

## **Education Participation and Outcomes by Geographic Location**

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### **EXECUTIVE SUMMARY**

This project has two related aims:

1. to assess the viability of using the Longitudinal Surveys of Australian Youth (LSAY) study data for national reporting of outcomes by geographic location; and
2. to investigate, using LSAY data, the variations in education participation and outcomes by geographical location.

The distributions of the 1995 and 1998 LSAY Year 9 cohort samples by geographic location category are identified and examined (Chapter 2), with particular consideration being given to the sampling of Remote areas. The conclusions are:

- Given the size of the LSAY cohort samples, the number of students from Remote areas selected in the first wave of each cohort is expected to be around 625. This sample was achieved in the Y95 cohort but not in the Y98 cohort, where the first wave sample includes only 356 students from Remote areas.
- Achievement of the expected sample size requires appropriate representation of schools located in *Remote* areas. In order to ensure that this occurs, separation of Government schools in Queensland, South Australia, Western Australia and the Northern Territory into *Remote* and non-remote strata should be implemented in the sample design.
- Sample attrition among students from *Remote* areas is only marginally higher than for students from other areas.
- There are substantial differences between the two cohorts in the regional distributions *within* States and Territories, differences that reflect the effects of sampling variability on the regional distribution of the school samples. Only explicit regional stratification of the schools population, in addition to the State/Territory and school sector strata, would ensure appropriate representation of all geographic location populations.
- In light of these sample distribution problems, the use of LSAY data for national reporting of outcomes by geographical location is not recommended.

LSAY data are, however, important for identifying, using multivariate analysis techniques, whether outcomes are affected by geographic location and other characteristics and the relative strengths of their influence. Chapter 3 examines the association between geographic location and the scores obtained on the

reading comprehension and numeracy tests administered to the samples in Year 9. In view of the marked difference in average reading comprehension and numeracy scores between Indigenous and non-Indigenous Year 9 students and the over-representation of Indigenous students in Remote areas and in Remote area schools, Indigenous and non-Indigenous students are considered separately. These analyses then indicate that:

- for non-Indigenous students, while home location does have statistically significant effects on the reading comprehension and numeracy scores of Year 9 students, its effects (and those for State/Territory of school) are very much weaker than those associated with other background characteristics, and it is difficult to conclude that there is any substantive regional variation in scores or, more particularly, that students from Remote areas are disadvantaged; and
- for Indigenous students, the influence of home location on attainment is comparable to that of other background characteristics and, despite the small sample sizes at regional level, the results indicate that, consistent with expectations, the average level of attainment of Indigenous students living in Remote areas is substantially below that of other Indigenous students.

Chapter 4 examines regional differences in the proportions of early school leavers, identified here as those students from the 1995 and 1998 Year 9 cohort samples who were contacted two years later in 1997 and 2000 respectively and reported that they had left school. While regional variation appears substantial when examined independently, the regional differences are largely the result of the associations between early school leaving and other characteristics, particularly lower attainments in Year 9 reading comprehension and numeracy (more likely to leave), non-English speaking background at home (less likely to leave), gender (boys more likely to leave than girls) and, for girls only, Indigenous identification (more likely to leave).

After adjusting for these factors, these results show only relatively weak effects of home location on early school leaving, the main difference being that students from the large Metropolitan areas appear a little less likely to leave school early than students from Provincial and, perhaps, Remote areas. Given the variation between the two cohorts in the results for Remote areas, the small sample sizes and the small number of schools from which these students are selected, the findings there are somewhat inconclusive.

Chapter 5 examines regional variation in Year 12 completion and entry to university rates, based on information collected from the 1995 cohort surveyed in 1999. As reported previously by Marks et al (2000), there is a difference of about 10 percentage points between metropolitan and non-metropolitan students in the proportions participating in Year 12 and entering university, with no significant regional variation over non-metropolitan areas. These findings, however, take no account of the possible influence of other background characteristics.

With the more refined non-metropolitan categories used for this analysis we find, after controlling for other background characteristics of the students, that students from Remote and Outer Provincial areas appear slightly more likely to complete Year 12 than students from Provincial City and Inner Provincial regions and no less likely to complete Year 12 than students from Metropolitan regions. It should be noted however, that regional effects on Year 12 completion, while statistically significant, are again relatively weak in comparison to the effects of State/Territory of school in Year 9, Year 9 reading comprehension and numeracy scores, school type, and non-English speaking background at home.

The regional variation in university entry rates is again substantial when viewed independently, but after controlling for other characteristics we find that home location has no significant effect on whether students, male or female, enter university. The background factors having the strongest influence are Year

9 reading comprehension and numeracy scores, particularly the latter, non-English speaking background at home and, for females, parental education status, with school type, parental occupation status, State/Territory of school in Year 9 and, for males, parental education status having significant but less important influences. For males, the results do show a somewhat lower rate of university entry for those from Remote areas, but the results are not statistically significant. It is then impossible to conclude from these data, either from the total sample or when limited to students who completed Year 12, that students from Remote areas experience any disadvantage in university entry.

The level of participation in other forms of post-secondary education by students who had left school and had not entered higher education has also been examined, and there is again no evidence that home location has an effect on levels of participation.

The general finding of these analyses of LSAY data is that regional effects on the outcomes considered are generally weak in comparison to those of other background characteristics considered, and that regional differences can often be explained by the different characteristics of regional populations. The one possible exception to this is for analyses of the outcomes of Indigenous students, but the samples of Indigenous students in the LSAY cohorts are generally too small to pursue this question.

While the analyses generally show no statistically significant disadvantage associated with living in a Remote area, the small sample size and the small number of schools from which Remote area students are selected in the LSAY caution against concluding that there is no disadvantage.