

# **Staying on at school: Improving student retention in Australia**

Report for the  
Queensland Department of Education and the Arts

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## EXECUTIVE SUMMARY

This report was commissioned by the Queensland Department of Education and the Arts (QDEA) on behalf of the National Fund for Educational Research to identify the main drivers of current trends in retention rates across States and Territories, and to develop a set of models to predict differences in patterns of retention.

The study involved four main components:

1. An extensive *review of national and international literature* on school completion and early leaving, in order to identify key factors affecting retention and participation.
2. A *series of interviews* with a sample of retention ‘experts’ including school staff and policymakers to identify, from their experience, the key factors that shape survival in school and study.
3. The *development and application of a set of models of student retention* to measure the impact of factors shaping student retention and differences across States and Territories.
4. An examination of *policy implications and policy options* based on the results of the study. The analysis was informed by a set of workshops held with senior education policy officers across four States.

The literature review and consultations with school and system authorities identified sets of factors that shape student retention. The work suggested that patterns of student retention are based on a complex interplay between a range of factors including social and demographic (e.g. gender, achievement, student aspirations and motivations, family SES, ethnicity, indigenous status, health and disability, homelessness), regional and economic (e.g. urban, rural or remote, youth labour market, unemployment, part-time employment, industry structure, community links), school policies and context (e.g. sector, school quality, teacher quality, pedagogical effectiveness, school resourcing, school organisation) and the policy environment (e.g. system, state, and commonwealth policies, curriculum and qualification framework, income support).

The factors contributing to retention, identified in the literature review and interviews with stakeholders, were used to develop conceptual models of retention in Australia — the first based on state differences in retention and the second on individual decision-making. Data on apparent retention rates for 2002 and data from the Longitudinal Surveys of Australian Youth were then employed to apply the models.

Published figures on retention contain two main sources of differences across States and Territories. The first is linked to factors that affect the measurement of apparent retention including migration and changes in population, numbers of part-time students, numbers of mature-age students, cross-border students, and grade repetition. Apparent retention data is limited in its ability to reflect the variations across States and Territories attributed to population differences. The second source



of variation is linked to the impact of both policy influences (e.g. schooling policies, curriculum and accreditation, school organisation, age of commencement, resources) and non-policy influences (e.g. school enrolment shares reflected in the size of government and non-government sector enrolments, social composition and dispersion of populations, densities of population from indigenous and non-English speaking backgrounds).

The results of the modelling show that the gaps between the States and Territories are not as great as appeared when no account was taken of population differences, remoteness, interstate migration, and modalities of school use (part-time versus full-time). In 2002, apparent retention rates varied by up to 30 percentage points (88.1 per cent in the Australian Capital Territory and 53.0 per cent in the Northern Territory). After all adjustments are made, less than 10 points separates the States and Territories. Modelling adjustments have a different impact depending on State and Territory. For example, mature-age students add 7.5 percentage points to the apparent retention rate for Tasmania. Population growth added 3.0 percentage points to the retention rate for New South Wales, 6.7 points to the Australian Capital Territory and 4.8 points to Victoria. The higher socioeconomic status composition of the population of the Australian Capital Territory has a large impact on its retention rate, as does the levels of remoteness and the size of the indigenous population in the Northern Territory.

Removing the impact of population and related factors greatly compresses interstate differences. Comparisons which attempt to treat States and Territories as if they have the same population and diversity reveal that the main differences which remain are linked to the non-policy factors.

Of course, the modelling is an exercise in abstraction. It suggests what the levels of retention would be, were the States and Territories more uniformly similar in their population characteristics, in the geographical dispersal of their communities, and in the exchange of their populations which occurs across interstate boundaries. But States and Territories are not uniformly similar in these respects, and in fact are drawn apart by the play of macro-economic and social forces. From a national perspective, retention is very uneven, despite the long-term upward trend.

This suggests that a national strategy for increasing retention should aim at reducing differences between student groups and communities *within States and Territories*. In the long-term, this will also reduce the gaps between the States and Territories, particularly those that are based on socioeconomic and cultural differences in populations.

Statistical modelling of factors affecting retention between student groups within States and Territories highlights the impact of successful learning on retention, including both the direct effects on individual plans and the indirect effects of peer impact and family aspirations. The research literature highlights the fact that early leavers are drawn disproportionately from the ranks of low achievers. Failure to establish meaning in the curriculum or to build satisfactory teaching relationships removes the possibility of successful learning which is the most important intrinsic motive for staying on at school. Economic pressures to find work and earn a living

may hasten early leaving, but where a positive experience of learning has not been established, resistance to these pressures is often ineffectual.

The focus in policies aimed at promoting higher levels of retention needs to be on creating the conditions for effective learning and personal growth that underpin quality retention — the strength of programs, depth of experiences and quality of learning provided in schools. Policies needed to translate the broad objective of quality retention or its alternatives into action at the school or system level include early intervention programs, ongoing monitoring of student progress, building stronger school–community relations, creating positive learning cultures, ensuring availability of student support services, developing quality programs of study, promoting enriched careers education and guidance, transition outcomes monitoring, building quality alternative pathways, establishing school program evaluation, better provision of return-to-study programs, and more accurate measurement of student attainment and outcomes.

# Introduction

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An important goal in Australian education is to ensure that all young people have the opportunity to complete Year 12 or its vocational equivalent. Yet rates of completion vary across states and territories and have varied substantially over time. While the national apparent retention rate increased markedly during the 1980s before easing in the 1990s, state differences diverged over this period. Some of this divergence may be due to population and economic differences, others to policy differences linked to characteristics of school systems, senior school certificate reforms, curriculum and program changes (such as the development of Vocational Education and Training in schools), and school-based policies. All states and territories are committed to increasing rates of school completion and identifying the most appropriate interventions or mechanisms for doing so. In this context, it is vital to gain an understanding of the different sets of factors that drive completion rates, including their interrelationships and the size of their impact on completion rates. Only then will it be possible to get some sense about what can be targeted from a policy perspective as well as get some measure of the factors that may work to inhibit or promote both completion rates and more successful intervention strategies.

Previous work suggests that there are several important groups of factors to consider including social and demographic (e.g. gender, region, ethnicity, socioeconomic status, indigenous status), curriculum and certification (e.g. breadth of offerings, VET in schools, senior school certificate requirements, alternative programs, university entry requirements), school organisation (e.g. sector, selective entry schools, senior colleges, middle schools, TAFE-school relations, TAFE requirements), student performance (e.g. early school achievement and academic progress), teachers and pedagogy (e.g. teacher quality, teaching styles, assessment), personal (e.g. finances, physical and mental health, disability, psychological, pregnancy, drug use, transport, family obligations, family breakdown, homelessness), and economic and labour market (e.g. employment and unemployment, apprenticeships, industry, recession and growth, teenage labour market opportunities).

The purpose of this project is to identify the main drivers of current trends in retention rates across states and territories, and to develop a set of models to predict differences in rates of retention and changes over time. The project has four main components:

1. An extensive *review of national and international literature* on school completion and early leaving, in order to identify key factors affecting retention and participation.
2. A series of *interviews* with a sample of retention ‘experts’ including school staff and policymakers to identify, from their experience, the key factors that shape survival in school and study.

3. The *development and application of a set of models of student retention* to be used as a tool for both predicting the impact of intervention strategies aimed at increasing retention and for measuring state and territory differences over time.
4. A *policy development phase* producing an analysis of policy options and proposals based on the results of the study. The analysis is informed by a set of workshops held with senior education policy officers across states and territories.

The project was commissioned by the Queensland Department of Education and the Arts on behalf of the National Fund for Educational Research.

## **Context**

In May 2001, nearly 1 out of every 3 young Australians aged 15–24 enrolled in secondary school in 2000 had left school before reaching Year 12 or completing a senior school certificate (ABS, 2001). In total, these non-completers accounted for approximately 86,000 of the 270,000 15 to 24-year-olds enrolled in secondary school in the previous year. These numbers have not changed appreciably in recent years and are proportionately high compared to other OECD countries (Lamb, Long & Baldwin, 2003). The cumulative effect of tens of thousands of young people leaving school each year short of finishing a senior school program translates into hundreds of thousands of young people who are out of school, and lacking a senior secondary school credential.

By itself, the internationally high rate of non-completion of school should not be viewed as a source of concern for all young people. Where decisions to leave school lead to work and recognised training, it may be a positive outcome for which schools would be justified in claiming the recognition usually reserved for retention. Australian governments accept that there are levels of training which can be regarded as equivalent to school completion.

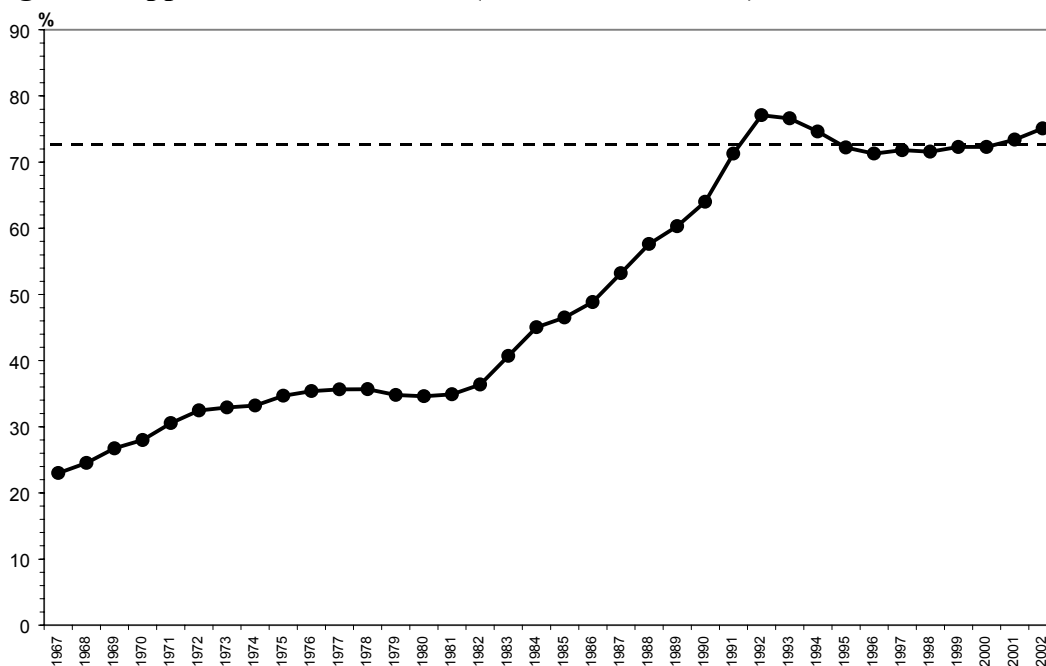
However, the number of years in school is a significant predictor of future employment and earnings. Long-term changes in Australian labour markets suggest a growing importance of education and training participation to employment as well as more limited employment prospects for early leavers compared to school completers. In May 2001, among 15 to 24-year-olds who left school in the previous year without having completed Year 12, approximately 17.7 per cent were unemployed and not in study (ABS, 2001). The rate for Year 12 leavers was 4.7 per cent. Young people who leave school before Year 12 face a number of potential hardships. Past research has shown that, compared with high school completers, relatively more early leavers are unemployed and those early leavers who do succeed in finding work earn less money than completers. Early leavers are also more likely to receive government assistance than completers who do not go on to university or further study. Changes in the Australian economy place early leavers, particularly those without post-school qualifications, at greater risk of low income, unemployment and dependency on government welfare.

### *Trends in retention*

The long-term trend in Year 12 retention is displayed in Figure 1. Since 1967 the proportion of young people in Australia completing school has more than trebled. In 2002 it reached 75.1 per cent. The trend shows a series of phases — (1) the steady growth from the late 1960s to the mid-1970s, fuelled by a buoyant economy and rising social aspirations, (2) the 1970s downturn, associated with a faltering economy and rising youth unemployment, (3) the upsurge in retention during the 1980s, initially spurred by the 1982/83 recession and falling teenage employment, reaching a peak in 1992, (4) the stagnant years of the 1990s when retention rates fell, and (5) the upturn more recently since 1999.

The most dramatic period of growth occurred in the 1980s. In the early 1980s, more than half of all secondary school students left school before Year 12. However, by the end of the decade the vast majority were continuing through to Year 12. Rates of apparent Year 12 retention, as low as 36 per cent only ten years earlier, reached a peak of 77 per cent in 1992. At that time optimistic predictions were made of almost universal retention by the end of the decade (Taskforce On Pathways In Education and Training, 1992; Centre For Skill Formation Research and Development, 1993). Many factors contributed to the growth over this period. Accelerated by falling teenage employment, sharp increases were recorded following the 1982–83 recession. Other factors also were influential including increased government financial assistance (study allowances) for young people in families of low income and the abolition of unemployment benefits for 16–17 year olds. Important also were changes in school programs. Major changes were made in several states to the provision of the senior secondary school curriculum to accommodate a broader range of students. Together these changes supported a decade of great expansion in senior schooling, a decade in which Australian States moved rapidly and impressively towards developing mass or universal systems of secondary education.

**Figure 1: Apparent retention rates (Year 7/8 to Year 12), Australia: 1967–2002**



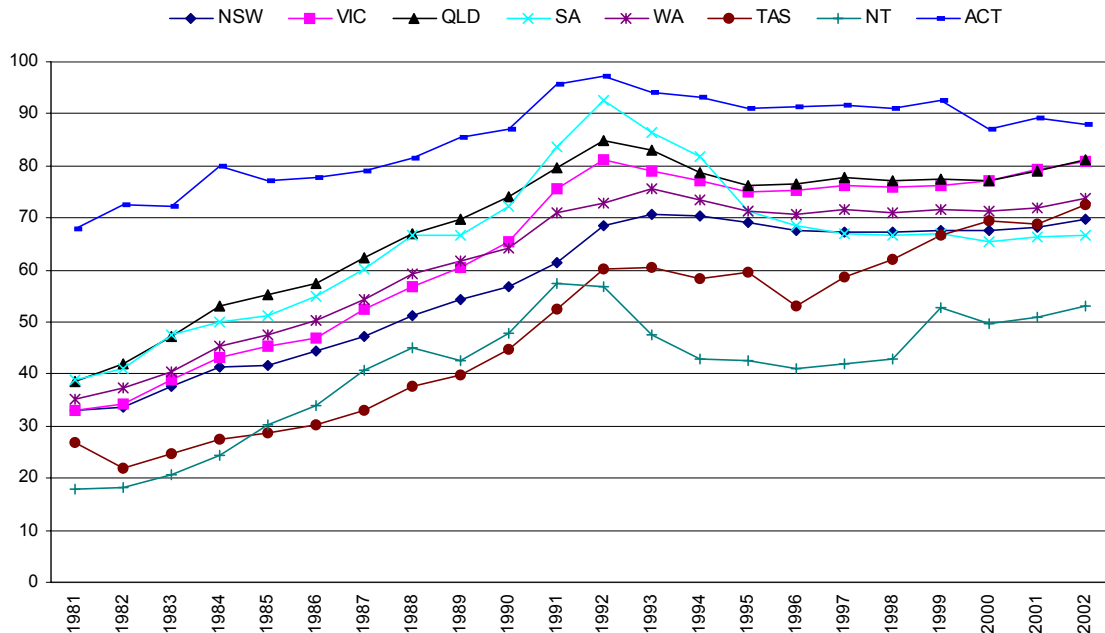
Source: Australian Bureau of Statistics, *Schools Australia*, successive years, Cat. No. 4221.0

The downturn since 1992 indicates that this phase of building stalled. Despite the remarkable period of expansion during the 1980s, the growth in school completion came to an end. Over a five-year period from 1992 the rates of Year 12 retention fell by almost six percentage points. By 1997, according to apparent retention rates, non-completion of school again affected close to 30 per cent of all students. Therefore, rather than having become a marginal consideration towards the close of the decade — affecting only a small residual group — non-completion of school involved a large number of young Australians and remained an important issue.

Since 1999 there has been some recovery with retention rates pushing back up to the heights reached in the early 1990s. Even so, across Australia 1 in every 4 secondary school entrants does not remain to Year 12.

National retention rates mask large variations in early leaving and completion across states and territories. Discussion of national trends in school retention conceals the fact that schools are divided along lines of state authority and are subject to differences in state economic conditions and in the composition and dispersion of domestic populations. The impact of these political and demographic differences is apparent in the rates of retention from 1981 by State and Territory presented in Figure 2.

**Figure 2: Apparent retention rates, by state and territory — 1981–2002**



Source: Australian Bureau of Statistics, *Schools Australia*, successive years, Cat No. 4221.0

It is important to note that the comparisons using ABS figures are not adjusted for differences in levels of grade repeating, part-time students and migration. These have had an influence on the figures for particular States. Yet despite these limitations, state comparisons are revealing because long-term patterns of growth or

decline occur within the contexts of state provision. Differences across States in economic conditions, in labour market opportunities, in senior school program development, in institutional reforms, as well as in populations can affect the rates at which opportunities in senior school are taken up.

Figure 2 shows that during the period of dramatic expansion in school completion in the 1980s, states displayed similar patterns of growth though the amount of growth varied. The states which began the 1980s with the weakest levels of retention, Tasmania and New South Wales, experienced weaker rates of growth compared to other states. This tended to widen the gaps over the decade. Therefore whereas in 1981 less than 15 percentage points separated the six states in the rates of retention, in 1992 over 30 points separated the states. For the two largest systems (Victoria and New South Wales), there was only a one percentage point gap in the rate of retention in 1981. By 1991, this gap had increased to 12 percentage points. Differences between states grew until the early 1990s. The differential downturn in rates of retention from 1992 led to some convergence across the states in rates of school completion, returning to the patterns of the early 1980s. In 2002, again about 15 percentage points separated the six states.

## **Aims of this report**

Variations in levels of completion are a major concern to governments and policymakers. There is widespread interest among governments in improving levels of completion as well as enhancing the transition from school to working life for young people. Differences in retention rates and post-compulsory participation across states and territories may be due to a range of non-policy factors (such as population differences, variations in dispersion, labour market and economic conditions, and migration) as well as policy factors (such as curriculum and certification structures, school organisation, education and training provision and age of school entry and leaving). To increase rates of completion means that it will be essential to identify the different sets of factors that drive completion rates including their interrelationships and the size of their impact.

Identifying the causes of early leaving is not an easy task. The factors that influence an individual's decision to drop out are complex, interrelated and may have been in play for many years before a person decides to leave school without having completed their senior school certificate. The effects of combined factors are cumulative and one cannot be identified as the sole cause. For example, early academic failure may be accompanied by feelings of low self-esteem, leading to continued failure and ultimately to disengagement from school.

A great deal of research has been done to profile the characteristics of early leavers. It is repeatedly observed that low-achievers and students from low socioeconomic status (SES) backgrounds are at a much higher risk of early leaving. Researchers have struggled to identify the characteristics that mediate the effects of low SES and poor grades on school completion and early leaving, and recently have focused more of their attention on school and community processes. Research needs to go beyond simply finding that individuals from low SES backgrounds are more likely to quit school. The challenge is to achieve a better understanding of the early

predictors of early leaving, so that educators can intervene at an early stage in children's school careers, keeping them on a positive path towards school completion.

This report will begin by examining what is known about the main drivers of retention and participation from previous research through a detailed review of Australian and overseas research on school completion and early leaving. It will move beyond simple descriptions of the relationships between different variables and completion by attempting to describe from existing research what is known about the process of early leaving. This will include consideration of how the process of early leaving is shaped by different contexts within which individuals are situated. Therefore, as well as examining the factors involved with the process of early leaving from an individual perspective, it will also examine how the process is modified by the school, community and regional contexts that shape and modify individual behaviour. For example, research has consistently documented that children from low SES backgrounds have a much lower rate of school completion than children from high SES families. Although there are variations within low SES groups, (e.g. by language background), for children from low SES families as a group the chances of completion vary according to the schools they attend, the states or territories they are in, the region where they live, and local labour market opportunities. In other words, the impact of SES on completion can be modified by a variety of contextual factors. Identifying and understanding the complex interplay of the background and contextual factors, and their relationships, is essential for designing interventions and shaping public policy in a more targeted way.

After identifying from existing research the sets of factors that have been shown to shape retention, we will then develop and apply a set of models of student retention for use as a tool for both predicting the impact of intervention strategies aimed at increasing retention and for measuring state and territory differences over time. Initially, this will mean using the results from existing studies to build conceptual models of the factors that affect completion. But we will then go on to test and apply the models using appropriate data. The results from this analysis of factors influencing current patterns of retention will then be used as a basis for a discussion on policy issues for improving student retention in Australia.

## **Structure of the report**

This report is divided into four parts: Part A contains a review of literature, Part B contains the results of interviews conducted with system representatives and school staff on factors influencing retention, Part C begins by presenting the models of retention developed from the literature review and interviews with experts and then goes on to present results from analysis of the factors affecting student retention across Australia; and Part D discusses the policy implications of the findings.

The review of current national and international literature, presented in Part A of this report is made up of five chapters. In Chapter 1, the focus is on learning about the reasons for early leaving from young people themselves. This chapter looks at the reasons early leavers give for abandoning school. Over the past decade, surveys of Australian school leavers have indicated that most young people's motives for



leaving are dominated either by the desire for work, or by a lack of interest in (and a dislike) of school. These two drivers influence the vast majority of early leavers. While the effects of these drivers are widespread, the probability that an individual student who ‘wants to work’ or who ‘dislikes school’ will actually leave school is only moderate. A far greater level of risk applies to a third group of students – young people who are homeless, whose parents may be seriously ill or absent, or where one or more parents may be affected by mental illness. This category also includes students whose families are highly mobile, students who fall into substance abuse, and girls who become pregnant. Although far less numerous, this group of students faces a higher probability of leaving school prematurely.

Chapter 2 focuses on the effects of demographic and individual background factors, including family, socioeconomic status, ethnicity, school achievement, gender, indigenous status, health and disability, homelessness, drug abuse, and other welfare problems. It develops a ‘draft’ model that connects the main *motivations* for leaving school with the *student background factors* that lie behind those motives. It discusses the interactions and processes that lead particular groups of students to develop strong dispositions toward early leaving. These groups of students are from families of lower socioeconomic status, students who find the academic curriculum of the school difficult, irrelevant, or unappealing, and students who are affected by severe welfare problems. Over time, many of these students develop negative attitudes to school, low academic self-esteem, and limited educational aspirations. These attitudes are precursors to early leaving.

In Chapter 3, the focus is on both geographical and economic contexts. In general, a weak youth labour market increases the likelihood that students will stay on at school. When would-be workers stay on, high schools are challenged to offer a new curriculum, including VET and work-based learning experiences that are relevant to this group. Labour market factors influence early leaving, but the effect is not uniform, since it varies across different geographical regions. For example, a scarcity of youth jobs tends to have different effects in the country and the city. The effects of student allowances and other forms of income support are also discussed in this chapter. The policy implications of these economic and regional analyses are foreshadowed.

Chapter 4 looks at what schools and school systems can do to reduce early leaving. It examines the effects of the school-level and systemic interventions and special programs supported within different jurisdictions. These again can be considered in terms of the groups affected by the three main sets of reasons given for early leaving — students drawn away from school by work and employment-related reasons, those wanting to leave because of their experiences in school, and students who are affected by severe welfare problems. It should be noted that the ‘categories’ sometimes merge, in that some individuals may belong simultaneously to all three groups, and some school and community programs may address all three problems. The chapter also examines the effects of the different assessment and certification regimes that characterise each jurisdiction. The section on schools examines the literature on school quality, pedagogical effectiveness, and the so-called ‘private school’ effect.

Chapter 5 presents information on some of the different measures that have been developed to address the issue of early school leaving and improve rates of completion. Given the range of physical, structural and dispositional barriers associated with early leaving, there is no single approach that will work with all groups. For this reason, some of the initiatives take an integrated approach providing support and guidance while also addressing welfare and personal needs. Others, though, attempt to focus on individual groups or involve strategies targeting specific needs. The programs presented in this chapter are not at all exhaustive of the large number of strategies that have been developed and implemented to address retention. Rather, they represent examples of some of the most effective initiatives.

**PART A**

**REVIEW OF NATIONAL AND  
INTERNATIONAL LITERATURE ON  
RETENTION**

# **1 Reasons for completion or early leaving**

---

## **Introduction**

A considerable amount of research has been undertaken into the reasons why young people complete school or leave early. Some of this work has examined the reasons young people themselves give for their decisions. While it may be difficult to ascertain the underlying causal factors from such work, possibly revealing symptoms rather than causes, it does provide insight into the rationalisations that young people develop and express for their decisions. This chapter looks at what can be learnt from such work about the reasons young people give for remaining or leaving school early. It also develops a conceptual model of the factors shaping choices based on young people's own rationalisations.

## **Educational plans and early leaving or completion**

Completion of school and early leaving are not spontaneous events but part of a process, often a long-term process. Those who do leave early have often been thinking about leaving for some time. This message becomes quite clear in research that looks at the relationships between plans and completion or early leaving.

In the United Kingdom, Ryrie (1981), who followed a cohort of 1,129 students over the last three years of compulsory education in eight Scottish comprehensive schools collecting information through personal interviews, found that over two-fifths of those who left school at age 16 years had already decided to leave three years previously. Ryrie concluded that choices about staying or leaving were based on assumptions of long standing. Similarly, a study by Varlaam and Shaw (1984) of 1,200 Year 11 students in Inner London secondary schools found that three-fifths of those who were intending to leave at 16 years said that they had 'always' meant to start work as soon as possible rather than stay at school. A much more recent study, which surveyed 1,284 Year 11 students from several schools, reported that 42 per cent recalled beginning the process of deciding on whether to remain or not in Year 10 or earlier, with 5 per cent recalling beginning to choose before the age of 13 (Foskett & Hemsley-Brown, 2001). It would seem that many young people do not change their minds once they have decided and the decision to stay or go is often made some time well before the actual event.

Similar rationalisations can be observed in young Australians. More often than not, those who say they will leave early do exactly that. In 1995, respondents in a national sample of Year 9 students were asked: 'When do you plan to leave school?'. Table 1.1 presents the percentages who left before Year 12 and those who remained to Year 12 by their school plans provided in Year 9. The results show that 70 per cent of students who indicated in Year 9 that they planned to leave school before Year 12 actually did so. This group represented about 8 per cent of the Year 9 sample. Many students (about 17 per cent) were unsure about their plans in Year 9. Approximately one-third of these students left before Year 12. Students who

planned to remain to Year 12 generally did so. Of the 75 per cent of students planning to stay until Year 12, 89 per cent did so. It suggests that by Year 9 many students have formed views about whether they will remain to the final year or leave school before then, and more often than not students follow through with their plans.

Even after taking account of a wide range of other factors that shape the likelihood of completion or early leaving — such as achievement, socioeconomic status, gender, ethnicity, region and attitudes to school — stated plans remain significant predictors of the students' eventual behaviour (Marks, Fleming, Long & McMillan, 2000).

**Table 1.1: School plans, by outcome — national sample of Year 9 students**

Outcome	Year-level at which plan to leave				
	Year 10	Year 11	Year 12	Unsure	Year 10/ Year 11
Early school leaver	74.1	53.6	11.0	31.9	70.1
Remained to Year 12	25.9	46.4	89.0	68.1	29.9
Total	100.0	100.0	100.0	100.0	100.0
Percentage of all	6.3	1.6	74.9	17.2	

Source: Figures derived by Stephen Lamb from the Y95 cohort of the Longitudinal Surveys of Australian Youth (LSAY). Sample size: 9,687. School plans were measured in Year 9.

Students stated intentions or 'aspirations' represent strong influences on the likelihood of school completion or not. Other Australian studies have reported this. In a study of over 2,300 students in NSW high schools, Ainley and Sheret (1992) found students' stated intentions in Year 9 provided a good indication of actual outcomes. Twenty-four per cent of the Year 9 sample (560 students) said they would leave school during or at the end of Year 10, and over 70 per cent of this group did not ever enrol in Year 11. On the other hand, 1,472 students (63 per cent of the sample) said they intended to complete Year 12, and 71.5 per cent of them did in fact participate in the final year of school.

### **Young people's reasons for completing or leaving school early**

One conclusion from these findings is that it makes sense to ask young people what their intentions are, and to find out what aspects of their life circumstances led them towards these intentions. Students who plan on completing or leaving early have their reasons. Some of them have positive plans: they want to leave school to enter an apprenticeship or take up a job. Others feel repelled by school rather than attracted by the workplace: many of these students state they 'don't like school'. Some say that they want to do subjects that the school does not offer, or want to leave for job training that is not available at school. There are a lot of very different stories that individuals tell about why they leave early, and while the patterns that

emerge are certainly complex, some generalisations that may be of value for educational policymakers and practitioners can be made. The material presented here provides an overview of recent research on the reasons young people leave school early.

Young people send very clear messages when asked about the reasons for leaving school before having completed Year 12. These are dominated by the desire for work, a lack of interest in (or a dislike of) school, and family or personal reasons. In the United States, for example, a national longitudinal survey that commenced with Grade 8 students in 1988 found that almost one-half of early leavers cited school-related reasons for leaving school early (see Table 1.2). Approximately 15 per cent cited economic and work-related reasons for leaving early, while up to a third of female early leavers and 13 per cent of males gave personal reasons.

**Table 1.2: Reasons for dropping out of school**

%	Male	Female	Total
<i>School related reasons:</i>			
Did not like school	57.8	44.2	51.2
Could not get along with teachers	51.6	17.2	35.0
Could not get along with students	18.3	21.9	20.1
Was suspended too often	19.2	12.7	16.1
Did not feel safe at school	11.5	12.8	12.1
Was expelled	17.6	8.9	13.4
Felt I didn't belong	31.5	14.4	23.2
Could not keep up with school work	37.6	24.7	31.3
Was failing school	46.2	33.1	39.9
Changed school, didn't like new one	10.8	15.8	13.2
<i>Work-related and economic reasons:</i>			
Couldn't work and go to school at same time	20.0	7.8	14.1
Had to get a job	14.7	16.0	15.3
Found a job	18.6	11.8	15.3
Had to support family	4.8	14.0	9.2
<i>Personal reasons:</i>			
Wanted to have family	4.2	8.4	6.2
Was pregnant	0.0	31.0	15.0
Became parent	5.1	22.6	13.6
Got married	3.4	23.6	13.1
Had to care for family member	4.6	12.2	8.3
<i>Other reasons:</i>			
Wanted to travel	2.5	1.7	2.1
Friends dropped out	16.8	11.3	14.1

Source: Figures derived by Stephen Lamb from the National Educational Longitudinal Survey.

Some Australian research shows similar findings. When asked why they left school, early leavers give remarkably consistent replies. From the survey on education and training experience in Australia, the Australian Bureau of Statistics (ABS 2000) reported that work-related reasons were the most often cited for leaving school before completing Year 12 (see Table 1.3). About 46.0 per cent of early leavers gave work and income-related reasons for quitting school. Most reported a desire to get a job or apprenticeship (42.5 per cent), while over 3 per cent reported that remaining at school would not necessarily help improve their chances of getting

a job. This latter finding suggests that there are some young people who leave school because they do not believe that staying on would help them to get a job. This view exists even though the early leavers may be concerned about their employment prospects. Similar findings have been reported by Lamb, Dwyer & Wyn (2000), using longitudinal survey data, and by Ainley and Sheret (1992), Pitman and Herschel (2002), Teese (2002), Smyth et al. (2000) and Craven et al. (2003).

These findings are consistent with those reported in the United Kingdom. There, work-related reasons are cited by early leavers as the most dominant reasons for not continuing beyond the minimum leaving age. Large surveys undertaken by Dean (1982b), Vaarlam and Shaw (1984), Kysel, West and Scott (1992) and Maychell and Evans (1998), all found that the wish to go to work and earn money was by far the most frequent reason that young people gave for leaving school at the minimum age.

**Table 1.3: Main reason for leaving school before completing Year 12 (a), 1997**

<b>Reason(b)</b>	<b>%</b>
<b>Work-related reasons</b>	<b>46.0</b>
Little difference to job prospects	3.5
Got (or wanted) a job or apprenticeship	42.5
<b>Schooling-related reasons(c)</b>	<b>35.0</b>
Did not do well or failed subjects	6.1
Did not like school or teachers	15.4
Lost interest or motivation	13.5
<b>Personal, family or other reasons(d)</b>	<b>16.0</b>
Own ill-health, injury or disability	3.4
Other reasons	12.6
<b>Total</b>	<b>100.0</b>

(a) 15–24 year olds only.

(b) Respondents nominated one reason only.

(c) Includes people who gave other schooling-related reasons.

(d) Includes people who gave other personal or family reasons.

Source: Education and Training Experience, Australia, 1997 (ABS Cat. No. 6278.0).

The second most common reason for early leaving is directly related to experiences of school. About 15 per cent of all leavers in the ABS study stated this explicitly, saying that they left school because they did not like school or did not like teachers (see Table 1.3). If those who leave school because they are failing or do not do well are added to those who simply do not like school and those who claim to have lost interest or motivation, it appears that approximately one in three of all early leavers do not find school a happy or satisfying place to be. According to these findings, young people will not stay at school if they are having a miserable time, are failing

academically, or are in trouble with teachers. For this group, it is the case even if they are not able to find work or do not have other education and training opportunities to go to (Fine, 1991; King, 1999; Spierings, 1999).

Some students leave school because of curriculum and program issues. They drop out of school because school does not offer the course they want to do or the courses that are offered are not relevant or of interest to them. Lamb, Dwyer and Wyn (2000) found that up to 15 per cent of early leavers report that their main reason for leaving school was to do training or study not available at their school. A recent survey of 1,125 Year 9 and 10 students in Queensland secondary schools found that a lack of curriculum choice in the lower secondary school leads some students to lose heart, believing that high school will not offer them the job training they want in order to prepare them for work (Pitman & Herschel, 2002).

Taken together, approximately one-third of all early leavers say the main reason they left school was because they did not like it, they were not doing well, or that they had lost interest or motivation to continue (ABS, 1997). If the first major motive for early leaving is the desire to work, then the second major factor is the desire to get away from school.

The third major set of reasons for not continuing in school relate to family and personal related factors. Table 1.3 shows that approximately 16 per cent of early leavers tends to give 'other' reasons for leaving school. This should not be dismissed as a 'miscellaneous' group, for buried within it we find young people who are among the most disadvantaged in our society. So extreme are their disadvantages that many of them are homeless, some become habitual truants, some become juvenile offenders, and many leave the school system before reaching the legal leaving age. Numerous official inquiries have been conducted by high-level bodies including Parliamentary Committees, and State and Commonwealth departments into the causes and consequences of youth homelessness and juvenile crime (see Beresford, 1993). These inquiries overwhelmingly found that homeless students and juvenile offenders came from families that are very poor, or families where domestic violence is not uncommon. In some cases these young people had been victims of sexual abuse. Broken school attendance and academic failure are common in this group. For example, the 1992 NSW Legislative Council's report into juvenile justice found an 'alarming' level of literacy and numeracy difficulties among offenders (NSW LCSCSI 1992:179), and the WA Legislative Assembly select committee on youth affairs found that among children who had appeared in court on five or more occasions but were still below the school leaving age, 80 per cent of them had not been in school at all during the previous year (WA LA 1992:11).

Broken attendance and early leaving are common where there is poverty, transience and ill-health. When a low-skilled worker loses a job or a family is re-located by public housing authorities, children have to change schools. High levels of mobility between schools are more common among students from families of low socioeconomic status. Where a family is poor and affected by illness or mental health problems, older siblings often carry out parental roles. Erratic school enrolment patterns, high mobility between schools, and broken attendance means that a good deal of school time is lost. A downward spiral in academic achievement



follows and this in turn leads to low academic self-esteem and disengagement from school (Beresford, 1993; Fine & Zane, 1989).

Some young people are homeless but still attempt to stay on at school. Others may be wards of the state, or orphaned refugee minors. Some young women fall pregnant and become mothers while they are still school students. While this group might represent a relatively small proportion of the overall student population, the probability that they will not make it to Year 12 is much higher than for other students in less disadvantaged categories.

### *Reasons for completing*

Work and career are often given by students who stay on to Year 12 as the main reasons for doing so. A survey of over 4,400 students in the United Kingdom reported that the three main reasons chosen for staying on at school to sixth form were: 'improving career prospects in general', 'qualifications necessary for chosen career', and 'wish to go on to higher education' (Vincent & Dean, 1977). Very few said that their main reason for staying was their interest in the subjects that they were studying. Another study of 800 sixth form students in inner London found that the reason most often given for staying on was to get qualifications in order to improve employment prospects (Dean 1982a). Similarly, Kysel, West and Scott (1992) reported that among students approaching the minimum leaving age, the three most frequent reasons given by those who intended to stay on all involved the wish to get more qualifications in order to improve employment prospects. More recently, a questionnaire survey of over 1,400 Year 12 students in schools and colleges showed that the three most important reasons given for staying on were the need to obtain appropriate qualifications to get a job, the wish to carry on studying, and the need to obtain qualifications for university entrance (Keys & Maychell, 1998).

While immediate work and earnings rather than a distant future career drive early leavers, career planning and career requirements are influential for those who remain in school until completion of Year 12.

### *Differences across groups*

While similar themes recur, the reasons young people give for leaving school early vary across different groups of students. There is a great deal of variation in the specific balance of student motives, depending on whether the student is an under-age leaver, leaves at the end of Year 10, during Year 11, or later. Motives also vary depending on where students come from (urban leavers tend to differ from early leavers in remote and rural areas). Gender plays a role in the balance of motives, for the work motive tends to have a greater pull on boys than on girls. Indigenous students, homeless students and the very poor have a somewhat different balance of motives.

Among the poor, for example, it is school that tends to dominate reasons for leaving school early. Work undertaken for the evaluation of the impact of Youth Allowance (YA) found that when students on YA were asked about their reasons for leaving

school before Year 12, the most frequently cited reasons focused on aspects of school (see Table 1.4). Early school leavers cited negative aspects of school, particularly course-related concerns. Over 40 per cent of Year 11 students cited course-based issues as the main reason for not remaining to Year 12. In particular, 18 per cent reported that the courses available in their school were irrelevant or boring, while a further 16 per cent stated that the difficulty of the courses discouraged them from continuing. The frequency with which school-related issues were raised was much higher among those on YA than for the general population of early leavers (see Lamb & Johnson, 2000).

**Table 1.4: Main reason given for early school leaving among YA Recipients**

Reason for early leaving	Year-level exited		All
	Year 11	Year 10	
Illness	1	5	2
Pregnancy	1	0	1
Family problems	2	6	3
Moved location	3	0	3
Got a job	11	15	12
Wanted a job	16	0	12
Financial problems	5	8	6
Course-related concerns	46	40	45
<i>Course was irrelevant or boring</i>	18	20	18
<i>Course was too difficult</i>	16	10	15
<i>Study was stressful</i>	8	3	7
<i>Interested in doing another course</i>	4	7	5
Expelled from school	3	6	3
Accepted into non-school course	11	17	13
Other	1	0	2
None/No reason	0	3	1
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

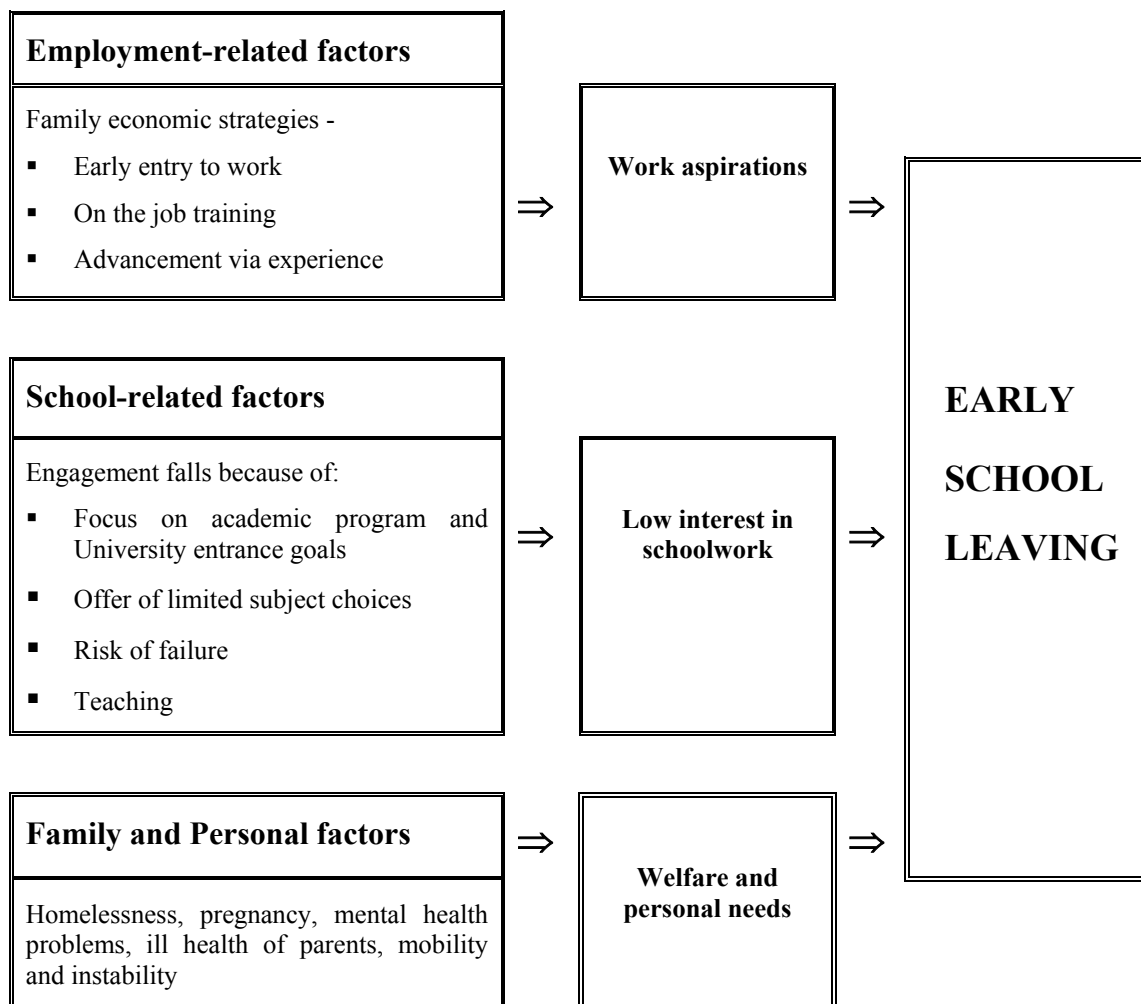
Source: Lamb & Robinson, 2000.

