

Rural and urban differences in Australian education

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 wide audience- in an accessible format and language, and identifying some the implications for policy and further research.

In particular, LSAY Briefings draws on data from ACER's Longitudinal Surveys of Australian Youth (LSAY) project, which studies the experiences of young people as they move from school into post-secondary education, training and work. Key LSAY reports published by ACER on which this paper are based are listed at the end of this briefing paper.

Whether or not students' educational performance is influenced by where they live is clearly an important issue for Australian educators and policy makers.

The following findings are drawn from a number of LSAY Research Reports that investigated the influence of students' location on several outcomes: achievement in literacy and numeracy; tertiary entrance scores, subject choice in Year 12; participation in Year 12 and higher education; participation in vocation education and training (VET); and transitions from education to work.

It must be noted that the following results do not control for potential

differences in population make-up between rural and urban areas. Differences in socio-economic background, language background and indigenous status are not controlled for in the comparisons presented, but are issues that should be considered as potential influences when comparing rural and urban differences in education performance and attainment. (The reports listed at the end of the paper include multivariate analyses that attempt to take account of such differences.)

Definitions

The definition of 'rural' versus 'urban' areas used in the LSAY research is based on the following measures.

The first measure simply distinguishes metropolitan students (living in a capital city with 100,000 or more inhabitants) from non-metropolitan students. This is based on the student's home address (or school address in the earlier cohorts) when they first took part in the LSAY study – generally at around age 14.

The second measure is similar to the first, but disaggregates the non-metropolitan group into two further categories: regional and rural/remote areas. Metropolitan areas are defined as above, whilst regional areas are defined as those centres with populations between 1000 and 99 999 persons, and rural/remote areas are defined as those centres with less than 1000 persons.



Longitudinal Surveys of Australian Youth BRIEFING

HIGHLIGHTS

- Small differences between the literacy and numeracy performances of rural and urban students exist in the middle years of their education.
- Rural and urban students differ only slightly in their choice of subjects in Year 12, with rural students studying in the areas of health, home science and agriculture more frequently than their metropolitan peers.
- Young people living in the regional and remote areas of Australia are, on average, less likely to participate in Year 12 and higher education than are their peers living in metropolitan areas.
- Young people living in rural areas have rates of participation in Vocational Education and Training (VET) that are at least as high as in urban areas.

Literacy and numeracy achievement

Table 1 Metropolitan and non-metropolitan differences in mean achievement in literacy and numeracy, 1975–1995

Year and study	Literacy			Numeracy		
	Metro	Non-metro	Diff	Metro	Non-metro	Diff
1975 (age 14)	67.1	64.0	3.1	64.9	61.9	3.0
1980 (age 14)	66.8	63.6	3.2	66.2	63.6	2.6
1989 (age 14)	66.5	65.9	0.7	63.4	62.3	1.1
1995 (Year 9)	64.8	63.9	0.9	64.8	63.4	1.4

Table 1 presents the mean levels of achievement in literacy and numeracy (as measured by standardised tests) in middle secondary school. The 1975, 1980 and 1989 samples were of 14-year-olds, and the 1995 study was of Year 9 students, most of whom were 14 at the time of testing.

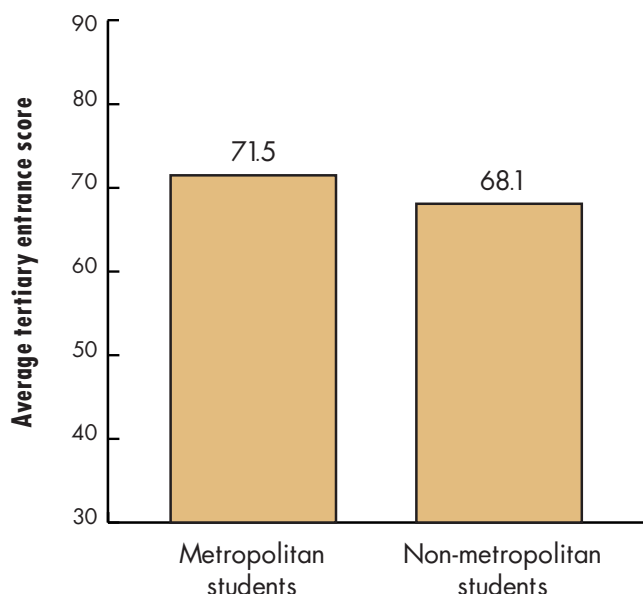
- Although the mean levels of performance for non-metropolitan students are consistently lower than that for metropolitan students, the differences are small. These analyses suggest that rural students are not substantially disadvantaged in terms of the

