and labour market outcomes for Indigenous young people

Introduction

Improving outcomes for Indigenous students has been targeted as a national priority across education systems, as has the strengthening of post-school pathways to further education and employment for all students. This reflects findings, such as those reported in the *National Report to Parliament on Indigenous Education and Training*, that Indigenous young people have consistently performed below their non-Indigenous counterparts in education and in the labour market. While there have been some improvements, there are concerns that substantial differences between Indigenous and non-Indigenous Australians remain.⁽⁵⁾

This *Briefing* summarises findings from research based on the 1995 and 1998 LSAY cohorts of Year 9 students, focusing on the Indigenous students in the surveys. There were originally 13 613 members in the 1995 cohort, including 389 Indigenous Australians; and 14 117 in the 1998 cohort, including 458 Indigenous Australians. It should

be noted that sample attrition in LSAY is higher among Indigenous than non-Indigenous young people, resulting in likely overestimation of participation in education and employment. It is also possible that young Indigenous people are more likely to leave school before Year 9. Therefore, the findings summarised here may not apply to all of the Indigenous populations of Australia, but because the surveys follow young people over time, they can provide additional insights into educational and employment outcomes for this group of students that may not be available from other research.

Indigenous Australians in the LSAY samples

Indigenous Australians accounted for approximately 3% of the LSAY samples in both the 1995 and 1998 cohorts. This is slightly above their proportion of the Australian Year 9 population for these two years (2.4% in 1995, 2.7% in 1998)⁽¹⁾, because extra Indigenous students were sampled in both cohorts. In both cohorts,

LSAY Briefings is a series produced by the Australian Council for Educational Research (ACER), drawing on data from the Longitudinal Surveys of Australian Youth (LSAY), a research program managed jointly by ACER and the Australian Government Department of Education,

Science and Training. The aim is to bring summaries of findings from LSAY research to a wider audience. Key LSAY reports on which this paper are based, and related references, are listed at the end of the paper. A superscript number [⁽¹⁰⁾] in the text is used to cite a specific item in the reference list.

Longitudinal Surveys of Australian Youth BRIEFING

HIGHLIGHTS

- **Most Year 9 Indigenous students have a positive perception of school and of themselves, and aspire to complete Year 12 and go on to further education**
- **As a group, Indigenous students have lower Year 9 literacy and numeracy achievement levels than non-Indigenous students**
- **Factors such as Year 9 achievement, socioeconomic status and geographical location influence but do not fully explain lower educational outcomes in later years for Indigenous students**
- **Indigenous school students are less likely to complete Year 12 than non-Indigenous students**
- **Indigenous young people are less likely to go to university than non-Indigenous young people, but participate in vocational education and training at about the same rate**
- **By the age of 22, most Indigenous young people have undertaken some form of further study and are engaged in full-time employment to the same extent as their non-Indigenous counterparts**

Indigenous students were more frequently enrolled in government schools than non-Indigenous students were (see Table 1). They were also much more likely than non-Indigenous students to live in remote parts of Australia and outside the major capital cities (see Figure 1).

Attitudes to and engagement with school

As part of the LSAY program, students in Year 9 are asked about their attitudes to various aspects of schooling. Indigenous students from the 1995 cohort reported that, overall, school was a place where they enjoyed being, the education and skills that they were acquiring would be of use to them beyond school, and their teachers were supportive. There was no

significant difference between their ratings of these aspects of school life and those of non-Indigenous students, although there was a tendency for their ratings to be less positive. Indigenous students were less satisfied than non-Indigenous students with their sense of success at school but to a smaller extent than the measured difference in school achievement.⁽¹³⁾ This suggests that Indigenous students feel less confident about their success at school than is warranted by their actual performance.

These findings are consistent with other research that has found Indigenous students to have a positive attitude towards being at school. For example, Indigenous students who participated in the OECD Programme for International Student Assessment (PISA) survey of 15-year-old students in 2000 had a more

positive sense of belonging at their school than non-Indigenous students, although they reported a less positive assessment of teacher-student relations.⁽⁴⁾