The results from this work suggest that, despite low levels of family income and the desire for employment, early school leavers among the poor are often compelled by issues related to the quality of their school experience. This is consistent with previous analyses of LSAY data (from the Y95 cohort in 1998) which showed that among early school leavers who received government income support after leaving school, negative experiences of school — a lack of achievement and advice from teachers to leave — were more influential in their decision to drop out of school before completing Year 12 than those reasons were among early school leavers who were not on YA (Lamb, 1997b).

## An emerging model of the factors driving early leaving

In this chapter, an attempt has been made to summarise the major reasons young people give for leaving school early. Students' own reasons for leaving school can be summarised under three main headings: work-related aspirations, low interest in school, and welfare and personal needs. These reasons for leaving school are represented schematically in the model presented in Figure 1.1. This model connects these reasons for leaving to the factors that lie behind them: employment-related factors, school-related factors, and family and personal factors.

**Figure 1.1: A conceptual model of the reasons young people give for leaving school early**



Although the main drivers of early leaving are presented as separate in this model, they are likely to be interrelated. When a teenager plans to leave school to get a job or earn an income, this tests the relevance of the high school curriculum. A curriculum that focuses largely on academic subjects designed mainly to prepare some students for university entry is likely to be seen by other students (especially

those with direct workplace aspirations) as boring, irrelevant and difficult. Despite the interactions between the two different motives for leaving, it is important to recognise that these can also operate separately: students who leave early for work are not always low achievers, and not all low achievers decide to leave school for a job.

The model outlined in Figure 1.1 tends to simplify the complexity of the causal web that connects the diverse situations students come from, to the wide range of experiences they encounter over the 12 or 13 years they spend within the school system. The next three chapters review the literature that addresses this complex web of interactions. Chapter 2 focuses on demographic and individual background factors, including gender, scholastic achievement, student aspirations and motivations, self-esteem, family socioeconomic status, ethnicity, indigenous status, health and disability, homelessness, and other social problems. Regional location (urban, rural or remote) is discussed in Chapter 3, as part of an analysis of economic and geographical factors that influence school completion and early leaving decisions. The effects of type of school attended (public, non-Catholic private or Catholic) are discussed in Chapter 4, alongside other factors, such as school quality, teacher quality, pedagogical effectiveness, special intervention programs, and systemic or jurisdictional policies.

## 2 Demographic and individual factors

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### Introduction

This chapter provides a review of the literature on the relationships between early school leaving and the demographic and individual factors that contribute to it. Research on demographic differences in patterns of completion and early leaving reaches well into the past. There are continuing differences in rates of completion linked to gender, SES, family structure, ethnicity, race, indigenous status and rural or urban place of residence. This chapter presents an outline of research on the differences related to these factors and some of the processes that produce them. In looking at the processes, there will be discussion of some of the precursors that mediate the relationships between particular groups of young people and the likelihood of completing school. These precursors include factors such as academic achievement (success and failure) as young people progress through school, education and work aspirations, school engagement and achievement motivation. It is often the formation of differences in these precursors that predisposes some groups of young people to complete school or leave early. For example, over time, through low achievement and scholastic failure, learner self-esteem tends to decline more often among students from families of low socioeconomic status, leading to increasing disengagement from school and a desire to leave school and get a job (Alexander, Entwisle & Olsen, 2001).

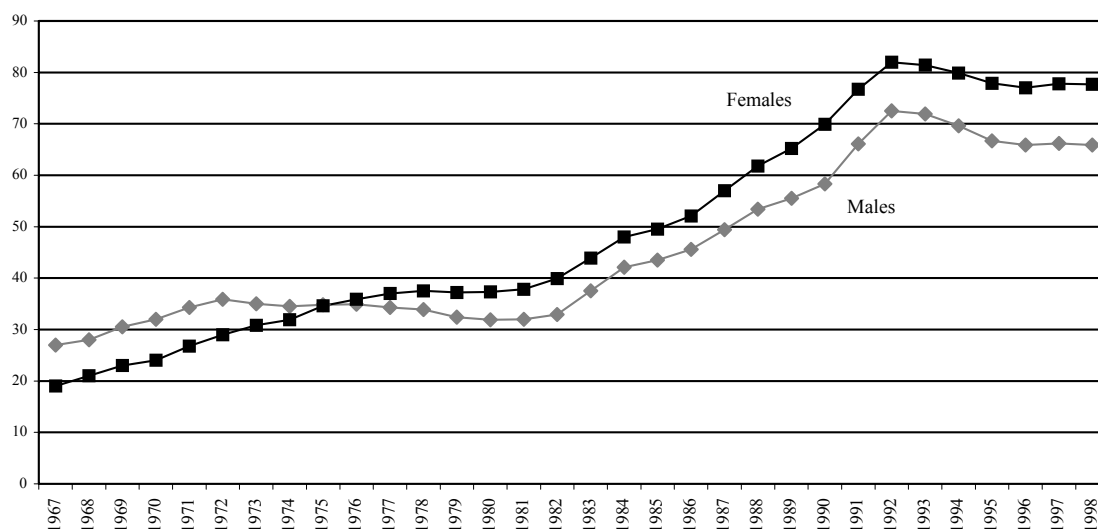
The chapter will begin by discussing research on the patterns of school completion and early leaving associated with different groups and will conclude by examining some of the underlying processes.

### Demographic factors

#### *Gender*

More girls complete school than boys, and the gap between the genders has persisted for some years. Figure 2.1 shows that from the mid-1970s girls' rates of Year 12 retention have exceeded those of boys. At the peak of retention in 1992, the gap was nearly 10 percentage points and since that time has been in excess of 10 points.

Some have argued that the gap has grown because girls outperform boys in school. That girls tend to do better than boys in particular subject areas has been well documented (MacDonald, Saunders & Benefield, 1999; Sukhnandan, 1999; Arnot et al. 1998). However, although girls at year 10 level on average may achieve better results than boys, girls are still more likely to stay on, even after taking this fact into account (Lamb, 1998; Lamb, Hogan & Johnson, 2001). The gender gap is more accentuated amongst young people with weaker Year 10 results. Outside of full-time education there are also marked gender differences in the pathways taken, with young women much less likely than males to enter work-based training, particularly apprenticeships (Lamb & McKenzie, 2001; Lamb, 2001; Collins, Kenway & McCleod, 2001).

**Figure 2.1: Apparent retention rates, by gender: Australia — 1967–1998 (%)**

Source: Derived from the Australian Bureau of Statistics, *Schools Australia* (Cat. No. 4221.0) series.

A major explanation for the differences lies in both long-term changes and gender segregation in the youth labour market, including both jobs and government-supported training (Lewis & Koshy, 1999; Payne, 1995). Long-term falls in full-time teenage job opportunities have affected both males and females. The teenage labour market has changed dramatically over the past twenty to thirty years. In 1966, approximately 65 per cent of 15 to 19-year-olds were in the labour force, and most of them were working full time. In the mid-sixties, only six per cent of teenagers were working part time, and teenage unemployment was negligible. By the mid-1990s, fewer than twenty per cent of 15 to 19-year-olds had full-time jobs, approximately thirty per cent were working part time, and the teenage unemployment rate was hovering around twenty per cent (Wooden, 1996; Lewis & Koshy, 1999). The decline in full-time jobs has been more marked for females than for males. Whereas half of all full-time jobs for teenage males have disappeared since the 1970s, over two-thirds for females have disappeared. As noted in a recent study, ‘young people were being squeezed out of the full-time labour market and had to lift their use of school. They began to experience this pressure earlier [than the 1980s] but it was felt more by girls than boys’ (Teese, 2002, p. 9).

Male-dominated apprenticeships were traditionally entered immediately after reaching minimum leaving age. These have remained an important source of employment and training for male early leavers. Karmel (1995) plotted total apprenticeship numbers as a proportion of the 15 to 19-year-old male population and found that the ratio has remained constant at approximately six to eight per cent of each male cohort for the past 32 years. Although girls tend to take up traineeship positions, only a small percentage of teenage girls enter traditional apprenticeships. In 1995–96, the female share of apprenticeships nationwide was 14 per cent (Ray et al., 2000). Apprenticeships thus remain overwhelmingly male dominated, reflecting the continuing gender segregation of the labour market.

Thus it would seem that girls remain in school not because schools are havens for them, but rather because girls face severe barriers at the point of labour market entry. Lamb & McKenzie's (2001) analysis of pathways of young people over seven post-school years shows that female early school leavers have much higher rates of unemployment or periods not in the labour force, lower participation in education and training, and lower pay than male early leavers. Even though both male and female early leavers do not do as well as completers, the economic and labour market consequences of early leaving are far more severe for females.

A combination of factors — the greater loss of full-time jobs, the growth of employment in the services sector requiring higher qualifications, the continuing relative lack of access to craft apprenticeships, rising entry-levels to key professions (especially nursing), and improved career aspirations for girls as compared to 25 years ago — have operated to maintain higher levels of female school participation (Teese & Polesel, 2003). Girls are also more vulnerable to unemployment and more reliant on part-time work. As a result of these factors, females complete school more often and aspire to tertiary education more often than males.

### *Family background*

There is a large body of research showing that family circumstances have a profound effect on educational attainment. Studies from the US, the UK, Canada and Australia have consistently found that factors related to the child's family circumstances are significantly related to the chances of school completion and early leaving. The factors include: SES, with those coming from poor backgrounds being less likely to complete; family structure, with those coming from large and single-parent families being less likely to complete; and parents' employment status, with those living with parents who are unemployed being less likely to complete Year 12.

A number of studies show that higher parental SES increases the likelihood of completion. The difference is big: in a longitudinal study of secondary school students undertaken during the late 1990s, 87.9 per cent of the children of families in the highest quartile of SES completed Year 12, compared to 65.7 per cent of the children of parents from the lowest quartile of SES (see Table 2.1). Conversely, nearly one in three children from low SES backgrounds left school by the end of Year 11, compared to only about one in ten of those from high SES backgrounds. The relationship between parents' SES and school completion has been documented in a large number of studies (e.g. Micklewright, 1989; Rumberger, 1983).

Part of the social class difference in completion is due to the effects of social class on achievement. Children from poorer families tend to do less well in school and low achievers more often leave school early. However, gaps in completion rates remain after differences in achievement have been taken into account (Lamb, Hogan & Johnson, 2001; Payne, 2001).

**Table 2.1: Attainment rates, by SES — Australia, 1999 (%)**

	SES quartile				All
	Low	Lower middle	Upper middle	High	
Left by the end of Year 10	13.4	9.4	8.5	4.0	8.9
Left by the end of Year 11	16.0	12.7	8.8	5.1	10.7
Left during Year 12	4.9	5.6	3.8	3.1	4.3
Completed Year 12	65.7	72.3	78.9	87.9	76.0
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: Derived by Stephen Lamb from the Y95 cohort of LSAY.

A number of US studies have found that children of the poor tend to have broken attendance records and frequently change schools, and as a result, their academic achievement suffers (Alexander, Entwisle & Olsen, 2001; Rumberger & Larson, 1998). Other US studies suggest that broken attendance patterns begin early in the school life of many children (Barrington & Hendricks, 1989). Australian research confirms that students with broken attendance patterns are more likely to come from families of low socioeconomic status than from privileged families (Brooks et al., 1997; Beresford, 1993). Poverty and broken school attendance patterns are linked for a number of reasons. Poverty may make it necessary for older siblings to carry parenting responsibilities when a parent is ill, or simply because there is no money for childcare (WA LA 1991, cited in Beresford, 1993). Australian data also suggests that poverty can increase residential mobility, so that poor children change schools more frequently than those who are well off (Beresford, 1993).

According to Rumberger (2001) a growing body of US research suggests that residential mobility (changing residences) and school mobility (changing schools) increase the risk of dropping out of high school. Alternatively, students who are having negative experiences may shop around for a new school, rather than drop out. In one study, Rumberger found that the majority of high school dropouts changed schools at least once before withdrawing, while the majority of high school graduates did not change schools at all (Rumberger et al., 1998). Poor attendance, mobility and low achievement are related to each other, and all three are related to dropping out, but the roots of all these factors are similarly based in family poverty.

Many students who leave early have poorer academic results and lower academic self-esteem than those who complete school (Ainley & Sheret, 1992). Teese and Polesel (2003:134) argue that working-class children are often vulnerable to early leaving because they find it difficult to establish a positive relationship with the academic curriculum. Children from low SES families start school from an inferior position and have great difficulty closing the gap. In fact, over time the achievement gap that existed at the point of entry to school widens rather than narrows (Karweit, Ricciuti & Thompson, 1994, cited in Alexander, Entwisle & Olsen, 2001). Academic performance at school assumes and demands conformity to particular behaviours that are culturally-specific and are consciously supported by families of high SES. The assumed behaviours include an emphasis on early



reading and language development, the eagerness of parents to participate in the tasks children bring home from primary school, and the continuing intense involvement of parents and other family members in their children's homework right through high school and on into Year 12. Schools assume that rudimentary number and reading skills will be rehearsed at home during the primary grades, but research studies show that this happens more in some kinds of households than in others (Hess & Holloway, 1984; Scott-Jones, 1984). It is assumed that these skills are rehearsed in daily experience in the community, though again, this does not happen in equal measure across class lines (Entwisle, Alexander & Olson, 1994). As these authors suggest, 'The drag of poverty, family stress and community decay doesn't suddenly turn off when children reach age 6 and the school's influence begins to weigh in.' (Alexander, Entwisle & Olsen, 2001:172).

The erosion of educational aspirations is much more common amongst young people from low SES families where parents have limited education and training than it is for students from homes with well-educated parents. As the academic progress of young people from low SES families weakens relative to that of their more privileged peers, they adjust their perceptions of what they hope to gain from life (Teese & Polesel, 2003). Over time, these students attach more importance to gaining job-related skills while at school, rather than getting good marks or excelling at tertiary entrance subjects. In their survey of 2,150 Queensland students, Pitman and Herschell (2002) found that students in public high schools were three times more likely than private school students to say that when they left school they would go to work, while private school students' aspirations mostly focused on post-compulsory education. Students who attend private schools share with their peers a taken-for-granted assumption that most of them will complete high school and enrol in some form of post-secondary education. For working-class students, the fading prospect of a career based on a university degree is replaced by the goal of getting an apprenticeship, or the hope of finding a good job 'if you look hard enough'.

### *Family Structure*

Research has also demonstrated that family structure predicts dropout behaviour independent of socioeconomic status. Specifically, students from single-parent and step families are more likely to drop out of school than students from two-parent families (Astone & McLanahan, 1991; Carbonaro, 1998; Ekstrom et al., 1986; Goldschmidt & Wang, 1999; McNeal, 1999; Rumberger, 1983; Rumberger, 1995; Rumberger & Larson, 1998; Swanson & Sneider, 1999; Teachman et al., 1996). However, one recent study found that a change in dissolution of two-parent families did not increase the likelihood of dropping out apart from its effects on income loss (Pong & Ju, 2000).

Until recently, there has been relatively little research that has attempted to identify the underlying processes through which family structure influences dropping out. The powerful effects of parental education and income are generally thought to support human capital theory. According to human capital theory, parents make choices about how much time and other resources to invest in their children based on their objectives, resources, and constraints which, in turn, affect their children's tastes for education (preferences) and cognitive skills (Haveman & Wolfe, 1994).

Parental income, for example, allows parents to provide more resources to support their children's education, including access to better quality schools, after school and summer school programs, and more support for learning within the home. Human capital theory also suggests that parental expectations are also important — indeed, studies show that parental expectations predict high school completion even after controlling for the effects of parental education and income (Rumberger, 1995; Swanson & Schneider, 1999).

Sociologist James Coleman argued that human capital (parental education) and financial capital (parental income) were insufficient to explain the connection between family background and school success. He argued that social capital, which is manifested in the relationships parents have with their children, other families, and the schools, also influences school achievement independent of the effects of human and financial capital (Coleman, 1988). Although Coleman relied on indirect measures (e.g., family structure) of social capital in his research, some recent studies with more direct measures of family relationships have confirmed that strong relationships between students and parents reduce the odds of dropping out of school (McNeal, 1999; Teachman et al., 1996).<sup>1</sup> Social capital actually represents part of a larger research literature on the role of families in promoting student achievement, including parental involvement (Epstein, 1990; Suichu & Willms, 1996) and types of parental practices known as 'parenting style' (Baumrind, 1991; Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987; Steinberg, Lamborn, Dornbusch, & Darling, 1992). Empirical studies have found that students whose parents monitor and regulate their activities, provide emotional support, encourage independent decision-making (known as authoritative parenting style), and are generally more involved in their schooling are less likely to leave school early (Astone & McLanahan, 1991; Rumberger et al., 1990; Rumberger, 1995).

### *Ethnicity*

Young people from language backgrounds other than English are much more likely than those from English-speaking backgrounds to stay in full-time education after reaching the minimum age and complete Year 12. This is true of most ethnic groups that can be distinguished in available statistics. Young people of Asian origin have particularly high levels of completion. The analysis of a national longitudinal sample in Australia found that students whose fathers were born in Vietnam have a Year 12 participation rate of 93 per cent, those born in Greece 82 per cent, and in Lebanon, 80 per cent (Marks et al., 2000). Logistic regression analyses to assess the independent effects of ethnicity, after controlling for academic achievement, gender, and fathers' occupational background demonstrated that for students with fathers born in Southern Europe, the odds of participating (rather than not participating) in Year 12 were 2.2 times higher than for students whose fathers were born in Australia. The equivalent figure for students whose fathers were born in Asia suggested odds 4.8 times higher than for students whose fathers were born in Australia.

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<sup>1</sup> As Portes (1998) points out, in using the concept of social capital, it is important to distinguish between the relationships themselves and the access to resources that such relationships provide.

The high staying on rates for students from language backgrounds other than English are found despite the fact that young people from these origins are not, on average, more successful academically in school (though achievement levels are certainly higher for some groups). The patterns have been linked with higher educational aspirations (Sturman, 1985).

US reports show some ethnic subgroups seem to perform even better than Caucasian Americans in terms of Year 12 completion and it occurs with stronger academic achievement. For example, Steinberg, Dornbusch and Brown (1992) demonstrated that Asians are more successful in school than other ethnic groups because of two cultural beliefs: (1) a belief that success results from effort rather than ability, and (2) a belief that one damages ones' chances of success by not getting a good education (education is a necessary condition for success but it cannot be assumed that it will automatically lead to success). Sociocultural inquiries such as this rest on rather small samples, but they do illustrate the complexity of the causal texture linking ethnicity with measures of school completion.

One of the most challenging educational issues facing the US is understanding and solving the persistent disparities in achievement among racial and ethnic groups. While much of the focus on this issue has centered on student achievement as measured by grades and test scores (e.g., Jencks & Phillips, 1998; Steinberg et al., 1992), there has been considerable attention to understanding and explaining differences in dropout rates (Fernandez et al., 1989; Ogbu, 1989).

Two general approaches have been used to explain differences in dropout rates among racial and ethnic groups. The first approach is based on the idea that differences in dropout rates and other measures of educational achievement can be explained largely by differences in resources and by human and social capital frameworks that suggest these factors affect achievement similarly for all groups. This approach was used by the National Research Council Panel on High-Risk Youth who focused their study on the high-risk settings of family, school, and community to explain the poor outcomes of high-risk and minority students (National Research Council, Panel on High-Risk Youth, 1993). Indeed, the family, school, and community conditions for racial and ethnic minorities in the US are generally much worse than for the white majority. For example, child poverty rates for African-Americans and Hispanics are more than twice as high as child poverty rates for Anglo-Saxons (US Department of Education, National Center for Education Statistics, 2000, Table 21). As a result, minority students are more likely to attend high-poverty schools that have lower levels of resources and poorer learning environments.<sup>2</sup> Several empirical studies of dropouts have found that at least half of the observed differences in dropout rates between racial groups can be attributed to differences in family and community characteristics (Fernandez et al., 1989; Rumberger, 1983; Velez, 1989). Another study found that up to half of the observed differences in dropout rates between whites and minorities would be reduced if racial groups attended schools with similar racial and socioeconomic compositions (Mayer, 1991).

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<sup>2</sup> Recent reforms may be exacerbating these differences. For example, California's class size reduction program has increased the disparities in the proportion of fully credentialed teachers between high and low poverty schools (Stecher & Bohrnstedt, 2000, Figure 3.4).

The second approach is based on the idea that differences in resources and conventional theories are insufficient to explain differences in achievement among racial and ethnic groups. In particular, critics of the first approach argue that it fails to explain why some minority groups with similar levels of ‘socioeconomic’ background succeed, while other groups do not. Instead, they argue that sociocultural factors—particularly cultural differences in values, attitudes and behaviours — help explain why some racial and ethnic minorities are successful in American schools and others are not.

Ogbu (1989, 1992), one of the best-known proponents of the sociocultural perspective, argues that minorities can be classified into two groups: (1) voluntary minorities who came to the United States by their own choosing (e.g. European- and Asian-Americans), and (2) involuntary minorities who were brought into the United States against their will, either through immigration or domination (e.g., African-Americans and early Mexican-Americans). Voluntary and involuntary minorities view school success very differently: ‘Voluntary minorities do not perceive learning the attitudes and behaviours required for school success as threatening their own culture, language, and identities, [while]...involuntary minorities do not seem to be able or willing to separate attitudes and behaviours that result in academic success from those that may result in linear acculturation or replacement of their cultural identity with White American cultural identity’ (Ogbu, 1992:9–10). Although Ogbu’s perspective offers an appealing explanation of minority groups’ differences in achievement, empirical support for this perspective is limited (Ainsworth-Darnell, 1998; Cook & Ludwig, 1997; Matute-Bianchi, 1986; Farkas et al., 1990; Gibson, 1997).

Some UK studies suggest that higher completion rates are related to economic outcomes. Hagell and Shaw (1996) argue that minority ethnic groups are pushed into staying on in education because they have a greater risk of unemployment if they enter the labour market as soon as they reach the minimum leaving age (Payne, 1998). However Wrench and Hassan (1996) argue that their high staying on rates are caused by both positive and negative factors. They claimed from their research that students from minority ethnic groups remained on longer at school because of above average ambitions and the high value placed on education among ethnic minority communities as well as because of the fear of unemployment and racial discrimination in the labour market.

Other studies have also shown differences among racial and ethnic groups (e.g. Jordon, Lara, & McPartland, 1996; Rumberger, 1995). Steele (1997) demonstrates that the social stigma of intellectual inferiority among certain cultural minorities — referred to as stereotype threat — contributes to their lower academic achievement. What has yet to be demonstrated empirically is whether these more recent sociocultural perspectives can help explain racial and ethnic differences in dropout rates.

### *Indigenous status*

Nationally, the apparent retention rate to Year 12 for non-Indigenous Australians was 72.7 per cent in 1998, but for Indigenous students the apparent retention rate was 32.1 per cent, less than half the rate achieved by other Australians. In Queensland, this figure was 50.3 per cent: in WA and SA it was 19.8 per cent and 18.4 per cent respectively; and in the NT it was a low 11.4 per cent (Commonwealth Grants Commission, 2001:B-28).

These quite substantial differences between Australian jurisdictions in the proportions of Indigenous children who complete Year 12 demand further analysis. Since the proportions of students living in remote locations are uneven across jurisdictions, this needs to be taken into account alongside an analysis of the effects of different approaches to policy and provision.

In his paper produced for the Koori Research Centre, Gardiner (1996) reports that among Indigenous youth, males have much poorer retention rates and participation rates than females. In Victoria, one in five Indigenous males complete high school, compared with two in five for Indigenous females, and four in five (on average) for all students. In Gardiner's view a decrease in educational participation correlates with an increase in juvenile crime, particularly among 14- to 16-year-old Indigenous males. The House of Representatives Standing committee on Education and Training's report on truancy and exclusion from school also notes a strong correlation between dropping out before the required legal age and criminal activity (1996:41). The report notes high rates of truancy and absenteeism for Indigenous students, a finding also confirmed in Rothman's (2002) report on student absence in South Australian schools. He found that on average, in 1997 and 1999, Indigenous students were absent 17 per cent of the time; more than twice the average level for non-Indigenous students. Poor attendance depresses academic achievement but also has negative social effects, in that absentees and truants tend to become social outsiders who feel that they do not 'belong' at school (as in Willis' classic study of 'the lads').

A number of studies have attempted to ascertain how Indigenous parents and students think about education and how their aspirations and motives compare with those of non-Indigenous parents and students. McInerney (1991) interviewed 106 Indigenous parents and 108 non-Indigenous parents, and surveyed 2,512 students in rural high schools in NSW: of the students surveyed, 953 were Indigenous. He found a widespread belief among Indigenous students and parents that, although education was 'theoretically' valuable for future employment, for them, good jobs often seemed unattainable, so schooling itself was devalued. As part of a commissioned research report on the aspirations of Indigenous young people, Craven et al. (2003) conducted a national survey of Indigenous (n = 517) and non-Indigenous (n = 1,151) students. This research supported McInerney's findings. Indigenous and non-Indigenous students were both asked whether employer attitudes towards them might act as a barrier to achieving their aspirations. Approximately 40 per cent of the non-Indigenous students were worried about employer attitudes while approximately 30 per cent said such attitudes did not trouble them at all. In contrast, among Indigenous students, only one in ten said employer attitudes did not trouble them at all, and over 60 per cent said employer attitudes would (somewhat or a great deal) act as a barrier to their aspirations.

Since the instrumental value of schooling is so negatively affected by their dismal future employment prospects, it is not surprising that both the McInerney (1991) and Craven et al. (2003) studies also found that Indigenous students' educational aspirations are much lower than those of non-Indigenous students.

### **The process of withdrawal from school**

The decision to leave school early comes at the end of a long process (Entwisle, Alexander & Olsen, 1997). It is not a single act or event; rather, the decision to leave school represents the culmination of many years of interaction between a young person, his or her parents, teachers, and the school and community contexts in which he or she develops (Audas & Willms 2001).

Mostly, early leavers display *several* risk factors rather than just one factor. For example, the overwhelming majority of homeless youth are also low achievers and most often come from families of low socioeconomic status (Beresford, 1993). Over time, learner self-esteem tends to decline among students from families of low socioeconomic status, and the achievement gap increases across social lines (Alexander, Entwisle & Olsen, 2001). Risk factors combine in a multiplicative fashion. Therefore, they need to be considered simultaneously, not separately. As Batten and Russell (1995) argued:

It is indeed very difficult to define relationships between risk factors and educational outcomes with precision because the relationships are highly complex, and ultimately, not known. One thing is clear, however: the concept of single cause-effect relationships in this area is a nonsense. ... Relationships need to be viewed as forming a dense and complex web of inter-related, interacting, multi-directional forces (1995: 50)

The interaction of four factors — underachievement, poor academic motivation, disengagement from school, and poor peer relations — are significant predictors of early school leaving.

#### *Academic achievement*

Academic performance plays a major role in the decision to leave school. The relationship between poor academic achievement and early leaving is well established in the international literature. Recent US studies indicate that it also plays an important *long-term* role in the dropout process. Differences in performance are evident from the beginning of formal schooling, but the longer students remain in school, the larger the differences between them become (Alexander, Entwisle & Olsen, 2001; Lloyd, 1978).

Using longitudinal data from two US high schools, Barrington and Hendricks (1989) showed that it was possible, using 'failing grades' as a criterion, to predict who would drop out of school as early as the ninth grade. In a cross-sectional study of two cohorts of Canadian students Janosz et al. (1997) compared the weight of different dropout predictors and found that school achievement and commitment to school were better predictors of early leaving than several other family, behavioural and social variables. Using the US High School and Beyond data set, Whelage and

Rutter (1986) conducted a discriminant analysis comparing dropouts with completers and college-bound students, and found that, while the students' expected attainment was by far the most powerful variable, test results, SES, and Grades also emerged as powerful predictors, and that these were of roughly equal magnitude.

In a series of studies based on the Youth in Transition (YIT) and LSAY data sets, Williams et al. (1993) conducted multivariate analyses to explore the factors that best predict early school leaving in Australia. In this study, early academic achievement measures emerged as strong predictors of school completion. As Williams et al. wrote, 'If a student's scores in the lowest quartile at age 10, his/her chances of completing Year 12 are about one in five. On the other hand, a student scoring in the top 25 per cent of all students at age 10 has about four chances in five of completing Year 12 some seven or eight years later' (1993:62). As in the US studies, it is evident that achievement plays a long-term role in the school leaving process.

This work suggests that as young people ascend school, those who have struggled to achieve academically come under greater pressure as the demands increase. Most young people in Australia complete Year 10 and begin senior school studies. However, low achievement and poor motivation for schoolwork take their toll as the more specialised programs of the senior school are encountered. Senior school studies generally have a theoretical emphasis (for a discussion, see Teese & Polesel, 2003). Students are expected to work on concepts and ideas, on principles and laws, on abstractions, and to take greater personal responsibility for their progress. Organisation, commitment, and time management become crucial with stipulated attendance rules, work requirements, and (in Year 12) the competitive nature of graded assessment. Insecurity grows in these final years as students come under pressure to make good choices of subjects and to set at least provisional plans for tertiary education.

#### *Achievement motivation*

Based on his substantial review of the literature, Finn (1989) theorised that dropping out results from a downward spiral of failure, frustration, and declining self-esteem. Measures of motivation to learn are rarely included in dropout research *per se*, but they do play a prominent role in research on student achievement. For example, in studying Year 11 girls attending a Melbourne school, Ainley (1993) identified a motivational variable comprising six styles of learning that students used for strategising their schoolwork, and demonstrated the importance of these learning styles as a predictor of school achievement. Astone & McLanahan (1991) and Kaplan et al. (1997) found that low grades are among the first signs of future dropout, but that during the early years of high school, motivation to learn declines among some low achievers, putting them on the trajectory towards disengagement and early leaving. Declining achievement motivation, a sense of powerlessness, and low self-esteem accompany the process of disengagement from school. Based on a multi-school investigation of 4,000 students, Vallerand and Fortier (1997) developed a structural equation model from which they concluded that school support for student autonomy can strengthen intrinsic motivation and student self-determination, thus reducing the likelihood that students will drop out.

### *Engagement with school*

Student disengagement from school can be driven by social as well as academic factors. Social engagement refers to conformity with the norms of the school as an institution (i.e., attending school and sustaining appropriate behaviour in class and in the playground) as well as to informal aspects of engagement such as peer relationships and getting on with teachers. In the Wehlage and Rutter (1986) paper referred to above, the authors demonstrated that although academic motivation is a powerful predictor of dropping out, disengagement plays an important additional role. Truancy, discipline problems, lateness and hours worked emerged as important predictors once the academic factor was partialled out (1986: 380). As Wehlage and Rutter explain, inclusion of a disengagement function alongside the academic function improved the explanatory power of their model, because it discriminated between low achievers who did *not* drop out and academically similar students who disengaged *socially* and did drop out.

Attendance is a major marker of engagement. Truancy and broken attendance patterns are among the most visible signs of disengagement from school, and are strong predictors of early leaving (Brooks et al., 1997; Barrington & Hendricks, 1989). In their longitudinal study of 651 Wisconsin school students, Barrington and Hendricks compared high school graduates with dropouts on a number of dimensions, including records of absence during the elementary and secondary years. Dropouts showed a pattern of increasing absences throughout their school career. Using absenteeism data, the authors were able to distinguish dropouts from graduates with 66 per cent accuracy by the 3rd grade. By the 5th grade, the dropouts, on average, were absent twice as often as the graduates, by the 9th grade three times as often, with the pattern continuing through the high school years (1989: 312).

Absenteeism and truancy seem to be under-researched in Australia. Some authors who have addressed this issue suggest that not all States and Territories have adequate mechanisms in place for regulating compulsory school attendance or for gathering accurate data on this problem (Beresford, 1993:18; Brooks et al., 1997: 37). In 2002, Rothman published a report on student absence in South Australian schools, and claimed that his was 'the first report of student absences in any Australian government school system' (2002:72). He found that on average, in 1997 and 1999, South Australian students were away from school 7.4 per cent of the time. However, lower SES students (school card holders) were absent significantly more often than middle-upper SES students, and absenteeism among Indigenous students (who were absent 17 per cent of the time) was more than twice the average level for non-Indigenous students.

Poor attendance depresses academic achievement but also has negative social effects. Over time, absenteeism threatens peer relationships so that absentees and truants tend to become social outsiders who feel that they do not 'belong' at school.

This work suggests that early leavers are less engaged in school life and become more so over time as they progress through different stages of school. Students who begin to disengage from school lose their identification and bonds with school and



become more inclined to leave. Often the final stages of disengagement from school are precipitated by working long hours or teen pregnancy. As one study noted, 'it may be that early school failure begins a cycle of rejection by students and teachers alike, and the one rejected becomes in turn the one to reject the school environment. Or it may be that a combination of an unsuitable curriculum that seems uninteresting and irrelevant to some and lack of attention from teachers makes it difficult for some students to connect with educational goals' (HRD, 2000). Early leavers report more often that they find their classes not interesting. Male leavers in particular report finding their classes boring. They begin to view class and school as a 'prison' and more often than completers select that image as their description of school (Teese & Polesel, 2003). Fewer early leavers than completers participate in extra-curricular activities and they more often skip classes. They also report more often not getting along with their teachers and to feel that they do not fit in (Teese and Polesel, 2003).

### *Peer relationships*

Relationships with teachers and peers affect students' perceptions of the quality of school life (Batten & Girling Butcher, 1981). A repeated theme of the interviews Smyth et al. (2000) conducted in South Australian high schools was that peer harassment is often a serious problem for at-risk students. In 1994, the House of Representatives Standing Committee on Employment Education and Training (HRSC-EET) reported that about one in seven students in Australian schools are bullied, that victims of bullying have significantly lower levels of self-esteem, and that this contributes to underachievement and early leaving. This report noted that racism is evident in schools, taking the form of name-calling, verbal abuse, exclusion, and physical violence. The effect of racism on Indigenous students was described as 'significant' and that it contributes to their generally low academic performance.

Other work has shown that peer relations can have a strong influence on the decision to drop out. A Canadian study reported that less than one-half of early leavers have friends who think school is important, compared to four-fifths of graduates. Audas and Willms (2001) in a study of 14- to 16-year-old Montreal students reported that those at risk of leaving early tend to have slightly fewer friends than those likely to graduate, and are not well-integrated into the school social network. They have more friends who have already dropped out or are working and they also tend to have older friends.

## **Conclusion**

The literature reveals a range of demographic and individual factors that impact on the likelihood of school completion. In particular, there are continuing differences in rates of completion linked to gender, SES, family structure, ethnicity, race, and Indigenous status. The interactions of these individual factors with different motivations for early leaving leads to particular groups of students developing strong dispositions toward non-completion. These groups of students are from families of lower socioeconomic status, students who find the academic curriculum of the school difficult, irrelevant, or unappealing, and students who are affected by

severe welfare problems. Over time, many of these students develop negative attitudes to school, low academic self-esteem, and limited educational aspirations. Thus the relationships between different motivations for early leaving, such as disengagement from school, underachievement, poor academic motivation, peer relations, and education and work aspirations, work alongside student characteristics to become significant predictors of early leaving.

The decision to leave school early comes at the end of a long process and represents the culmination of many years of interaction between a young person, his or her parents, teachers, and the school and community contexts in which he or she develops. The following chapters investigate how the patterns of early leaving and school completion linked to individual and demographic factors seen here are modified by regional and economic factors, and then by school policies and context.

## 3 Regional and economic contexts

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### Introduction

Entry to the workforce — or the desire to find a job — as reported in Chapter 1 is a major reason young people give for leaving school early. When the hope of finding a job dries up, many young people abandon the goal of entering the workforce in favour of staying in school. Often they do so reluctantly, as they find the academic curriculum irrelevant to their longer-term view of who they are and what they want to do with their lives. The collapse of the youth labour market over the past twenty years has presented schools with the challenge of providing new curricular options for these young people. In this chapter, we describe the causal texture that connects economic factors such as wages, unemployment rates, and allowances with measures of educational participation and school completion. In addition we will explore these differences at a regional level.

### Labour market factors

A simple formulation of the relationship between early leaving and youth employment suggests that, generalising across regions and taking the longer view, there is a negative relationship between the strength of the youth labour market and the proportion of young people who stay on. This simple formulation does not always hold up, and there are a range of sophisticated economic models that have been developed to explain issues such as regional differences in the nature of the labour market (Miller, 1983; Raffe & Willms, 1989) and gender effects (Wooden, 1998; Collins, Kenway & McLeod, 2000). Economists typically explain the decision to stay on or leave school in terms of factors that either reduce the costs or increase the benefits of completing education to a particular level. They represent the process as one that is driven by decisions at the household level. The costs of education are of two kinds — direct costs, that is, fees and related items (less any student allowances), and opportunity costs, that is, the amount of income foregone because individuals who are enrolled in school on a full-time basis are unable to enter the full-time labor market. In a weakening youth labor market, since the likelihood of getting a job on leaving school is reduced, the opportunity costs are lowered, so there is a tendency for retention rates to increase.

More students might, therefore, be expected to stay on at school when the youth unemployment rate rises or the value of youth wages falls. An alternative measure of the strength of the youth labor market is the youth employment-to-population ratio. Because these two measures are linked, it is not surprising that high school retention rates are responsive to both factors; they increase when the youth employment-to-population ratio falls or when the youth unemployment rate increases. Of these two measures, the employment-to-population ratio provides a better indication of the strength of the youth labor market, for the following reason.

Several Australian economists have developed models that examine how teenage school participation rates vary with changes in 15 to 19-year-old employment-to-population ratios, levels of available student allowances, unemployment benefits,

junior wage rates, and household disposable income. Several of these studies focus on only one or two variables, asking (for example) how changes in teenage unemployment rates might affect the decision to remain at school (Andrews, 1997). These studies have a major drawback, in that they capture only part of the picture. Since key explanatory variables have been left out, the effect size for the variables that have been included tends to be exaggerated.

A clearer understanding of the relationship between youth employment and early leaving can be gained from comprehensive studies that examine, simultaneously, the effects of labor market conditions, household income, youth wages, student allowances and unemployment benefits on both the labor force participation and the education participation of teenagers. Reviewing the Australian literature, an important foundational study is that of Larum and Beggs (1989). More recently, their findings have been updated by Lewis and Koshy (1999).

Larum and Beggs (1989) modeled teenage workforce participation rates *and* teenage education participation rates against a wide range of relevant factors. They defined workforce participation as the proportion of the 15 to 19-year-old age group engaged in either full-time or part-time work, and education participation as the proportion enrolled in a particular education or training activity. Instead of using the teenage unemployment rate as a measure of labor market conditions, they used data for both part-time and full-time employment-to-population ratios for the 15 to 19-year-old age group, thus achieving a greater degree of disaggregation of the 'labor market conditions' variable. The data used were from the ABS household surveys covering the period 1978(3) to 1987(2), supplemented by other governmental sources that specified the current values of student allowances and unemployment benefits.

The authors found that school participation rates increased as household income and student allowances increased and as the teenage labor market weakened. Substantial effects were identified for household income, the teenage full-time employment-to-population ratio, student allowance levels, and a variable measuring changes in the unemployment benefit eligibility test. Associations between school participation rates and the three other variables included in the analyses — the part-time employment-to-population ratio, the real value of junior unemployment benefits, and the real junior wage level — were not statistically significant.

#### *Household income*

Larum and Beggs (1989) obtained an estimated elasticity of 0.7 for real household disposable income, which implies that a one per cent increase in family income would raise the school participation rate by 0.7 per cent, thereby increasing enrolments (on average) by about 8,000 students. Economists typically use elasticities to report the percentage change in one quantity in relation to another (for example, the percentage change in the quantity of some good purchased, in relation to the percentage change in the price of that good). In this article, Larum and Beggs report the percentage change in *school participation* in relation to: (a) the percentage change in household income; (b) the percentage change in student allowances; and, (c) the percentage change in 15 to 19-year-old employment-to-population ratio.

### *Student allowances*

Larum and Beggs (1989) found that increases in student allowances raised school participation rates: a statistically significant elasticity value of 0.05 was obtained for the student allowances variable. This elasticity value is small: it suggests that a doubling of student's benefits may increase secondary school participation rates by only 10 per cent. Because the measure they used combined the numbers of recipients and the value of the allowance, they conducted a 'preliminary assessment' of the effects of (a) the value of the allowance, and (b) the probability of receipt. They found that 'virtually all the explanatory power was in the latter variable.' (1989:136). This result suggests that the availability of an allowance may have a greater effect on student incentives than the actual value of that allowance.