quality of literacy and numeracy education they are receiving in their early to middle years of schooling.

- The gap in achievement between rural and urban secondary students narrowed between 1975 and 1995.

Tertiary entrance scores

Figure 1 Metropolitan and non-metropolitan students average reported tertiary entrance scores, Year 12, 1998



Source: Marks et al (2001)

Figure 1 presents the mean tertiary entrance scores for metropolitan and non-metropolitan students from their Year 12 studies. The data is from students' reports of their tertiary entrance scores for 1998. The national tertiary entrance scores range from 30 to 99.95 with a standard deviation of 20.

- From this data, it can be seen that metropolitan Year 12 students in 1998 reported tertiary entrance scores that were slightly higher on average than those of non-metropolitan students.
- However, the difference in reported scores is quite small (three percentile points) and is not statistically significant for this sample.

Year 12 subject enrolment

Concerns are often expressed that students in rural and remote locations have less access to a broad curriculum range due to relatively small school size and/or fewer specialised teachers being available in the area. If this were the case, rural students could find their access to post-school educational and employment opportunities limited.

Table 2 records the enrolment index values for Year 12 students according to whether the area in which they live is classed as a capital city, regional city, or rural/remote areas (country towns and other country locations).

- None of the differences in enrolment indices is particularly large. For English, Mathematics and the Arts, the enrolment index values were virtually identical in the three locations.
- For Studies of Society and the Environment (which includes such subjects as Humanities/Social Studies, and Economics and Business Studies) and Languages Other than English, enrolment indices were higher in capital cities.
- The highest enrolment indices in the Key Learning Areas of Science and the Arts were in 'Other city' and regional areas,

although disaggregating the Science KLA into the two categories of Physical and Biological sciences indicated that Physical Sciences had higher enrolments in capital cities, whilst Biological and Other Sciences had higher enrolments in other city and regional areas.

- Year 12 students in other cities and regional areas also had higher enrolments in the KLAs of Health and Physical Education and Technology. This was influenced by the popularity of subjects such as Home Science and Agriculture amongst students in non-metropolitan locations.

Table 2 Enrolments for Year 12 in subject areas by location, Y95 Cohort in 1998 (enrolment index)

Key Learning area	Capital city	Regional and other cities	Rural/remote area
English	18.8	18.7	18.2
Mathematics	17.9	17.2	17.6
Society & Environment	21.9	17.0	18.0
Science	14.8	16.1	15.6
Arts	6.5	7.2	6.2
LOTE	2.5	0.8	1.1
Technology	11.7	15.9	16.3
Health & Physical Education	4.6	5.7	5.8
Not Classified/Other	1.2	1.5	1.1

The enrolment index is the enrolment in the subject or KLA expressed as a weighted percentage of all enrolments (in full-time equivalent subjects).

Source: Fullarton and Ainley (2000)

Participation in Year 12 and higher education

The level of participation in upper-secondary and post-secondary education by urban and rural students is a policy concern of both Commonwealth and State governments. Table 3 presents the percentages of students who were in Year 9 in 1995 (Y95) who were participating in Year 12 in 1998, and in higher education in 1999.

- The difference in participation rates is about 10 percentage points between metropolitan and non-metropolitan students, in favour of metropolitan students.