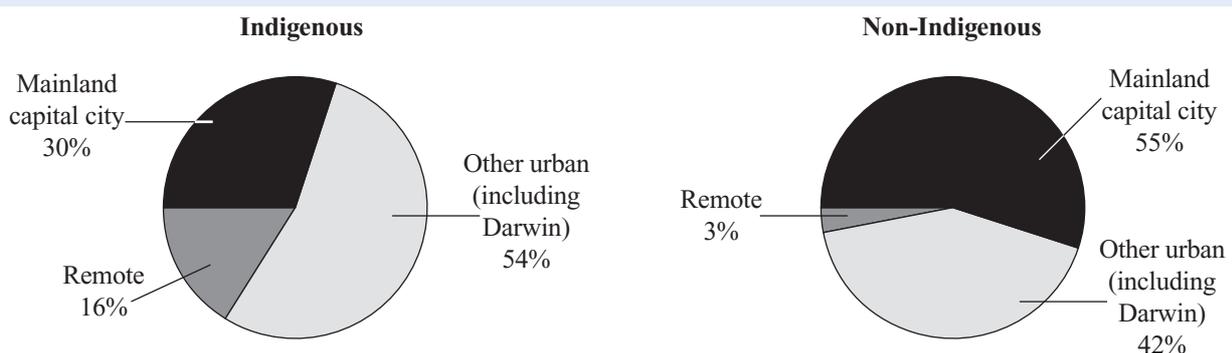
Student engagement, as measured by participation in extracurricular activities offered by the school, can engender a stronger sense of self-worth and resilience as a learner, which has flow-on effects to other parts of the school curriculum. Engagement levels for Indigenous students in the 1998 cohort were higher in schools that had higher overall levels of student engagement, which suggests that school practices can have a positive impact on Indigenous students' engagement. Across all schools, however, Indigenous students tended to be less engaged than non-Indigenous students.⁽⁶⁾

Table 1 Indigenous and non-Indigenous LSAY participants by sector of school attendance in Year 9

School sector	1995 Year 9 Cohort		1998 Year 9 Cohort	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
Government	85%	66%	82%	66%
Catholic	10%	21%	12%	21%
Independent	5%	13%	7%	14%

Note: Columns may not sum to 100% due to rounding

Figure 1 Home location of Indigenous and non-Indigenous students in the LSAY 1995 Year 9 cohort



Reading comprehension and mathematics achievement

LSAY participants completed tests in reading comprehension and mathematics when they were in Year 9 to provide an indication of their achievement levels in literacy and numeracy. Mean scores for Indigenous students on the reading comprehension and mathematics tests were significantly lower than mean scores for non-Indigenous students among the 1995 and 1998 cohorts.⁽¹⁸⁾ Taking into account other factors that affect test scores, such as socioeconomic status and language background, the difference in scores is reduced by about one-half, but it is still statistically significant.⁽¹⁹⁾ These results were consistent with those reported for 15 year-olds in PISA in 2000 and 2003, in which average levels of attainment by Indigenous students on assessments of reading, mathematical and scientific literacy, as well as problem solving, were below those of non-Indigenous students, even after accounting for other student background factors.⁽⁴⁾⁽²⁰⁾ Given the importance of early success in literacy and numeracy for a broad range of later outcomes, lifting Indigenous students' performance in these areas is a major priority.

However, it is important to note that, as with young Australians in general, there is considerable performance variation among Indigenous students. In particular, average levels of literacy and numeracy achievement for Indigenous students living in remote areas were substantially below those of other Indigenous students in both the 1995 and 1998 cohorts. In contrast, geographic location had minimal effects on literacy and numeracy performance for non-Indigenous students.⁽¹¹⁾

Participation in Year 12

Indigenous students were the most disadvantaged group in relation to Year 12 participation and completion.⁽¹⁵⁾ When surveyed in Year 9, just under 60% of Indigenous students from both cohorts had planned to complete Year 12, while approximately 15% planned to leave earlier and 25% were unsure. By contrast, around 75% of non-Indigenous students had planned to complete Year 12, with only 9% planning to leave earlier.

Among the 1995 Year 9 LSAY cohort, a relatively high proportion of Indigenous students had left school by the end of Year 10 (20%), and a further 26% had left school by August of Year 12. Overall, 54% of Indigenous cohort members had completed Year 12. By comparison, 8% of non-Indigenous students had left school by the end of Year 10 and a further 12% by August of Year 12; overall, 80% of non-Indigenous cohort members had completed Year 12.⁽¹⁶⁾ These completion rates differ from the apparent retention rates reported by the Australian Bureau of Statistics (see Note 1).