Over the period since this report was published student allowances have been through a number of transformations. These changes and their consequences are discussed in Chapter 5.

### *The youth labour market*

In modelling the relationships between school participation and the youth labor market, most economists use the 15 to 19-year-old employment-to-population ratio rather than the unemployment rate as a measure of labour market strength. The reason is as follows. Unemployment rates (UR) are calculated by dividing the number of people in a particular age group who are seeking work but cannot find it (U), by the number of people in that age group who are in the labor force (LF). The labor force (LF) includes the employed and the unemployed, but it does not include people who are in full-time education. As high school retention rates increase, the size of the 15 to 19-year-old labor force decreases. Since,  $UR = U/LF$ , when the youth labour market is shrinking UR becomes an unreliable measure, because its denominator is falling. By way of contrast with the unemployment rate, the employment-to-population ratio has a denominator which, while not exactly constant, is much more steady than is LF. The employment-to-population ratio, EPOP, equals  $E/POP$ , where E is the number of 15 to 19-year-olds who are employed on a full-time basis, and POP is the total civilian population of 15 to 19-year olds in that cohort. This measure declines as the proportion of youth able to find full-time jobs declines, and is unaffected by the increase in the proportion of young people who engage in part-time employment while remaining in full-time education.

For the full-time employment-to-population ratio variable, Larum and Beggs (1989) found a negative association, indicating that as the proportion of the teenage population in full-time employment decreases, the school participation rate increases. As expected, a weaker teenage labor market (i.e. a reduction in the availability of jobs) means that there are fewer incentives for young people to leave school. Young people's choices are affected by the opportunity cost of remaining in school. If the employment-to-population ratio decreases then the expected cost of staying on also decreases. The income a young person might expect to earn on leaving school depends on the probability of employment (including the expected duration of unemployment during the search period) and youth wages. While youth

wages tend to be stable, in a weakening youth labour market the probability of employment falls. The elasticity value of 0.35 obtained for the association employment-to-population and school participation suggests that this factor has important effects on school participation rates.

There is a danger that the correlation between the teenage school participation rate and the employment-to-population ratio may be spurious, as Merrilees (1981) pointed out. A small and relatively constant proportion of teenagers are neither in school nor in the labor market. After taking these into account, Merrilees found that teenage labor force participation and education participation are inevitably tied in an inverse relationship. Technically speaking, the two variables are endogenous, or jointly determined. Larum and Beggs (1989) conducted a Hausman test for this type of simultaneous equation endogeneity, and concluded that this problem had negligible effects on the validity of their estimates.

To summarise, the main findings of the Larum and Beggs (1989) study suggest that teenage school participation rates:

- are positively associated with higher family incomes, meaning that students from high-income families are more likely than those from low-income families to remain in school
- increase when student allowances increase or when allowances become more widely available, and
- increase as the availability of full-time teenage employment falls, other things being equal.

These findings hold up over a range of studies and are largely consistent with the more recent work of Lewis and Koshy (1999). Using ABS data for the period from 1980 to 1995, they found that teenage school participation rates:

- increase as the availability of full-time teenage employment falls, and
- increase when student allowances increase in value.

The Lewis and Koshy (1999) study, in keeping with other research on this topic, found the relationship between school participation and the strength of the youth labour market was robust, with an elasticity of  $-0.6$  for males and  $-0.4$  for females. In their study, the association between family disposable income and school participation was positive but relatively weak (it was significant only at the 10 per cent level). This is a surprising finding since almost all other studies that have included this variable have found relatively strong associations between family income and school participation. For Australia, these studies include Larum and Beggs (1989), McGavin (1982), Sloan and Wooden (1984), and Forster and Ryan (1989). For the US, Wachter and Wascher (1984) and Mattila (1982) found positive associations between family income and participation in post-compulsory schooling, though the association seemed to be stronger for 18 to 19-year-olds than for 17 to 18-year-olds.

Roussel and Murphy (2000) provide a useful review of recent Australian and US literature on the relationships between participation in post-compulsory schooling and various economic variables. This review confirms the expected positive effects

for family income and student allowances, and the negative effects of full-time employment opportunities. A number of studies included junior wages but there were no instances in which this variable had a significant effect. The role of part-time work is complex and generates mixed results, demanding separate discussion (see Vickers, Lamb and Hinkley, 2003).

There are four areas where the broad-brush approach adopted in the econometric models presented above fails to do justice to particular issues. This applies to gender and the labour market, the role of part-time work, student allowances, and income support, and the effects of regionally specific labour markets. The relationship between gender, the labour market and early school leaving was discussed in Chapter 2, where it was found that the lack of full-time employment for girls corresponds with higher school retention rates for girls. The *rate of return* in an investment in secondary education by girls, is, according to empirical studies, less than for boys, despite higher completion rates for girls (Roussel and Murphy, 2000). Karmel (1996) explains this by the increased demand within the labour market for workers who have finished school being more significant for Australian females than males. In part this is a reflection of the greater propensity of boys to take up an apprenticeship when leaving school.

A number of international studies have examined the impact of high school employment on the likelihood of dropping out of school. Employment during high school is widespread in the US. A study of 1990 high school sophomores found that 24% were working, with 30 per cent working more than 20 hours per week (Warren & Lee, 2003). Several studies have found that working long hours (more than 20 hours) in high school can increase the likelihood of dropping out and does not vary among gender, race, or SES groups (Goldschmidt & Wang, 1999; Warren & Lee, 2003), although the impact of working in high school depends on the type of job held and on the student's gender (McNeal, 1997a). Interestingly, there does not seem to be an association between employment intensity and high school grades (Schoenhals, Tienda & Schneider, 1998; Warren, LePore & Mare, 2000). But although these studies control for other factors, there is still the possibility that the relationship between high school employment and dropping out is not causal, but rather could reflect a reduced interest and disengagement from school and increased interest in work (Shanahan & Flaherty, 2001; Warren, 2002).

#### *The role of part-time student employment*

The general finding from the empirical studies in the US is that school students working in paid employment beyond a threshold number of hours increases the likelihood of dropping out of school. The dominant construction emerging from published research on the impact of part-time work during high school is that this relationship occurs because part-time work subverts scholarly goals and has negative effects on academic achievement and high school completion (Marsh, 1991; Marsh & Kleitman [in press]; Greenberger & Steinberg, 1986; Singh, 1998).

Recent Australian research also suggests that part-time work can lead to early leaving. Using LSAY-95 data, Vickers, Lamb and Hinkley (1993) examined the effects of part-time student employment during Year 9 on Year 12 completion, and on the main activities young people pursue in the first few years beyond school. A key question asked was whether involvement in part-time work might increase the

likelihood of leaving school early. They found that participation in part-time work during high school is associated with an increased likelihood of dropping out before the end of Year 12. This is less apparent if participation in part-time work (ptw) during Year 11 is used as a measure, but if participation in part-time work is measured during Year 9, the result is quite clear.

Vickers et al (2003) found that

- working one to 5 hours per week during Year 9 makes no difference to the likelihood of completing Year 12,
- however, participation in employment beyond the level of 5 hours per week is associated with an increased likelihood of dropping out before the end of Year 12, especially for males,
- the more hours per week students work, the more likely they are to drop out,
- males who work 5 to 15 hours per week during Year 9 are approximately 40 per cent less likely to complete Year 12 than those who do not, while males who work more than fifteen hours per week (up to and including full-time work) are approximately 60 per cent less likely to complete Year 12, and
- females who work part-time during Year 9 are much more likely to complete Year 12 than their male counterparts.

The authors suggest that further work is needed to ascertain the extent to which working part-time *causes* students to leave school, and the extent to which those who are working part-time have *already* decided to leave and are seeking to establish a track record in the labour market.

### **Regional context**

As established above, the link between school retention and different aspects of labour market measurements has been examined by economists and policymakers alike. Less extensively researched are differences in the impact of the labour market at a regional level on school retention, and regional differences and influences generally. Patterns of early leaving and school completion across different regions within Australian States and Territories suggest that retention is stronger in some cases and more fragile in others. In some, the use of school is widespread, in others there exists a more qualified or conditional use, hinging in part on economic prosperity tied to regional industry bases, labour markets and employment opportunities.

Teese (2002) undertook a geographical analysis of early leaving in Victoria, in order to find evidence of regional differences in school retention within the one State. Using the transition rate from Years 10 to 12, as reported in the Annual School Census data for the years 1988, 1992 and 1998, a pattern of early leaving was established that not only differed between labour force regions (as defined by the ABS) but remained persistent over time. Using deviations from the state mean to illustrate the point, high levels of school retention in upper status (high SES) urban regions contrasted with low retention rates in lower status (low SES) urban regions, and — amongst males — in most country areas, recurring for each of these periods. The economic downturn of 1991 saw less variance in retention rates across labour



force regions, but by 1998 these differences were again established. Longitudinal studies conducted by Williams et al. (1987) and Marks and Fleming (1999) also found that young people living in rural areas were more likely to experience early leaving.

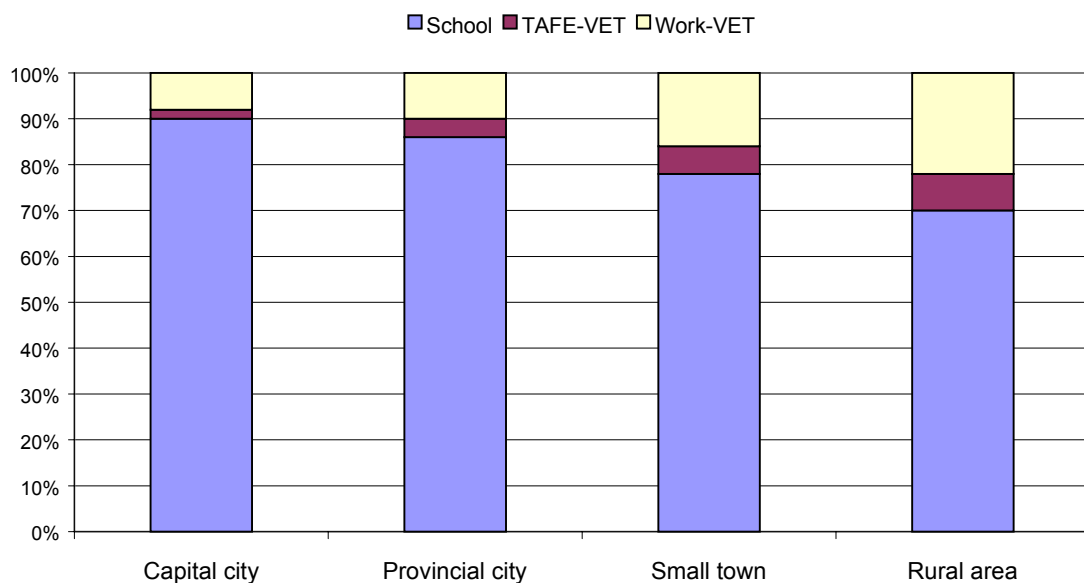
That there are differences in the norms of school use, depending on the regional SES characteristics of communities, is suggested by the attitudes of young people themselves towards school. As an example, if the Year 10 population was divided into groups according to the level of urbanisation of the communities from which they are drawn, it was found that intentions to leave school and enter work or vocational training become stronger and stronger the lower the level of urbanisation.

Figure 3.1 presents the results of a survey of over 17,000 young people in Queensland in 1996. It shows that intentions to leave school at the end of the year are weakest among students living in Brisbane. They are greater in provincial centres, greater again in small towns and greatest of all in rural areas. Level of urbanisation is an indicator of differences in way of life.

Similarly, examining differences in the attitudes and intentions of the most highly urbanised population finds a scale of interest in staying on at school. Students living in the most affluent suburbs almost all intend to continue at school. But as the average SES level of the urban community falls, the intention to leave school rises (Teese, 2003).

The urban trend in early leaving intentions also suggests way of life differences. Rather than being accidental or abnormal, the lower use of school made by many low SES families is related in part to economic pressures and in part to lack of history and experience in the highest levels of schooling. Early entry to work, especially for boys, is a matter of customary practice, involving a set of ideas and assumptions, both economic and cultural, that make it acceptable even honourable.

**Figure 3.1: Post Year 10 plans, by geographical region — boys, QLD, 1996**



Viewed in light of young people's reported experience, remaining at school should be viewed as conditioned not only by the economic and cultural factors that make up a way of life, but also by how well school works for different groups, that is, by the quality of interactions between family and school in different community settings. To understand regional patterns in early school leaving requires calling on both of these channels of influence.

Regional differences in retention rates are not unique to Australia. Payne (2001) in an analysis based on the England and Wales Youth Cohort study (YCS) found large discrepancies in full-time education participation rates for 16 and 17-year-olds (YCS Cohort 10, nearly 14,000 respondents) based on metropolitan and non-metropolitan lines. About 85 per cent of this cohort living in London were in full-time education and training compared to 65 per cent of the young people of this age living in the North-East. Payne found even greater differences between low achieving students by region. While regional differences were found amongst 16 and 17-year-old students in the top third of GCSE results, they were more prominent amongst the middle and bottom third of achievers. Payne notes too the lack of regional analysis conducted within the UK in terms of differences in education participation, particularly between different groups of young people.

Some overseas work looks at the relationship between local regions or communities and early school leaving in the area. There is at least some empirical evidence that differences in neighbourhood characteristics can help explain differences in dropout rates among communities apart from the influence of families (Brooks-Gunn et al., 1993; Clark, 1992; Crane, 1991; Ensminger, Lamkin & Jacobson, 1996). Crane (1991) further argues that there is a threshold or tipping point on the quality of neighbourhoods that results in particularly high dropout rates in the lowest quality neighbourhoods. But Clark (1992), using more recent data, found no evidence of a tipping but did find that the odds of a boy dropping out of school increased substantially as the neighbourhood poverty rate increased from 0 to 5 per cent. Moreover, two studies found that living in a high-poverty neighbourhood was not necessarily detrimental to completing high school, but rather that living in an affluent neighbourhood was beneficial to school success (Brooks-Gunn et al., 1993; Ensminger, Lamkin & Jacobson, 1996).

While these studies find that communities do influence dropout rates, they are unable to explain how they do so. Poor communities may influence child and adolescent development through the lack of resources (playgrounds and parks, after-school programs) or negative peer influences (Brooks-Gunn et al., 1997; Hallinan & Williams, 1990; Wilson, 1987). Community residence may also influence parenting practices over and above education and income (Klebanov et al., 1994). Finally, students living in poor communities may also be more likely to have friends as dropouts.

Another way that communities can influence dropout rates is by providing employment opportunities both during or after school. Relatively favourable employment opportunities for high school dropouts, as evidenced by low neighbourhood unemployment rates, appears to increase the likelihood that students will drop out, while more favourable economic returns to graduating, as evidenced

by higher salaries of high schools graduates to dropouts, tend to lower dropout rates (Bickel & Papagiannis, 1988; Clark, 1992; Rumberger, 1983).

Returning to Australia, supporting the argument for local and cooperative approaches are the findings reported in the regional analysis of transition undertaken by Teese (2002), which highlighted regional variations in early leaving, as discussed above. The Teese analysis argues for a strategic view of early leaving — one which examines regions on the basis of their individual and distinctive attributes. On this basis, a region like North-West Melbourne, which has high levels of early leaving, would be considered notable for its high levels of scholastic failure and the consequent need to address this issue. On the other hand, a region such as Mornington Peninsula, also noted for its high rate of early leaving, displays other features specific to its context — low tertiary transition rates, relatively limited apprenticeship and traineeship opportunities and more limited access to university and TAFE. Regional differences in the labour market, and local economic and social conditions are thus important considerations for policy in regard to school retention.

## **Conclusion**

Economic and geographical factors interact with individual student characteristics to influence school completion and early leaving decisions. In general, a weak youth labour market increases the likelihood that students will stay on at school. When would-be workers stay on, high schools are challenged to offer a new curriculum, including VET and work-based learning experiences that are relevant to this group. Labour market factors, such as household income, student allowances, youth unemployment and part-time student employment influence early leaving, but the effect is not uniform, since it varies across different geographical regions. For example, a scarcity of youth jobs tends to have different effects in the country and the city. Thus patterns of early leaving and school completion across different regions within Australian states and territories suggest that retention is stronger in some cases and more fragile in others. In some, the use of school is widespread, in others there exists a more qualified or conditional use, hinging in part on economic prosperity tied to regional industry bases, labour markets and employment opportunities.

## 4 School policies and context

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### Introduction

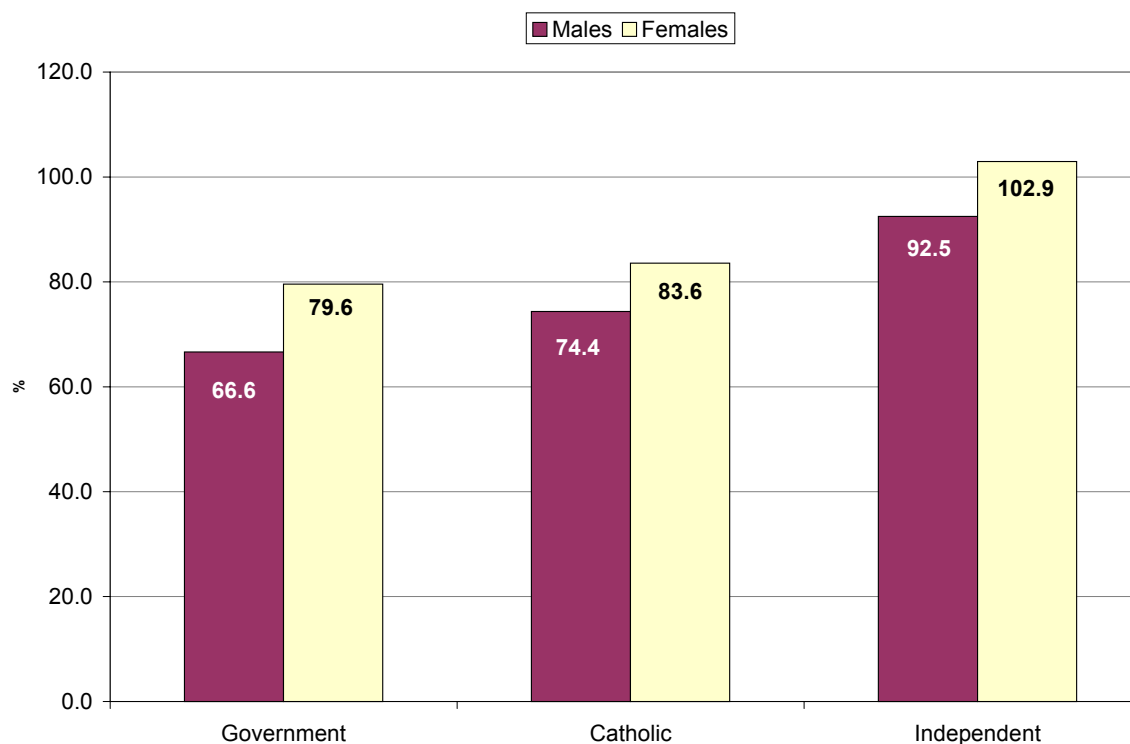
Educational settings and school policies are important influences on the patterns of completion and early leaving. It is well established that, after controlling for various intake and other relevant factors, there remain substantial differences between individual schools in the proportion of students who remain to complete Year 12 (Rumberger & Thomas, 1999; Lamb, 2000; Cheng 1995; Paterson & Raffe 1995, Ferguson & Unwin, 1996). This is a particularly important finding for governments and policymakers because schools are one of the principal mechanisms for targeting policies to improve rates of completion. This chapter will examine some of the features of schools that work to modify the effects of factors such as SES and gender on completion rates. These features include the type of school attended (government, Catholic, independent), teacher quality, pedagogy, pupil management, and curriculum including programs such as VET in schools.

### Government and private schools

Comparisons of private and government schools on apparent retention have consistently revealed much higher rates of Year 12 retention among students attending private schools. In 2002, for example, the retention rate to Year 12 was almost 20 percentage points higher for boys attending independent schools than for boys in government schools (see Figure 4.1). The rate was 10 points higher for those in Catholic schools than in government schools.

The superior performance of private schools in holding on to larger numbers of young people into the post-compulsory years is a long-term trend. Government schools in Australia began the 1980s with a low base of retention: 25% for males and 35% for females. Catholic schools at this time had rates of 45% and 44%, respectively, while independent schools had rates over 80 per cent for both males and females. While the rate started to converge over the decade to 1992 as government school rates increased, in 2002 the superior holding power of private schools was still evident.

There has been considerable debate on the superior rates in private schools. One strand of research suggests that the differences are a direct result of selective-student recruitment (Keeves, 1975; Carpenter & Hayden, 1985; Graetz, 1990). According to this view, students in private schools complete Year 12 more often not because of the type of school they attend but because they are more often from higher SES backgrounds. Differences in student intake are a major factor to consider. As Table 4.1 shows, over half of the population of Year 9 students in independent schools in 1995 were from the highest quartile of SES, compared to only 17.4 per cent in government schools and 31.9 per cent in Catholic schools. Government schools have by far the highest concentration of students from low SES backgrounds — 31.2 per cent as against 17.5 per cent in Catholic schools and 7.6 per cent in independent schools.

**Figure 4.1: Apparent retention rates, by sector — Australia, 2002**

Source: Australian Bureau of Statistics, *Schools Australia*. Cat. No. 4221.0 (2002).

\* Retention rate greater than 100% due to the effects of enrolment drift and migration.

**Table 4.1: SES profiles of Year 9 students, by sector — Australia, 1995**

SES quartile	Government	Catholic	Independent	All
Low	31.2	17.5	7.6	25.1
Lower middle	27.5	23.6	13.7	24.7
Upper middle	23.9	27.0	27.5	25.1
High	17.4	31.9	51.2	25.1
Total	100.0	100.0	100.0	100.0

Source: Derived by Stephen Lamb from the Y95 cohort of LSAY.

An alternative view holds that not all of the difference in completion rates can be attributed to student intake — private schools make an additional contribution (Williams et al., 1980; Elsworth et al., 1982; Williams & Carpenter, 1990; Lamb, Hogan & Johnson, 2002). Williams and Carpenter (1990), for example, examined sector differences in completion of secondary school and entry to higher education. They found that when appropriate allowance is made for student attributes, substantial differences remain in the likelihood of graduating from secondary school. These findings are similar to those reported by Coleman, Hoffer and Kilgore (1982) and Lee and Bryk (1989) in the United States.

The independence of sector effects on rates of completion established in such work raises the question of whether higher rates in private schools are achieved by the school (and, if so, by what processes, and by what mechanisms) or whether private schools simply attract students more likely to complete. Because there are sector effects does not mean that these are causal, only that there is a significant relationship that is not removed using available controls. Some have argued that sector effects would be removed in more rigorously and more appropriately designed and controlled studies (Murnane, 1993).

However, the consistency of findings has led some researchers to propose a ‘school-process’ model to account for the presence of sector effects. School process refers to the practices and policies schools employ in the management of pupils, curriculum focus, teaching and organisation. In managing pupils, for example, private schools often have more formal systems of pastoral care, more extensive extra-curricular activities, and more clearly articulated and controlled policies on discipline and order (Teese, 1989). These features of organisation may help attach students to school and promote stronger engagement and academic motivation. Several studies have pointed to the importance of these practices in explaining differences in attainment between private and government schools (e.g. Coleman, 1990; Lee & Bryk, 1989).

### **Teacher quality: attributes and expectations**

Studies reaching back to the 1960s have identified the attributes of teachers as having an influence on student learning differences and, indirectly therefore, on whether students complete school or drop out. For example, the Equality of Educational Opportunity Survey conducted in 1966 in the US and involving as many as 60,000 teachers led Coleman et al. to conclude that though between-school differences accounted for little overall variation in student achievement, the contribution that was made was largely through the ‘educational background and attainments of other students ... and the educational background and attainments of ... teachers’ (in Mosteller & Moynihan 1972:20). Teacher attributes had only a slightly less impact than student attributes (Coleman et al., 1966: I, 302). The reason for the low effect of between-school differences — relative to neighbourhood effects — was that schools were socially and culturally homogeneous: teachers tend to come from the same cultural groups (and especially the same race) as their students, and the student bodies are themselves relatively homogeneous. Given this homogeneity, the principal agents of effectiveness in the

schools — teachers and other students — act to maintain or reinforce the initial differences imposed by social origins (in Mosteller & Moynihan 1972:20). Where homogeneity weakened, this improved the achievement of minority group children. Specifically the social mix of students had its greatest effect on minority children and its smallest effect on children from white educated middle-class or Oriental American backgrounds (Coleman et al., 1966: I,303). Thus, although the impact of teacher attributes was considered to be relatively small — given the extent of social and cultural segregation occurring between schools — the *potential impact* was likely to be greater under a more open system of schools in which greater mixing occurred.

One of the most fruitful lines of research on differential achievement to emerge during the 1960s was the cultural impact of teachers associated with their differential social recruitment. Contemporary British studies documented the marked bias in the social class attributes of teachers entering schools from different institutional sectors of training (universities or colleges of education). This was associated with the school completion and attainment patterns of trainee teachers themselves (Morrison & McIntyre 1974:43-5). Many university-trained teachers ‘went back’ to grammar schools, while the working-class and lower middle-class graduates of the colleges ‘returned’ to secondary modern schools. A ‘homogeneity cycle’ was thus established. This contributed to inertia and lack of social progress. But the dynamics of such a cycle were by no means clearly understood.

The fruitfulness of this general line of inquiry lay in the concept of the teacher as a bearer of cultural values with demands and expectations about ‘appropriate’ behaviour and academic performance. Derived from an educated class background and selective secondary school experience, such values risked conflict with the social mores, classroom behaviour, attitudes to schoolwork, and attainment levels in predominantly working-class schools. Only the more academically successful lower class children completed school and became teachers, so when they ‘returned’ to their schools, they tended to express the cultural values of the educated social strata to which their success and their assimilation of these values gave them access (Bourdieu 1974). They thus did not really ‘return’ to their working-class origins, but entered into a career of ‘exile’. The working-class schools represented a foreign outpost, hostile to assimilated cultural values and conditioning the teacher to favour the few students who could conform to these values, while abandoning the rest. Where cultural dissonance was too great, the teacher would seek to leave.

While some strands of research into the impact of the cultural background of teachers strongly emphasised the centrality of ‘academic values’ in teacher judgment (e.g. Bourdieu & de Saint Martin, 1975, Bourdieu, 1996), other strands stressed conformity to diffuse behavioural expectations, with the teacher exercising bureaucratic power by controlling access to curriculum stream (Cicourel & Kitsuse 1963). However, in each case teacher attributes such as qualification level, institutional sector of training, or longevity of professional experience were not as important as the values and attitudes of teachers as a social group, the hierarchical location of teachers within the schools system (e.g., academic high school), and their prior socialisation in more or less well-educated homes.

A wide range of teacher attributes were studied during the later post-war decades. These included personality differences, attitudinal differences, professional motivation, prior academic success, role construction, classroom management skills and teaching styles (e.g., Bennett 1976). The fact that teachers themselves occupied widely different sites within the school system and also within the curriculum worked against any clear pattern of results linking teacher attributes to student learning. But the 'cultural values' approach (as outlined above) seems to have been the most theoretically fruitful. On this approach, the teacher is viewed as a cultural mediator — interpreting the demands of the curriculum to students and making the curriculum more or less accessible through good teaching. At the same time, the teacher is an interpreter of the behaviour and background of students, and either adjusts teaching style to compensate for lack of cultural resources in the classroom or refuses this adjustment and screens out students from further progress.

The impact of the teacher as a bearer of cultural values can be considered at micro and macro levels of school organisation. At the micro-level, the issue is the extent of cultural cohesion or dissonance existing in an individual school as between teachers (on the one hand) and between teachers and students (on the other). Examples of between-teacher cultural divisions include faculty/department (built around the curriculum hierarchy) and educational level differences (e.g., junior and senior school). At the macro level, the issue is the way in which teachers are distributed across the school system and how teachers with somewhat different cultural outlooks are differentially concentrated at different sites within the system (e.g., schools with a strong academic emphasis and selective intake as compared to open-intake schools with a broader emphasis).

There have been numerous studies of the geographical distribution of teachers across school systems and the tendency for this distribution to be socially biased with respect to attributes such as age, gender, longevity of classroom experience, and values and expectations. Some relatively early studies in Australia looked at teacher mobility and its impact in terms of drawing away the most experienced teachers to more 'academic' schools, while leaving 'difficult' schools to be staffed by young and inexperienced teachers or those who had experienced career breaks (e.g., women returning to work). Overseas studies have identified similar distributional trends based on teacher mobility and career progression and have raised the same concerns about the drift of the most experienced teachers towards schools with the most competitive students (e.g., Leger 1983). Recent qualitative studies in Australia have highlighted the importance of teacher cultural selectivity, a theme which harks back to issues raised during the 'sixties' (e.g., Hatton 1996:6-10).

There are two related issues here: (a) the relevance of teacher attributes to achievement, and indirectly to early leaving, *considered with respect to the average school*, and (b) the relevance of teacher mobility to student outcomes *considered with respect to locational disadvantage (or advantage) as a structural feature*. The micro perspective under (a) may highlight certain teacher attributes as important and influential, as research on school effectiveness has sought to do (e.g., Mortimore et al. 1988; see also Reynolds & Cuttance 1992). But it also risks masking the full extent of the impact of teacher attributes through lack of a system-wide perspective (e.g., the differential concentration in certain schools of chemistry teachers with



physics majors (Teese, 2000). The design of some influential studies on school effectiveness carries this risk by focusing on selective samples of schools serving similar catchments (e.g., Rutter et al., 1979).

Despite this risk, there are good reasons for conducting micro-level research on teacher attributes, including within controlled settings (such as Rutter's east London schools). The classic study on teacher expectations by Rosenthal and Jacobson (1968) has been followed by many other studies concerned with the potential to boost student achievement by enhanced teacher expectations, and conversely with the erosion of student performance linked to low teacher expectations (e.g., Smey-Richman, 1991). The mechanisms by which high expectations react on students may involve the ways in which teachers actually work with students rather than simply the overall positive tone they set in their classrooms. For example, Mortimore et al. found that higher-order communications were important in improving student engagement (i.e., a questioning style which required students to be imaginative and problem-solving in their own thinking) (Mortimore et al. 1988:239).

Much of the literature discussed above deals with the *indirect* impact of teacher quality on early leaving through differences in student achievement (and attitudes and perceptions influenced by this). Some early research in the United States points to a direct link between dropping out and quality of student–teacher relationships (Hirschi 1969 in Audas & Willms, 2001). With the general rise in retention rates since the 1960s, this link might be expected to have grown in importance. As increasing numbers of young people become economically and, to a significant extent also, culturally dependent on completing school, the quality of their relationships with teachers is placed under potentially greater stress. For teacher judgment is crucial to survival, and extended secondary schooling involves a more sustained period over which mutual social adjustment is required. The dependence of young people on teachers is underlined in Woolcock's concept of 'linking social capital' (in Audas & Willms 2001). Teachers are a kind of bridge for students to cross over into the worlds of work or further education, providing that they — the students — build their relationships with teachers and meet teacher expectations of both a behavioural and an academic kind. There are two channels through which relationships are built, or through which relationships deteriorate. Students express higher levels of dissatisfaction with teachers in social rather than in academic terms. In an Australian survey of approximately 26,000 Year 10 to Year 12 students, Teese, Charlton, Polesel and Davies (1996) found that low achievers reported higher discrepancies between expected and observed qualities of teachers than did high achievers, but that for both groups the biggest area of dissatisfaction concerned 'respect' for students as young adults. Low achievers were much more dissatisfied with this aspect of the student–teacher relationship than were high achievers, and it is from the ranks of the low achievers that most early leavers come. Higher levels of dissatisfaction were also found on a number of pedagogical dimensions — the perceived capacity of teachers to explain things clearly and also to check student understanding. However, perceived lack of respect was the biggest discrepancy between what students expected from teachers and what they observed. Low achievers are less able to 'serve' a relationship with teachers by getting good marks and by demonstrating commitment to their work, and the fragility of this relationship may undermine their willingness to stay on at school. On the other hand, where positive relationships are actively cultivated — and are constructed on

a broader basis than academic achievement (Teese & Polesel 2003) — the risk of early leaving may be lowered. Croninger and Lee (2001), in a US study, found that positive student–teacher relationships reduced the chance of dropping out.

A lot of recent attention has been given to the issue of teachers and variation in the quality of teachers as a major source of variation in achievement. One point of view holds that differences in teacher quality account for the largest part of variations in achievement during school and that targeting teacher quality through professional development and selective recruitment will lead to large reductions in gender, social and other differences in educational achievement and school outcomes (Rowe, 2002; Rowe, Turner & Lane, 1999). However, there is little hard evidence to support this view. The findings of research on maths and science achievement using TIMSS suggests that more of the difference in achievement between students is due to organisational factors and school policy than differences in teacher quality (Lamb & Fullarton, 2000; Lamb & Fullarton, 2002). While the quality of instruction and teaching practice is likely to be important, this work suggests that the types of pupil grouping practices schools employ and school policies on approaches to the organisation and provision of maths and science have a more marked impact on achievement than differences in the attributes of teachers.

Schools themselves do not view the quality of teachers as the issue. School surveys undertaken in the examination of maths and science achievement for TIMSS revealed that principals were quite satisfied with the qualifications and skills of teaching staff (Lokan & Greenwood, 2001). Rather, schools identified *shortages of teachers*, severe in 20 per cent of schools, as having an impact on achievement. Shortages lead, at least in secondary schools, to situations where teachers are required to take classes outside of areas of their own expertise and training. The unevenness of this situation across different schools, and school sectors, may contribute to variations in the quality of learning and student outcomes.

## Curriculum and retention

The research literature on completing school and on differential achievement both suggest that curriculum has an important role to play in engaging young people in education, particularly through:

- greater breadth of curriculum choice
- a more appropriate instructional environment for the curriculum, and
- better cooperation between school and other educational agencies to provide alternatives to young people.

At one level, program changes are envisaged which focus more directly on skills and knowledge and the need to address the student perspective on what is valuable in school (rather than simply assuming this). At another level systemic change is envisaged, especially of the kind involving cross-sectoral initiatives which create curriculum choice and more integrated pathways for young people. Rumberger (2001) has pointed out that the most difficult step of all in addressing early leaving is ‘identifying the resources, technical support, and incentives to transform or restructure existing schools’ (Rumberger, 2001:31). However, a recent evaluation of the Full Service Schools program notes that the success of that initiative has depended on its ability to effect change at a number of levels and that, in doing so, it

has had ‘a significant impact on the educational opportunities of at-risk young people’ (DETYA, 2001). The reality of effective provision then requires policymakers to take a broad perspective of curriculum change — one which considers all aspects of curriculum delivery, including the role of non-school providers.

*(a) curriculum choice.*

The link between curriculum and retention has been on the agenda of education policy for well over 50 years. Departmental administrators in different States were active, as early as the 1930s, in attempting to free the secondary school curriculum from excessive university influence, and they continued these efforts during the 1950s. The reform of various school leaving certificates during the 1960s and 1970s created greater program ‘space’ within which to accommodate students from families with limited experience of secondary education. However, these changes were fairly modest. Senior certificate curricula remained heavily influenced by university admissions requirements even after the abolition of junior public examinations and thus tended to reduce the impact of greater curriculum freedom in lower year-levels. The greatest changes did not occur till the early 1980s. From about this time (sometimes earlier), wholly school-based courses were introduced at senior certificate level, such as vocational courses in the NSW HSC, Group 2 subjects and a Technical Year 12 Certificate in Victoria, and SAS subjects in South Australia. While the impact of curriculum change on retention is difficult to estimate *net of other factors operating at the same time (e.g., labour market trends)*, the evidence of mounting enrolments in non-traditional programs during the 1980s is undeniable. A Commonwealth study of the Australian scene during the early 1980s stressed the importance of alternative programs in providing new models of teaching and learning, of special relevance to non-university oriented students who frequently represented the majority of young people reaching senior levels of high school (DETYA, 1983).

The relationship between curriculum and retention can be viewed as a dynamic one. During the early post-war decades, the academic curriculum of upper secondary schools acted as a barrier which restrained growth in retention by offering only programs suited to university entry. The greatest pressure on this function came in the late 1970s, after about five years of escalating youth unemployment and stagnating or declining retention. However, it was not the implementation of alternative senior secondary curricula in the early 1980s which triggered the big recovery in retention from around this time. It was the short, sharp recession of 1982–83 (Kirby, 1985), coming on the back of years of economic stagnation and rising unemployment. The role of curriculum change was not to drive up retention, but to absorb the increasing numbers of young people staying on at school for want of suitable alternatives. Retention rose during the 1980s, fuelled by labour market changes involving a major and permanent contraction in full-time work, by industry changes which located new jobs in the services sector (out of reach of unqualified school leavers), and by rising entry levels to jobs as diverse as the building trades and nursing. While curriculum innovation can rightly be viewed as a lever to raise retention, it appears to be economic conditions which trigger growth and provide the continuing underlying impulse of demand, with curriculum either sustaining or restraining the level of demand. This is true not only of periods of economic

stagnation — such as the mid to late 1970s, when curriculum change was widely used as a lever to boost retention and reduce youth unemployment — but also of periods of economic growth, including the early post-war decades. Rising aspirations associated with growing prosperity encouraged families to keep their children at school longer in order to access the jobs that were multiplying in the services sector. The academic curriculum in the final years of secondary school slowed progress and skewed it in favour of young people from tertiary-educated backgrounds. But it did not stop growth as such.

The most recent example of curriculum change as a vehicle for maintaining and potentially boosting growth in retention is the implementation of nationally accredited programs of VET in schools. In 1995 there were an estimated 26,000 secondary students in the then school-industry programs across Australia. By 1999 this had risen to nearly 130,000 young people (Malley, Keating, Robinson & Hawke, 2000). In 2002 it is estimated that there were over 185,000 VET in schools students (Teese et. al, 2003). A further 7,300 were undertaking school-based apprenticeships. Within the nationally-endorsed VET in schools Framework in 2001, these programs are not seen as boosting retention in schools, but as improving transition from school to work and further study (Spring & Syrmas, 2002). VET programs would be regarded by many practitioners as being effective if they resulted in an effective transition from Year 11 (not Year 12), and this would be consistent with the national objectives endorsed for VET in schools. However, in practice VET programs support higher levels of retention to Year 12. This appears to happen by extending choice of programs in upper secondary school to include ones with more overt and demonstrable economic benefits and which are also more accessible and satisfying in learning terms. In their subject choices, more and more young people have been replacing pre-existing mainstream studies with accredited VET studies. It is not *known* how much this contributed to growth in retention or even whether the growth that has occurred has been *caused* by VET in schools. But retention has grown in the context of a massive increase in VET enrolments, and the social and academic background of VET students suggests that *some* of this growth would not have occurred without the availability of VET options (for the background of VET students, see Teese & Polesel, 2003, and Teese, Polesel & Mason, 2003). The evidence is partly circumstantial and partly anecdotal.

If VET in schools does contribute to growth in retention, what are the reasons? Given the diversity of VET provision across Australia, care must be taken in generalising from the survey evidence relating to this question. However, the reported motives of young people in choosing VET within the senior certificate in Victoria are relevant. The biggest single reason given by Victorian students in 1999 was the opportunity to gain both their VCE and a VET award (over 90% of respondents). The next two highest motives were work-related — help getting a job (85%) and opportunity for workplace training (78%) (see Polesel, Teese & O'Brien 2001). To repeat, it cannot be concluded from the strength of these motives that a causal link exists between the implementation of VET and the growth in retention which has occurred in the most recent years in Australia.

Underlying the difficulty in establishing a direct link is the fact that VET programs, despite their widespread adoption in schools throughout Australia are still not reaching significant numbers of young people who could benefit from them. Part of

the evidence for this comes from a study of the post-school destinations of young people in Victoria. Approximately 2,500 young people in Victoria who completed their VCE in 2002, reported that they had begun basic VET courses in 2003. Of this group, 80% had not undertaken VET in schools (Teese, Polesel & Mason, 2004). The reasons for this may include non-availability of programs at school, lack of suitable programs, lack of interest in the VET programs that were available, and inability to meet tuition costs. This raises the issue that the curriculum at the point of delivery is either too limited in scope or is not perceived as relevant by some groups of students. These issues of provision and school culture are addressed in the next section.

*(b) the curriculum platform — school organization and school–TAFE links.*

A recent Dusseldorp Skills Forum report (2002b) emphasised that effective delivery of a range of learning and work opportunities required ‘comprehensive systemic reforms’ (Dusseldorp 2002b:8). In part, these reforms relate to the provision of a range of learning environments more appropriate to the needs of older adolescents. Te Riele (2000), for example, focuses on the re-entry programs of a number of New South Wales senior secondary colleges, arguing for their efficacy in re-engaging young adults who have dropped out of education. Polesel (2002) also argues that senior secondary colleges (or multi-campus environments which separate junior and senior secondary schooling) provide an effective learning environment for older adolescents more broadly, including those not at risk of early leaving. While issues are raised regarding the politics of segmenting secondary education in this way and regarding the potential for neglecting the junior component of the equation, Polesel argues that both junior and senior secondary schools represent a potentially more effective use of learning resources and more appropriate learning environments for young people at different stages of emotional and social development. Indeed the argument should not focus only on the senior secondary years. The role of middle schooling is often neglected, with programs combating early leaving focused on the senior secondary years when many students have already left or are likely to do so (Dwyer et al., 1998). There is evidently a need to provide good programs and positive school experiences in the junior secondary years too, when the views of young people regarding their schooling and future are still susceptible to positive influence.