- The difference in participation is large compared to the difference in literacy and numeracy achievement between secondary students in rural and urban areas (see Table 1). This suggests that factors other than early school achievement (as indicated by performance on literacy and numeracy tests) may account for most of the differences between rural and urban students in Year 12 and higher education participation.

Table 3 Participation in Year 12 (1998) and higher education (1999) by different rural-urban measures, Year 9 Cohort of 1995

Measurement of location	Per cent participation in Year 12	Per cent participation in higher education
<i>Metropolitan/Non-metropolitan</i>		
Non-metropolitan (< 100 000)	71	25
Metropolitan (> 100 000)	82	35
<i>Size of place</i>		
Remote (<1000)	69	23
Regional (1000–99 999)	73	27
Metropolitan (> 100 000)	82	35

Source: Marks et al. (2000)

Similar results have been found using earlier cohorts than the Year 9 cohort of 1995. Using data from the Australian Youth Surveys (AYS), it was found that young people who had attended secondary school in urban areas were more likely to continue their education beyond

secondary school than were students from rural areas. Close to half of urban school leavers graduated from a university or TAFE degree or diploma during the seven years after leaving school, whilst only a third of rural students gained such a qualification in that time.

Participation in vocational education and training

In general, young people living in rural areas have rates of participation in VET that are at least as high as those in urban areas. As Table 4 shows, in the mid-1990s by age 19:

- more young females from rural areas (9%) had participated in traineeships than females from urban areas (6%);
- more young males from rural areas (21%) had participated in an apprenticeship than young males from urban areas (17%); and
- the other measures of VET participation showed no broad geographic differences for young males and females (although there were some marked differences between males and females within each area).

These differences are also found amongst older cohorts, such as participants from the AYS. Sixty-eight percent of males from a rural location had taken up an apprenticeship or a full-time job in their first year out of secondary school, while the equivalent number of urban males who had taken this path was only 58 per cent.

Compared with universities at least, TAFE institutions have a greater presence in rural and

regional Australia, and so the participation differences evident in Table 3 are not seen here. Furthermore, the structure of industries in rural areas is likely to provide relatively more opportunities for apprenticeships. More speculatively, it is possible that strong community relationships in many non-metropolitan areas may help in creating opportunities for young people in activities such as traineeships and apprenticeships.

Table 4 Rural/urban differences in VET participation by age 19, mid-1990s

Type of VET	Males (%)		Females (%)	
	Urban	Rural	Urban	Rural
Traineeship	5	5	6	9
Apprenticeship	17	21	2	2
TAFE ¹	25	24	29	29

¹ The TAFE participation measure excludes traineeships and apprenticeships

Source: Lamb et al. (1998)

Summary

Results from various investigations of students participating in Longitudinal Surveys of Australian Youth program and its predecessors have indicated that rural students are achieving at comparable levels to their urban peers in terms of early literacy and numeracy and Year 12 scores for tertiary entrance. However, their participation rates in Year 12 and higher education are lower than that of metropolitan-based students. Given the strong relationship between prior achievement and completion of Year 12 and participation in further education, these findings

require further investigation. Other factors may be influencing rural students' participation in higher education to a greater extent than their urban counterparts', such as different employment opportunities for early school-leavers in regional and rural areas, or a higher profile of TAFEs in these areas. These suggestions are supported by the finding of higher participation in some forms of VET, such as apprenticeships, amongst young people living in non-metropolitan areas.

On the other hand, it may be that the decisions about continuing with further education are further

complicated for rural students by the need to move away from home in order to attend some educational institutions especially universities. A move such as this may place a greater financial and emotional burden on a rural student than it would an urban student, who may have a greater opportunity to remain in the family home whilst continuing their education. The reasons behind many rural students' decisions to forego further education in the face of their similar achievement levels should remain a focus of educational research and policy development.

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 via mail and telephone interviews.

Advice and guidance is provided by a Steering Committee, with representatives from DEST, Department of Employment and Workplace Relations 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 ACER's Website: www.acer.edu.au

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