Indigenous students were more than three times as likely as non-Indigenous students to leave school before completing Year 12. This relationship could only be partially explained by differences in the socioeconomic characteristics and literacy and numeracy levels of Indigenous and non-Indigenous groups.⁽¹⁴⁾⁽¹⁶⁾ Lower educational expectations among Indigenous students, and lower levels of engagement with school, also appear to be among the contributing factors.

Subject choice in Year 12

In Year 12, Indigenous students from the 1995 cohort were enrolled in English, mathematics, arts, technical studies and home

sciences to the same extent as the non-Indigenous students. They were more likely than non-Indigenous students to be enrolled in the biological sciences, humanities and social sciences, computer studies and physical education, but less likely to be enrolled in the physical sciences, economics and business, and languages other than English. The greatest difference was in the physical sciences: non-Indigenous students were almost twice as likely to undertake subjects in this area (for example, chemistry and physics) than Indigenous students. Nevertheless, female Indigenous students in this cohort were more likely to study the physical sciences than their male counterparts, a trend which is contrary to the trend shown for non-Indigenous students.⁽⁷⁾

A similar pattern was evident in the 1998 cohort, with Indigenous students in Year 12 more likely than non-Indigenous students to be enrolled in technology studies, home sciences, physical education and health, and less likely to be enrolled in the areas of advanced mathematics, chemistry and physics.⁽⁸⁾ These different patterns of Year 12 subject enrolment are likely to affect the post-school pathways taken by Indigenous and non-Indigenous young people.

Transition from school

Figure 2 shows the study activity of Indigenous and non-Indigenous 1995 Year 9 LSAY cohort members for the years 1997, 1998 and 1999. By 1997 and 1998, a greater proportion of Indigenous young people had already left school. Some of these young people who left secondary school before completing Year 12 were studying elsewhere, as apprentices or trainees, or in TAFE programs, but in each of the follow-up years, a greater proportion of Indigenous young people than non-Indigenous young people were not engaged in any study.

While the proportions of Indigenous males and females who did not complete Year 12 were similar, the timing of their school leaving differed. Males in the 1995 Year 9 LSAY cohort were less likely than females to be early school leavers (before Year 11), but more likely to be later school leavers (during Year 11 or 12). Other research has found that Indigenous males are more likely than Indigenous females not to complete Year 12 and to be both early *and* later school leavers.⁽¹²⁾

It is important to ensure that Indigenous Australians who complete Year 12 continue their formal education by participating in tertiary study at rates similar to those of non-Indigenous Australians. Table 2 shows that Indigenous Australians in the 1995 Year 9 LSAY cohort progressed directly from Year 12 to university at a slightly lower rate than non-Indigenous Australians, 36% to 42%, but among members of the 1998 Year 9 LSAY cohort, the

difference was much greater: 29% compared to 47%. In both cohorts, greater proportions of Indigenous Australians were undertaking vocational education and training, including study at a TAFE institution and in an apprenticeship or traineeship.