Te Riele also cites the importance of a broad curriculum which includes VET programs, full service programs for Year 10, and the high profile of careers advisors, counsellors and learning difficulties support staff in these schools — services which are facilitated by the concentration of resources relevant to older students on one site. Rather than having to provide for the needs of 500 Year 11 and Year 12 students scattered across four schools, a senior school is able to concentrate delivery and services on one site.

This is not to suggest that senior schools are the only option or the best option in all circumstances. Critically, any such reform must take account of local or regional provision needs. Reform of individual schools or programs must be seen in terms of comprehensive and relevant provision across a geographically discrete area — provision which must encompass, but not be limited to, the role of schools. This is certainly not a new idea, as the work on district provision in the 1980s attests, and

indeed it is a factor still deemed crucial by many researchers (e.g. Dusseldorp, 2002b).

*(c) non-school providers.*

Important in the mix of options are programs involving school/Adult and Community Education (ACE) partnerships in Victorian schools (Bradshaw et al., 2001). These programs, funded through the *Full Service Schools (FSS) Program*, focused on partnerships between schools and ACE providers which target students at risk of dropping out of school, students in the process of making a transition to the workplace and young people who have already left school early. The case studies described by the authors suggest that schools need to be outward looking and prepared to form partnerships with non-school providers. The importance of social capital, as a concept which encompasses ‘the strength of a community’s links, networks, reciprocity, trust, knowledge, understanding, identity, inclusion, and common purpose’ is highlighted as both a motivation towards and the outcome of strong links between schools and their communities (see also Carter, 2001).

The report stresses that no single agency can claim ownership of young people, since young people form part of a community that is broader than school. The need to move beyond the constraints of funding sources, territoriality and competition is highlighted, since the most successful programs are those which diversify and extend what schools can offer, rather than simply replacing schools. While the advantages of non-school providers like ACE are noted (e.g. less institutional and more relaxed environment), the importance of school, particularly for the younger of the at-risk students, is repeatedly stressed. Moreover, the ‘fracturing’ of services is a likely outcome of programs which encourage competition for scarce funding and which confine available resources to particular providers.

The report represents successful programs as being those which not only build on the work of schools but also expand it. They focus on young people rather than their location as defined by categories such as ‘in school’ and ‘out of school’, allowing them to encompass students who are at risk of early leaving but also to deal with the needs of young people in the process of leaving the school environment or already outside it.

These views are supported by research conducted in the Central Coast region of New South Wales (McIntyre et al., 1999). The authors argue that an integrated approach to services is necessary in order to reflect the nature of the transition from school itself — a transition which covers the worlds of family, school, work and adult roles:

No single area of action — the macro-policy settings; the provision of services and the needs, demand and provision of services in the local area; the reform of the secondary curriculum and its better links to employment and further education — will, in itself, reduce the risks of early leaving. Rather, the key to positive changes, at least on a local level, is the way in which agencies work together to assist young people to make their transition to adulthood (McIntyre et al., 1999).

Central to the authors' argument is the role of the curriculum, both in retaining at-risk students and in encouraging disengaged students to return to school, particularly the role of vocational education and training and the creation of stronger links between the school curriculum and the world of work. Again, the authors also stress the need for stronger links with non-school providers and agencies, particularly with TAFE Institutes, which are regarded as providing a more suitable and more adult environment for some groups of at-risk students and early leavers.

The literature makes it clear that in some circumstances non-school providers are able to offer a more positive or appropriate environment for young people than schools can — either a social and cultural environment more appropriate to the needs of young people or curriculum options not available in schools or other services not available in schools. This raises the basic question as to what role we can expect non-school providers such as TAFE and ACE to play for this group of young people — both in terms of their role for existing school students (e.g. through VET in Schools programs delivered by TAFE) and their role for early school leavers? We also need to ask how appropriate these sectors are for young people. While TAFE programs may well be more appropriate for some young people, there are also questions as to the adequacy of the TAFE environment for young people who have not yet reached adulthood. What is our philosophy about the relative roles which the school, TAFE and ACE sectors should play in the provision of education services to 15 to 19-year-olds?

A review of programs focusing especially on under-age school leavers (Brooks et al., 1997) also highlights the centrality of the school as a primary site of intervention while maintaining that non-school options (or rather non-mainstream school options) must be considered for some groups. A recurring theme in the recent literature is that schools must initiate and maintain relationships with at-risk students, with outside help where appropriate, but must also be prepared to monitor exiting students and to refer such students to other more appropriate settings when necessary, especially those operating in the ACE and TAFE sectors.

## **Conclusion**

Previous chapters have examined the way in which students' individual background characteristics can influence their likelihood of completing school, and how this is modified by economic and regional contexts. Educational settings and school policies are also important influences on the patterns of completion and early leaving. Again these can be considered in terms of the groups affected by the three main sets of reasons given for early leaving — students drawn away from school by work and employment-related reasons, those wanting to leave because of their experiences in school, and students who are affected by severe welfare problems. It is well established that, after controlling for various intake and other relevant factors, there remain substantial differences between individual schools in the proportion of students who remain to complete Year 12. Features of schools that work to modify the effects of factors such as SES and gender on completion rates include: the type of school attended (government, Catholic, independent), teacher quality, pedagogical effectiveness, school resourcing, school leadership and organisation, pupil management, and curriculum including programs such as VET

in schools. In fact the research literature on completing school and on differential achievement suggests that curriculum has an important role to play in engaging young people in education, particularly through the greater breadth of curriculum choice, the instructional environment for the curriculum, and better cooperation between school and other educational agencies to provide alternatives to young people.



## **5 Interventions based on student needs**

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### **Introduction**

This chapter outlines different measures that have been developed to directly address the issue of completion and early school leaving among disadvantaged students and reluctant learners. Given the range of physical, structural and dispositional barriers associated with early leaving, there is no single approach that will work with all groups. For this reason, some of the initiatives take an integrated approach providing support and guidance while also addressing welfare and personal needs. Others, though, attempt to focus on individual groups or involve strategies targeting specific needs.

The initiatives are broadly of two types. First, there are programs that tend to operate as prevention strategies, aimed at keeping persons already enrolled in school to remain in study by targeting the problems that often lead individuals to drop out. In targeting those at risk of dropping out, many of these programs address such issues as histories of failure, low self-esteem, lack of support and the lack of relevance of study. The second group of programs tend to operate as recovery strategies, attempting to encourage individuals who have dropped out of study to return to school or further education and training. Recovery strategies often must address not only the immediate material and physical barriers to participation in people's lives, but also the dispositions towards learning and other factors that led them to drop out of study in the first place. Only then is it possible to change the outcomes for persons whose needs have not been well served by schools and the broader education and training system.

The programs presented in this chapter are not at all exhaustive of the large number of strategies that have been developed and implemented to address the issue of participation. Rather, they represent examples of some of the most effective initiatives. The evidence on the effectiveness of the different strategies is generally weak because rigorous comparative evaluations are often not available. However, some studies of proven or at least promising measures do exist and will be discussed.

Programs are presented under the headings of prevention and recovery. Before outlining these measures, we will discuss an issue that appears to underpin all programs aiming to address the low participation of many groups in education and training — income support.

### **Addressing financial barriers**

A critical issue for many who do not continue in study and training, and those who leave before completing secondary school, is the impact of low income. Those who are low SES are more often represented among the groups of early school leavers, among those who do not participate in further education and training, and among

those who are more likely not to complete study they undertake. The government has attempted to raise levels of participation and completion, for the financially disadvantaged, through income support policies.

In the 1986/87 budget, the Australian government introduced a new student income support policy initiative, AUSTUDY, which was an income-tested income support scheme for both full-time tertiary students and secondary students completing their final two years of school. The scheme resulted in a dramatic increase in the availability and amount of income support for full-time students, particularly those in the final two years of secondary school.

An evaluation of the program undertaken in the mid-1990s by Dearden and Heath (1996) found that AUSTUDY had significantly improved the probability of children from relatively low SES backgrounds staying at school past the minimum leaving age. From a regression analysis controlling for a wide variety of factors they reported that:

For children coming from families that are relatively disadvantaged, the proportion continuing past Year 10 increased from around 45 per cent in 1984 to around 74 per cent in 1993, and our results suggest that just under 3.5 percentage points of this increase is directly attributable to the introduction of AUSTUDY (Dearden & Heath, 1996:25).

There have been more recent changes to the provisions of income support for those on low income. Youth Allowance (YA) was introduced in July 1998 to provide a single category of income support for young people, replacing five different payments, one of which was AUSTUDY. One of the main aims of YA was to encourage young people from low SES families to participate in education or training if they lack the skills to find full-time employment. Several measures were introduced to achieve this aim. One important measure was the requirement that young people under 18 years generally be in full-time education or training to receive payment. Those who completed Year 12 were exempt from this requirement. The measure was designed to encourage young people in school to remain or, if they leave, to undertake equivalent forms of study or training. Another measure was the extension of rental assistance to students living away from home. Other measures included the income bank for full-time students, the extension of parental means testing to 18 to 20-year-old jobseekers and changes to YA eligibility criteria to broaden the coverage of payment among students.

An evaluation of the impact of the changes associated with the introduction of Youth Allowance has been undertaken. A key component was a three-year longitudinal study of 4,195 young people receiving Youth Allowance. The Youth Allowance Longitudinal Survey (YALS) results were supplemented with comparative data of a national cohort of young people from the Longitudinal Surveys of Australian Youth. Results from the YALS survey support the view that the changes in income support provisions introduced with Youth Allowance have encouraged young people to participate in education and training. In the period from 1994 to 1999, there has been a net increase in the rates of participation in education and training linked to the changes in income support of 5 percentage points — an increase from 15 per cent to 20 per cent, according to similarly

matched samples of school leavers (Lamb & Robinson, 2001). Over the same period the percentages unemployed and on income support have dropped, again partly linked to changes in income support provisions.

There is also evidence of impact associated with specific provisions. An important aim of the under 18s measure was to encourage those who had not completed Year 12 or undertaken equivalent post-school study to return to school or study. An examination of the numbers of young people on Youth Allowance revealed that about 5 per cent of all those who had not completed Year 12 and were not in school in 1999 returned to school in 2000. This rate of returning to school was higher than the national rate for all young people (3 per cent). Approximately half reported that Youth Allowance was an important factor in their decision to return to school.

School completion rates have been fairly stable in recent years. The rates of continuation in school for those on Youth Allowance were over 80 per cent for Year 11 students and 75 per cent for Year 10 students. However, the rates were below the national rates of school continuation and suggest that early school leaving is higher among students on Youth Allowance than for all school students.

The results from the evaluation suggest that broadly Youth Allowance has improved access to post-school study for groups of young people who generally have lower levels of participation. It has also worked to assist young people from low SES backgrounds to complete their schooling. However, there is also another clear message from the evaluation, that income support alone is not enough to improve participation and completion rates for those who are the most reluctant to continue in study. Completion and participation are linked to a range of non-income factors including, on the one hand, provision factors such as the quality, value, relevance and availability of courses and programs, and on the other hand, demand factors such as where young people live, their own experiences and views of school, their previous levels of achievement, and their motivation to study. To encourage greater participation these factors need to be addressed in conjunction with the provision of income support.

### **Prevention initiatives**

Many initiatives have been developed to help those at risk of dropping out remain at school to Year 12. Prevention strategies for young people at risk of early school leaving can be implemented at several levels. Some programs attempt to address structural barriers by reforming curriculum, teaching and assessment practices in schools. Other programs do not attempt to change the structure of schooling but provide intensive support to disadvantaged students to assist them to raise their levels of achievement within the current school system. Both approaches can have a positive impact on student retention and attainment.

A study reviewing the literature on innovation and best practice in schools (DETYA, 2001) described two types of intervention programs prevalent in Australian schools: student focused initiatives (including tutoring/peer support, case management, mentoring, counselling and gender equity programs); and curriculum initiatives.

### *Whole school learning programs*

Many programs have been developed to improve school completion rates by implementing structural reforms within secondary schools. These programs, the largest of which have been developed in the United States, are based on the view that students leave school early because of consistent failure in school and poor academic progress resulting in low self-esteem and negative views of school.

One example of a whole school program is the *Talent Development Middle School* initiative. The program is a whole school reform model specifically designed for middle school students attending schools that serve high poverty populations. Its goal was to provide all students with the opportunities and supports they need to increase their academic achievement and to provide all teachers with the training and support they need to deliver standards-based instruction in every lesson, every day. Typically, the model was phased in over three years, and at the end of this time, the aim was to have every Grade 8 student studying a common syllabus including algebra, literature, science and history. The teaching program involved a complete, alternative educational program. Each student received all of his or her academic instruction from a two- or three-person interdisciplinary teaching team, so that each student had greater opportunity to form stronger personal relationships with his or her teachers. Likewise, teachers were responsible for only 66 to 99 students each year, rather than the 165 or so they would have responsibility for in mainstream schools, so that they could form stronger relationships with students.

There have been several evaluations of whole school programs. An evaluation by Berends et al. (2001) of a program titled *New American Schools* covering 104 schools located largely in high poverty, high minority urban areas found that 50 per cent of the schools made gains in performance in mathematics relative to the district or state. About 47 per cent made gains in reading performance. However, data was not available on whether it had led to improvements in school completion. Other evaluations have identified improvements in school completion based on whole school programs (e.g. Dynarski & Gleason, 1998; Wehlage et al., 1989). Key features they have identified as instrumental in the schools that were effective in increasing completion included:

- low student-teacher ratio and small class sizes to promote student engagement
- cooperative learning instructional processes that encourage help when needed from classmates
- non-threatening learning environments, and
- a school culture that encouraged staff risk-taking, self-governance and professional collegiality.

### *Student support programs*

There is a growing body of research suggesting that students from disadvantaged backgrounds require intensive levels of individualised support over long periods to successfully complete secondary school. Programs that provide support services to students aim to address the physical, material and dispositional barriers to

educational attainment among young people who are socioeconomically disadvantaged.

The issue of chronically low levels of school attainment in particular communities has been associated with levels of social capital. A minimum level of social capital in a community is necessary for students to remain motivated to study, particularly in the post-compulsory years. The three forms of social capital that seem to be critical to educational success among adolescents are social trust, social networks and community norms of behaviour. In communities and schools where there is a high concentration of low-SES students, the stock of social capital to support increased levels of educational attainment is often inadequate. Effective programs of student support aim to reproduce the benefits of high levels of social capital experienced by students from higher socioeconomic backgrounds.

Features of programs that are effective in encouraging disadvantaged students to remain at school include:

- the provision of comprehensive support services to meet individual needs (ie. academic, social, emotional, financial and pastoral)
- program delivery through an experienced case manager with whom the student has a relationship of trust, and
- continuity of program personnel.

Programs with these features appear to be successful in improving educational outcomes among socioeconomically disadvantaged teenagers. The most successful support programs are those in which the students have primary contact with a case manager over several years — preferably the entire length of their secondary schooling — with whom they build a relationship of trust. If this relationship can be sustained, it contributes significantly to student attainment.

As these programs are almost entirely focused on students and do not seek to change schools, they can be delivered successfully by agencies outside of schools, such as other government departments or non-government organisations.

An example of a successful student support program in the US is the *I have a dream* program. Under this program, wealthy benefactors sponsor an entire class of students in a disadvantaged school from 13 years of age, and guarantee to meet the costs of college education for students who remain at school and obtain a college entry score. Under the program a case manager is employed to provide intensive support for each student on the program, and their families. This involves networking with other service agencies, helping with homework, organising tutors, and liaison with schools. Financial assistance is also provided for textbooks and excursions, and in some cases fees to attend private schools. Evaluations of this program find that they deliver high school graduation rates that are between 20 per cent and 50 per cent higher than the retention rate for comparable groups — such as the class the previous year (Kahne & Bailey, 1999).

The average annual cost of the *I have a dream* program which ran between 1989 and 1996 was around \$US1,284 per student per year. The average cost of a public education per student over the same period was \$US5,800 per year (Kahne &

Bailey, 1999). This represents additional annual expenditure of at least 22 per cent in respect of each student on such a program. But expenses incurred in the US are not very useful for making estimates in an Australian setting. A rough calculation of the cost of employing an experienced case manager for every 25 students plus 10 per cent for administrative overheads would be around \$ 60,000 per year. At \$2,400 per student, this is around 34 per cent of the average cost of educating a secondary student in Australia.

Programs of intensive student support can be less effective when they are delivered within school systems. As their success derives in part from the provision of comprehensive and personalised services to small groups or classes of students, it is a challenge to provide this type of intervention on a system-wide basis. Most school systems cannot afford the cost of such programs, and the less intensive provision of services — particularly the absence of case management — appears to reduce the effectiveness of the program. This is consistent with the experience of the San Diego public school system which has implemented a large-scale program of intensive student support called *Advancement via Individual Determination (AVID)* (see Swanson, Mehan & Hubbard, 1995).

An Australian initiative to provide intensive support services to students is the *Full Service Schools* program (FSS) established by the Commonwealth Government following the introduction of the Youth Allowance scheme. The program, based on similar models employed in the United States (Dryfoos, 1996), aimed to encourage young people to return to or remain in school until the end of Year 12 and to help provide them with skills for further education, training and work. Under the FSS program, additional support was provided to schools to develop innovative programs and services for students returning to school and those at risk of not completing Year 12. Most of the projects expanded the role of schools in providing collaborative and integrated services often involving welfare and support programs and partnership agreements with community-based agencies and providers. The services included such things as health education, individual counselling, drug treatment, mental health services, mentoring, assistance with housing, case management and employment services. Collaborative partnerships between schools and service providers were viewed as an effective way of bringing together in one setting resources and services from a range of providers. The programs were regionally-focused and varied across schools depending on the nature of local needs and infrastructure.

The Commonwealth Government allocated over \$20 million to fund the FSS program. The organisation of State and Territory participation varied reflecting both differences in pre-established programs and the development of projects to meet specific regional needs. In Queensland, some of the funding was allocated to a specific project that focused on distance education while in Western Australia, all of the funding was used to develop an existing program involving 6 school districts. The program initially involved 65 clusters of schools and over 10,000 students.

While activities differed from State to State, and even cluster to cluster, six broad categories can be used to describe the type of work that was carried out under the FSS scheme. The two most common types of activities were:

- student support activities that incorporate mentoring, case management of individual students, personal development activities and procedures to identify at-risk students, and
- vocational activities that include extending work experience programs for specific students, building an extended vocational curriculum and development of joint TAFE/school programs.

The four remaining types of activity covered teaching and learning (extra programs designed for at-risk students), whole school activities, teacher professional development and community links.

An evaluation of the FSS program has been undertaken. The evaluation, involving surveys of schools, participants and organisers, measured outcomes in three core areas: outcomes for young people participating in the program; outcomes at the school level; and, outcomes for the local area network of schools and community organisations. The outcomes were measured using self-reported responses to survey evaluation questions rather than more rigorous monitoring and reporting of individual outcomes. This meant that the results of the survey were more indicative and descriptive than empirically definitive. The evaluation was undertaken during the second year of the program and, therefore, longer-term outcomes of the program were not assessed.

In terms of the area of outcomes for young people, the evaluation reported that across all projects and school clusters, 68 per cent reported improved retention and/or improved transition to employment and training for participants (DETYA, 2001). At the school level, the evaluation reported that 38 per cent of the clusters indicated that through their innovations they had developed better student support, 58 per cent indicated that there was increased awareness in schools of the needs of at-risk students, and 52 per cent indicated improved identification of at-risk students and their needs. At the community level, the evaluation reported that in 61 per cent of cases there was increased community awareness and in 63 per cent of cases there was improved cooperation between schools and community agencies.

In looking at features and outcomes across all schools, the evaluation reported that case management appeared to be the major factor in the most effective projects developed to help retain students in education and training and promote successful transitions to further study and work (DETYA, 2001).

In measuring the effectiveness of the program in different clusters, the evaluation identified some other key features of successful projects. They were:

- a whole school approach was more successful than situations where projects relied on individual or small groups of teachers or staff
- successful collaboration and partnerships with community agencies for the provision of health and other social services required well-grounded agreements, and
- appropriate identification of students at risk of early leaving and their individual needs was fundamental to the targeting of services.

A program similar to *Full Service Schools*, which was evaluated through an experimental design, is the *Achievement for Latinos through Academic Success* or ALAS program in the United States (Gandara, Larson, Mehan & Rumberger, 1998). ALAS was developed, implemented and evaluated as a pilot intervention program to serve the most at-risk students in a poor, predominantly Latino middle school in the Los Angeles area from 1990 to 1995. Students participated in the intervention program in conjunction with the regular school program across three years.

ALAS consisted of a series of specific intervention strategies focused on individual students as well as on their families, the school and the community. The strategies were designed to promote stronger relations and collaboration between the three contexts, a goal founded on the view that student and school as well as family and community contexts must be addressed simultaneously for prevention of early leaving to succeed.

The program was based on a model of providing compensatory support services to address specific non-academic needs, and targeted social skills improvement and mentoring interventions. There were several specific elements of the interventions. They included:

- skills development to assist in problem solving related to social interactions and task performance
- student-focused bonding activities and performance recognition
- intensive attendance monitoring
- frequent feedback by teachers to parents and students
- support and assistance for parents, and
- integration of school and home needs with community services.

The program was evaluated using an experimental design where high-risk students were randomly assigned to either the treatment group where they participated in the intervention program, or a control group where they did not. The evaluation examined enrolment status and credits earned in the final year of the program in Grade 9 and in the remaining years of high school after the program ended. Evaluation data on mobility, attendance, failed classes, and graduation credits indicated that the ALAS program had a substantial practical impact on students who received the intervention (Gandara, Larson, Mehan & Rumberger, 1998). By the end of Grade 9, students in the control or comparison group had twice the number of failed classes, were four times more likely to have excessive absences, and were twice as likely to be behind in their course credits for graduation as were those who participated in the treatment group.

The evaluation also revealed, however, that the effects of the program were not sustained into the senior years after the program ended in Grade 9. By Year 12, only 32 per cent of the ALAS participants and 27 per cent of the comparison students had graduated. The ALAS scheme targeted students in the middle years of school who were at risk of not continuing at school to the final year. Although the program was successful while the students were receiving the intervention, the effects were not sustained for long after the program ended. It strongly suggests that in order to increase completion rates, it is necessary to provide intervention



throughout the high school years in an ongoing way — a finding confirmed by other programs of intensive student support (see Kahne & Bailey, 1999).

A comprehensive program of student support by an Australian non-government agency is the *Learning for Life* program developed by the Smith Family (Smith Family, 2000). *Learning for Life* provides two types of assistance for students from primary to tertiary level education:

- financial assistance to cover the costs of textbooks and incidentals such as excursions and transport costs, and
- case management of each student and his or her family.

Other features of the program include mentors for tertiary level students. Students must also satisfy performance obligations in order to receive ongoing support. The program supported over 7,000 students from low income families in 2000 and is aiming to double this figure in 2001. By 2004, the Smith Family hopes to support 70,000 students under the program. The cost of the *Learning for Life* program is much lower than comparable American programs such as the *I have a dream* program. The average cost per year of *Learning for Life* is \$504 per student. Of this amount, \$204 is met by anonymous donors who sponsor individual students — this amount covers the cost of financial assistance. The cost of case management is approximately \$300 per student per year.

The *Learning for Life* program has not yet been subjected to rigorous evaluation. A comprehensive and long-term evaluation of its effectiveness is underway. However, it has components that have proven effective elements in other schemes — mentoring, mutual obligation and case management.

### *Mentoring programs*

A key feature of several effective prevention programs reported overseas and in Australia is mentoring. This has led to the development of programs based solely on the use of mentoring. In most programs this involves key personnel working directly with students, usually in a one-to-one situation. While this role may be undertaken by a teacher, programs now often involve other community members including business and community volunteers.

There are many examples of mentoring programs. In the United States, *Help One Student To Succeed* is a nationwide, structured mentoring program in language arts that combines community mentors, a computerised database, and a management system to improve student achievement and prevent early school leaving. The program can be purchased and administered by school districts for use in grades K-12. It is now being utilised in over 500 schools in the country and has won numerous awards. Almost 40,000 students are involved.

*Los Angeles Team Works*, a program of team mentoring, is a school-based mentoring program that combines academic, social, and community aspects of mentoring to encourage young people to stay in school. The program matches three adults — a teacher or administrator from the school, a college student and a community or business volunteer — with groups of 10 to 12 middle school students.

Throughout the school year, youth and adults participate in leadership training, field trips, volunteer community service and ongoing team and one-to-one mentoring.

In Australia, the *Advocacy Project* involved a collaboration between the Victorian Education Department, La Trobe University and the Geelong Science and Technology Centre. It aimed to increase retention and improve achievement for secondary school students by establishing a framework within schools that enabled teachers to develop an ongoing supportive relationship with individual students. The advocate provides regular personal and educational support to students by establishing a relationship of trust and providing advice and guidance. The program was employed in 15 schools in Victoria (Ocean & Caulley, 1999).

Despite the large number of mentoring programs, there are few rigorous evaluations of their effectiveness. Of the few available, an evaluation of *Project RAISE*, a Baltimore-based mentoring project, by McPartland and Nettles (1991) using a treatment and experimental control design found mentoring had positive effects on school attendance and grades in English but not on promotion rates or standardised test scores. They concluded that positive effects are much more likely when one-on-one mentoring has been strongly implemented. Another evaluation (Cave & Quint, 1990) found participants in various mentoring programs had higher levels of university enrolment and higher educational aspirations than non-participants receiving comparable amounts of education and job-related services. A further study describes the results of a program in Cincinnati where a manufacturing company adopted a high school in which 85 per cent of students belonged to minority groups and 30 per cent were from low income families (Evans, 1992). The program, titled *ASPIRE* (*advice, support, prepare, inform, respect, encourage*) involved employees working in one-to-one relationships with students identified as likely dropouts. In its first year only one of the 95 students dropped out, compared with 11 per cent for the rest of the student body. In addition, 95 per cent of the mentored students were promoted by comparison with 50 per cent of the non-mentored students.

### *Pathways Programs*

The *Managed Individual Pathways Program* (MIPS) in Victoria has been developed specifically to provide additional support and achieve improved outcomes for students in their transition from school to work, education and training. Resources are provided on a weighted basis to meet guidance and other transitional needs to provide a case management approach to services, including pathways planning. The program's goal is to strengthen young people's abilities to make effective transitions between education and employment. A significant aspect of this strategic planning in pathways guidance is the tracking of young people's destinations as they leave school.

All Victorian post-compulsory students in government schools were involved in MIPS in 2003, although the intensity of the experience would vary between schools (as funding per student varies) and within the school (in some schools students at risk of early leaving were targeted). The bulk of the funding is directed towards government schools. Young people aged between 15 and 19 years in ACE and

TAFE who are unemployed and who have not completed Year 12 are eligible for MIPs funding through the *Youth Pathways Program*.

Surveys have found that the program to date has generated positive outcomes on a range of measures. Those schools which had made a point of targeting young people at immediate risk of leaving the school system often reported strong retention of this group from 2001 through to 2002 and regarded this as a good measure of success. Sometimes this indicator of retention reflected the students' choice to stay with *that* school rather than moving on to another school for senior schooling. In one school in western Melbourne for example, it was felt that MIPS had contributed to a climate where students felt more 'engaged' with the school and as such felt more comfortable in staying on in that location, where in other years they had lost significant numbers to neighbouring schools. More frequently, however, retention meant that students remained in the school *system* rather than leaving prematurely.

### **Recovery programs**

Several programs have been developed for those who have low levels of educational attainment, have not completed school and are no longer participating in education and training. The programs tend to target specific groups in the population, such as those in work or unemployed, or not in the labour force and receiving income support allowances. Unlike at-risk students in schools or in further education and training, it is difficult to identify individuals not in education and training who have low attainment. As a result, programs focusing on the general population not in education and training tend to target groups who are in contexts where assessments of education and training skills, qualifications and needs are possible.

Although Re-entry High Schools and Distance Education Centres in Australia have been set up to in part to re-engage early leavers with school, literature evaluating such programs is scarce. While Goldman and Bradley (1997, 1996a, 1996b, 1995) conducted a survey of young people aged 15 to 24 years who had re-entered high school after previously dropping out before completing Year 12, their research focuses on the characteristics of such students and factors leading to success, rather than an evaluation of the re-entry programs undertaken.

The Department of Education, Science and Training has implemented a pilot program called the *Partnership Outreach Education Model* (POEM). The POEM pilots aim to reconnect young people aged between 13 and 19 years, who are disengaged from 'mainstream schooling' through the provision of accredited and flexible education and training programs which are delivered in 'supported community settings'. The pilot was implemented in April 2002, and funding has been extended to December 2004 (Bryant et. al, 2004). Currently there are 21 programs operating in more than 40 sites across Australia, building local support networks between young people, community organisations, schools, training organisations and business. The programs combine the delivery accredited education and training alongside the learning of life skills and building self-confidence. Although not yet complete, interim findings of an evaluation of the POEM pilots undertaken by Miles Morgan Australia Inc. point to the varying length of time for each students' enrolment in the POEM as one of the program's strengths.

Participation in the program has no maximum time limit. Student's leave their POEM project and move into mainstream education or training with the help of the project workers. Local support networks are utilised to maintain support for the young person both while undertaking the program and when they move on. In addition the evaluation has found that participation in the program not only has the potential to impact on a young person's educational outcomes, but also has a positive impact generally on the lives of at-risk youth participating in the program (Bryant et. al., 2004).

*Programs for people on income support*

Workplace programs assist those who are in employment. Different programs are required for people who are not in the labour force. One such scheme is the *Jobs, Education and Training* (JET) program which was introduced in 1989 to help sole parents overcome the barriers to workforce participation by providing, among other things, access to education and training for those who do not have the skills and qualifications to obtain work. The obstacles were considered to be: having primary responsibility for the care of children; generally lower levels of educational attainment and/or long periods outside the paid workforce, which result in lack of skills and self-confidence to find a job; and difficulties associated with access to child care. The scheme has now been extended to cover persons receiving other parental payments as well.

JET is administered by Centrelink on behalf of the Department of Family and Community Services, and the Department of Education, Science and Training. It provides structured assistance that includes a return to work plan; information, advice and referrals to government and community services including assistance with finding child care; training; job network referral; and financial assistance for students.

The scheme involves a type of case management approach using a network of JET Advisers located in selected Centrelink offices. The Advisers provide an integrated set of measures, including personal needs assessment, information on education and training to assist in workforce transition, job-search assistance and access to child care. After assessing a participant's needs, the JET Adviser can refer the participant to an educational institution or recommend they are funded to undertake a pre-vocational training course. Since 1989, approximately 95,000 JET customers have undertaken further education and more than 129,000 have participated in labour market training programs. During 1997–98, the total number of JET participants was around 161,000 of which around 126,000 were PP (single) customers.

All JET-eligible customers are encouraged to participate in the program. Participants are recruited through a variety of means. JET Advisers write directly to potential participants; conduct community outreach; and maintain awareness of JET among those who are in a position to refer potential participants, such as Centrelink regional office staff, employment agency staff, staff from educational institutions, and community agencies.

An evaluation of the JET program was undertaken between 1996 and 1997 (FaCS, 1998). The evaluation suggests that JET has worked to assist workforce entry for a

substantial proportion of JET customers. The rates of uptake of work for JET participants were 10 per cent greater than for parenting payment recipients not accessing JET. The scheme has also been instrumental in encouraging participation in education and training. From 1989 to the end of 1997, out of approximately 393,000 participants who were interviewed by JET Advisers, 253,000 were referred to education and training providers and approximately 95,700 were placed in education and training courses. This means that roughly 1 in 4 participants entered education and training.

*Meeting the needs of reluctant participants with low attainment*

The advantage of work-based training for employees and programs such as the JET scheme for single parents is the existence of a link with the client. This link can be exploited through forms of mutual obligation to encourage participation in education or training. The most difficult groups of reluctant participants to engage in education and training are those with low educational attainment who are not in the labour market.

People from disadvantaged backgrounds may be deterred from engagement in education and training by the heavy emphasis on work-related training in programs that attract government support. In the survey undertaken by the Australian National Training Authority (ANTA) for its National Marketing Strategy for Skills and Lifelong Learning (ANTA 2000a), respondents were more negative about the term 'training' than the term 'learning'. For people with low literacy skills and low self-confidence, the focus on work-related training may be inappropriate to meet their learning needs.

To be successful in engaging reluctant participants in education and training, programs must acknowledge the different motivations of individuals. In a study of VET participants from disadvantaged social groups, Golding and Volkoff (1998) classified participants into four motivational categories — Worker, Jobseeker, Learner, and Contributor. It is also problematic to identify desirable outcomes of education solely in terms of employment. Golding and Volkoff found a proportion of all people across these motivational categories gained work-related or job-related outcomes from their participation. This ranged from 70 per cent of people in the 'Worker' category to 24 per cent in the 'Learner' category and 20 per cent in the 'Contributor' category.

The Golding and Volkoff study also found that multiple disadvantage — signified by membership of more than one target group — was strongly associated with employment outcomes. Only 10 per cent of clients who were members of only one target group were not working after their course. This rose to 40 per cent for people who identified with two disadvantaged categories, and to over 50 per cent for people with three or four types of disadvantage. Of the people who identified with five or more categories of disadvantage, 88 per cent were not employed after their course. The seven categories of disadvantage were: women; people from a non-English speaking background; rural and isolated people; people with a disability; Aboriginal and Torres Strait Islander peoples; long-term unemployed people; and people enrolled in courses for improvement of literacy, numeracy or social skills (Golding and Volkoff, 1998). The link between multiple disadvantage and poor employment

outcomes suggests that pursuing narrow employment outcomes may be a short-sighted goal for programs directed to people with low attainment.

Restricting funding to work-related training reflects a lack of understanding as to how people, particularly adults, come to education. Many people would enter an enrichment course, such as a craft program, and use this as a platform to undertake study or work. Such programs provide a safe environment for individuals to explore, for example, their literacy needs, or to acquire the skills they need to participate in broader social contexts. This is particularly important for women who have worked in the home for many years and who have not had the opportunity for broad social interaction. It is unrealistic to expect individuals to always self-identify that they do not have basic skills that many others take for granted, or to rely on referrals from welfare agencies that send 'clients' to undertake such programs. A rigidly targeted approach to funding programs with employment outcomes may exclude many who could otherwise be engaged in education.

Many government programs aim to provide education and training for people who are the least likely to participate. This population group includes people who are not in the labour market, people with poor English, people with low levels of literacy and people with lower level skills. The needs of these learners are targeted through a range of specific purpose programs such as labour market programs, adult literacy programs, adult learning and basic education, and adult migrant english programs.

Although these programs aim to provide support for people with low educational attainment, they do not generally provide secure sources of funding for education providers of these services, many of whom are in the adult community education sector. Services for disadvantaged clients are expensive to provide and require long-term investments by providers. It takes several years to develop the infrastructure within disadvantaged communities that will support sustained involvement by those communities in education and training. Community networks and support structures need to be established, participation in education needs to be modelled, and successful and demonstrable outcomes need to be achieved to encourage ongoing participation. It is not simply a matter of introducing the 'client' to education and then the rest will sort itself out (Bereded et al., 2001).

Given the unpredictability of funding sources for disadvantaged clients under the present funding arrangements and the high costs of provision for this group, providers in every sector have a strong incentive to target clients from higher socioeconomic groups if they are able to do so. People from high SES backgrounds have a strong demand for education and training delivered on a fee-for-service basis.

The ACE sector is widely recognised as an important provider of 'second-chance' learning because its lack of institutional structure appeals to individuals who are alienated from the formal education and training system (SEETRC, 1997). Yet the ACE sector is the sector that receives the least amount of government support on a recurrent basis. 'Competitive tendering by its very nature tends to favour those organisations which have the resources and business acumen to enable them to develop a successful tender' (SEETRC 1997:29). The main drawback of project-based funding is that it undermines long-term planning and the development of

infrastructure by providers. Yet long-term planning is often essential to get positive outcomes from educational services for disadvantaged groups.

## **Conclusion**

Individuals who do not complete school can come from diverse backgrounds and contexts and therefore need programs which respond to their individual circumstances and needs. The most effective programs tend to provide one-on-one intensive support to help target individual needs. But there are interrelated causes and multiple problems associated with early leaving. These call for comprehensive community-wide, multi-service approaches to providing support.

In summary, there are three strategies which adopted individually or together appear to encourage educational engagement among at-risk groups. They are:

- Supportive (providing intensive, one-on-one support through a case manager to individuals, drawing on a range of government and community services in addition to education)
- Financial (providing financial incentives to participate with an element of mutual obligation)
- Structural (for young people — reforming curriculum, teaching and assessment practices to create a more inclusive learning environment within schools; and for adults — providing education and training in a form that is different to traditional forms of provision).

## **PART B**

# **SCHOOL AND SYSTEM INTERVIEWS**



## **6 System and School Staff Perspectives**

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### **Introduction**

Published research is not the only source of information available on the factors affecting student retention. Important perspectives on the key factors influencing retention can be obtained from those who, on a day-by-day basis, deal directly with students making decisions about remaining at school or not — school staff including principals, careers and guidance counsellors, VET coordinators, and youth workers. Important insights into the factors affecting retention are also provided by the policymakers and system staff in each of the states and territories responsible for developing policies on retention and monitoring retention levels. To obtain the input of these experts on factors affecting retention, interviews were conducted with staff in a sample of schools as well as with senior policy and measurement officers in the education departments of all eight states and territories.

At least three senior representatives from each state and territory system were consulted as experts on retention. Senior policy officers were for the most part selected from the divisions within each jurisdiction responsible for either post-compulsory education and training, or statistics and measurement. Face-to-face interviews occurred with policymakers from two states, and semi-structured telephone interviews were undertaken with staff in the remaining six states and territories. The focus of the interviews was on the factors and processes that, from the experts' experience, shape retention.

Staff members from 24 schools across four states (Western Australia, Queensland, South Australia and New South Wales) took part in the project. The sample of schools was derived using ABS data identifying Statistical Local Areas (SLAs) with relatively low levels of 19 and 20 year olds having completed Year 12 or equivalent. Three SLAs were selected in each of the four states, and staff from two schools in each SLA were interviewed. While the study targeted schools located in areas reporting low completion rates, a combination of metropolitan and regional schools participated in the interviews. These schools were predominantly situated in areas of low socioeconomic status. One school in each state was from the Catholic sector, and the remainder were government schools.

School staff personnel interviewed consisted of principals or assistant principals, careers and guidance counsellors, VET coordinators, and youth workers. The interviews canvassed staff members' opinions on early leaving and retention at their school. Site visits and face-to-face discussions occurred at six schools and semi-structured telephone interviews were undertaken with staff from the remaining 18 schools.

The interviews revealed that retention is recognised as a critical issue in all jurisdictions. The material presented in this section of the report is not an analysis of the issues raised, but rather a synthesis of the views expressed by school and system staff on a range of subjects relating to early school leaving and retention.

The comments provide a dual perspective on retention and early leaving: at the system level, representatives were able to place their views on student retention within a broader policy context; at the school level, staff were able to draw on their first-hand experience with early leavers. Presented here is a snapshot of impressions as expressed by school and system staff. The material is divided into three sections: overarching issues emerging from interviews with system staff; reasons for early leaving as viewed by school staff; and examples of system and school responses and initiatives promoting student retention.

### **Overarching issues: system staff**

We are in a period where a high level of activity is being focused on improving high school completion rates. Several jurisdictions are engaging in major structural reforms. Victoria has introduced a new senior certificate, and revisions to the Year 12 certificate are planned in Western Australia, Tasmania and South Australia. Queensland is re-defining the school leaving age, and in South Australia it has now been raised to 16 years. The Northern Territory is implementing a major strategy to improve provision of secondary Indigenous education. Across the nation numerous examples of mentoring programs and local support networks are emerging with the intention of providing a safety net for students who are not well supported by their families, and encouraging them to remain in school. Perennial questions about the purpose of the post-compulsory curriculum continue to be debated: Should it prepare a minority for university study or offer a certificate of achievement within the reach of all? And what role should VET play in this context? In some jurisdictions new structures are being developed in response to this debate. Questions about ‘what should count’ have again been revisited, especially in Victoria and Queensland, where new forms of applied learning are being explicitly recognised in the curriculum as useful aspects of the transition from school to work.

As such, a number of overarching issues emerged from the interviews with system representatives, across States and Territories.

#### *Year 12 or its equivalent*

Some jurisdictions emphasised that their policy is to increase the high school completion rate *or its equivalent*. The issue of equivalence is ambiguous, however. Some jurisdictions advocate that apprenticeships, traineeships, full-time enrolments in TAFE or private sector training, or even full-time employment should be considered as legitimate forms of ‘full participation’ and should, therefore, be seen as ‘equivalent’ to Year 12. Policymakers in other States propose that unskilled employment should not be included as equivalent to completing school, and that enrolment in TAFE should only count if it leads to an Australian Qualifications Framework (AQF) Certificate at level II or level III. This has obvious implications for what we mean by ‘retention’ if senior school certificate equivalencies expand beyond the scope of school. The Performance Measurement and Reporting Taskforce of MCEETYA and its Nationally Consistent Definitions Group are aware of these issues.

*What should count towards achieving a Year 12 qualification?*

The composition rules for Year 12 certificates differ considerably across the jurisdictions. In some states and territories, there are no required subjects or very few, though taking English is a de-facto or de-jure expectation in all cases. Some states offer core subjects such as English at two levels — a Tertiary Entrance level and an ordinary or non-TE level. Other states demand that all students take TE-level English. Recently, the question of ‘what counts’ has been pushed further. An ANTA report, *Due Credit*, suggests that the achievements of young people in non-formal education settings should be recognised. In at least three jurisdictions, the idea of awarding credit for such activities as part of the Year 12 certificate is either being considered or has been accepted. Two questions are raised by these developments: What counts, and what systems can be used to ensure that students can ‘bank’ any credits they earn towards either a Year 12 certificate or an AQF qualification, or both?

*Ensuring hard-to-staff schools gain and keep quality staff*

Hard-to-staff schools include schools in low socioeconomic areas that have a high proportion of ‘hard cases’ enrolled. Remote rural schools are also hard to staff. In both cases, it is difficult for these schools to gain experienced teachers, and it is also difficult to retain such teachers for more than two or three years. Departmental policymakers state that the Teachers’ Unions will not allow differential salaries. In South Australia, the so-called Peachey Road agreement offers an alternative approach. This allows schools in the Peachey Road cluster to advertise and select staff, initially inviting those who are in the system. If this does not lead a vacancy to be filled, they can advertise for a contract staff member, or for someone returning to the service, or coming in from overseas. Peachey — and not other Category 1 schools — can do this in advance of the calendar for the other schools.

System staff commented on the need to attract and retain quality staff to disadvantaged areas where they need to constantly perform at a high level. This overall issue is complex, and demands creative and thoughtful consideration. In Tasmania, most experienced teachers must provide service in disadvantaged schools. By providing a system level response, operating outside a local school management environment, Tasmanian authorities encourage the distribution of quality teaching throughout the state.

### **Overarching issues: school staff — reasons for early leaving**

Some overarching issues also arose from the interviews with school staff in each of the four states. When asked in their experience why students leave early, school staff members interviewed were remarkably consistent in their responses.

School staff were most likely to identify early leavers as those students who were low achievers academically. Poor literacy skills were often cited as an underlying cause, leading to considerable difficulties with mainstream curriculum. As one teacher stated, these young people leave because they had ‘no learning success by the end of Year 10, and they don’t want another 2 years of failure.’ Another

reiterated, 'poor literacy and numeracy sets them up for failure'. The increase in both workload and academic standard as students enter the senior years acts as a trigger point for some to drop out of school. Staff members commented that often students in Years 11 and 12 did not return after receiving a mediocre school report at the end of first term. Similarly young people left at the end of Year 10 in anticipation of the increase in school work required in Years 11 and 12.

Behavioural issues were often cited by staff as a precursor to early leaving. When identifying students at risk of dropping out, staff pointed to 'chronic misbehavers', who 'are just not participants in school.' Some felt that while they were attending school, they had 'no clear goals' and were 'just marking time'. Staff reasoned that for these students school is a social place, and they stay 'until the hard work kicks in'.

Associated comments made by staff members pointed to a lack of engagement in the curriculum by students at risk of dropping out of school. According to some teachers, these students not only see academic work as irrelevant, but think school is 'not leading them anywhere'. Sometimes this is the result of poor subject selection; students choose subjects that do not match their abilities or future intentions which then leads to a deterioration of personal interest and disengagement in school work. School personnel spoke of disengaged young people bored at school, who 'don't fit in', and who do not see the relevance of mainstream education.

Teachers felt this lack of value of education was in many cases tied to a similar lack of support for educational values at home. Staff were of the opinion that these young people are caught in a cycle of generational early leaving, and the effect of this is compounded when role models at home have no identification themselves with education. Other staff felt that influences from home apart from a lack of educational support played a role in early leaving. Many cited family dysfunction, social issues, no connection to a stable environment, and drug and alcohol abuse. No encouragement to stay at school, and second or third generation unemployment combined with family responsibilities are all factors outside the school's influence that, according to staff, impact on the likelihood of early leaving.

Accordingly, staff reported young people in their school leaving without completing in order to find work out of economic necessity. Encouraged by their parents to do so, they are then able to contribute to family income.

In fact wanting to work, while one of the most commonly cited reasons for early leaving amongst the school staff interviewed, was not necessarily driven by financial need. Staff spoke of students simply wanting to work, of being more interested in working than being at school, alongside the incentive of earning money: 'It's the lure of money. The ethos here is to get out and earn a living.' Staff members commented on the availability of unskilled jobs to young people under the age of 18 years. Concern was expressed as to the lack of training and future potential of these jobs, particularly as many lost them as soon as they turned 18 and were required to be paid a higher wage.

Some students, especially boys, were able to gain apprenticeships and continue their training post-school. In some cases schools used local industry links to set up these

opportunities, for example, an apprenticeship offer following on from a successful work placement or VET course. As one Principal explained, 'We ran Construction and had 25 students in the class. Now there are only 7 because 18 got jobs in the industry'.

Other students were leaving school to follow a particular vocational interest at TAFE. Nearly all the schools in the study had established links with TAFE locally, and some actively liaised with TAFE personnel to transfer students. According to school staff some students were drawn to the TAFE curriculum and studied subjects not offered at school, while others preferred the adult environment offered by TAFE.

Indigenous students were nominated by staff as being particularly vulnerable to early leaving. While they were keen to point out that not all Indigenous students are early leavers, staff provided anecdotal evidence of young Indigenous people regularly leaving school before Year 10. Staff reasoned that Indigenous students felt disenfranchised and alienated from the school system. Reasons for this, such as those mentioned above like numeracy and literacy problems, often compound with cultural issues. Some teachers felt that students experience a 'clash' between school requirements and cultural influences, which are 'not always conducive to working towards a regular routine'. For some Indigenous students, five or six years in high school is a daunting thought, and they 'leave because they feel cooped up'. Add to this 'being bored at school' and that some students 'feel what they learn is of little value'. Or as another teacher put it: 'Aboriginal kids adopt a Koori approach to things sometimes and things like school become less important to them'.

Again, teachers felt these young people experience a lack of family support to stay in school. One Principal spoke of Indigenous students being caught in a 'vicious circle' where peers, parents and extended family members have not only left school without completing but have had negative experiences of schooling themselves. Similarly, a lack of role models within the school and particularly in the senior years was flagged as an issue. Having someone within the school for Indigenous students to approach with their problems was seen as essential. One teacher observed, 'the Aboriginal kids are too shy to seek any help'. Economic hardship was often addressed with the provision of school lunches and bus programs.

Additionally, according to some staff, the 'transient nature' of some Indigenous communities meant young people were transferring between schools on a regular basis. Alternatively teachers reported Indigenous students leaving school to return to their community: 'many of the kids get homesick'.

School personnel nominated some other reasons for students who left school without finishing Year 12. Health issues were cited as a cause for early leaving, including drug use, mental health and pregnancies.

A small but significant number of students exit the system based on 'age factors alone, when it's no longer compulsory'. These young people leave just because they can, because they are no longer required to be there. According to some teachers, they 'see the end of Year 10 as an opportunity to leave'. Teachers

reported some of these students returning to school ‘to do Year 11, but only because they have no job’.

Finally, school staff did not underestimate the influence of peer pressure when young people were deciding to finish school. A youth worker described the process by saying ‘Socially a group of kids might leave and influence others to do the same’.

## **System and school level responses**

The shape of the senior secondary curriculum in each state or territory is patterned by the diverse ways in which different elements of policy and practice come together. Since these components overlap and combine in ways that create uniquely different options for young people and different curricular systems, it is difficult to discuss each strand as if it was a separate element. Thus, while it is possible to identify some initiatives and policies aimed at increasing retention rates that run across all jurisdictions, there are also others that are unique to one system.

The aim in this section is to describe a range of approaches and intervention strategies being attempted across Australia designed to combat non-completion, rather than to produce a definitive list. It is likely that many worthwhile initiatives have not been captured through this process, and in some cases a program may have been attributed to just one or two States, and not mentioned in regards to other jurisdictions that are also implementing this program or something similar. It should also be noted that some policy initiatives are undertaken for reasons that go beyond the goal of increasing high school completion rates. For example, a program may be primarily targeted at improving the scholarly performance of students who are falling behind, yet at the same time these may have the effect of giving these students the academic skills and self-confidence needed to stay on at school.

## **Curriculum and programs**

### *Certification structures, assessment and the academic curriculum*

In responding to questions about certification structures, assessment regimes, and the nature of the curriculum, the policymakers who were interviewed tended to take the structure within which they worked as a ‘given’. However, they provided comments on the positive likely effects on high school completion rates of some recent changes that had occurred within their systems.

To provide the context for these comments, it is useful to review the main features of the senior secondary curriculum in each jurisdiction. Briefly, in some states there are two or more curricular strands that lead to a Year 12 certificate, and in others there is only one. In Western Australia there are three curricular strands and each is assessed differently — the Wholly School Assessed (WSA), VET (which is assessed using AQF methods), and the Tertiary Entrance Examinations (TEE, which uses external pencil-and-paper assessments). In Victoria students may study for a Victorian Certificate of Education (VCE) or a Victorian Certificate of Applied Learning (VCAL). The recently introduced VCAL qualification (trials in 2002) is

based on applied learning. In Queensland approximately 70 per cent of students complete a program comprising 20 Authority Units and sit the Core Skills Test, thereby becoming eligible for an Overall Position (OP) rank. Other students complete 20 units by combining Authority, Authority Registered and VET units (27 per cent of the year 2000 candidates took this route). Students who take the non-OP pathway may apply to the Queensland Tertiary Admissions Centre (QTAC) and have a tertiary entrance rank computed. This rank is more often used for admission to TAFE but some universities will consider non-OP students on the basis of their QTAC rank. Therefore, both pathways lead to a Senior Certificate *and* a tertiary entrance rank. Queensland provides a clear example of a dual system, in which all the core subjects (such as English and Maths) are offered in both an OP and a non-OP version, and where there are two pathways both of which lead to a form of tertiary entrance score.

South Australia used to have a dual system too, but the distinction between Public Examinations Board (PEB) and School-Assessed Subjects (SAS) subjects has now gone. All the subjects that form the South Australian Certificate of Education (SACE) are now Public Assessed Subjects (PAS), and there is a requirement that 30 per cent of *all* the assessment in *all* subjects must be externally moderated. South Australian policy staff who were interviewed expressed their concerns about the difficulty of the new senior academic program and suggested that some new arrangements may be introduced through the review of SACE which is beginning now.

Following the McGaw reforms, New South Wales clearly operates a unitary system. That is, the core subjects for the Higher School Certificate (HSC) exist in one form only and all of them (apart from accredited VET subjects) are assessed in a similar way. Required subjects such as English and Maths were never available in a school-assessed form in New South Wales, but there were 'easier' versions of these subjects, known as Mathematics in Practice and Contemporary English. These are now gone. All students must complete English in order to gain an HSC. New South Wales stands alone in having an externally assessed School Certificate at the Year 10 level, which may act as a trigger for early leaving for some students.

Queensland and the Australian Capital Territory are the only systems that do not conduct external assessments for each subject in the Year 12 program, but rather use moderated internal assessment and scaling against the Queensland Skills Test (QCS) or Australian Scaling Test (AST, formerly ASAT) to determine student scores.

Senior colleges (Years 11 and 12) were introduced in Tasmania to address program offerings. Subsequently, Year 10 became a terminus for some students, as they faced critical decisions at this transition point, due to distance as well as curriculum choices. To address this, a continuous four-year certificate covering Years 9 to 12 was implemented and an attempt was made to bridge the years in curriculum terms. Tasmania has since seen an improvement in retention rates.

Policies that favour high academic standards have the political edge at present, and some policymakers expressed a concern that this trend will lead to a fall in retention rates. Some administrators have placed the onus back on the teachers, advocating

that exemplary teaching can bring any student up to whatever academic standards the curriculum requires. Several of the policy staff interviewed advocated a broader view – one that recognises that some students may have interests that are different from those endorsed by the curriculum, and that many of them arrive at school exhausted or preoccupied or both, for reasons external to school.

### *School programs*

All schools participating in the study had put in place some measures to help prevent early leaving. A first approach taken by most schools was to implement a range of programs, some general and others targeted. The most general were those focusing on careers education and planning undertaken by whole class groups, important for many reasons but in this case helping students perceive the relevance of school, and linking the classroom to future prospects.

Numerous types of targeted programs were running in the schools. These programs were designed to address specific needs of students within the school, and those participating were hand picked by staff members. In this context many of the programs were directed towards students at risk of early leaving. Some of the courses focused on motivation, self-esteem and goal setting, in an attempt to ‘turn around that negative self-image a lot of students have which can be part of the problem of why they decide to leave school’.

Other programs were more practical, emphasising skills over curriculum. This often consisted of re-engaging students using outdoor education and practical life skills building exercises. These targeted courses often involved activity programs, excursions and outings. For example, as one teacher remarked, ‘We have the a support program running at three schools in the valley. It runs vocational, camping and community, activities that seem to work with disinterested kids.’ Teachers had experienced success with programs that take the students out of the school grounds, particularly for those young people who ‘do not absorb a positive message about education in a school environment.’

It was standard practice for schools to have several of these programs running at the same time. However, they are often dependent on seasonal or non-continuous funding for implementation. This was a big concern expressed by school staff.

### *Academic support*

In every jurisdiction, the policy staff interviewed were aware of the need to support teachers’ efforts to reach all students, and to cope with classes in which the range of student performance is often broad. Each jurisdiction has a program for promoting quality teaching and improving classroom pedagogy. (See, for example, *Productive Pedagogies* in Queensland, and *Quality Teaching in NSW Public Schools*).

Different programs were operating in schools to counter academic weaknesses. These included intensive literacy and numeracy courses, and homework centres staffed by teachers after school. At the other end of the scale some schools ran acceleration courses for high achievers in order to prevent boredom.



In Western Australia, an intensive withdrawal program, *Fast Track*, is provided for students who are falling behind academically when they are at the point of transition into Years 11 and 12. The program is used most frequently, however, by young people who have left school without completing, as a point of re-entry to education and training. *Fast Track* is a second-chance program that re-builds core skills and aims to get students back into the mainstream.

New South Wales has instituted a peer tutoring program in which a number of Year 10 to 12 students complete a TAFE course in Literacy Volunteer Tutoring and mentor Year 5 to 8 students. This program is being extended across 45 high schools over the next 12 months. For senior students, the goal is to increase their engagement with academic study and improve their communication skills.

*Productive Pedagogies*, a sustained program to improve classroom teaching and learning, was launched in Queensland in 2000. This approach has since been modified by Ladwig and Gore, and implemented under the banner of Quality Teaching in New South Wales Public Schools.

#### *VET in schools*

Over the past decade all jurisdictions have expanded their provision of accredited VET options at the post-compulsory stage. The policymakers who were interviewed for this study all *agreed* that students who see their futures in employment rather than post-school study are more likely to remain in school if they are working towards an accredited VET qualification.

Some policymakers went further. They argued that:

- students who leave early tend to make up their minds that they will do so several years in advance (e.g. in Year 8 or Year 9)
- these students tend to become discouraged, since the junior curriculum lacks diversity and is experienced mostly as academic preparation, and not relevant to work, and
- if these students are able to start on accredited VET subjects before they reach the post-compulsory stage, and if they understand that the VET units they are taking in Year 9s and 10 accumulate toward a Certificate, they will be more likely to stay on.

Policies based on this argument can be expensive to implement. Nevertheless, systems acknowledged that while VET has high upfront costs, it is a sound investment in the long-term. Many states, and many schools within these states, are taking this path. In particular:

- students in Queensland, Victoria and South Australia may take accredited VET from Year 10, and from Year 9 in Western Australia
- students can accumulate these with AQF units completed in Years 11 and 12 in order to gain VET certificates
- the cost implications are high so in some cases this policy is applied selectively to schools with high populations of Indigenous students, and
- some schools in Western Australia have adopted a policy of offering VET strands only.

System policy staff who were familiar with these initiatives stated that where accredited VET has been introduced in schools at the junior level and presented as part of a continuing qualification pathway, that Year 12 retention rates for those schools have improved. On the other hand, they were cautious about the problems of early tracking and concerned to ensure that students who did VET in Year 9 were not automatically excluded from future academic options.

School staff were also positive about the impact of VET in Schools when it formed part of the school curriculum. In fact, VET in Schools was regarded by many teachers as ‘critical’ in keeping young people interested in school, and one way of ‘making the curriculum more relevant’. Significant value was placed on vocational learning, cultivating and maximising links with TAFE, as well as interested students undertaking school-based apprenticeships and traineeships.

It was agreed that the VET approach to learning was effective. As one VET coordinator commented, ‘There’s lots of other kids who have some problems with learning, but because they’re in a VET environment we can really focus on pastoral care. It’s generally the same group of students together in the class so they can build a team and we really focus on teamwork. I think it’s really good for students to work in that kind of environment and it helps them to get through. Some of the weaker students end up passing because they get a lot of one-on-one, whereas they might not get that in a traditional classroom.’

Many schools had embraced the VET curriculum, offering a wide number of subjects, sometimes delivering the programs at their school, others taking advantage of links with a local TAFE. One school offered only a vocational curriculum in Years 11 and 12. This school felt this was very important in terms of school retention because their student body was focused on finding vocational work and did not want to go to university. Another school endeavoured to have all students in Year 10 achieving a Certificate I in Employment Skills. Many schools — particularly those in rural and regional areas — had maximised links with the local industries, offering courses which were relevant and meaningful to students. These courses were on many occasions creating and providing tangible post-school pathways. The ‘hands on’ nature of VET too appealed to many young people. ‘VET can be something keeping the students at school rather than taking them out because it gives them an interest, a focus.’

Many VET in Schools programs contained a Structured Workplace Learning (SWL) component which were also cited by school staff as a crucial part of keeping students in school, especially those students wanting to leave to go to work. For students who may be considering leaving school for work, VET programs are one component of the post-compulsory curriculum that may help, since these allow career-oriented students to progress towards employment-related goals.

Other students are deterred from persisting with Years 11 and 12 because of the certification structure itself and the narrowness of the academic curriculum. The structure of the Year 11–12 certificate also has a substantial impact on the extent to which students can achieve an accredited VET certificate during the senior years. Across the jurisdictions, the composition rules for the Year 12 certificate vary

considerably, as do the rules governing the calculation of university admission scores. For example, the NSW Universities Admissions Committee (UAC) will include only one 2-unit VET course in the calculation of the UAI.

Year 12 composition rules and tertiary entrance requirements in other states are less restrictive, offering a greater chance for students to include substantial amounts of VET in their Year 12 programs. For example, in South Australia, students can receive credit for up to eight ‘free choice’ units, including nationally accredited VET competencies, in addition to SACE VET subjects. In Queensland there are no formal constraints to prevent students from taking large numbers of VET units at both the Year 11 and Year 12 levels. At present in Western Australia, approximately 25 per cent of students complete the TEE version of the WACE, while the other 75 per cent either study subjects that are wholly school assessed (WSA) or VET. Some schools that have wholly school assessed programs do not necessarily open pathways and have limited appeal to students. This is being addressed in Western Australia’s new Courses of Study, which do not require students to choose so decisively between different tracks. Victorian students are able to undertake a wide variety of VET choices as part of their VCE.

### *Second-chance programs*

South Australia’s Re-Entry High Schools provide the clearest example of a second-chance system. These are for students who have been out of school for at least six months. The minimum age of most students is about 16 years, but most students are aged 18 years or more. Some re-entry students are at the Grade 8 level academically and have to do bridging courses in order to be re-integrated into the mainstream curriculum. The nature of SACE (being unitised and open) lends itself to part-time enrolment. The average high school discourages part-time enrolment, so a lot of ‘re-entry’ enrolments are part-time students.

### **Meeting the needs of different groups**

There are huge variations in levels of early leaving across different groups of young people across Australia, linked to their family background and where they live. Interviews with both system and school staff drew attention to two of these groups in particular — Indigenous students and students living in extremely disadvantaged circumstances.

#### *Providing for welfare and personal needs – extreme disadvantage*

While students who are homeless, or residentially mobile, or who are juvenile offenders may represent a relatively small group, they are a group that is at extreme risk of early leaving. In addition, the odds are against them once they leave school; as they are the least likely students to make an effective transition into full-time careers. A census of youth homelessness (see McKenzie and Chamberlain, 1994) found that 64% of homeless school students were in just 17 per cent of the nation’s schools. An issue that emerged frequently in the interviews was that for principals and teachers, working in these schools is very different from working in ‘regular’ schools. It is essential that these schools have supplementary staff — youth workers and counsellors, strong links to the community, and housing for young people who

are driven out of home or whose conditions are untenable at home. They also need a ‘special kind of teacher’ — such teachers are not just born to the job — they are also made on the job. All too often, schools lose these teachers just when they have gained the amount of experience that makes them particularly competent in these settings. Any system effort to improve retention will have to accommodate students living in significantly disadvantageous circumstances.

In all states there are a finite number of schools in which the concentration of ‘difficult cases’ is very high. Staff from each state described the strategies their jurisdiction has put in place to support disadvantaged schools. A whole-of-government strategy (see below) has been adopted in Queensland, so that youth workers employed by the Department of Families are placed in needy high schools, and the Department of Housing provides assistance for homeless youth.

In order to improve the outcomes in low-retention districts, Western Australia is moving to a more integrated model where district directors, high school principals, and TAFE directors will be required to develop district plans, and pool resources to achieve these plans. The Western Australian Department of Education and Training’s recently announced Youth Advantage Strategy includes the development of District Education and Training Plans.

In most jurisdictions across Australia, supplementary staffing is provided for disadvantaged schools on the basis of statistical profiles related to the demographic backgrounds of students in these schools. Supplementary staff such as youth workers and counsellors are employed in these schools, and in some cases, strong links to the community are being forged.

One school had tackled the issues of young women leaving school due to pregnancy by providing an on-site childcare centre. They had 10 young mothers enrolled in the school, and the principal commented that according to Centrelink data, there were another 40 or so in the district. It was widely acknowledged by staff at this school that these students would not be attending school if this service was not available.

### *Indigenous students*

Retention rates for Indigenous students are distressingly low, in comparison with every other demographic group in Australia (the national apparent retention rate to Year 12 is 38 per cent for Indigenous students and 76 per cent for non-Indigenous students, ABS (2002)). Urban Indigenous people often have the lowest SES in our cities, are highly mobile between residences, and frequently have broken attendance records at school. Indigenous students in remote rural areas often lack access to post-compulsory education facilities and can only complete high school by living away from home. In the Northern Territory, there are no public high schools outside of the five main urban centres, and in most remote Northern Territory communities, no secondary classes are offered. The Northern Territory is launching a new initiative aimed at providing secondary education facilities at additional sites and extending student access to open learning. Senior policy staff in the Northern Territory, South Australia and Western Australia expressed deep concern about the low rates of high school completion among Indigenous students.

Schools had some different approaches when it came to encouraging Indigenous students to stay at school. Aboriginal education workers (AEWs) played a key role in helping young Indigenous people focus at school, thus providing a vital connection between their community and school. AEWs were available to help not only with school work but also deal with personal problems and organisational difficulties. One school had implemented a Case Management Team for Indigenous students in the middle and secondary sections of school, which involved an intensive process looking at the students' needs, what their goals are, and how the school can assist. Teachers noted the importance of role models for Indigenous students — including successful older students — within the school.

A few schools had taken a more holistic approach, implementing classes and curriculum just for Indigenous students. For example one school had a vertically integrated class of Years 8 to 12 at-risk Indigenous students. The curriculum included intensive literacy and numeracy classes combined with a VET land management course contributing towards an AQF certificate for those who were old enough. Another school had a targeted sports program for Indigenous students. Another had a separate Years 11 and 12 class for Indigenous students, combined with a school-based traineeship. The curriculum had been restructured to suit the needs of the students, but very much focused on achieving the senior school certificate, as well as the Certificate II traineeship. Staff members from several schools commented on the success they had experienced with Structured Workplace Learning, traineeships and VET subjects for Indigenous students. As one aboriginal education worker commented, 'the Indigenous students enjoy hands-on work whether at school or in the workplace'.

### **The individual approach**

Different staff members were employed within schools to fulfil particular roles in their attempts to combat early leaving. Although some of these positions coincided with those of staff participating in the interviews, all staff emphasised the importance of these roles, which include careers advisors, school counsellors, learning support teachers, Aboriginal education workers, youth workers, and pastoral care teachers. Each of these teachers is available to interact with students on an individual basis, one-on-one.

The idea of an individual approach to schooling as a successful intervention method for early leaving was one that featured throughout the interviews with school staff. Mentoring was one example of how this was being implemented, and this was being carried out in a variety of ways. Sometimes class teachers were assigned mentoring roles in addition to their teaching roles. In other schools it was outsourced, where an agency provided access to mentors. School counsellors used their training to coordinate a mentor program within their school. The key to mentoring was the one-on-one connection with the student and often their family. It involved both pastoral care and careers guidance. Teachers commented that young people responded to the individual attention, and having to articulate their aspirations helped them work out the pathway they needed to take. Staff too were able to guide students into their post-schooling destinations (whether completing school or not)

on a case-by-case basis. In fact this was most important if the student was leaving without completing school. Most mentoring in schools was only for students deemed at risk of dropping out, and sometimes just for particular year levels. Many staff commented on how this would be an extremely useful tool that could be extended to all students, if learning and transition plans were developed for each student. The importance of careers guidance, particularly at transition points of schooling, was emphasised by teaching staff.

In some systems, an attempt is being made to develop individually-negotiated student pathways plans for all students. The ACT is beginning this process and aims to have an individual plan for every student from Year 9 on. In WA, students considered to be at risk will be counselled and individual pathways designed for them. The decision whether to make this process universal is still under consideration. From 2006, schools will be required to register and open a learning account for all young people with the Queensland Studies Authority while they are in Year 10 before they turn 16. The account will enable students to accrue or 'bank' learning credits that can count toward a Senior Certificate.

In Victoria, targeted funds have been used across sectors (schools, TAFE and ACE) to implement a pathway program for post-compulsory students. Developed as a fundamental policy response to the *Ministerial Review of Post-compulsory Education and Training Pathways in Victoria* (Kirby, 2000), this initiative is known as the Managed Individual Pathways program. South Australia is currently implementing a similar scheme under the title of *Futures Connect*. A key aspect of this program is a careers and transition plan negotiated with each individual and which will be regularly updated.

The idea that schools might treat students as individuals whose cases need attention one-on-one, was also spontaneously brought forward in many of the interviews with senior policy staff, who gave specific examples within their jurisdictions. NSW-DET, for example, supports a program known as Plan-it-Youth, in which volunteers complete a TAFE-delivered training program. They are then connected with one or more at-risk young people and the mentoring relationship begins. There are now over 100 volunteer mentors in NSW. The program is well-established in Shoalhaven and western Sydney. Teachers may volunteer to be mentors but do not normally mentor students in the schools in which they teach.

SA-DECS has adopted a different approach, by appointing teacher-mentors who work within schools, acting as advocates for students, or as links to services in the community, supporting students and enlisting other high school staff in fostering supportive relationships. Currently, 80 high school teachers have been recruited for this role and each has been given the equivalent of one day a week release in order to act as a mentor.

System policy officers also gave examples of case management occurring in schools in their state. The concept of school-based case management draws on the extensive use of case management approaches in health and welfare settings. A school-based case manager aims to make sure that the services a student needs are accessible, coordinated and monitored. A case manager may refer a student to resources and staff within the high school, or to welfare or medical resources outside of the

school, as needed. Case management programs are one of the more enduring results of the Full Service Schools Program (FSSP) that was funded by the Commonwealth between 1997 and 2000. In the ACT, the case management system known as STAIRS provides in-school support and links to outside agencies for approximately 200 at-risk youth. NSW–DET provides case management for students in targeted schools through the Gateways program. Queensland has adopted a whole-of-Government approach which means that over 100 youth support coordinators, employed by the Department of Families, will work with high schools and TAFE Institutes to prevent premature withdrawal from formal education and training. In some states, the case manager and transition broker roles are separate, so that transition brokers work outside of schools to support early leavers who are trying to find a start in the workplace, or re-enter the education and training system.

In schools, in a less structured way, this ‘individual approach’ had significant impact on retaining students, according to the staff interviewed, in the form of student–teacher relationships. Staff stressed the importance of having a staff member within the school that a student can connect with. ‘If the student finds someone (adult) within the school to form a meaningful relation with, it gives them confidence, inspiration, a role model’. Those interviewed emphasised the importance of teacher–student relations, suggesting that if these are positive, students’ ‘connectedness’ with school increases markedly. Staff felt success in school was dependent on good teachers and, if students were able to build a good rapport with their teachers, they were more likely to retain their engagement with learning. Students need, as one principal phrased it, ‘teachers who enthuse, who engender a passion for learning’.

Some teachers reported students struggling with the transition from primary to secondary school, from one teacher to several, and highlighted this as a point of disengagement for some students. One school had tackled this by restructuring the school around what they called the pastoral care model. This meant that at each year level from Years 8 to 10 only four staff members taught within a particular year level. According to the principal of this school, they had seen significant improvement in school retention rates since this restructure (which had occurred when the current Year 11 group were in Year 8). Another regional school had approached this issue by developing a transition program for feeder schools, aimed at easing the transition from primary to secondary school, retaining students and improving attendance.

Regional schools in particular reported staffing issues. Senior management at some regional schools felt on the one hand they ‘couldn’t keep the good teachers there forever’ but also ‘many staff had been there too long. Access to sessional and emergency staff was limited, so students were not exposed to different teaching styles. This was especially a problem if particular students were experiencing difficult relationships with certain teachers. Curriculum too was limited by the expertise of the teaching staff.

Alongside this, staff were just as categorical about the need for a ‘diverse’ and ‘flexible’ curriculum to cater for individual needs. One aspect of this is providing a wide variety of subject offerings, both academic and VET. Another is enabling students to change subjects mid-term if they are not achieving academically. Also it

includes creating realistic pathways post-school by offering courses that are relevant to the region. For example, one regional school offered Year 11 and 12 VET Viticulture subjects as they were located in a wine growing area. Other schools were providing the flexibility through timetabling. For example, at one school if students were doing six rather than seven subjects, they were able to take a later start to the day. But one teacher pointed out that in her experience the flexible timetables made it more difficult to track students, and made truancy easier.

Poor attendance and chronic absenteeism, was seen by staff as a stepping stone to dropping out of school entirely. Habitual truancy did not always lead to early leaving, but schools all had strategies in place to manage absenteeism. Many staff members felt the key to this was quick intervention. With attendance tracked daily, any students not at school were tracked first by phone. This was followed up with individual discussion with students to find out the reasons behind school truancy. School staff indicated the importance of working with parents or guardians, and monitoring progress closely. The next step commonly was to place the student 'audit attendance'. Consequences for breaking this 'contract' varied across the schools, with some implementing a 'three strikes and out policy'. Staff at other schools commented that simply discussing cancellation of their enrolment with students could be highly effective. Other schools recruited outside assistance. Home School Liaison Officers or Attendance Officers from district office were used to visit students at home. In one school Centrelink was engaged to work with older students receiving Youth Allowance on a mutual responsibility basis. One school had flexible arrangements with a few students. These students were enrolled in the school but worked at home under parent supervision a certain number of days per week. Staff from one regional school commented on the effectiveness of a physical barrier, 'double row perimeter fencing' that was recently built in minimising truancy.

What teachers would most like to see, however, is a reduction of class sizes so they can focus on the individuals in their classroom. The resource-intensive nature of all these initiatives was acknowledged as a barrier to their implementation. Mentoring for example not only requires multiple staff members but is also very time intensive. Economic constraints meant many schools could not provide as flexible a curriculum as they would like. Having adequate resources for each student was seen as a huge cost, as is any individual approach to schooling, yet this is what the teachers believed was the best way to prevent early leaving.

### **Schools unable to respond to needs of early leavers**

The interviews with school staff revealed that in some cases, schools were unable to meet the multiple needs of students at risk of early leaving. For some staff in some schools, there was a feeling that there was not a great deal they could do to keep particular students in school. It was felt that there were limits as to what the school could do to retain these students.

Staff described these students as having 'no clear goals' and simply 'not wanting to be at school'. They are described as 'habitual truants', who when they do attend school are disruptive in class, taking time away from those who want to learn. One principal expressed this view by saying, 'The hardest ten per cent, we're just



wasting our time on'. Whether they saw it as a lack of resources, a lack of teacher training, or just not their responsibility, for some staff a sense of helplessness prevailed when talking about this group of students.

Interviews with policy staff, however, revealed some system responses which would aid schools who were struggling to meet the needs of at-risk students. One such example is re-defining the school leaving age. In South Australia, the Government has raised the school leaving age to 16 years and has introduced a 'Social Inclusion' policy that aims to achieve full retention, and successful completion of 12 years of schooling. The question as to whether the policy will require 12 years of 'schooling' or some 'equivalent qualification' is currently being debated. The South Australian Government is modifying the onus of proof required if a family seeks exemption from attendance for a child (now that school leaving age is 16). The impact of this policy change was expressed by one South Australian school counsellor: 'school has more clout now that students have to stay until aged 16'.

Queensland too has passed new legislation that will require young people to stay at school until they reach age 16 years or complete Year 10, whichever comes first. In addition, young people will be required either to continue in school or training for a further two years, or until they have gained a Senior Certificate, or a Certificate III qualification, or have turned 17 years (ETRF White Paper, 2002). The legislation will also provide exemptions for young people who enter full-time work after they have either completed Year 10 or turned 16 years.

Other system initiatives that can help these schools include school–community partnerships, which are local area partnerships that increase the level of coordination between policies and programs across different government agencies. They may also elicit participation from local employers in providing training and job opportunities. In Victoria, Local Learning and Employment Networks (LLENs) operate at a local level, with funding and performance agreements with the Victorian Learning and Employment Skills Commission. The LLENs broker partnerships with local high schools, TAFEs, ACE, as well as local branches of both State and Commonwealth agencies to improve opportunities for young people who are seeking to make an effective transition from school to work.

In an effort to provide better services to youth in need, some states have adopted more centrally-driven strategies to increase the level of coordination across different government agencies. In Queensland for example, a range of government departments have come together to create what is called the 'whole-of-government' approach. As part of its *Smart State* strategy, Queensland is promoting cross-government coordination, which will, among other things 'promote strategic alliances in the interests of student pathways', and 'prevent the propensity of students to slip between the responsibilities of different departments' and 'maximise the effect of government resources, especially in remote areas' (QSE—2010, p. 27). The employment of youth support coordinators through the Queensland Department of Families has already been mentioned as an example of this strategy. To take another example, through the Supported Assisted Accommodation Program (SAAP) the Queensland Department of Housing is piloting the provision of group houses for homeless students.

## Conclusion

System staff interviewed across Australia revealed student retention to be an important issue in each jurisdiction. The interviews with system staff revealed some overall questions about the nature of post-compulsory schooling, and school resourcing. Staff in schools experiencing high levels of early leaving reported several procedures in place to identify students at risk within their schools. Early identification of these students was seen as crucial, along with subsequent referral to staff and support programs within the school. Successful intervention was more probable when students received support from home, and families worked alongside the school.

A number of interventions initiated both by systems and schools were in place, working on several levels. These included curriculum expansion and school programs, as well as VET in Schools and academic support for students. Targeted responses to different groups of students were also in place, more specifically for the two groups both system and school staff nominated as being at greater risk of non-completion than their peers — Indigenous students and young people living in severely disadvantaged circumstances. School and system staff nominated a number of successful approaches involving working with students one-on-one, that is at an individual level. At times school staff felt their ability to retain some students at school was limited. In these cases, some system responses such as increasing the compulsory leaving age, establishing school–community partnerships and providing government-wide service coordination, were implemented in order to aid schools in re-engaging young people at risk of early school leaving.

## **PART C**

# **MODELLING OF FACTORS AFFECTING YEAR 12 RETENTION**

## 7 Draft models of school completion

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### Introduction

The aim of this part of the report is to develop and apply a set of models of student retention that can be used as a tool for both predicting the impact of intervention strategies aimed at increasing retention, and for measuring retention over time and State and Territory differences. The current chapter presents the models of retention. It begins with an analysis of several of the key studies on retention which have attempted to quantify the effects of different sets of factors. The analysis is done in the spirit of a meta-analysis. The results are then used to develop draft models of completion. Since the goal of a meta-analysis is to compare and aggregate effect sizes across studies, most of the research included in this chapter is based on findings from quantitative sample surveys. These are mostly large in scale and nationally representative. With such data, the results can, at least in theory, be compared and summarised. There are some difficulties in undertaking a full meta-analysis since the overall number of usable studies is small, and in addition, only a few of the studies define the outcome variable in similar ways and present comparable figures for the purposes of developing effect sizes.

One way to consider the separate and interrelated role of factors in shaping completion and early leaving is through modelling of the relationships among the different factors. This chapter uses the results from existing studies to build conceptual models of the factors that affect completion. This task could be undertaken using a meta-analysis in which the results are used to develop models of completion based on the size and direction of effects calculated for individual and groups of factors. There are some difficulties, though, in undertaking a meta-analysis because the overall number of usable studies is relatively small, and in addition, only a few of the studies present comparable figures for the purposes of developing effect sizes. Therefore, while not using meta-analysis, this chapter will use the results of research suitable for identifying the estimated impact of different factors. This means that most of the research included in this chapter is based on findings from quantitative sample surveys.

Many of the factors that affect retention rates are correlated with each other, making it difficult to derive truly independent effect sizes for factors. Many studies dealing with the modelling of educational outcomes do not deal with this issue satisfactorily. Some do not make allowances for multicollinearity in their statistical modelling leading, at best, to underestimation of the effects of some variables and, at worst, to erroneous results. Some studies do, however, provide several models in which groups of potential predictor variables are added sequentially making it possible to identify not only the variables associated with the probability of completing or remaining, but also their effects on the strength of other predictor variables. Studies that attempt to do this will be included in this chapter where possible.

Two conceptual models will be built. The first will focus on the factors that shape completion or early leaving decisions. The unit of analysis will be the individual, though the role of school and other contexts will be included. The second model will focus on state differences in rates of completion and early leaving. The unit of analysis will be state or territory and the predictors will be aggregated to that level. A range of policy and non-policy factors will be identified.

### **Factors shaping completion and early leaving**

There is an impressive volume of research examining the propensity of young people to complete school or leave before completing the final year. Most of this research has focused on the characteristics of young people who complete or do not complete, particularly their family background, academic achievement, and behaviour (e.g. aggression, poor attitude towards school). It has also pointed to the impact of some key school experiences, such as whether a child had ever repeated a grade, and community and economic settings. The dominant research approach has been some form of multiple regression, typically with the outcome variable being a dichotomous variable denoting completion versus early leaving.

Table 7.1 summarises the factors examined in ten research studies. Most of the studies based their analyses on data from large-scale national surveys (mostly longitudinal). They are certainly not exhaustive of the many studies that include models and statistical analysis of completion and early leaving. However, they are representative of studies looking at different aspects of the process, often incorporating different groups of variables. For example, one study includes estimation of the effects of income support while another includes analysis of the impact of labour market and economic factors.

Certain difficulties arise in comparing the studies. Sometimes the outcome — completion or early school leaving — is defined in different ways. In some studies an early leaver is defined as a student who did not graduate with a final year certificate, and in others, as a student who did not remain to the final year. A second problem is that these research studies differ in terms of the methods of analysis used and the format in which the results are presented. For example, Williams, Long, Carpenter and Hayden (1993) provide population estimates of the percentages of students with certain background characteristics who completed Year 12, then indicate how those estimates would change if certain control variables were added to the model. Rumberger (1995) used a multi-level statistical procedure and presented eight models, each including additional variables, so that the apparent effects of background variables (such as ethnicity) were reduced as measures of self-esteem and aspirations were added to the model.

All of the studies include a comprehensive set of variables in the research design and use some form of multiple regression technique to estimate the relative importance of each variable in explaining the outcome. A comparison of relative magnitudes for each explanatory coefficient would have assisted with determining the relative effect each explanatory variable exerted on school completion. However, to calculate the necessary statistic (such as the elasticity at the mean for each variable), additional information would have been required on how each variable is measured and its sample mean. Such information was not available in all of the research studies.

Table 7.1 outlines the results from the selected empirical literature. The first column of the table presents:

- (1) the author(s) of the paper
- (2) which country the data are drawn from
- (3) the type of survey data, and
- (4) the outcome variable.

The remaining six columns present information on some of the relevant explanatory factors utilised in the regression models. The variables have been grouped according to the main sets of identified individual and contextual factors: student, family, school, peer group, community and state/national level. The information includes:

- (5) the name of the explanatory factors, and
- (6) whether the coefficient was statistically significant (at the 5% level).

In all of the studies, the factors have different rankings based on their estimated impact on completion and early leaving. Montmarquette and Viennot-Briot (2000) identify from their analysis the top nine factors affecting early leaving in order of their significance as:

1. An increase in the minimum wage
2. A decline in the unemployment rate
3. Going to school in a province where the minimum legal age to leave school is 15 years old
4. Going to a public school
5. Being male
6. Having parents whose level of education is at or below high school level
7. Having changed schools often
8. Having low grades
9. Having worked more than 30 hours per week or having not worked at all in the last year of school.

The study by Janosz, LeBlanc, Boulerice and Tremblay (1994) combined multiple predictors of early school leaving relating to families, peers, schools and performance. They ranked grade retention, disrespect of authority and participation in passive activities as the most important predictors of early leaving, and concluded that family and school factors were not strong independent predictors.