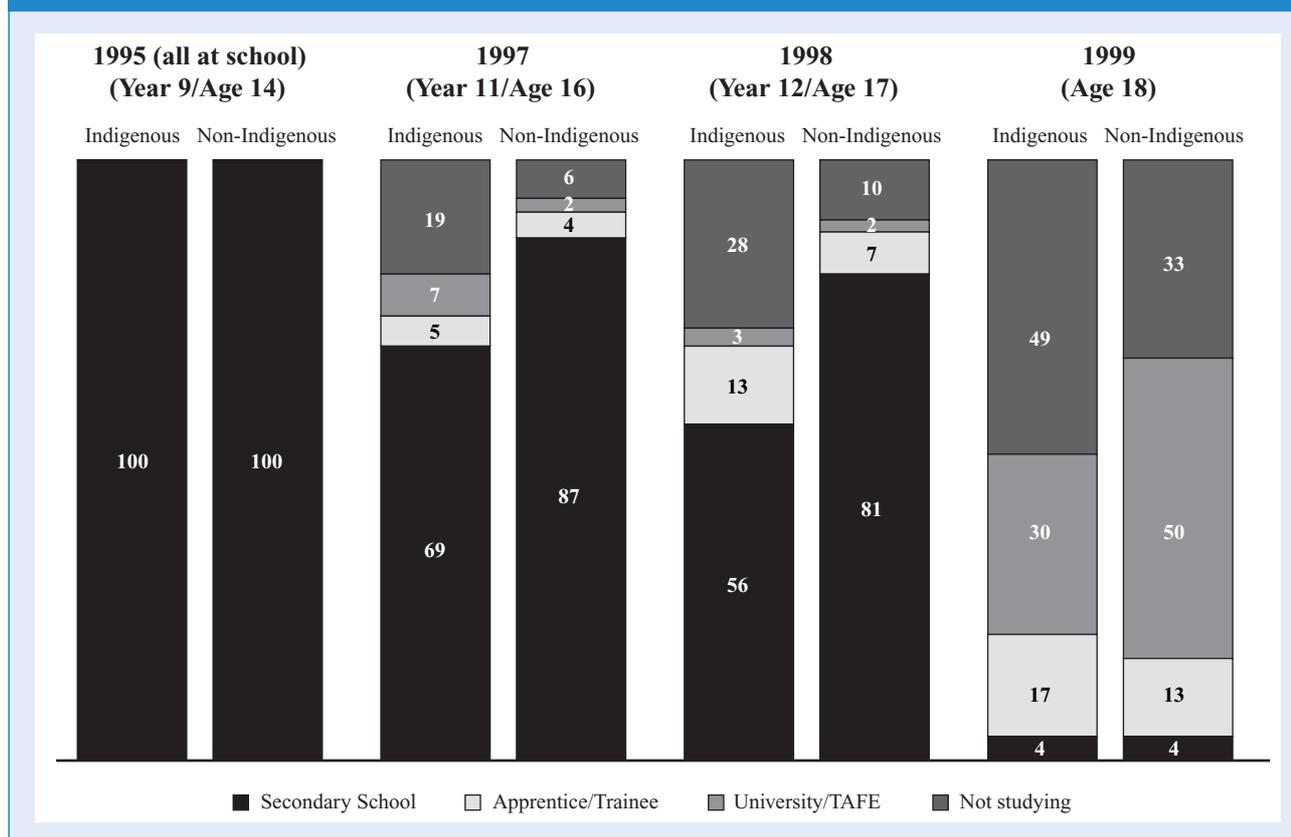
Post-secondary education and training

By 2002, young people from the 1995 Year 9 LSAY cohort were approximately 21 years old and had been out of school for at least four years. Eight per cent of Indigenous cohort members had completed a formal qualification such as a university degree or TAFE certificate during that time, compared to 14% of non-Indigenous cohort members (see Figure 3). One-fourth of the Indigenous cohort members were studying at university or TAFE, compared to one-third of non-Indigenous members.

Among students in the 1995 Year 9 LSAY cohort who did not complete Year 12, fewer Indigenous students had enrolled in a VET course upon leaving school. In the first year after leaving school, 28% of Indigenous non-completers were enrolled, compared to 38% of non-Indigenous non-completers.⁽³⁾

Other research indicates that Indigenous people participating in further education tend to be older than non-Indigenous people, and tend to enter post-school study later. Between 1996 and 2001, Indigenous people aged 24 years and over participated in TAFE and similar institutions at a higher rate than their non-Indigenous counterparts; the same was true for university studies for Indigenous people aged 30 and over.⁽¹⁰⁾ Overall, from 1991 and 2001, the number of Indigenous higher education students increased by 53%.⁽¹⁾

Figure 2 Study activities of the 1995 Year 9 LSAY cohort in 1997, 1998 and 1999, by Indigenous status



The data for both LSAY cohorts show that Indigenous Australians are less likely to be enrolled in post-school study around age 18 and are less likely to have completed a qualification by age 21. More information on Indigenous Australians' participation in further study will become available as the LSAY cohorts age.

Employment

As noted above, Indigenous Australians were less likely than other Australians to be engaged in post-school study leading to a formal qualification. Participation in full-time study among young people has an effect on their participation in the labour force during the same period of their

lives. Among the 1995 cohort in both 1999 and 2002 (at ages 18 and 21 respectively), the proportions of Indigenous and non-Indigenous young people employed full-time were similar, a lower proportion of Indigenous young people were employed part-time, and higher proportions of Indigenous young people were unemployed and not in the labour force (see Table 3). A similar pattern was seen among the 1998 cohort, although more Indigenous young people were unemployed and fewer were not in the labour force. More than one-half of non-Indigenous young people in the 1998 cohort who were employed part-time were also studying full-time; this was not the case for Indigenous part-time workers.