The studies by Bryk and Thum (1989) rank individual and family considerations as important, but school as also having large significant effects. The study by Payne (2001) ranks social and family factors the highest.

This tells us that different model specifications produce different results, possibly because of the contexts of the studies and possibly because of the multicollinearity problems discussed earlier.

**Table 7.1: Summary of selected empirical literature**

Study	Student	Family	School	Peer	Community	State/ National
Payne (2001) United Kingdom Longitudinal survey data Participation in final year	Ac. achievement* Sex* Ethnicity* Truancy* Suspensions* Part-time work* Attitudes to school*	Parent education* Household tenure*	Course studied*		Educat. Region*	Maintenance allowance*
Montmarquette & Briot (2000) Canada Longitudinal survey data Early leaving	Sex* Mobility* Academic achievement* Part-time work*	Parental education*	Sector*			Wages* Unemployment rate* Leaving age*
Janosz, LaBlanc, Boulerice & Tremblay (1997) Canada Longitudinal survey data N=1582	SES* Sex* Grade repeating* Ac. achievement* Commitment* Beliefs Leisure*	Family structure* Parent's educn.* Supervision Rules* Punishment		No. of friends Interaction* Deviancy		
Rumberger (1995) United States Longitudinal Survey data N=17,424	Sex* SES* Race* Place of birth Achievement* Repeating* Mobility* Expectations* Attitude to teachers* Self-concept Self-efficacy Absenteeism* Homework Engagement Misbehaviour*	Family structure* Lang. Backgrnd Par. supervision Expectations* Academic support	SES composition* Grade repeating Racial composition* Sector* Size Student/teacher ratio Homework Fair discipline*	Interaction* Assist		
Dearden & Heath (1996) Australia Longitudinal survey data N=6934	Father's SES* Mother's SES*	Family size* Father's educn.* Mother's educn.* Single parent	Sector*		Unemp. Rate* Region*	State* Income support*
Maani & Kalb (2003) New Zealand Longitudinal survey data N=731	Sex Ethnicity Ac. achievement*	Home ownership Family income* Family size* Income benefits*	Class size	Deviancy	Unemp. Rat Region*	
Bryk & Thum (1989) United States Longitudinal survey data	Sex Race SES* Ac. achievement*		Teacher quality* Academic press.* Social climate* Curriculum* Composition*			
Williams, Long, Carpenter & Hayden (1993) Australia Longitudinal survey data	Sex SES* Academic Achievement* Ethnicity*	Parent's education* Family wealth*	Sector*		Region	State*
Vickers & Lamb (2002) Australia Longitudinal survey data	SES* Sex* Ethnicity*		Sector*			State* Curriculum*
Miller & Volker (1989) Australia Longitudinal survey data	SES* Ethnicity* Language skills	Father's educ.* Mother's educ.* Family size* Mobility Family structure	Sector*		Region Unemp. Rate*	State*

NOTE: \*=significant at least at the 5 per cent level.

*A model of completion and early leaving*

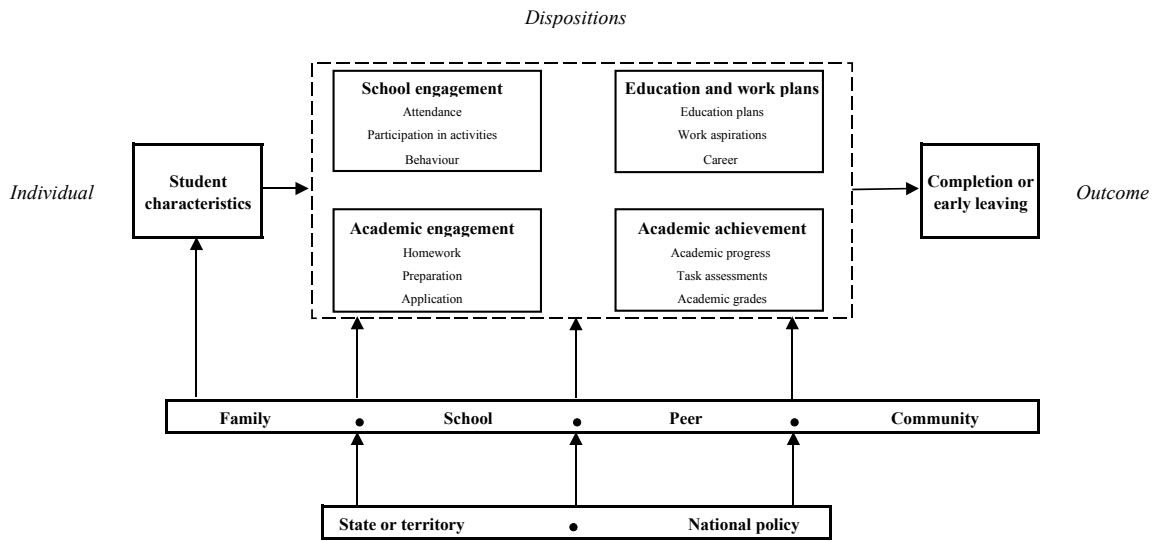
Figure 7.1 presents a conceptual model of school completion and early leaving based on the empirical literature. It shows four separate dimensions related to the process of completion or early leaving: (1) *outcome*, which is the product of the process and involves either completion of the final year or early school leaving; (2) *dispositions*, which reflect the attitudes, behaviours and achievements of students through particular concepts — school engagement, academic engagement, education and work aspirations, and academic achievement; (3) *student characteristics*, which relate to the background attributes of individuals; and (4) *context*, which represents the institutional, contextual and policy settings which actively and continuously operate to shape and modify student characteristics and the academic and work dispositions leading to completion or early leaving.

The model represents the completion and early leaving process as dynamic rather than static. Several theories have been developed in recent years that all suggest completion or dropping out of school is but the final stage in a dynamic and cumulative process of engagement or withdrawal that impacts on the *dispositions* towards school and work (Rumberger, 1995; Janosz et al., 1997; Teese, 2002). Although there are some differences among these theories, they all suggest that there are four dimensions that form dispositions: school engagement, academic engagement in learning, education and work aspirations including career planning and the desire to enter the workforce rather than remain at school, and academic achievement or scholastic success and failure. These dimensions are reflected in students' attitudes and behaviours with respect to both the formal aspects of school (e.g. classrooms and school activities, results, progress and achievement), and the informal ones (e.g. peer and teacher relationships). All of the dimensions related to dispositions can influence the decision to stay or withdraw from school. For example, students may withdraw from school because they lose motivation and no longer do their schoolwork (academic engagement), because they do not identify with the goals of school (school engagement), because they want to leave to get a job rather than be at school (work and education aspirations), or because of an established record of scholastic failure (academic achievement).

The framework also suggests that the four dimensions of dispositions are inter-related. For example, students who lose interest in school (school engagement) and learning (academic engagement) are less likely to do well (academic achievement) and develop a stronger desire to obtain employment rather than remain at school (education and work aspirations). Similarly, histories of academic success and reward in school may promote stronger engagement in school activities, positive relationships with teachers, and further education plans promoting completion.



**Figure 7.1: A conceptual model of completion and early leaving**



Adapted in part from Rumberger & Larson (1998).

<i>Individual</i>	<i>Context</i>	<i>Dispositions</i>	<i>Outcome</i>	
<b>STUDENT ATTRIBUTES</b> Gender SES Ethnicity Race/indigenous status Health Disability Ability Self-efficacy Self-esteem Homelessness Sexual activity Income Part-time work Drug and alcohol usage Television viewing habits	<b>FAMILY</b> Wealth and income Cultural capital Education Family size and composition Child rearing practices Education and work aspirations Mobility Employment Functioning School involvement  <b>SCHOOL</b> <i>School type</i> Sector (Govt., Cath., Ind.) Selective or open entry School size SES composition  <i>Pupil management</i> Grouping practices Pastoral care Welfare services Discipline policies Integration  <i>Teacher quality</i> Teacher attributes Allocation to classes Relationships with students Expectations and support  <i>Pedagogy</i> Teaching styles Assessment practices Student or subject centred Homework  <i>Curriculum</i> Subject breadth Alternatives VET in schools Careers counselling Extracurricular  <i>Resources</i> Class sizes Facilities Levels of staffing	<i>Climate and culture</i> Academic focus Discipline and control Safety of students Values and familial focus  <b>PEER</b> Classmates (backgrounds) Education and work plans Norms and values Culture and behaviour  <b>COMMUNITY</b> Poverty Region Population density Economy/labour market SES profile Ethnicity composition Race profile Educational provision  <b>STATE OR TERRITORY</b> Residential segregation Economy/labour markets Industry base Population density SES composition Ethnicity composition Race/indigenous status Curriculum and certification VET provision and policies Higher education Senior school provision Age of entry Age of leaving School organisation School resourcing Teacher recruitment Educational allowances  <b>NATIONAL POLICY</b> Economy and labour markets Junior wages Income support policies Education and training (including apprenticeships) School resourcing Employment programs	<b>SCHOOL ENGAGEMENT</b> Attendance/truancy Participation in school activities Behaviour in school Suspensions and expulsion Detentions Attitudes towards school Attitudes to teachers  <b>ACADEMIC ENGAGEMENT</b> Homework Preparation Application  <b>EDUCATION AND WORK</b> School completion plans Post-school education plans Work plans Career aspirations Income needs  <b>ACADEMIC ACHIEVEMENT</b> Early achievement Literacy and numeracy skills Academic progress Task assessments Academic grades Grade repeating	<b>ATTAINMENT</b> Successful completion Completion of Year 12 or equivalent Enrolment in Year 12 Year of leaving

The framework also posits that the dispositions towards school are continuously shaped and influenced by the contexts in which students are located. Different family, peer group, community and school settings work to shape student characteristics and modify the dispositions that young people develop. The settings — viewed as interconnected and overlapping rather than separate and isolated — work to shape the outlooks students bring to school, including their educational aspirations and skills. Themselves shaped by state and territory and national educational, economic and social policy frameworks, these contexts can modify the impact of individual and demographic patterns of dispositions as young people progress through school and the outcomes. For example, indigenous students in remote communities with limited provision of schools and tertiary education may develop different dispositions to school and work compared to those located in large urban centres with better provision (see Long et al., 1998 for examples of this). Similarly, schools serving largely low SES communities which attempt to address issues of disengagement through provision of a wider range of senior school course options, stronger student-centred approaches and enhanced pastoral care may promote stronger engagement in school and learning and higher rates of completion than schools which retain only a limited range of academic programs and pastoral care services (see Batten, 1989 & Lamb, 1997a, for examples).

From a policy perspective the model should be viewed as one which reflects the opportunity to identify and target both general and local processes. While many studies use national data sets to statistically measure the impact of different factors to identify relative size and influence, this procedure may well remove the importance of factors which have more local or regional as well as social group relevance. For example, analysis of the impact of income support policies such as Youth Allowance may suggest a small or minimal effect on completion and early leaving at a national level, but for particular regions or states its influence may be quite substantial. Similarly, educational provision rather than economy may affect completion decisions in some regions whereas labour market issues rather than educational provision drive choices in others. The model may not be particularly suitable for identifying in a single analysis the magnitude of importance of different factors (particularly given the long list of variables grouped under each dimension). Rather it should be viewed as a tool which gives policymakers an opportunity to examine and consider the different influences on completion and early leaving given different context and policy frameworks.

### **Factors shaping state differences in completion and early leaving**

There has been quite a lot of work undertaken in Australia examining the factors that drive state, territory and national retention and participation rates. One group of studies has been done mainly by economists looking at links between changes in the economy and changes in the demand for post-compulsory schooling. These studies measure the relationships between a range of labour market and economic-change factors and levels and shifts in apparent retention and age-participation rates, mostly at a national level. Some studies in this group have also looked at the relationships with year-level progression rates. Many of these studies do not include analyses of state differences, though a few do.

A second smaller group of studies has examined, more specifically, state differences in apparent retention and age participation rates. This work has focused on measurement of the relative influence of state and territory policies compared with population and economic conditions.

Table 7.2 presents an outline of several of the main studies. The first column of the table presents the author(s) of the paper, the type of survey data, and the outcome variable. The remaining two columns present information on some of the relevant explanatory factors utilised in the studies. The variables have been grouped according to whether they reflect policy or non-policy influences.

**Table 7.2: Empirical literature on state and territory differences**

Study	Policy influences	Non-policy influences
Williams, Long, Carpenter & Hayden (1993) Australia Longitudinal survey data Year 12 completion	State*	Sex SES* Ac. Achievement* Ethnicity* Parent's education* Family wealth* Sector* Region
Vickers & Lamb (2002) Australia Longitudinal survey data Attainment (year-level)	State* Curriculum*	SES* Sex* Sector* Ethnicity*
Ryan (2003) Australia Apparent retention rates Longitudinal survey data Apparent retention (state level)	Age-grade structure* TAFE enrolments* State* Grade repetition* Part-time students*	Unemployment rates* Indigenous students* Employment rates for 15 to 19 year-olds*
Lamb (2002) Australia 2001 Census data Year 12 attainment for 19 to 20-year-olds	State* Part-time students	Location* Indigenous students* Ethnicity* SES* Sector*
CGC (2003) Australia Census data Age participation (15 to 17-year-olds)	Age of commencement of post-compulsory schooling* Prop. of part-time students* School type* VET enrolments* State*	Family income* Ethnicity* Indigeneity* Remoteness* Full-time employment* School sector*
Walters, Greenwell & Percival (2002) Australia Census and ABS data Participation rates	School entry age Student ages in Years 10/11/12* Senior colleges Student-to-staff ratios	Youth unemployment* Labour force participation* Full-time youth employment* Full-time employment* Occupational profile* Educat. attainment of popn. Industry mix* Urban-rural distribution Proportion indigenous* Sector

In all of the studies, the factors have different rankings based on their estimated impact on state and territory differences in rates of completion and early leaving. The Commonwealth Grants Commission (2003) identifies from its analysis that non-policy influences account for approximately 70 per cent of the variation in state and territory participation rates of 15 to 17-year-olds. Among these factors the CGC included indigenous status, social composition, remoteness, ethnicity, employment levels, and non-government school enrolments. Several policy factors were identified as significant.

Lamb (2002) modelling differences in attainment rates of 19 and 20-year-olds reported that non-policy influences — such as SES composition, ethnicity, indigeneity, population density and sector enrolments — accounted for over 85 per cent of state and territory differences.

Ryan (2003), however, identified policy factors, such as age-grade structures, numbers of part-time students, TAFE enrolments, and age of entry, as major sources of difference.

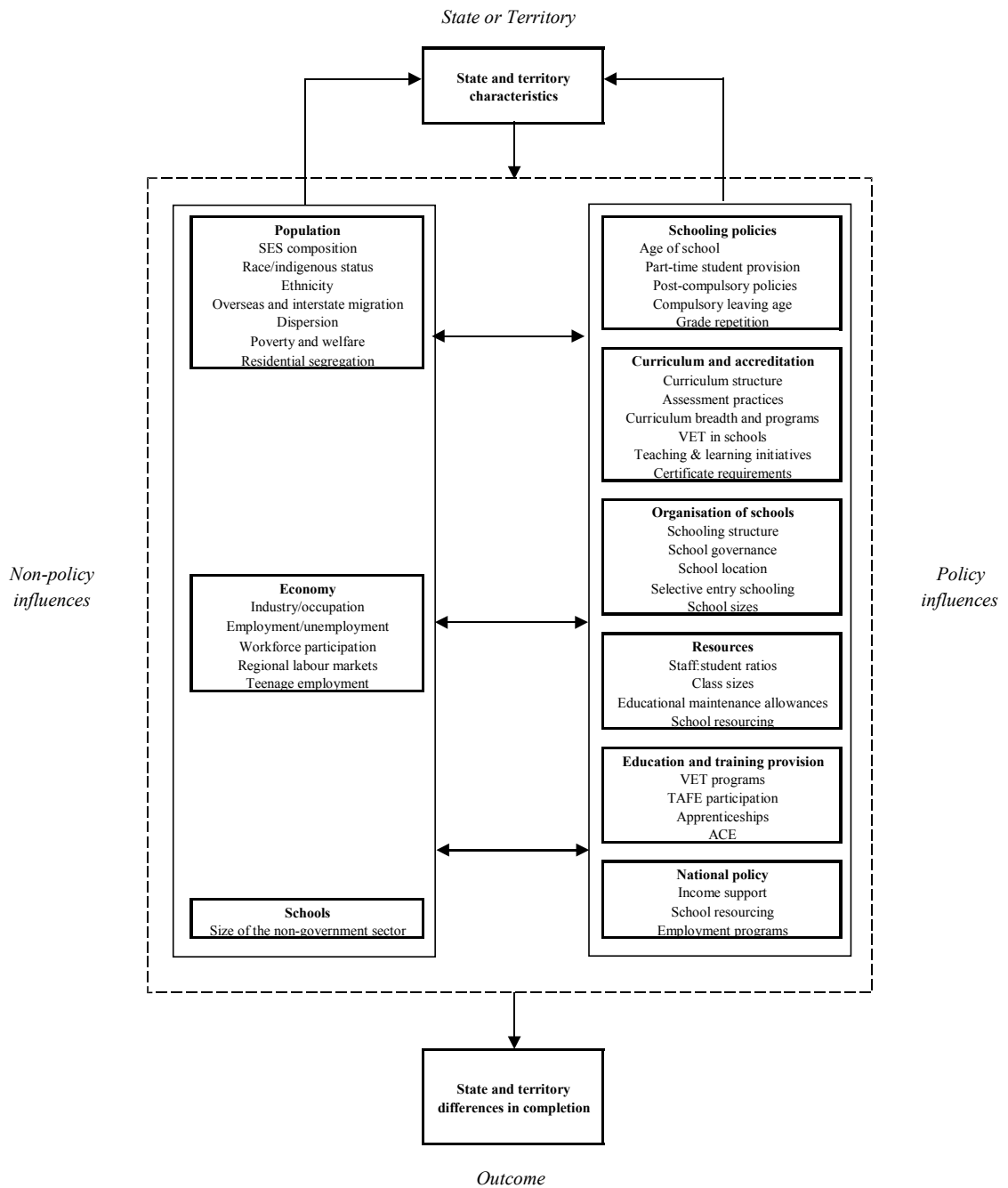
#### *A model of state and territory differences in completion*

Figure 7.2 presents a conceptual model of state and territory differences in completion and early leaving based on the empirical literature. The proportion of students who move into post-compulsory education and complete Year 12 varies between states and territories. Difference between jurisdictions in participation and completion can be attributed to both policy and non-policy influences. The model shows both sets of influences and their interactions.

Existing research indicates that potential *policy* influences on rates of completion and early leaving include the following:

- (1) schooling policies such as age of entry, numbers of part-time students, compulsory leaving age, grade repetition
- (2) curriculum and accreditation including certification, assessment practices, teaching and learning programs (e.g. New Basics; New Essentials)
- (3) school organisation such as senior secondary colleges, middle school programs, selective-entry schools, location and size
- (4) resources including student/staff ratios, class sizes, educational maintenance allowances, school resourcing
- (5) education and training provision including TAFE policies, interactions between schools and TAFE, VET entry policies, and
- (6) national policies such as income support, school resourcing, apprenticeship and employment programs.

**Figure 7.2: A conceptual model of state and territory differences in completion and early leaving**



*Non-policy* influences relate to population differences as well as economic factors. They include:

- (1) population differences related to SES composition, proportion of population from Indigenous backgrounds, ethnic composition, migration, dispersion of the population, poverty and welfare, residential segregation
- (2) economic differences including those related to industry mix, occupational structure, employment and unemployment levels, workforce participation, regional labour markets, and
- (3) school enrolment shares reflected in the size of government and non-government sector enrolments.

The framework suggests reciprocal relationships among the two main groups of factors. For example, policies in curriculum, school organisation, resources and welfare can be developed in response to population needs and economic circumstances. The relationships between factors can change over time — economic trends and migration can lead to changes in the demand for education and training provision as well as the demand for resources.

## **8 Modelling state and territory differences**

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### **Introduction**

The aim of the next four chapters is to present the results from an application of the models developed in Chapter 7. The key goal in the current work is to identify the main drivers of current trends in retention rates across states and territories, and to model differences in rates of retention and changes over time. A major limitation in modelling differences is the extent and quality of data available. The model of state differences presented in Chapter 7 requires data containing information on a vast array of policy and non-policy influences such as labour market conditions, availability of alternatives to education, schooling policies, curriculum and accreditation structures and changes, resources, funding policies, population differences, and economic contexts. There is no consolidated data set that provides such data. However, it is possible to measure the effects of some of the influences using available data from the ABS publication *Schools Australia*, from the 2001 ABS Census of population and housing, and from cohort data such as from the Longitudinal Surveys of Australian Youth (LSAY).

Three sets of models are developed and applied:

- (1) a cross-sectional analysis of the 2002 apparent retention rates (Chapter 8),
- (2) a time-series analysis of changes in retention from 1981 to 2002 (Chapter 9),  
and
- (3) a multi-level structured sequential logistic regression model of the differences in completion across groups of young Australians (Chapter 10).

The first set of models focuses on state and territory differences in student apparent retention rates. A series of adjustments are made to the 2002 published apparent retention rates to correct for differences in population change, numbers of mature-age students, numbers of part-time students, numbers of cross-border students, socioeconomic status composition of populations, remoteness and population density, size of indigenous population, size of the private school sector, role of secondary colleges, and VET as an alternative to school. The unit of analysis is the state or territory. The analysis is cross-sectional because it only deals with one point in time and does not attempt to model trends or changes over time. The results are presented in the current chapter.

The second set of models employs time-series analysis techniques to measure changes between states and territories in retention rates between 1981 and 2002. Factors used in this set of models are those which vary over time including the level of full-time employment for 15 to 19-year-olds in the labour force, unemployment levels of 15 to 19-year-olds in the labour force, job vacancies, proportion of indigenous students, changes in the age-grade structure, TAFE enrolments for 16-

year-olds, and population change. The aim is to estimate the impact of different labour market and population factors on changes in retention. From the measured effects it is then possible to predict changes across states and territories. The results are presented in Chapter 9.

The third set of models focuses on the factors that shape completion or early leaving decisions. The unit of analysis is the individual, though the role of school and other contexts are included. In this report, logistic regression is used to estimate the relative importance of different variables and contexts in explaining differences in completion. A comparison of relative magnitudes for each explanatory variable is presented. The model provides a way of comparing the relative size, strength and direction of the influence exerted by different factors on completion. The results are presented in Chapter 10.

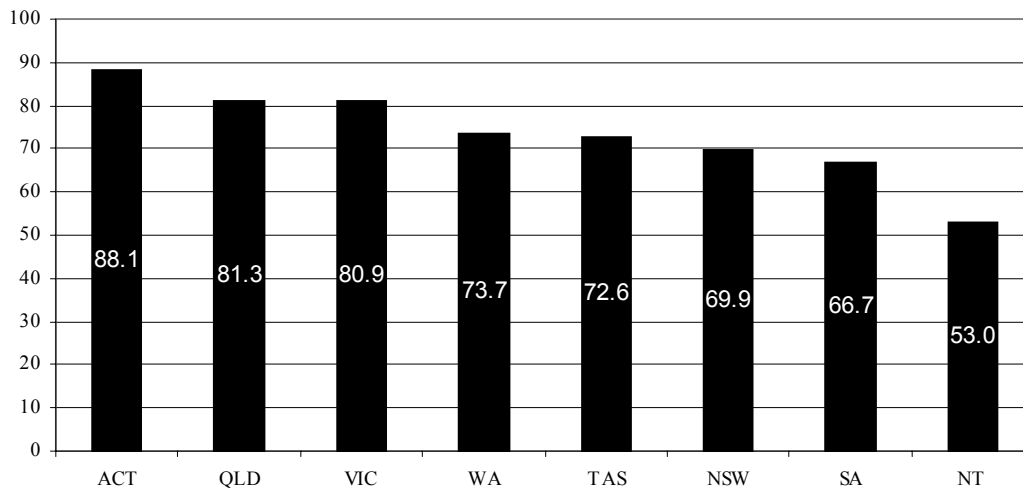
The data for the three sets of models were derived from a wide range of sources. The first and second sets of models include data from the Australian Bureau of Statistics *Schools Australia* series, the ABS 2001 census, and other selected ABS publications. The third set of models includes data from the 1995 Year 9 cohort of the Longitudinal Surveys of Australian Youth. This data is supplemented by data from selected ABS publications.

## **Modelling apparent retention in 2002**

The Year 12 apparent retention rates are estimates produced by the Australian Bureau of Statistics (ABS) of the proportion of a cohort commencing secondary school and proceeding to Year 12 in the minimum possible number of years. Secondary school commences in Year 7 in New South Wales, Victoria, Tasmania and the Australian Capital Territory. It commences in Year 8 in the other jurisdictions (Queensland, South Australia, Western Australian and the Northern Territory). Consequently, the year in which the denominator is measured varies between jurisdictions for any Year 12 retention figure. Student retention is expressed as the percentage of Year 7/8 students who progress to Year 12. Published rates are usually confined to full-time students. The estimates are referred to as apparent rates, in recognition of the fact that they do not take account of such things as the movement of students between states and territories, immigration levels, part-time secondary study, students who repeat a year, adult re-entry students (from an earlier Year 7/8 cohort), inter-sector school transfers, students who spread Year 12 over 2 years, and state differences in enrolment policy and full-time Year 12 workloads.

Figure 8.1 presents the 2002 rates of apparent retention by state and territory published by the Australian Bureau of Statistics. Approximately 30 percentage points separates the ACT (88.1 per cent) and the Northern Territory (53.0 per cent), the jurisdictions recording the highest and lowest rates in 2002, respectively. The states fall between these extremes with South Australia recording a rate of 66.7 per cent and Queensland a rate of 81.3 per cent.



**Figure 8.1: Apparent retention rates, by state and territory: 2002.**

Source: ABS, *Schools Australia*, Cat. No. 4221.0.

The following sections of this chapter report the various adjustments we make to the ‘official’ ABS retention rate estimates. The first four sections relate to adjustments for measurement-related factors. They are corrections for factors that have a bearing because of the way that apparent retention is measured. The adjustments respond to differences in:

- levels of population change
- numbers of mature-age students
- numbers of part-time students, and
- numbers of cross-border students.

The adjustments are made using numbers of students. They are relatively simple adjustments made to the denominator (the secondary school entering cohort enrolments) or numerator (final year enrolments) on which retention rates are based.

The following sections of this report adjustments based on regression analysis used to estimate the effects of population and other factors on differences in retention rates across states and territories. Adjustments derived using regression analysis respond to differences in:

- socioeconomic status composition of populations
- remoteness and population density
- size of the Indigenous population
- size of the private school sector
- provision of secondary colleges, and
- VET as an alternative to school.

A figure is presented for each adjustment. It contains two components. The first provides the size of the adjustment that is required for each state and territory. The second compares the retention rates across states and territories after the adjustment has been made. In the second component, two sets of figures are presented for each state and territory. One represents the original apparent rates published by the ABS. These are held constant in each figure. The second presents the adjusted rates.

These reflect the effects of each adjustment on the apparent retention rate *independent of other adjustments*.

### **Measurement factor adjustments**

#### *Adjustment for population change*

Population changes over time can affect retention rates through increases or decreases in population occurring between the secondary school entry year (Year 7/8) and Year 12. Where there is an increase in the size of the population it can lead to an inflation in the reported retention rate because the size of the entering cohort (the denominator) is smaller than numbers available to be counted in the final year (the numerator). Conversely, population declines can lead to deflated apparent retention rates.

There are two main sources of population change relevant to state and territory retention rates. One is overseas migration which has continued to add to Australia's population for a considerable time. In 1999–2000, according to ABS figures, 45 per cent of Australia's population growth was from net overseas migration (ABS, 2001). In the period from 1995 to 2000, net overseas migration amounted to approximately 521,000. The other main source of population change is interstate patterns of migration. In 2000, two states — Victoria and Queensland — were the only jurisdictions to record net gains from interstate migration (ABS, 2000).

It is possible to adjust retention rates for changes in population. By calculating the age breakdown of the entering secondary school cohort it is possible to increase or decrease the size of the cohort according to the size of the changes in the relevant proportional ages between entry and Year 12. For the 2002 apparent rate this means adjusting for changes in the population of the relevant age cohorts in jurisdictions between 1997/98 and 2002. That is, proportional population growth in each Year 7 or 8 single year of age cohort over the years to Year 12 is used to adjust the retention rate estimate. The denominator is increased (or reduced) to match population growth over the intervening years.

Figure 8.2 shows the impact of the adjustment. The first panel reveals that population change varied by state and territory. The ACT recorded the largest increase in the relevant teenage population between 1997 and 2002, while Tasmania and the Northern Territory actually recorded falls.

The impact of these changes on the apparent retention rate is presented in the second panel of Figure 8.2. The 2002 published apparent retention rates are represented by the bars, presented in order of size from highest to lowest. The rate that is estimated after adjustment for population change is represented by the dark line at the top of each bar. The adjustments show that the retention rate would be higher than the published apparent rate in 2002 for both Tasmania and the Northern Territory. The rates would be lower for all other jurisdictions.

#### *Part-time students*

ABS apparent retention rates are calculated using only full-time student enrolments. Numbers of part-time students vary across states and territories depending on institutional arrangements and policies. Not including part-time students in the retention rate estimates could substantially under-report levels of retention in systems where there are large numbers of part-time students. In this situation the real efforts of different jurisdictions to help young people remain at school is being under-reported.

The numbers of part-time students are now published annually in *Schools Australia*. The enrolments are reported by year-level and so it should be possible to adjust the Year 12 (numerator) enrolments to include part-time students using this data. However, the data are not provided by age. The exclusion of age makes it difficult to estimate the numbers of part-time students linked to entering cohorts. For example, in at least one state the numbers of reported part-time students in Year 11 in 2002, if added to the Year 11 full-time student enrolments, would produce a retention rate to Year 11 well in excess of 100 per cent. Age and year-level data are both necessary to make adjustments for numbers of part-time students.

While ABS data on part-time students cannot be used at present to make adjustments for the 2002 retention rates, it is possible to make adjustments using the results from the 2001 Census of Population and Housing. In that survey, the numbers of full-time and part-time school students are recorded by age. Adjustments can be made by calculating the numbers of 15 to 18-year-olds who are recorded as being part-time school students.

The first panel of Figure 8.3 shows in percentage terms the adjustments needed, according to the 2001 Census, for part-time students by state and territory. South Australia has the largest proportion of part-time school students (3.5 per cent). It is closely followed by the Northern Territory (3.2 per cent). New South Wales (0.7 per cent), Victoria (0.7 per cent) and the ACT (10.0 per cent) have similar levels.

The impact on retention rates is presented in the second panel of Figure 8.3. It shows the upwards adjustments in retention that are needed in all states and territories (in particular South Australia, the Northern Territory and Tasmania) to correct for the exclusion of part-time students.

### *Mature-age students*

School enrolments reported in *Schools Australia* can include mature-age students who have returned to school. The effect of this is to inflate apparent retention rates because these students will appear in the Year 12 (numerator) enrolments but not in the entering Year 7/Year 8 cohorts (denominator) on which the apparent retention rate is calculated. The numbers of mature-age students are likely to vary by state and territory depending on policies related to mature-age study.

While it is not possible to identify mature-age students in the Year 12 enrolments, it is possible to identify the age-structure of the entering cohorts and the corresponding age-structure that should exist in Year 12. For example, if 80 per

cent of Year 7 students in 1997 are 12 years of age at the time of the August census, and no students are older than 14, then it can be assumed that the Year 12 cohort in 2002 is likely to be comprised of 80 per cent of 17 year-olds and no students older than 19. Using this procedure it is possible to identify students who are likely to be mature-age students, those 20 years of age or older.

Adjustments for the numbers of mature-age students are presented in Figure 8.4. The first panel shows that Tasmania requires the largest adjustment for the numbers of mature-age students — 7.5 per cent. The impact of this change is presented in the second panel.

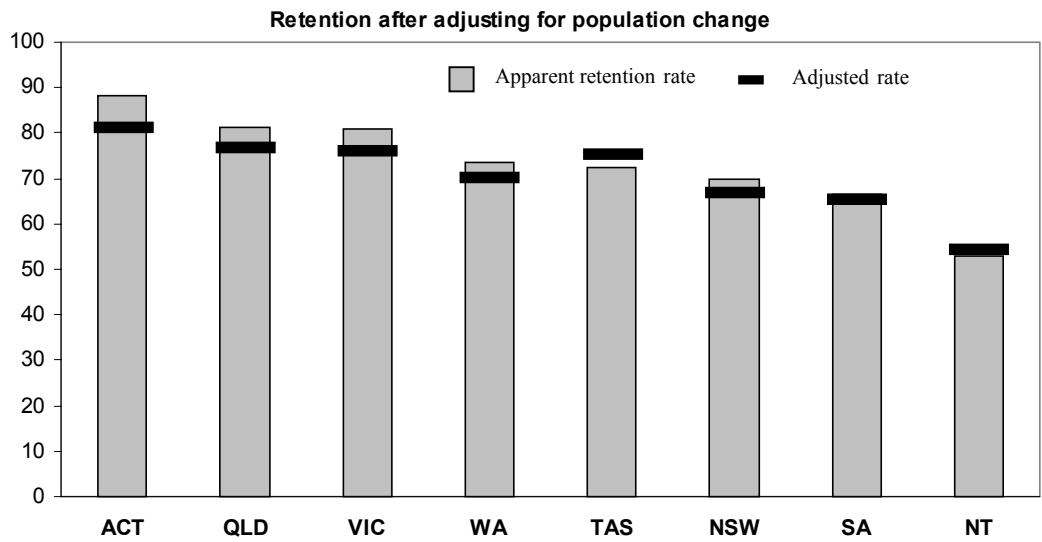
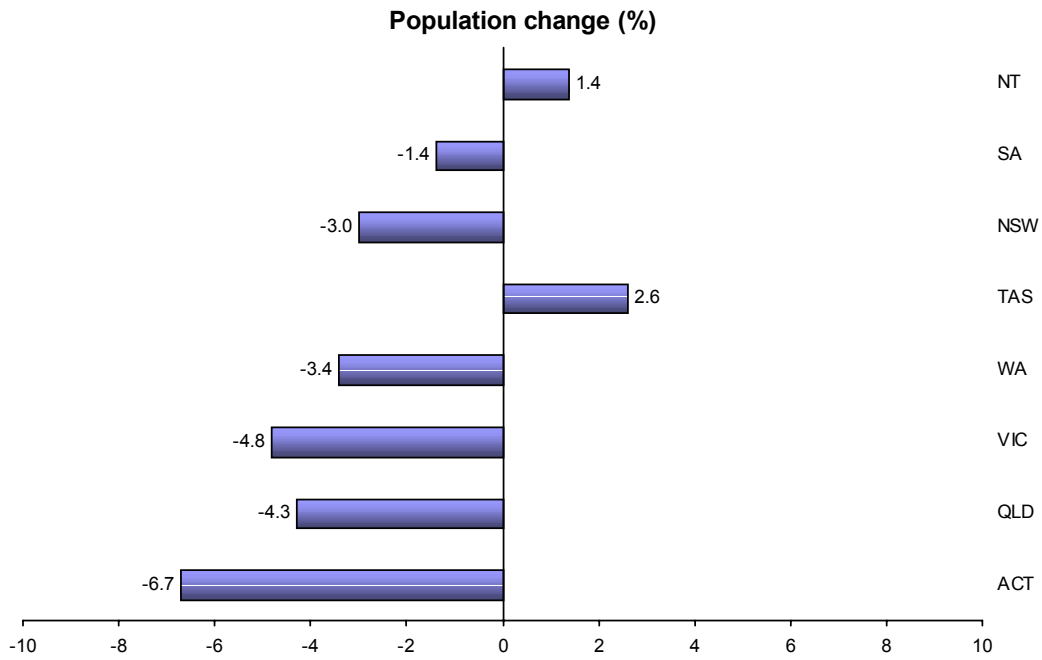
### *Cross-border students*

Students who live close to state and territory borders may choose to undertake their senior school study in a state or territory other than the one in which they commenced secondary school. This has a potential impact on retention rates because if the numbers are large enough, they may inflate the retention rates for the state or territory in which students do their senior school study and at the same time reduce the rates for the state or territory in which the student began secondary school.

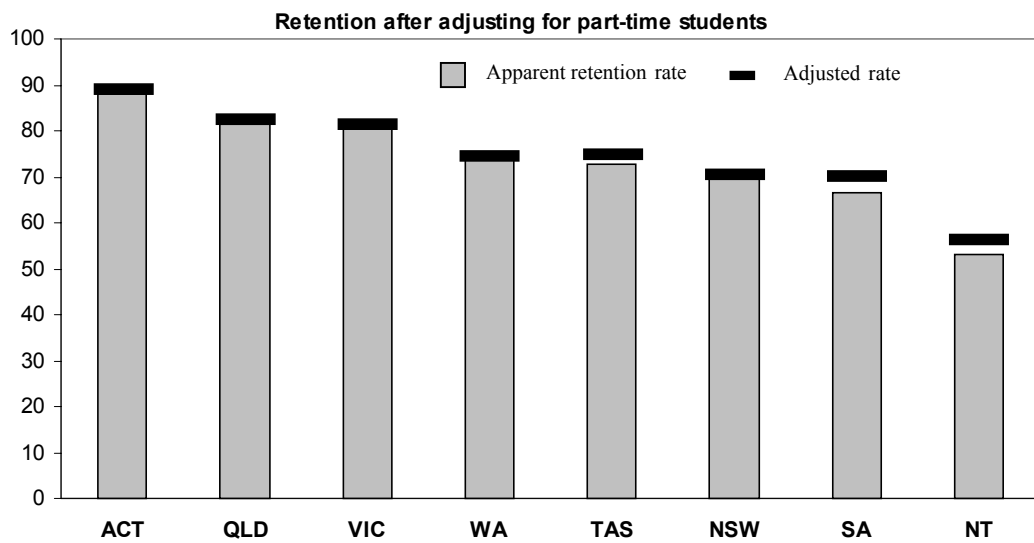
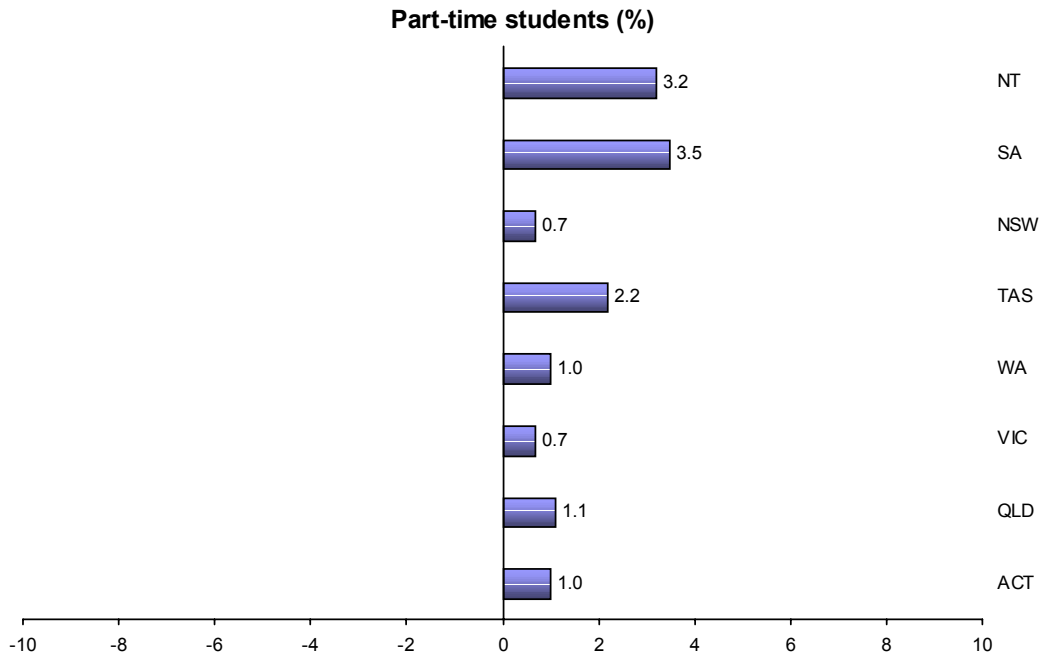
Figures on the numbers of cross-border students are not published. For 2002, it was possible to obtain some estimates from data provided by states and territories on the numbers of students undertaking Year 12 with a home address based in a state or territory other than the one in which they were enrolled at school.

Figure 8.5 records the adjustments needed for numbers of cross-border students. Two jurisdictions are affected. Many Year 12 students in the ACT were recorded as having a New South Wales home address. However, most of these students had studied in the ACT in Year 10 or earlier. Approximately 0.8 per cent of Year 12 students in the ACT held a New South Wales home address and had not studied in the ACT in Year 10 or earlier. This adjustment produces a reduction in the retention rate for the ACT and a slight increase for New South Wales.