Satisfaction with life and work

In 2002, all members of the 1995 and 1998 cohorts were asked a series of general questions regarding their happiness with various aspects of their lives. Overall, Indigenous respondents reported that they were happy or very happy with their lives as a whole and with most other aspects of their lives, particularly aspects of their personal and social lives. The combined responses of the 1995 and 1998 cohorts are shown in Figure 4. These young people were most satisfied with their relationships with others, their independence and their lives overall. They were least happy with how the country was being run, the state of the economy and

Table 2 Immediate post-school study destinations of Year 12 completers, 1995 and 1998 Year 9 LSAY cohorts, by Indigenous status

	1995 Year 9 LSAY Cohort in 1999		1998 Year 9 LSAY Cohort in 2002	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
University	36%	42%	29%	47%
TAFE	17%	16%	23%	19%
Apprenticeship/traineeship	13%	9%	15%	10%
Other study	7%	4%	0%	2%
None	28%	28%	33%	21%
Total	100%	100%	100%	100%

Note: Cells may not sum to 100% due to rounding. These data should be used with caution, as the error associated with estimates for Indigenous Australians is high.

Figure 3 Participation in post-secondary education and training in 2002, Indigenous and non-Indigenous members of the 1995 Year 9 LSAY cohort

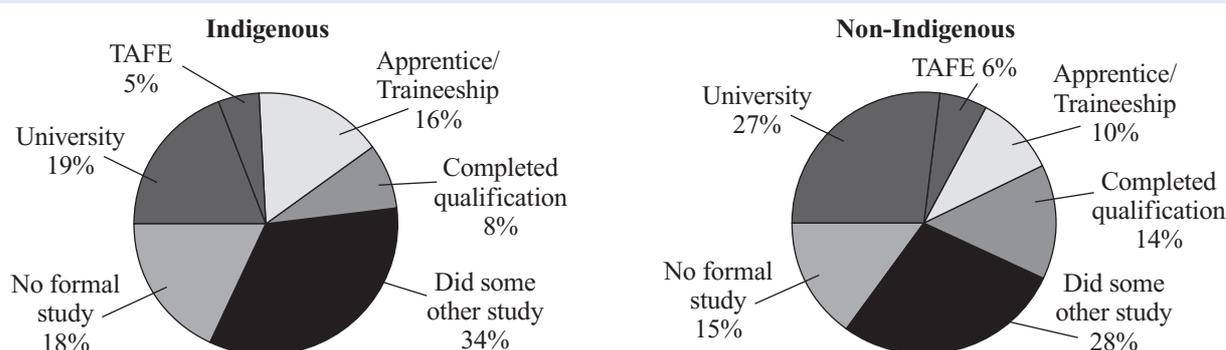


Table 3 Labour force status for Indigenous and non-Indigenous members of the Year 9 LSAY cohorts

	1995 Cohort				1998 Cohort	
	In 2002 (Age 21)		In 1999 (Age 18)		In 2002 (Age 18)	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
Employed full-time	56%	55%	40%	38%	39%	32%
Employed part-time	19%	28%	23%	35%	27%	43%
Unemployed	8%	5%	11%	5%	14%	4%
Not in labour force	15%	11%	25%	22%	20%	20%
Total	100%	100%	100%	100%	100%	100%

Note: Cells may not sum to totals due to rounding. The category 'Not in the labour force' includes those in full-time study who are not employed.

their weekly incomes. There was very little difference between the comments by Indigenous and non-Indigenous young people in these aspects.

By 2002, a number of cohort members had married or were living with a partner, and had children. Among the 1995 cohort, 18% of Indigenous young people were in a relationship with a partner, and 12% were living with children. Among the 1998 cohort (who were aged 18 in 2002), 6% of Indigenous young people were in a relationship with a partner, and 6% had children. These rates were