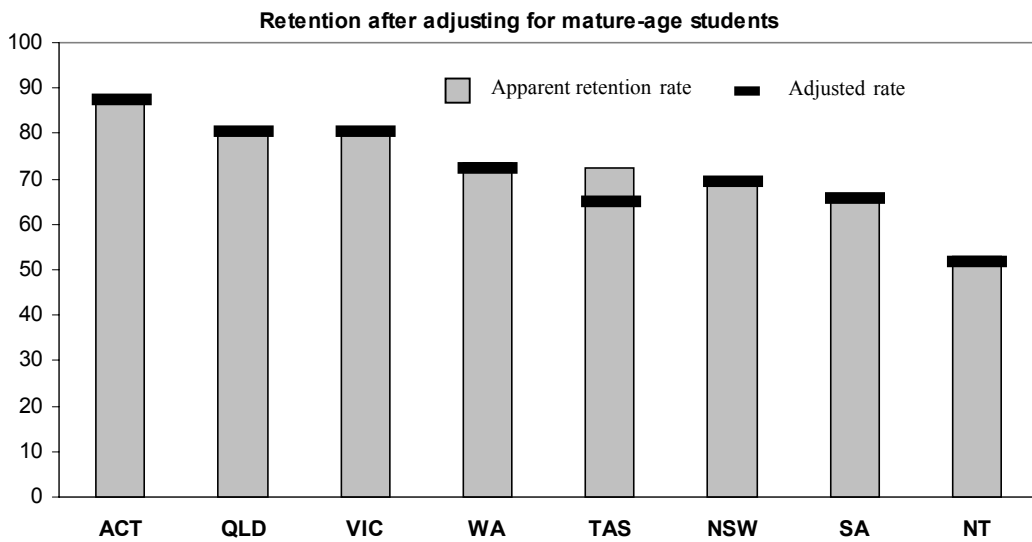
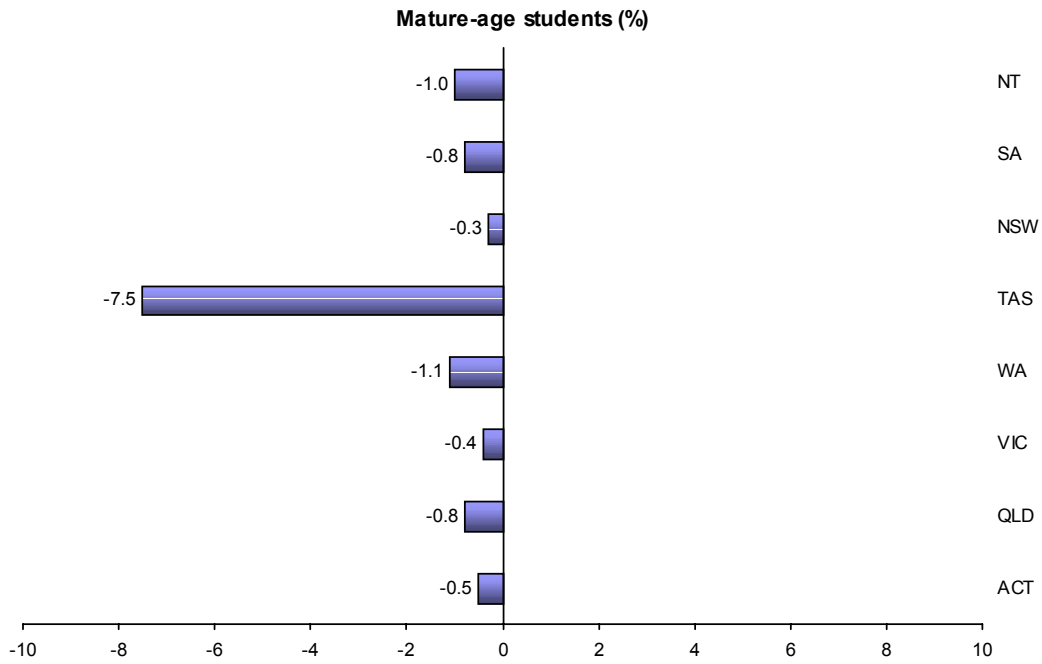
**Figure 8.2: Adjustments required for differences in population change, by state and territory (%)**



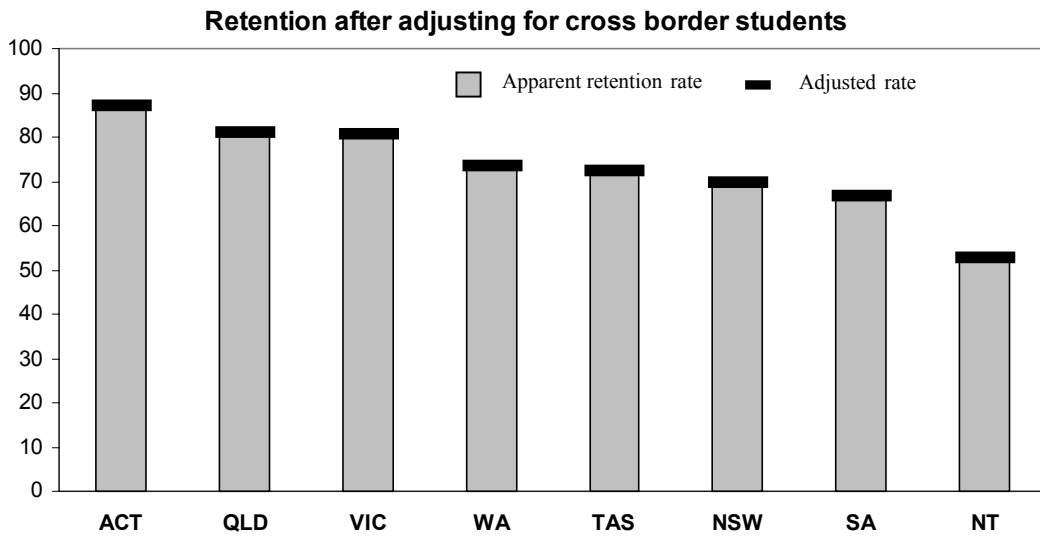
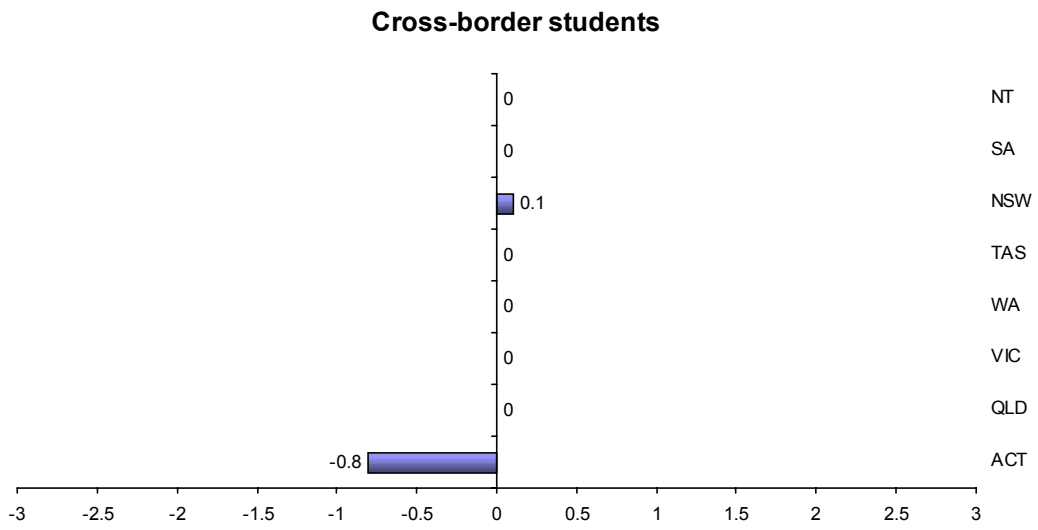
**Figure 8.3: Adjustments required for differences in numbers of part-time students, by state and territory**



**Figure 8.4: Adjustments required for differences in numbers of mature-age students, by state and territory**



**Figure 8.5: Adjustments required for differences in numbers of cross-border students, by state and territory**





### **Population factor adjustments**

The next set of adjustments relate to population and demographic differences between states and territories. These adjustments are made using data from the 2001 Census of Population and Housing. The data set contained information on the year-level attainments of 19 and 20-year-olds for all Statistical Local Areas (SLA) in Australia. This was used to calculate a Year 12 attainment rate for each SLA. Information from the census was also obtained on the following:

1. Indigenous population was calculated as the percentage of the population from indigenous backgrounds.
2. School sector refers to the percentage of secondary school-age students in government, Catholic and independent schools.
3. Location is measured using the Accessibility/Remoteness Index of Australia (ARIA), which was developed by the Commonwealth Department of Health and Aged Care (DHAC) and the National Key Centre For Social Applications of GIS (GISCA). ARIA measures the remoteness of a point based on the physical road distance to the nearest Urban Centre in each of five size classifications: (1) Major city, (2) Inner regional, (3) Outer regional, (4) Remote, (5) Very remote — which were applied to SLA's for this study.
4. Socioeconomic status was measured using the SLA aggregate of the 2001 Socioeconomic Indexes for Australia (SEIFA). There are six indices available in SEIFA: urban index of advantage, rural index of advantage, index of disadvantage, index of advantage, index of economic resources, and the index of education and occupation. The index of disadvantage was used in this study. This index was used in preference to other indexes, because it is based on several socioeconomic factors, including income, education and occupation.

The main aim of the analyses was to examine the differential effects of the above factors on retention for each state and territory. A set of regression analyses was undertaken to derive parameter estimations of the effects of each variable on rates of Year 12 attainment for 19 and 20-year-olds. This method enables estimation of the level of variation accounted for by different groups of factors. In the analyses an inclusion and removal procedure was used in which each standardised factor was included and then removed to measure its impact on state estimates and the variance explained. The models included dummy variables for state and territory to help measure the size of the differential impact of each factor in turn.

#### *Socioeconomic status*

There are large differences across states and territories in the socioeconomic status (SES) composition of populations. This is likely to have a substantial impact on differences in retention rates. As discussed in the literature review presented in earlier chapters, one of the most consistent findings in the research on schooling is that completion of school is strongly related to social background. Early leavers are much more likely to come from lower SES backgrounds where the parents are more

often in unskilled work, the parents have a limited amount of formal education, and the family has a low level of income. Social differences in the composition of populations across states and territories indicate that it is important to consider SES in examining state differences in retention.

Figure 8.6 presents the adjustments required for differences in the SES compositions of populations. The analysis on which the adjustments were estimated attempts to hold SES constant across states and territories to measure its effects. That is, it estimates what the retention rate would be if each of the states and territories had the same population.

The largest impact of SES is on the rates in the ACT. The higher SES (and more homogeneous) composition of the population in the ACT is estimated to add approximately 8.8 per cent to the apparent retention rate. New South Wales also needs adjustments downwards to compensate for the SES compositions of the population. Tasmania (3.4 percentage points), Queensland (1.5 points) and the Northern Territory (5.6 points) require upwards adjustments to the retention rates because the SES compositions of their populations contribute to lower retention rates.

#### *Remoteness and population dispersion*

Population dispersion also varies greatly by state and territory. A larger proportion of the population in the Northern Territory lives in rural and remote areas. Compared to other states, Tasmania also has a less urban population. As mentioned in Chapter 3, young people living in rural and remote parts of Australia have lower rates of enrolment in post-compulsory schooling. Differences in the spatial distributions of populations across states are likely to exert a major influence on state differences in retention rates.

The impact of variations in levels of remoteness and population dispersion is presented in Figure 8.7. It suggests that the higher proportions of the population in the Northern Territory living in remote areas contribute to low retention rates. The size of this impact is estimated to be 4.7 percentage points. The impact in Tasmania is estimated to be about 3.8 percentage points.

As the second panel in Figure 8.7 shows, these adjustments substantially alter the retention rates in both the Northern Territory and Tasmania.

#### *Density of indigenous population*

The lowest rates of retention in Australia are recorded by young people from indigenous backgrounds (see Chapter 2). Rates of Year 12 enrolment are as much as 30–40 per cent below those of non-indigenous groups. Differences in the distributions of indigenous Australians across states and territories are likely therefore to have an influence on state differences in retention.

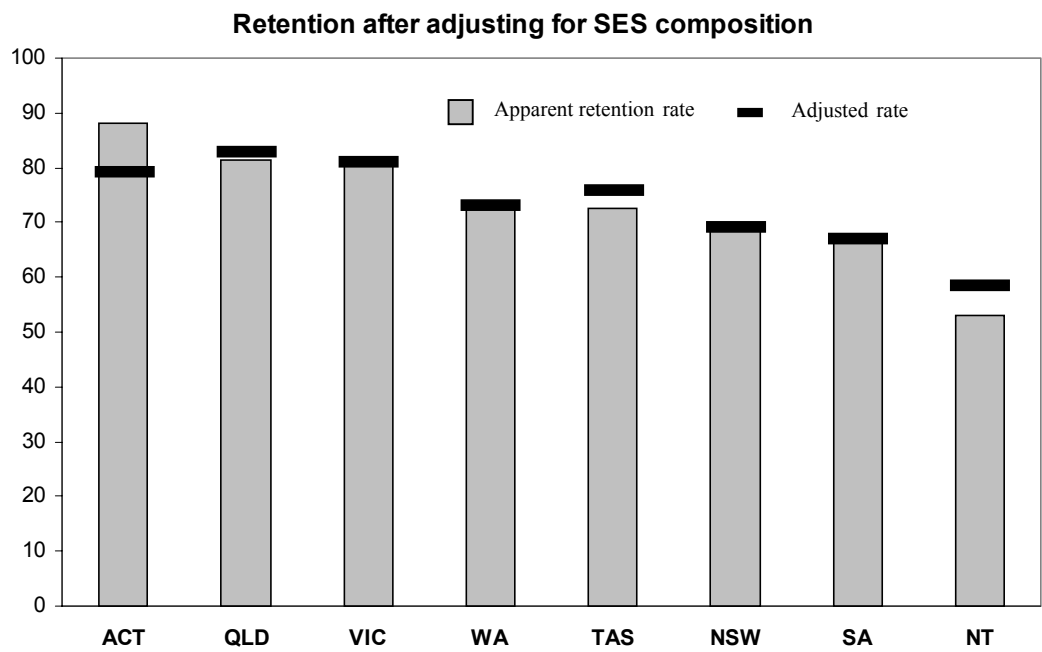
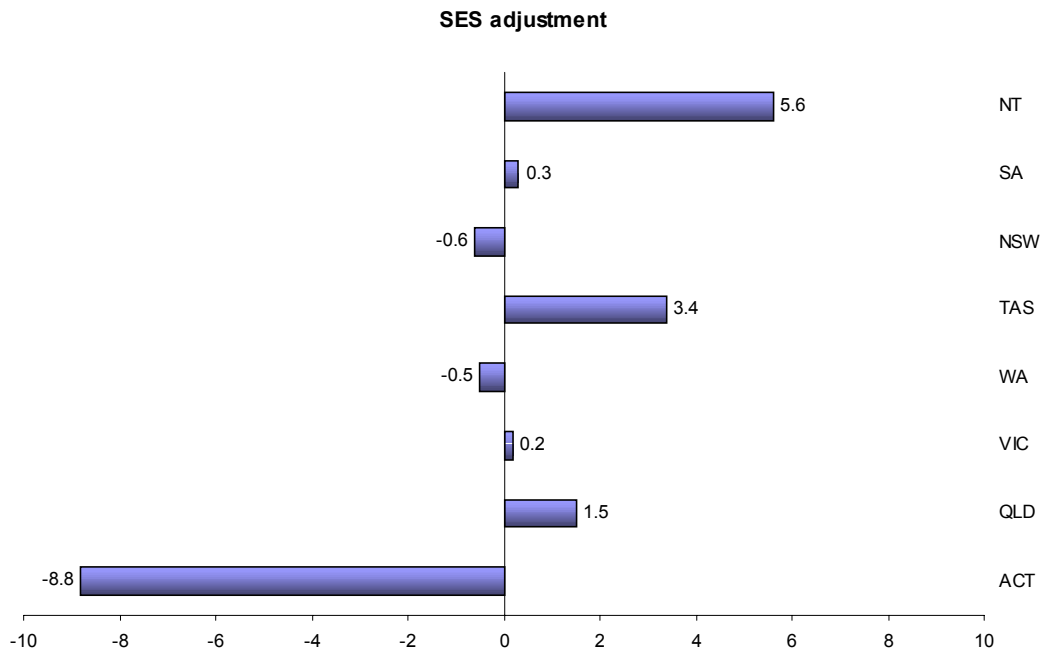
Figure 8.8 reports the adjustments required for differences in the size of the indigenous populations in each state and territory. The adjustments reflect the regression estimates of the impact of the density of indigenous populations on retention. The first panel in Figure 8.8 shows that the Northern Territory requires the largest adjustments. The size of the indigenous population in the Northern Territory is estimated to lower apparent retention rates by approximately 4.2 percentage points, after controlling for the effects of SES and rurality and remoteness. The effects for other jurisdictions are negligible. This does not mean that other jurisdictions do not have large indigenous populations. The effects on retention estimated using regression techniques that take account of other factors suggest that the impact on retention for other systems is small.

### *Sector enrolment shares*

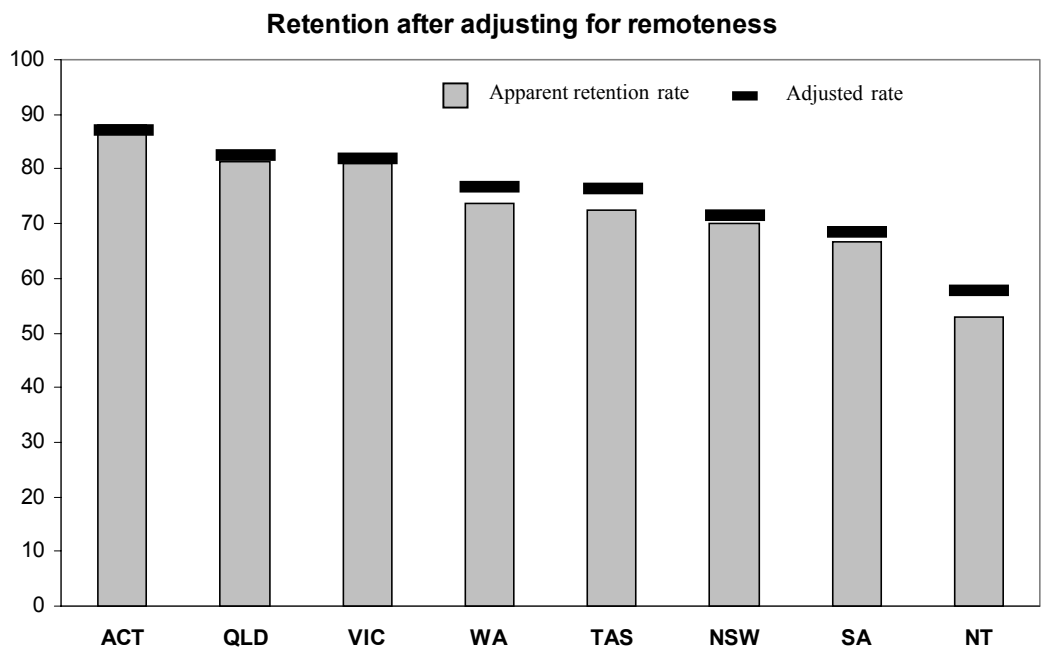
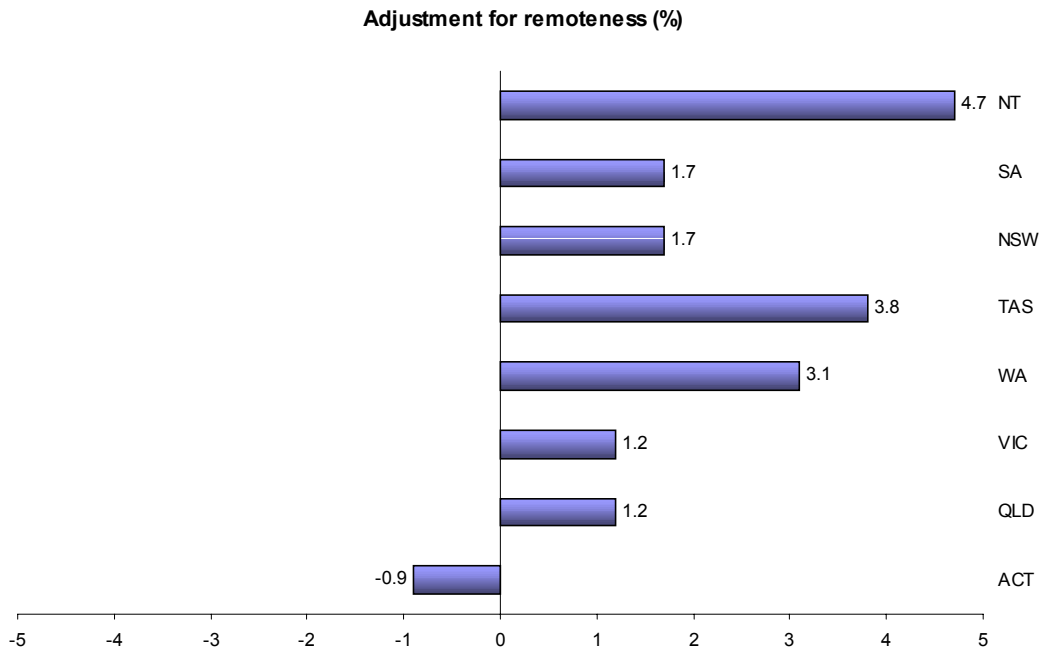
According to the research reviewed in Chapter 4, school-effects studies support the view that school sector exerts an influence on retention and post-compulsory participation beyond the effects of intake differences. The effects are far less pronounced on achievement and learning progress, but substantial in terms of participation and retention. Given the differences across states in sector enrolment shares, it is important to include sector in the modelling of student retention.

Figure 8.9 presents the adjustments for differences across states and territories in non-government school enrolments. It indicates that, after controlling for the impact of other factors, the impact of differences in non-government enrolments is to slightly increase apparent retention rates in the ACT, Victoria, Queensland and Western Australia. Therefore, the adjustments need to be downwards in these jurisdictions. The opposite is true of South Australia, New South Wales and the Northern Territory.

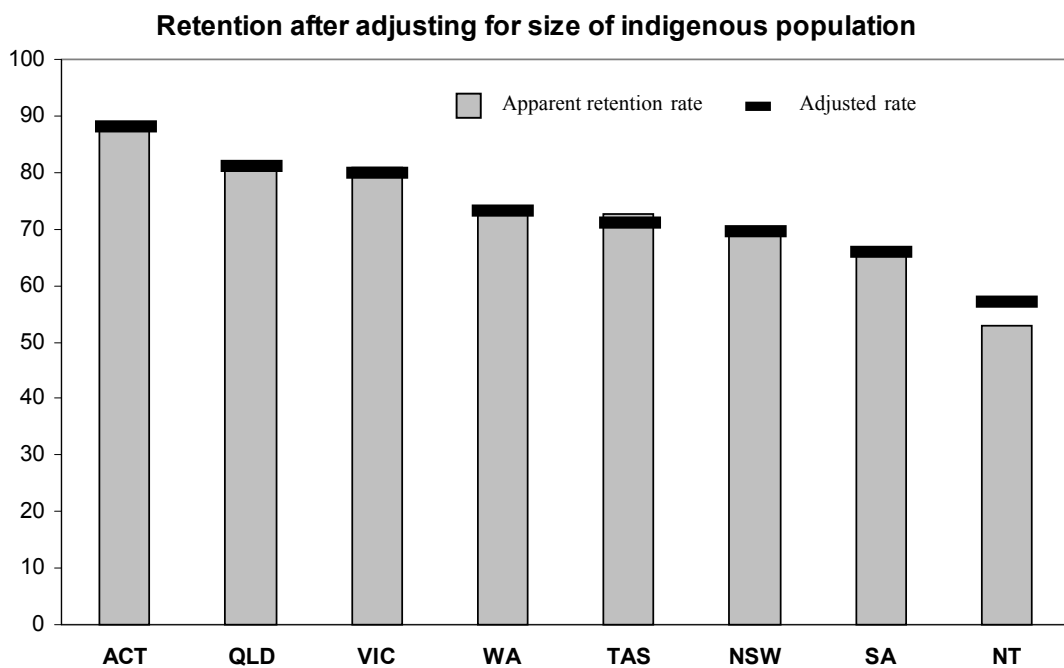
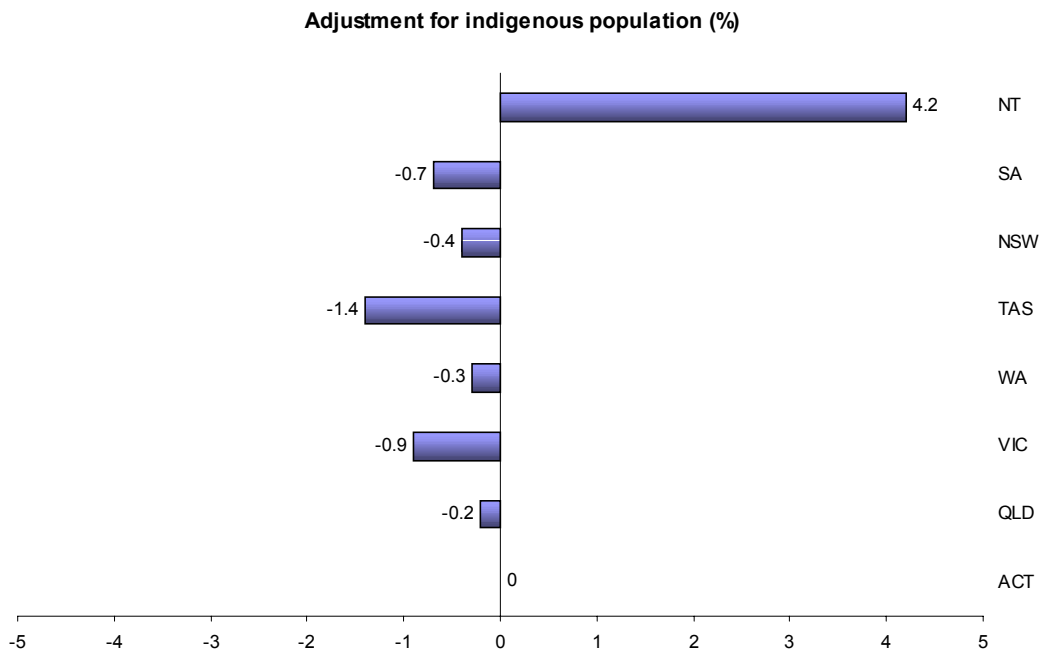
**Figure 8.6: Adjustments required for differences in SES composition of populations, by state and territory**



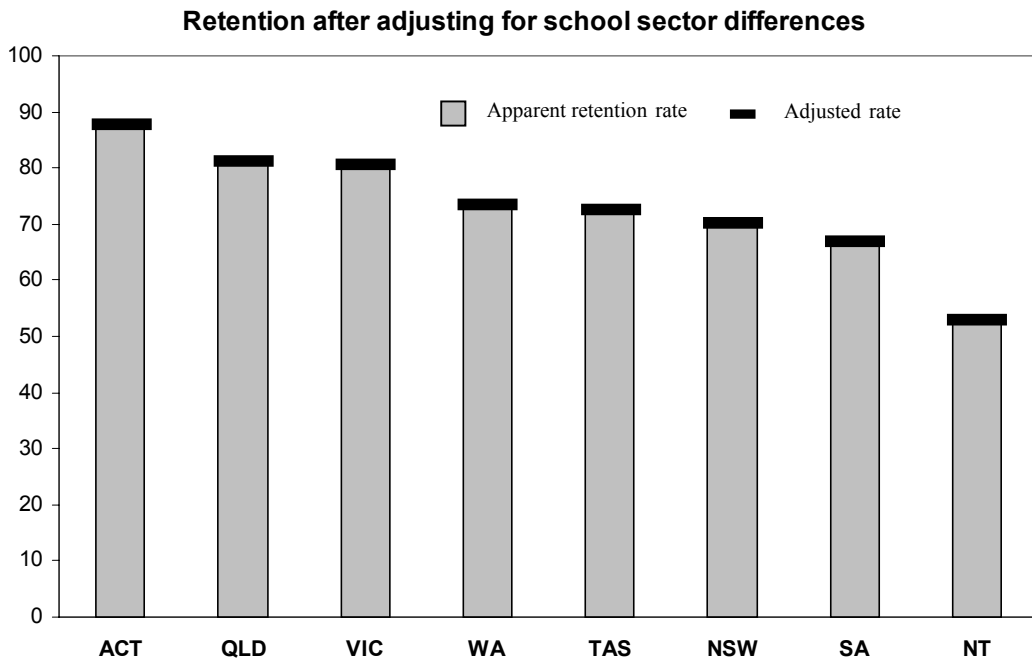
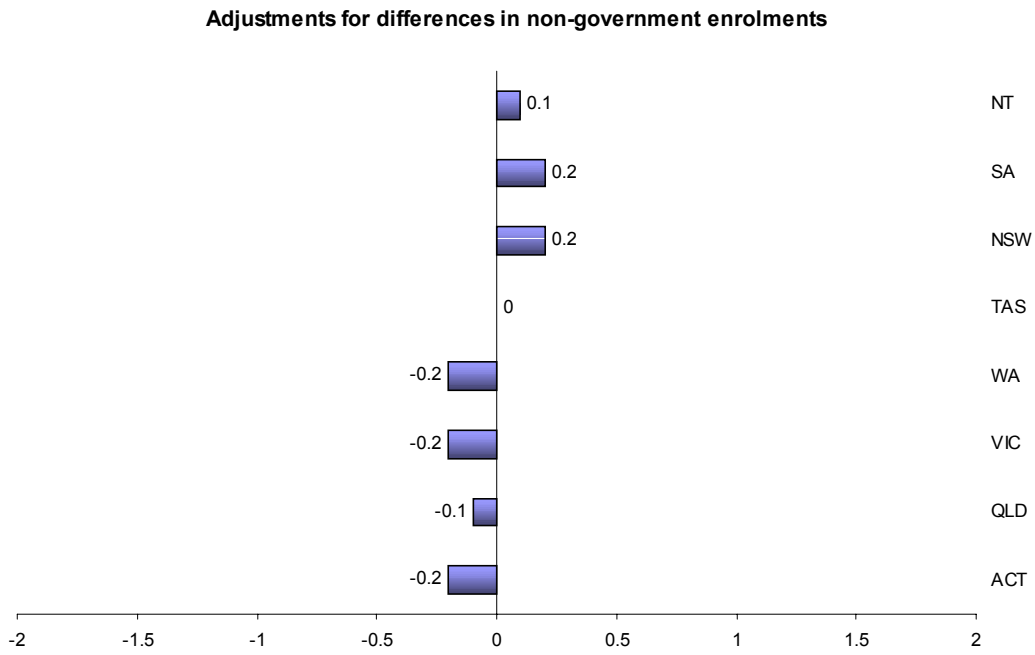
**Figure 8.7: Adjustments required for differences in population density and remoteness, by state and territory**



**Figure 8.8: Adjustments required for differences in size of the indigenous population, by state and territory**



**Figure 8.9: Adjustments required for differences in size of sector enrolment shares, by state and territory**



## Policy adjustments

There have been a number of state and territory differences in school and education policies identified as potential influences on retention. They include:

1. The age of commencement at school and/or the rate of progress through the early grades of primary school. There are variations across states in the age of commencement. It is unclear what affect this has on post-compulsory enrolments. A study by NATSEM (2001) reported in Chapter 7 suggests that age of commencement has little impact on levels of post-compulsory enrolments.
2. Age-grade structure differences across the states and territories. The study by Ryan and Watson (2003) suggests that the states and territories with higher proportions of younger students at a given stage of schooling (such as the proportion of 12-year-olds in Year 8), obtain substantially higher retention rates thanks to the policies supporting this effect. However, variations in retention rates are as large across jurisdictions with similar age-grade structures as they are across jurisdictions with different age-grade structures.
3. The ability of students to repeat and advance. Studies of repeating undertaken in the past have shown little variation in rates of grade-repeating by state with most occurring in the early years (DEET, 1995). However, Ryan and Watson (2003) report differential impact on retention of grade repeating.
4. Characteristics of the school system, such as the provision of secondary colleges. The research undertaken by NATSEM (2002) discussed in Chapter 7 suggests that the college system of schooling that exists in Tasmania and the ACT does not significantly influence differences in post-compulsory participation. The same was also true for school location. Differences in school offerings are likely to be as great (or indeed greater) within states as between states.
5. Curriculum and certificate structures. Chapter 4 reviewed some research on school programs, such as VET in Schools, suggesting that such programs may have an influence on retention. There is also some evidence that differences in school completion are linked to differences in certificate structures across states as well as the minimum leaving age (Vickers & Lamb, 2002).
6. Interactions between school education and VET. The availability of VET in non-school settings may affect rates of school completion.

Given available data, it was possible in this study to assess the impact of only two policy differences across states and territories: (1) the provision of secondary colleges, and (2) the VET provision acting as an alternative to school.

### *Secondary college provision*

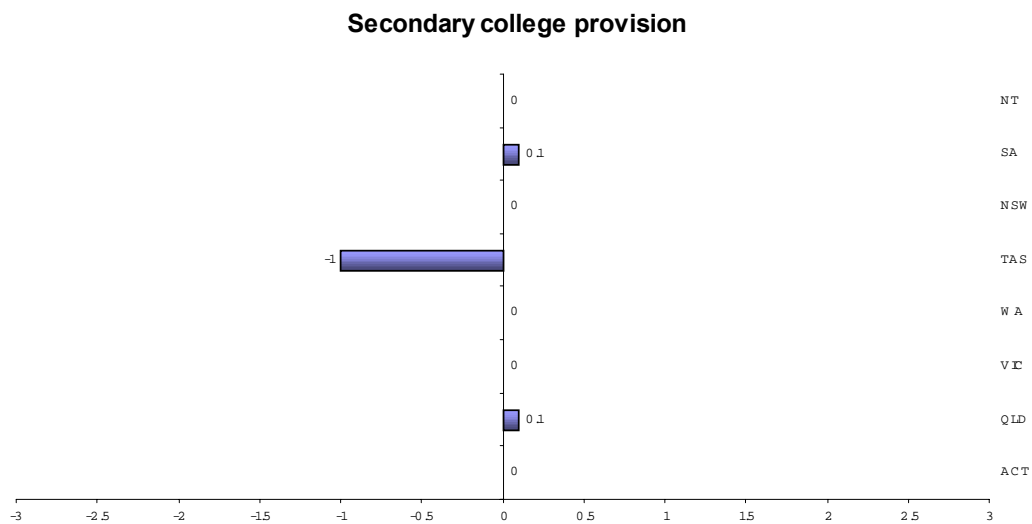
A policy that could affect participation in different states and territories is the provision of senior secondary colleges. Where states have created a separate



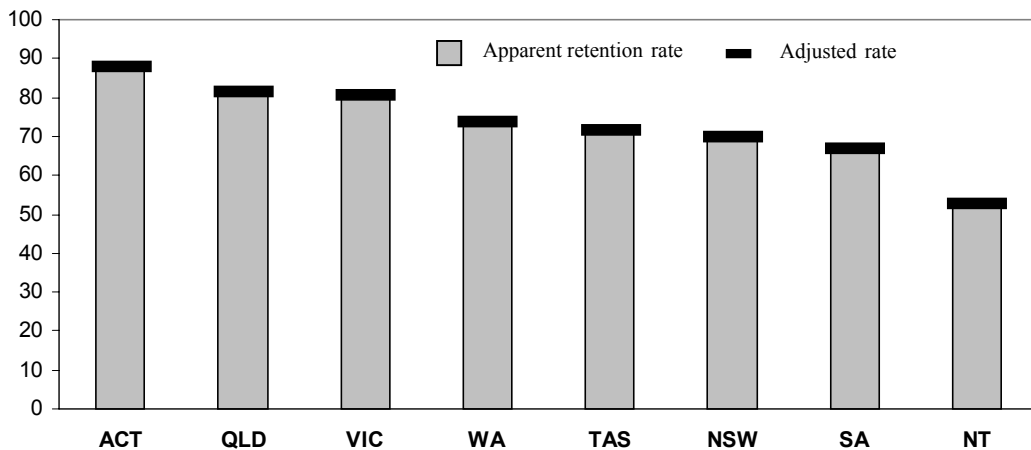
government college system for Years 11 and 12, more students may remain in the system and the schools may also attract additional students from the non-government sector. Such a system exists in the ACT and Tasmania. Other states have a number of secondary colleges that provide Years 11 and 12 separately. It is unclear what the effect on retention is. Data on the provision of secondary colleges was available by SLA across Australia to measure the effects on retention.

Figure 8.10 shows the adjustments required for secondary college provision according to the modelled results. It suggests that after adjusting for population and measurement differences across states and territories, the impact of secondary college provision on differences in retention is negligible.

**Figure 8.10: Adjustments required for differences in secondary college provision, by state and territory**



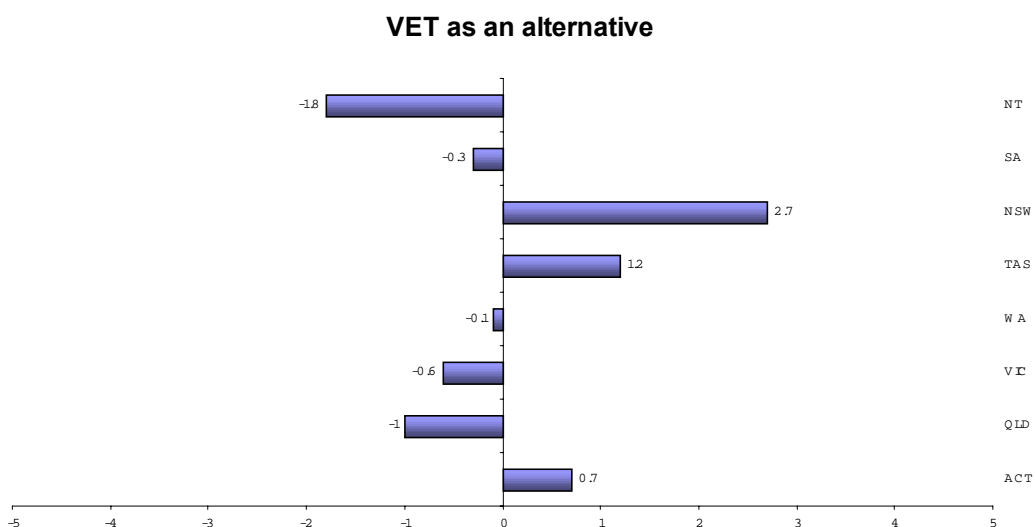
### Retention after adjusting for senior secondary college differences



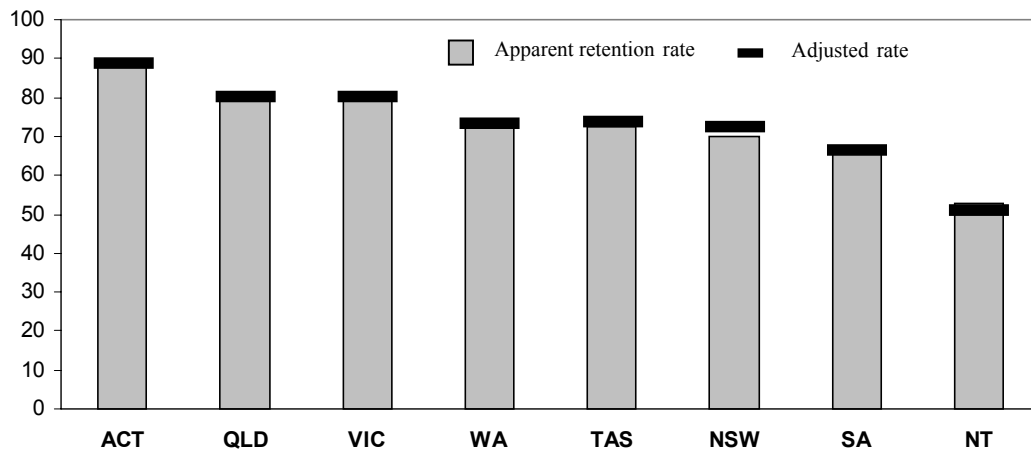
#### *VET as an alternative*

The effect of the VET sector on post-compulsory participation rates is not clear. New South Wales has a policy for students who wish or need to repeat a year doing so in the VET system. Furthermore, the proportion of 15 to 17-year-olds attending TAFE colleges is higher in New South Wales and Western Australia than in other jurisdictions (CGC, 2001). On the other hand, the provision of VET in school may encourage students to remain in secondary school when they may otherwise have left.

**Figure 8.11: Adjustments required for VET as an alternative to school, by state and territory\***



### Retention after adjusting for VET as an alternative to school



\*Note: The 2001 Census data on VET participation of 16-year-olds for Tasmania were inflated due to confusion over the Census question on type of school attendance. In the current analysis, the data for Tasmania were obtained from the 2001 statewide survey of Year 10 leavers.

Figure 8.11 reports the adjustments required to reflect the effects of VET as an alternative to school education. The adjustments reflect the regression estimates of the impact of differences in VET enrolments of 16-year-olds on retention. The first panel in Figure 8.11 shows that New South Wales requires the largest adjustment. The role of VET as an alternative to school in New South Wales is estimated to lower apparent retention rates by approximately 2.7 percentage points, after controlling for the effects of other factors. The effects for other jurisdictions are varied.

### Cumulative impact of adjustments

Table 8.1 presents a summary of the changes required to adjust for the factors influencing state and territory differences in apparent retention rates. The figures in bold after each adjustment report the adjusted retention rate in a cumulative fashion. For example, figures in bold in the line after the adjustment for part-time students report the apparent retention rate adjusted for both part-time students and population change.