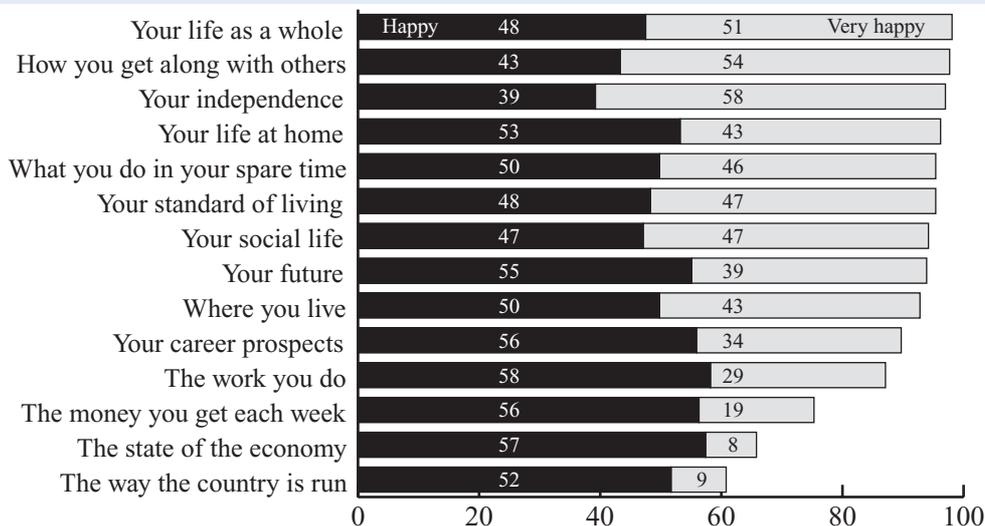
higher among Indigenous cohort members than among non-Indigenous cohort members.

Summary and implications

Analyses of data from LSAY indicate that Indigenous students in Year 9 have a generally positive perception of their schools. However, fewer Indigenous students aspire to complete Year 12 or indeed complete Year 12 than their non-Indigenous peers. The existence of different outcomes between Indigenous and non-

Indigenous students is evident in other studies of educational participation. The longitudinal data in LSAY allow for the investigation of the extent to which various factors influence educational outcomes and the relative strengths of these influences. Those analyses show that differences in achievement in reading comprehension and mathematics during junior secondary school, socioeconomic background and geographic location influence but do not fully explain lower rates of Year 12 participation among Indigenous students.

Figure 4 Percentage of Indigenous cohort members who reported being happy or very happy with various aspects of their lives in 2002



In the LSAY data, Year 9 achievement scores were significantly related to levels of school engagement in extra-curricular activities, completion of Year 12, entrance into higher education and transition to employment. These findings highlight the importance of building Indigenous students' engagement with schooling, lifting their confidence and aspirations, and targeting literacy and numeracy achievement early in their schooling. The data also show an interaction effect involving location, in that geographic location has a stronger influence on educational outcomes for Indigenous Australians than for other Australians. There would appear to be an ongoing need to enhance the effectiveness of educational services provided in remote locations for Indigenous students.

Indigenous young people who proceeded to Year 12 are less likely to study in the physical sciences and advanced mathematics, but more likely to study in the areas of technology studies and physical education. These different patterns of Year 12 subject enrolment are also reflected in different post-school pathways taken by Indigenous and non-Indigenous students. There may be a need to provide Indigenous students with guidance and encouragement to study in learning areas, such as mathematics and the physical sciences, that open up a broader range of post-school pathways.⁽¹⁷⁾

In terms of life beyond school, the LSAY data indicate increased participation in formal post-school study, especially in apprenticeships and traineeships, by young Indigenous Australians. In addition, Indigenous young people

continue to enter post-school study later in life than non-Indigenous Australians. As a result, overall participation by Indigenous young people in vocational education and training, including apprenticeships and traineeships, is at a similar rate as participation by their non-Indigenous peers, providing an important pathway for the development of skills and expertise. Indigenous Australians are still under-represented in university studies, however, even though there have been recent increases in participation.

In the world of work, Indigenous members of the LSAY cohorts were engaged in full-time work to a similar extent as their non-Indigenous peers, but were less likely to be in full-time study and less likely to be involved in part-time work that may provide a stepping stone to ongoing involvement in the labour market. Overall, the proportions of young Indigenous people from the LSAY cohorts who were not working—looking for work or not participating in the labour force—were higher than for non-Indigenous young people from the same cohorts.

Education is an important influence on social and economic outcomes among adults; its significance for Indigenous Australians is even greater.⁽⁹⁾ While there has been increased participation in education by Indigenous Australians in recent years, participation has also been rising for non-Indigenous Australians, so a substantial gap remains. Studies such as LSAY provide an opportunity to observe the educational and life experiences of successive cohorts of young people as they unfold.

References

- (1) Australian Bureau of Statistics (2003). *Year Book Australia*. Number 85. Canberra: ABS (Catalogue number 1301.0).
- (2) Australian Bureau of Statistics (various years). *Schools Australia*. Canberra: ABS (Catalogue number 4221.0).
- (3) Ball, K. & Lamb, S. (2001). *Participation and Achievement in VET of Non-Completers of School*. LSAY Research Report Number 20. Melbourne: ACER.
- (4) De Bortoli, L. & Cresswell, J. (2004). *Australia's Indigenous Students in PISA 2000: Results from an International Study*. ACER Research Monograph Number 59. Melbourne: ACER.
- (5) Department of Education, Science and Training (2002). *National Report to Parliament on Indigenous Education and Training, 2001*. Commonwealth of Australia.
- (6) Fullarton, S. (2002). *Student Engagement with School: Individual and School-level Influences*. LSAY Research Report Number 27. Melbourne: ACER.
- (7) Fullarton, S. & Ainley, J. (2000). *Subject Choice by Students in Year 12 in Australian Schools*. LSAY Research Report Number 15. Melbourne: ACER.
- (8) Fullarton, S., Walker, M., Ainley, J. & Hillman, K. (2003). *Patterns of Participation in Year 12*. LSAY Research Report Number 33. Melbourne: ACER.
- (9) Hunter, B. (1997). The determinants of Indigenous employment outcomes: The importance of education and training. *Australian Bulletin of Labour* 23(3), 177-192.

Note 1. In 1998, the number of Indigenous Year 12 students in all Australian schools was 36% of the number of Indigenous Year 9 students in 1995. (2) The LSAY completion rate is higher than the calculated apparent retention rate because it is based on longitudinal data from Year 9 to Year 12, during which time students are directly tracked. ABS data are based on summary enrolment statistics from each State and Territory and calculated using the number of full-time students in Year 12 and the number of full-time enrolments in Year 9 three years earlier. While much of the difference in the ABS and LSAY rates is because of the different calculation methods, some can be attributed to higher rates of attrition of Indigenous Australians from the LSAY cohorts.

- (10) Hunter, B. & Schwab, R. G. (2003). *Practical Reconciliation and Recent Trends in Indigenous Education*. Discussion Paper No. 249. Canberra: ANU, CAEPR.
- (11) Jones, R.G. (2002). *Education Participation and Outcomes by Geographic Location*. LSAY Research Report Number 26. Melbourne: ACER.
- (12) Long, M., Frigo, T. & Batten, M. (1999). *The School to Work Transition of Indigenous Australians: A Review of the Literature and Statistical Analysis*. Canberra: DEETYA.
- (13) Marks, G.N. (1998). *Attitudes to School Life: Their Influences and Their Effects on Achievement and Leaving School*. LSAY Research Report Number 5. Melbourne: ACER.
- (14) Marks, G.N., Fleming, N., Long, M. & McMillan, J. (2000). *Patterns of Participation in Year 12 and Higher Education in Australia: Trends and Issues*. LSAY Research Report Number 17. Melbourne: ACER.
- (15) Marks, G.N., McMillan, J. & Hillman, K. (2001). *Tertiary Entrance Performance: The Role of Student Background and School Factors*. LSAY Research Report Number 22. Melbourne: ACER.
- (16) McMillan, J. & Marks, G.N. (2003). *School Leavers in Australia: Profiles and Pathways*. LSAY Research Report Number 31. Melbourne: ACER.
- (17) Ministerial Council on Education, Employment, Training and Youth Affairs (2001). *Exploring Multiple Pathways for Indigenous Students*. Melbourne: Curriculum Corporation.
- (18) Rothman, S. (2002). *Achievement in Literacy and Numeracy by Australian 14 year-olds, 1975-1998*. LSAY Research Report Number 29. Melbourne: ACER.
- (19) Rothman, S. & McMillan, J. (2003). *Influences on Achievement in Literacy and Numeracy*. LSAY Research Report Number 36. Melbourne: ACER.
- (20) Thomson, S., Cresswell, J. & De Bortoli, L. (2004). *Facing the Future: A Focus on Mathematical Literacy among Australian 15-year-old Students in PISA 2003*. Melbourne: ACER.

The Longitudinal Surveys of Australian Youth

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

The program includes more than 25 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 Year 9 students. Another sample of Year 9 students was drawn in 1998, and a further sample of 15 year-olds was drawn in 2003. Data are first collected in schools, then by mail and telephone interviews.

Advice and guidance are provided by a Steering Committee, with representatives from DEST, other Australian Government departments, the Australian

Education Systems Officials Committee (AESOC), the Chief Executive Officers of State and Territory training authorities, non-government schools, academics and ACER.

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

Further information on the LSAY program is available from ACER's website: www.acer.edu.au



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