The population adjustment factors that are included in the table can be viewed as key influences on state and territory differences in retention. In effect, they identify what needs to be targeted in each state and territory if we want to improve retention for each jurisdiction and reduce differences. The measurement adjustment factors, on the other hand, are those that are not corrected for in the current measurement of apparent retention but need to be in order to produce more accurate comparisons of state and territory differences in retention. These factors are influential simply because of the way apparent retention is measured.

The table shows the differential impact of the variety of factors across states and territories. For Tasmania, as an example, a more accurate assessment of retention

for 2002 would have required adjustments for population decline and a higher than average number of part-time students. At the same time, the inclusion of large numbers of mature-age students in Year 12 enrolment figures would require a sizeable reduction in reported retention figures for accurate comparison (to display real levels of student retention). In terms of population factors, rurality and remoteness and SES composition work to depress retention rates in the state. If the aim is to improve student retention and reduce differences with other jurisdictions, then policies in Tasmania need to target the negative effects that rurality and SES have on young people remaining into the post-compulsory years.

The importance of Table 8.1 is not in the final adjusted rates for several reasons. The first is that there is still a range of other factors that would need to be included for accurate comparison of state and territory differences. These include such factors as grade repetition, economic contexts, the ethnic compositions of state and territory populations, and the impact of age-grade structures, to name just a few. A second reason is that the population adjustments are artificial. The large adjustment downwards in retention for the ACT to compensate for the territory's more homogeneously middle-class population is a statistical artefact. The actual rate of retention for the ACT — over 80 per cent — reflects in part the reality of its population base.

**Table 8.1: Apparent retention rates for 2002 and adjustments**

	ACT	QLD	VIC	WA	TAS	NSW	SA	NT
2002 apparent retention	88.1	81.3	80.9	73.7	72.6	69.9	66.7	53.0
<b>MEASUREMENT ADJUSTMENTS</b>								
Population change	-6.7	-4.3	-4.8	-3.4	2.6	-3.0	-1.4	1.4
	81.4	77.0	76.1	70.3	75.2	66.9	65.3	54.4
Part-time students	1.0	1.1	0.7	1.0	2.2	0.7	3.5	3.2
	82.4	78.1	76.8	71.3	77.4	67.6	68.8	57.6
Mature-age students	-0.5	-0.8	-0.4	-1.1	-7.5	-0.3	-0.8	-1.0
	81.9	77.3	76.4	70.2	69.9	67.3	68.0	56.6
Cross-border students	-0.8	0.0	0.0	0.0	0.0	0.1	0.0	0.0
	81.1	77.3	76.4	70.2	69.9	67.4	68.0	56.6
<b>POPULATION ADJUSTMENTS</b>								
SES	-8.8	1.5	0.2	-0.5	3.4	-0.6	0.3	5.6
	72.3	78.8	76.6	69.7	73.3	66.8	68.3	62.2
Remoteness	-0.9	1.2	1.2	3.1	3.8	1.7	1.7	4.7
	71.4	80.0	77.8	72.8	77.1	68.5	70.0	66.9
Indigenous population	0.0	-0.2	-0.9	-0.3	-1.4	-0.4	-0.7	4.2
	71.4	79.8	76.9	72.5	75.7	68.1	69.3	71.1
Sector	-0.2	-0.1	-0.2	-0.2	0.0	0.2	0.2	0.1
	71.2	79.7	76.7	72.3	75.7	68.3	69.5	71.2
<b>POLICY ADJUSTMENTS</b>								
Secondary colleges	0.0	0.1	0.0	0.0	-1.0	0.0	0.1	0.0
	71.2	79.8	76.7	72.3	74.7	68.3	69.6	71.2
VET as an alternative	0.7	-1.0	-0.6	-0.1	1.2	2.7	-0.3	-1.8
	71.9	78.8	76.1	72.2	75.9	71.0	69.3	69.4
<b>Final adjusted rate</b>	<b>71.9</b>	<b>78.8</b>	<b>76.1</b>	<b>72.2</b>	<b>75.9</b>	<b>71.0</b>	<b>69.3</b>	<b>69.4</b>

The important point of Table 8.1 is that it identifies several important influences that need to be considered both for the measurement and comparison of student retention and for the targeting of policies to improve rates and reduce differences. Critical factors influencing the low retention rates recorded in the Northern Territory, for example, are remoteness of much of the population, the large proportion of the population that is indigenous, and SES composition. Strategies to target and improve retention in the Northern Territory need to focus on these factors.

The final adjusted retention rates in Table 8.1 are different to those reported in other studies. Ryan and Watson (2003), for example, in their comparison of state and territory differences in apparent retention arrive at a different set of adjusted rates. This is because they derived adjustments from a model examining retention rates over a thirteen-year period rather than cross-sectionally for one year. They highlight differences in age-grade structures as influential, but these cannot be examined in a cross-sectional analysis involving only one year. The effect of age-grade structures is considered in the next chapter of this report which focuses on a time series analysis looking at changes in retention over a 22-year period from 1981 to 2002.

## **Conclusion**

The results of the modelling of state and territory differences presented in this chapter show that the gaps between the states and territories are not as great as appears when no account is taken of population differences, remoteness, interstate migration, and modalities of school use (part-time versus full-time). In 2002, apparent retention rates varied by up to 30 percentage points (88.1 per cent in the Australian Capital Territory and 53.0 per cent in the Northern Territory). After all adjustments are made, less than 10 points separates the states and territories. Modelling adjustments have a different impact depending on state and territory. For example, mature-age students add 7.5 percentage points to the apparent retention rate for Tasmania. Population growth added 3.0 points to the retention rate for New South Wales and 4.8 points to Victoria. The higher SES composition of the population of the Australian Capital Territory has a large impact on its retention rate, as does the levels of remoteness and the size of the indigenous population in the Northern Territory.

Removing the impact of population and related factors greatly compresses interstate differences. Comparisons which attempt to treat states and territories as if they have the same population and diversity reveal that the main differences which remain are linked to non-policy factors.

## **9 Modelling differences over time: 1981-2002**

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### **Introduction**

Times series analysis is a technique used to model data that are collected or reported regularly over time. It is a technique that can help measure the effect of a range of factors that vary over time on changes in an outcome variable that also changes over time. It can be used also to evaluate the effect of some events, such as changes in policy, that intervene and change the normal behaviour of a series. In this way it can be used to see if an outside event had some sort of impact on the series pattern. Another use for time-series analysis is to predict future trends. For this purpose it is useful using regression analysis which is often applied to time series. Regression is the study of relationships among variables, a principal purpose of which is to predict, or estimate the value of one variable from known or assumed values of other variables related to it. Applied in time-series analysis it can be used to estimate the effects of different events on trends as well as to forecast future trends.

In this chapter two sets of analyses are presented. The first is the modelling of trends in state and territory differences in retention using a set of predictor variables. The predictor variables include the following:

- changes in full-time employment of 15 to 19-year-olds in the labour force
- changes in unemployment rates among 15 to 19-year-olds in the labour force
- changes in job vacancies
- changes in the numbers of indigenous students
- changes in the age-grade structure
- changes in TAFE enrolments of 16-year-olds
- changes in the size of the population.

The second set of analyses compares predicted changes in retention for each state and territory against the actual rates. In this set of analyses we attempt to see how well the time-series models predict changes in patterns of retention across states and territories.

### **Data and method**

The approach adopted here is to estimate a regression equation that explains the Year 12 retention rates of Australian States and Territories from 1982 to 2002. This period includes the large increases that occurred during the 1980s, the fall during the early 1990s and the recovery in the early 2000s. The aim is to identify the economic, population and school system factors that affected differences in the changes in retention between states and territories.

Data for the analyses were derived from the *Schools Australia* publication and data from the *Census of Population and Housing* as well as ABS publications on over-time data on employment and job vacancies. For the time-series analysis 22

observations for each state and territory from 1981 to 2002 are used for estimation. The explanatory variables include labour market factors including the unemployment rates for 15 to 19-year-olds, the teenage full-time employment rate, and job vacancies. The labour market factors are lagged by two years to reflect the delay in effect that labour market conditions are likely to have on retention decisions. Changes in full-time employment for 15 to 19-year-olds in the labour force are used rather than the usual employment to population ratio because of the need to measure more directly the effects of labour market conditions for those seeking employment. Job vacancies are not often used in time-series analysis of retention, but are used here as another measure of labour market conditions (the availability of jobs) which may affect decisions about remaining or leaving study. Population factors included are size of the population and the numbers of indigenous students. These are used to identify whether changes in these factors have had any impact on changes in the differences in retention rates between states and territories. Education policy factors include TAFE participation (enrolments in TAFE of 16 year-olds), and changes in the age-grade structure (changes in the proportions of 12 year-olds in Year 8).

Regression analysis is used to model the effects of the predictor variables on changes in retention rates from 1981 to 2002. Because many time-series variables are highly correlated, the analysis includes a separate test adjusting for the effects of auto-correlation between the predictor variables and retention.

## **Model of retention rates 1981 to 2002**

### *Regression estimates*

Table 9.1 presents the results of the regression analysis to predict differential changes in retention across states and territories. The results show that labour market factors are strong influences on retention patterns. Retention rates tend to increase when full-time employment falls. This is true even after adjusting for auto-correlation. The effects of employment are not even across jurisdictions, however. The relationship between employment and retention is strongest in Victoria, New South Wales and the ACT.

Declines in available jobs (measured by job vacancies) add to school retention, as do generally poor labour market conditions, though this also varies by state and territory. The effects are strongest in South Australia indicating that falls in labour market opportunities had a strong impact on the rate of retention. The results, like those reported by Ryan (2003) and Karmel (1995), suggest that general labour market conditions have a marked effect on retention with deteriorating conditions adding to retention.

There is little evidence in the results of an impact of changes in state system policies on patterns in retention, apart from the effects of changes in the age-grade structure in South Australia. The effects recorded for South Australia, however, do not hold after adjusting for the effects of auto-correlation. Similar results were recorded for differences in population change. Differences in the sizes of the indigenous share of enrolments suggest some impact in the Northern Territory.



The differences in levels of variance explained, shown at the base of the first panel of results in Table 9.1, show that the predictors explain a large amount of the variance (up to 97.4 per cent in Victoria), but the levels vary by state and territory. The factors included in the regression model predict changes in retention better in Victoria (97.4), Tasmania (93.9), New South Wales (93.2) and Western Australia (92.5) than they do in South Australia (82.3), Queensland (81.8), the Northern Territory (85.7) and the ACT (81.6).

**Table 9.1: Results from regression model predicting changes in retention**

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT
<i>Unadjusted regression coefficients</i>								
Full-time employment	-1.38**	-1.29**	-1.91*	-1.15	1.45*	-0.41	-0.29	-1.28**
Unemployment	-0.96	-2.32**	-2.7	-1.35	2.19*	-0.52	0.76	-3.38**
Job vacancies	0.43	4.62	-7.41	-28.99**	0.92	-2.33	4.92*	-3.88
Indigenous	-13.87	-50.88**	-19.96*	21.16	32.72**	2.96	5.06**	-19.1*
Age-grade structure	-0.92	0.72	-0.01	2.07**	3.29	-2.4	0.95*	4.27*
TAFE as an alternative	-1.64	-1.42	-1.97	-1.15	0.71	-1.09	1.38	-0.1
Population change	-12.70*	-14.99*	-1.72	-17.76	-10.42*	4.85	-2.50	2.02
R-squared	93.2	97.4	81.8	82.3	92.5	93.9	85.7	81.6
Predicted mean	57.1	63.9	68.9	65.1	61.9	48.1	41.0	85.6
Standard deviation	13.1	16.7	13.0	13.1	13.0	16.5	11.4	7.8
<i>Coefficients corrected for auto-correlation</i>								
AR1	0.93**	0.62*	0.92**	0.88**	0.93**	0.84**	-0.64*	0.47
Full-time employment	-0.99*	-1.56**	-0.74	-0.13	-0.01	0.67	-0.19	-1.16*
Unemployment	-1.06	-2.89**	-1.05	-1.69	0.16	0.43	0.78	-2.48*
Job vacancies	-2.87	-0.82	-3.38	-23.2	-2.29	-5.03	4.50*	-2.29
Indigenous	-4.27	-61.83*	2.63	15.11	13.09	11.90*	6.61**	-14.63
Age-grade structure	-1.91	2.84	-0.25	0.34	0.63	-4.22	1.32**	2.79
TAFE as an alternative	0.00	-0.76	0.23	0.03	0.13	-0.26	0.57	-0.24
Population change	-4.19	-8.24	-1.17	-5.32	-1.76	-1.14	-2.36	2.71

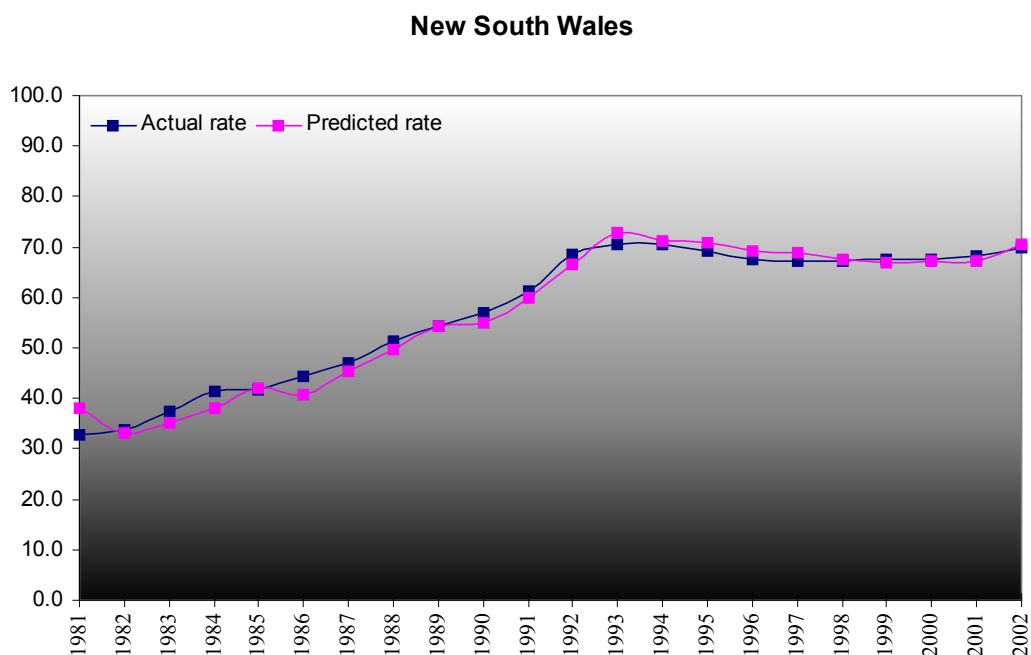
Source: Figures derived by Stephen Lamb from ABS apparent retention rates and census and related data  
 Note: \*\*= p<.01 \* =p<.05

### *Predicting changes in retention*

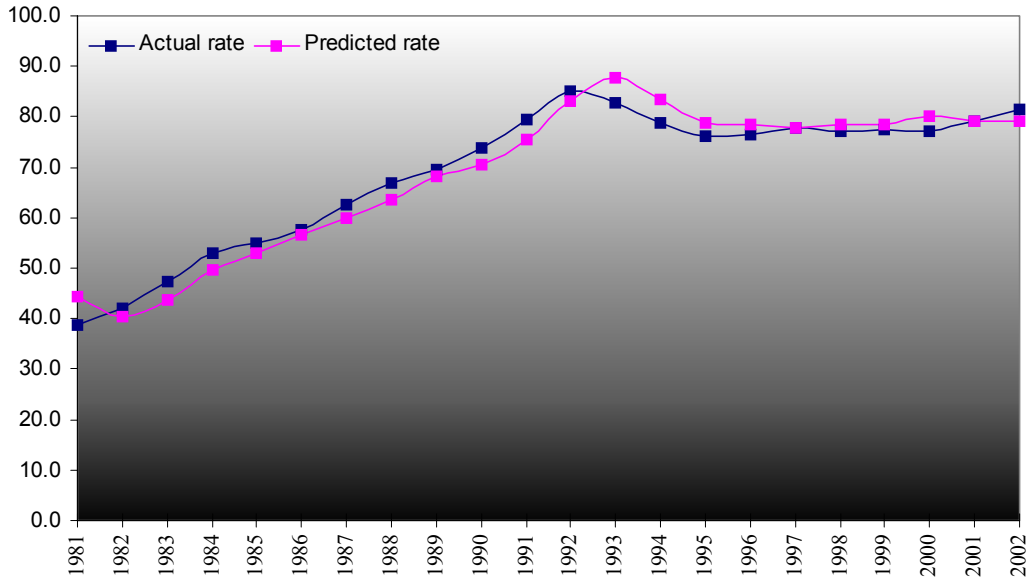
Figure 9.1 presents a state-by-state comparison of the predicted and actual rates of retention from 1981 to 2002. It shows how well the labour market, population and system policy factors predict the trends in retention for each state and territory.

For most states and territories there is a fairly close match between the published apparent retention rates and the predicted rates of retention. This means that given information on changes in labour market opportunities for teenagers, the levels of job vacancies, school system features and changes in population characteristics, it is possible to predict fairly accurately the trends in retention rates. The level of precision does vary from state to state. For example, the predicted rates of retention closely match changes in the actual published rates of retention in Victoria and New South Wales. While generally following the same patterns in Queensland and South Australia, the predicted and actual rates in those two states vary, particularly in South Australia. Labour market, population and system policy data do not predict the changes in retention rates in South Australia particularly well. The predicted rate does not reach the same peak in the early 1990s as the published rates suggest, nor does it display the same pattern in the mid- to late-1990s. For South Australia, Queensland, the Northern Territory and the ACT factors other than those in the time series model would appear to have been more influential in shaping the retention rates.

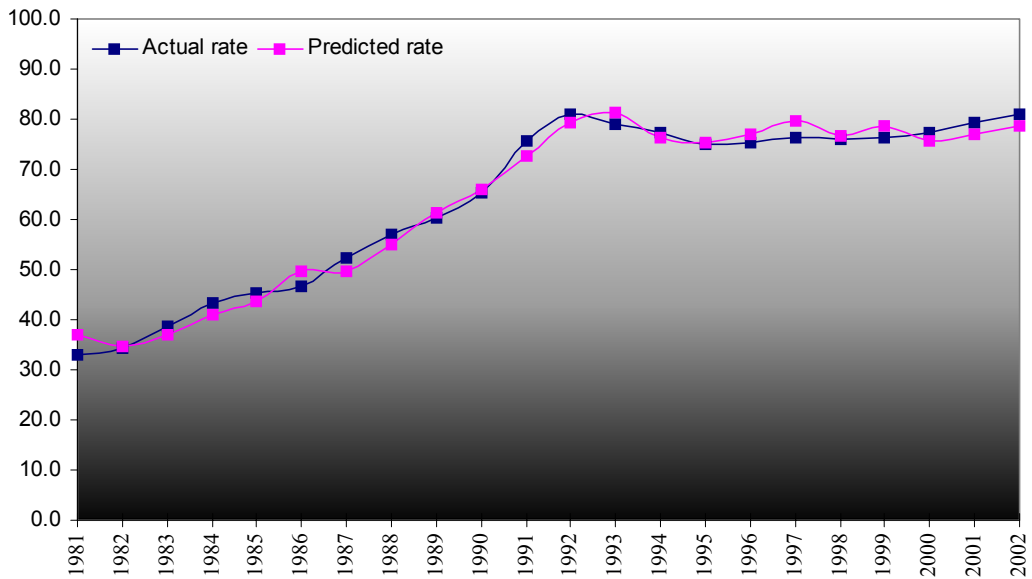
**Figure 9.1: Comparisons of predicted and published retention rates, by state and territory**



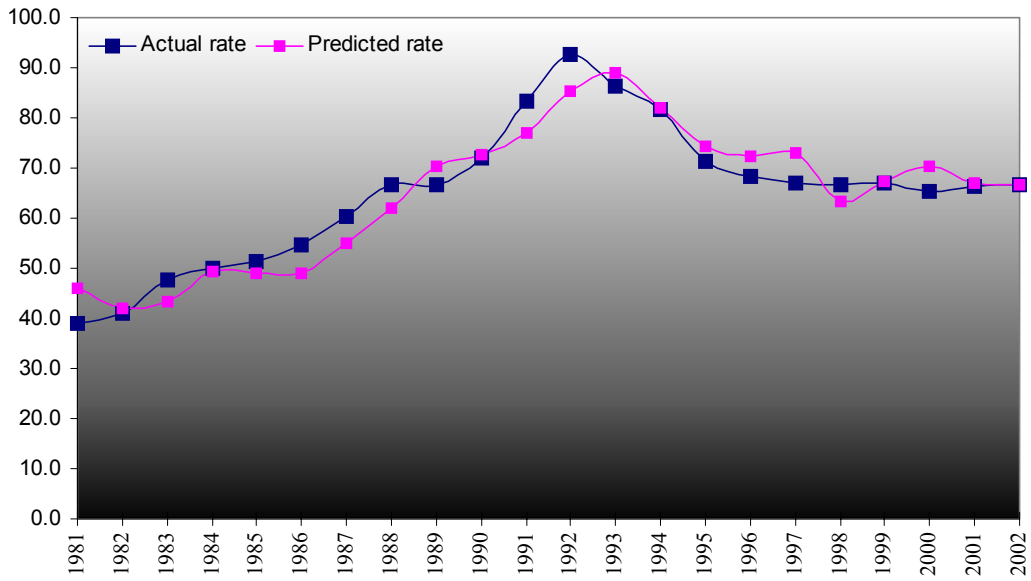
Queensland



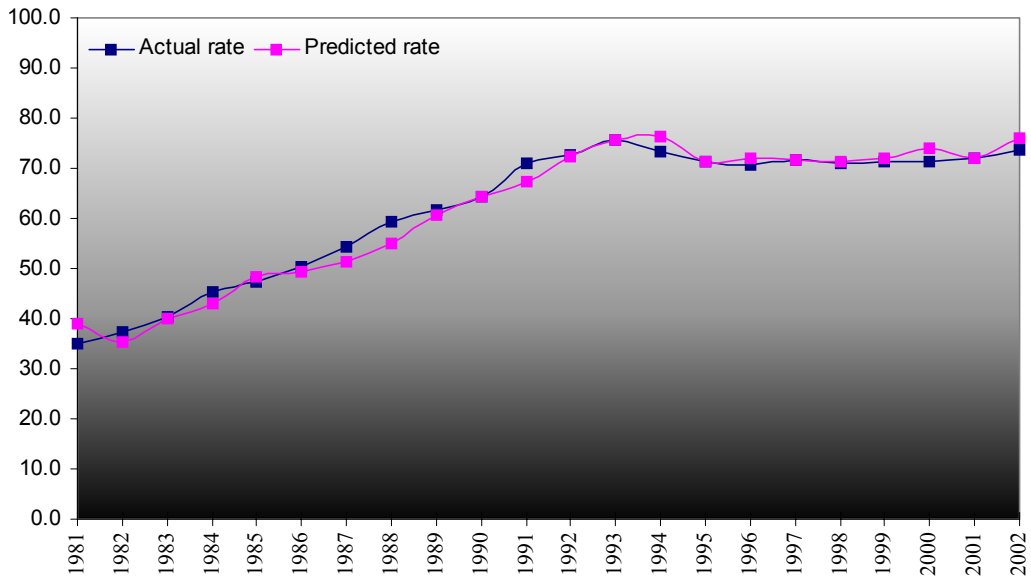
Victoria



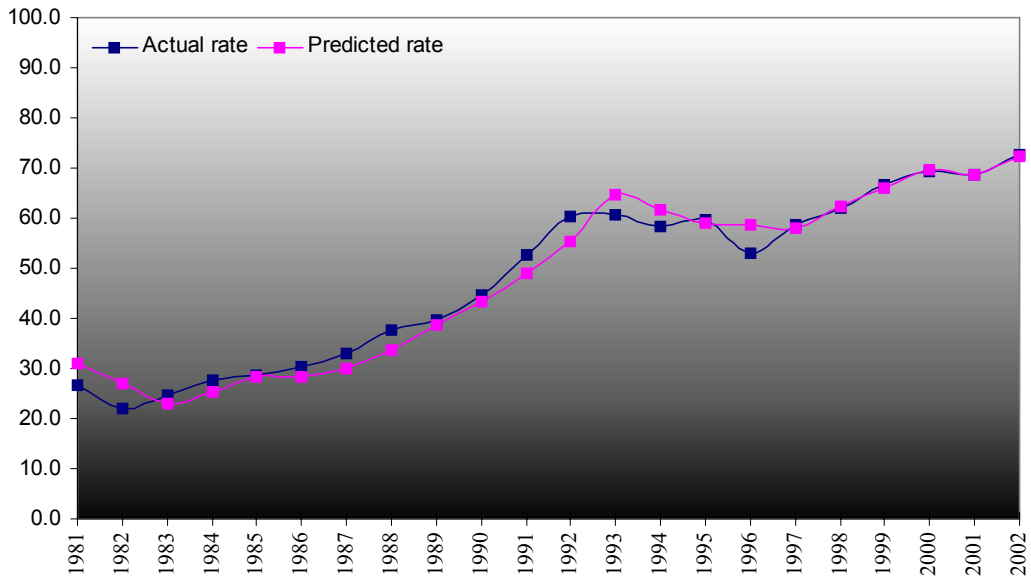
**South Australia**



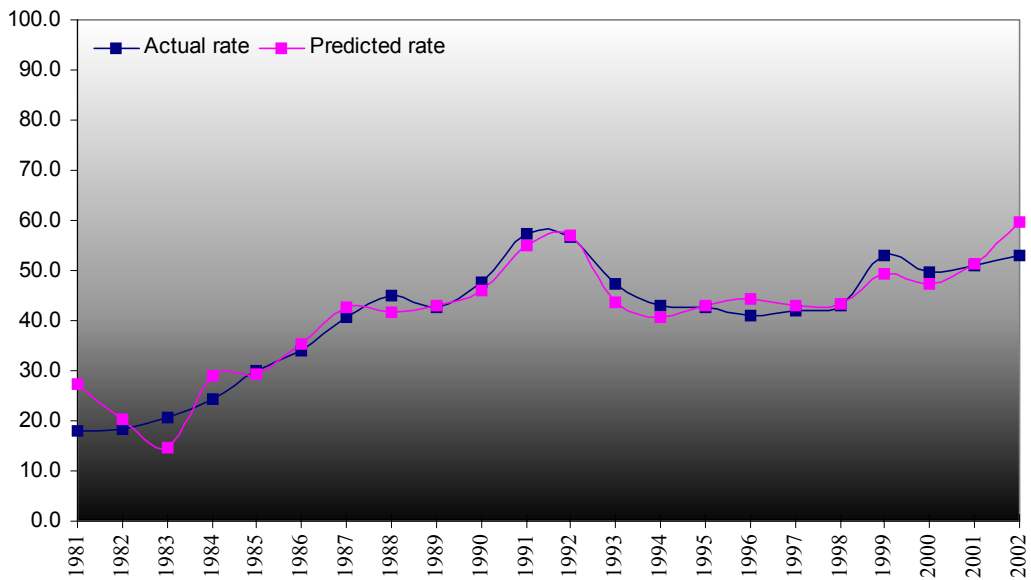
**Western Australia**



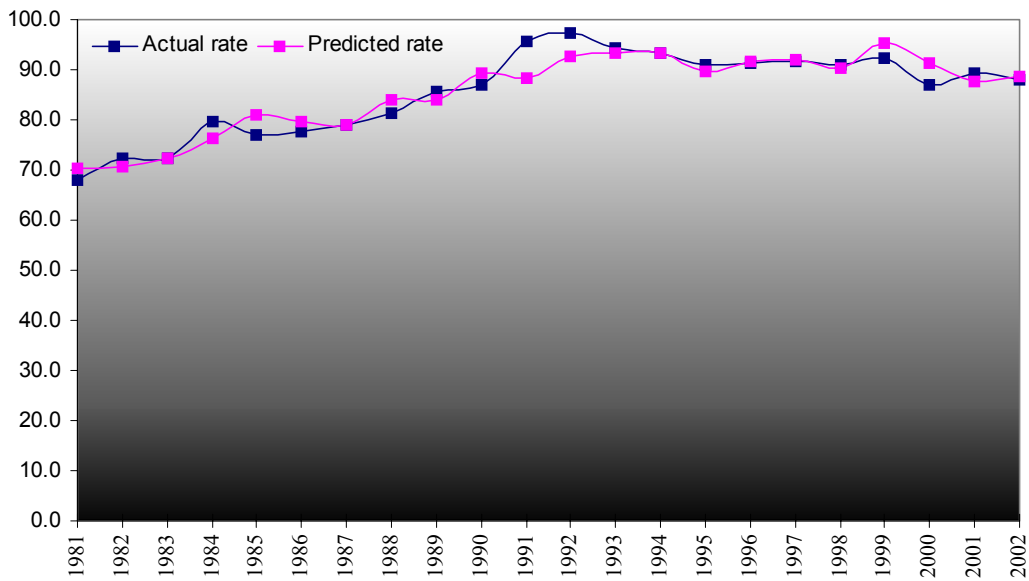
Tasmania



Northern Territory



### Australian Capital territory



## Conclusion

This chapter has presented the results of econometric time-series modelling designed to predict changes in retention rates across states and territories using sets of labour market, population and school system feature predictors. The analyses involved the use of 22 observations for each Australian jurisdiction from 1981 to 2002. The labour market variables were designed to capture both cyclical and structural factors likely to influence the employment opportunities for young people. The population and school system variables were designed to capture changes in demand for post-compulsory schooling linked to changes in populations and in system features such as age-grade structures.

The results of the analyses suggest that in some states and territories, such as Victoria and New South Wales, it is possible to predict trends in retention with a fairly high degree of accuracy using labour market and population data. In other states and territories, such as in South Australia and Queensland, labour market and other data are less accurate in predicting patterns in retention rates over time. This suggests that other factors in these jurisdictions play a bigger role in shaping changes in levels of demand for post-compulsory schooling.

## **10 Modelling differences between individuals**

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### **Introduction**

The population and policy adjustments to state and territory differences in the rates of retention presented in Chapter 8 tell us what the levels of retention would be, were the states and territories more uniformly similar in their population characteristics, and in the geographical dispersal of their communities. But states and territories are not uniformly similar in these respects, and in fact are drawn apart by the play of macro-economic and social forces. To assist states and territories target improvements, it is necessary to look not at differences across jurisdictions, but at factors that shape demand for schooling among populations within jurisdictions. Indeed, a national strategy for increasing retention should aim at reducing differences between student groups and communities within states and territories. In the long-term, this will also reduce the gaps between the states and territories, particularly those that are based on socioeconomic and cultural differences in populations. This will require different strategies related to provision and access to education and training. To do this requires looking at the various sets of factors that shape individual decision-making in relation to retention.

This chapter presents the results of models developed to estimate Year 12 completion for individuals. It identifies some of the main individual, family, school, peer and other contextual factors that influence the likelihood of Year 12 completion, factors which school systems need to target if they want to change behaviour related to school completion and early leaving. The analyses developed in this chapter apply the conceptual model outlined in Chapter 7 of factors influencing individual decision-making related to retention. Not all of the variables or contexts presented in the conceptual model are included in the analyses because there is no single source that provides data on all of the identified factors.

The analysis in this chapter is based on data collected in the Y95 cohort of the Longitudinal Surveys of Australian Youth (LSAY). LSAY is a program of longitudinal surveys of young people designed to provide policy-relevant information on young people's school, education, training, and transition to work activities and experiences. The Y95 base-year data were collected in 1995 and follow-up data have been collected annually since then. For the modelling of school retention in this chapter, the sample size comprised 9,738 young people who remained in the survey until 1998, a sample which represented 72 per cent of the 13,613 young people who participated in the initial Year 9 survey. From the survey it is possible to identify those who remained at school to the end of Year 12 and those who did not.

### **Defining retention**

In the past, Australian research has tended to use the term 'retention' to refer to the numbers of students who remain to Year 12, and the term 'early school leaving' to

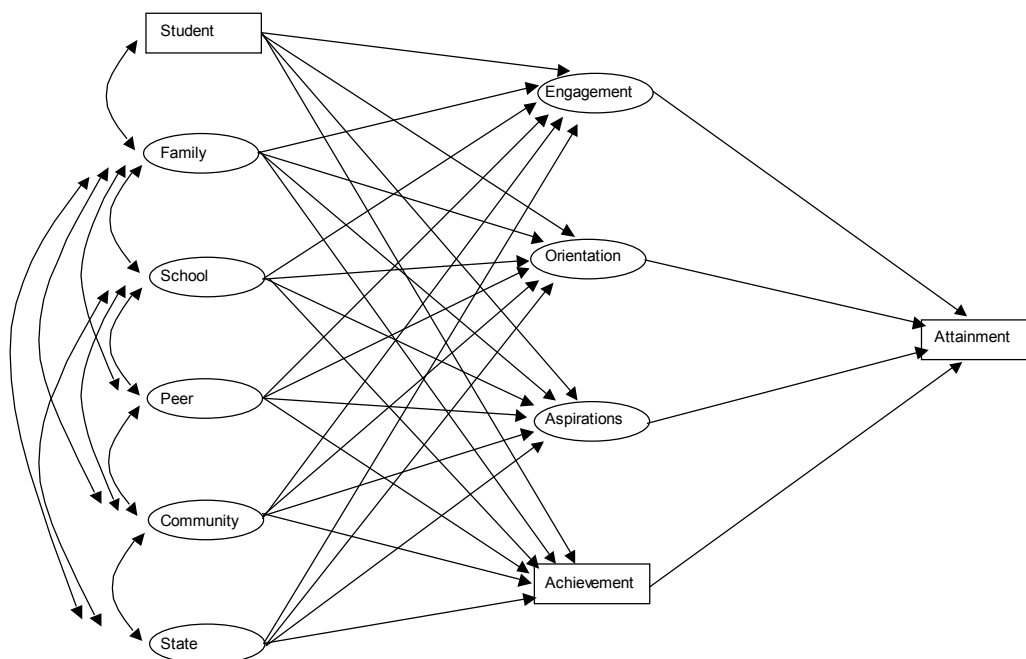
define those who leave school before Year 12. More recently, official reports and research studies have adopted a narrower meaning of the term ‘early school leaving’ by restricting it to young people under the compulsory school leaving age. In this modelling chapter, retention is taken to represent the numbers who remain to at least the end of August in the year that they undertake Year 12. Early school leaver is used to refer to those who leave school before that point in time.

## Applying the conceptual model of retention

### *Structural equation modelling*

The aim of modelling retention is to identify those factors that influence retention either through their direct influence on school completion decisions or indirectly through their impact on other causative factors which shape decision-making. An appropriate procedure to do this is Structural Equation Modelling (SEM) which is a procedure for modelling causal relations between variables by including all variables that are known to have some involvement in the process of interest. SEM makes it possible to simultaneously estimate a measurement model, specifying relations between measured variables and underlying latent variables, and to specify structural relations among the latent variables. An example of SEM for retention is presented in Figure 10.1. However, limits related to the properties of the outcome variable mean that a traditional linear model is inappropriate. For this reason an alternative modelling procedure has been employed.

**Figure 10.1: Structural equation model of educational attainment**





*Structured sequential logistic multi-level regression models*

Table 10.1 presents the results of the modelling which attempts to apply the conceptual model of retention developed from the review of the literature on factors affecting school retention and early leaving presented in Chapter 7 of this report (see Figure 7.1). The table presents results examining the ‘effects’ of various factors, controlling or holding constant other factors. Logistic regression was used to explore the relationships between the variables specified in the framework shown in Figure 7.1 and the probability of completing Year 12. Logistic regression was used because the outcome variable is dichotomous (completion of Year 12 or not). Table 10.2 presents a glossary describing each of the variables used in the modelling of student retention.

The models in Table 10.1 were developed in a hierarchical manner: student characteristics were entered (Model 1), then family context characteristics (Model 2), school context characteristics (Model 3), peer context characteristics (Model 4), and finally the mediating disposition variables of school engagement, academic motivation, aspirations and achievement (Model 5). Variables within sets were entered simultaneously. All of the previous variables were retained before entering the variables in the next set.

The logistic regression analyses were undertaken using a multi-level modelling approach. Multi-level models are models specifically geared towards the statistical analysis of data that have a hierarchical or clustered structure. This is relevant to the current analysis because the 13,613 students originally surveyed were nested within 301 schools. The multi-level modelling procedure enables us to account more accurately for the variance in retention by partitioning within and between school differences more appropriately and to more accurately control for student-background characteristics in estimating student and school effects. The technique is now widely used by investigators to measure variability both within and between schools in student outcomes.

All of the results of the multivariate models are presented as adjusted odds ratios. The odds ratio represents the proportion of students with a particular attribute (e.g. females) who complete Year 12 relative to the proportion of students from a comparison group (e.g. males) who complete Year 12. An odds ratio can take values from zero to positive infinity. The interpretation of the odds ratios is relatively straightforward. An odds ratio value of 1.00 represents equal odds for completing Year 12 (or not completing) relative to the comparison group. Values from 0.00 to 1.00 are representative of a ‘lowered’ effect; that is, the odds of completing are lower for students with the measured attribute relative to the control or comparison group. Values greater than 1.00 represent greater odds for completing Year 12 for those students with the measured attribute relative to the comparison group. Not all values greater or lesser than 1 represent significant differences. To identify those that are significant, the table includes asterisks to report levels of significance. All variables in the analyses were standardised to facilitate comparison of the size of effects.

**Table 10.1: Effects of different factors on student retention expressed as odds ratios<sup>#A</sup>**

		MODELS					
		Null	Individual	Context			Engagement
			Student	Family	School	Peer	Orientation
<b>STUDENT</b>							
Gender	Female		1.30**	1.34**	1.33**	1.33**	1.19**
Disability status	Disability		0.90**	0.90**	0.90**	0.90**	0.95
Indigenous status	Indigenous student		0.87**	0.89**	0.89**	0.90**	0.92*
<b>FAMILY</b>							
SES	Family SES			1.54**	1.43**	1.45**	1.19**
Language background	LBOTE			1.17**	1.19**	1.18**	1.16**
Family size	Number of siblings			0.86**	0.87**	0.87**	0.89**
Parent aspirations	Tertiary education			1.39**	1.39**	1.38**	1.10**
<b>SCHOOL</b>							
Sector	Catholic				1.12**	1.05	1.08
	Independent				0.98	0.95	0.93
Quality of teachers	Content knowledge				1.10*	1.10*	1.10*
	Expertise				1.09*	1.07	1.07
	Preparation				1.02	1.00	1.01
	Communication				1.05	1.05	1.07
	Interest				1.13*	1.12*	1.12*
	Discipline				1.04	1.03	1.03
School climate	Behaviour				1.02	1.03	1.04
	Application				1.07	1.07	1.05
	Academic				1.00	1.00	1.01
	Motivation				1.08	1.09	1.07
Intake	Mean SES				1.27**	1.06	1.14
	Mean achievement				1.28**	1.01	1.16
<b>PEER</b>							
Reading habits	Amount of reading					1.01	1.02
School aspirations	Peer school plans					1.48**	1.32**
Post-school plans	Peer post-school plans					1.05	1.04
Attitudes to school	Learning					1.04	1.07
	Teachers					1.03	1.02
	Development of skills					1.01	1.01
	Motivation					1.04	1.03
Self-esteem	Peers' self-esteem					1.05	1.03
TV watching	Hours of TV watching					0.78**	0.72

<b>SCHOOL ENGAGEMENT</b>							
Engagement	Enjoys school						1.01
	Likes teachers						1.07**
	Values skills						1.05
	Motivated to learn						1.10**
	Academic self-concept						1.31**
Academic motivation	Participates in school act.						1.05
	Hours of homework						1.18**
	Does extra homework						1.18**
	Works hard at school						1.07
	Hours watching TV						1.01
	Does extra work at school						1.00
Aspirations	School completion plans						1.65**
	Post-school plans						1.18**
Academic achievement	Year 9 achievement						1.45**
<b>Variance analysis</b>							
Variance estimate	Between students	0.183 89.7%	0.179	0.165	0.161	0.157	0.135
	Between schools	0.021 10.3%	0.019	0.011	0.007	0.003	0.002
Variance explained (%)	Student level		<b>2.2</b>	<b>9.8</b>	<b>12.0</b>	<b>14.2</b>	<b>26.2</b>
	School level		<b>9.5</b>	<b>47.6</b>	<b>66.7</b>	<b>85.7</b>	<b>90.5</b>
	Total		<b>2.9</b>	<b>13.7</b>	<b>17.6</b>	<b>21.6</b>	<b>32.8</b>

Source: Figures derived by Stephen Lamb from LSAY Y95 cohort.

Note: The control group comprises non-indigenous males without a physical disability from an English-speaking background in government schools.

# All variables are standardised to facilitate comparison of size of effect.

\*  $p < 0.05$

\*\*  $p < 0.01$

**Table 10.2: Glossary of variables used in the model of student retention**

<b>Factor</b>	<b>Variable name</b>	<i>Description of variable</i>
<b>OUTCOME</b>		
Retention	Year 12	Remained at school to the end of Year 12 (beyond August of the Year 12 year) or not.
<b>STUDENT</b>		
Gender	Female	Dichotomous variable with female coded as 1 and male as 0.
Disability status	Disability	Self-reported measure of a disability or health problem which entitled access to special funding or access to special education services.
Indigenous status	Indigenous student	Dichotomous variable with Indigenous coded as 1 and non-indigenous as 0.
<b>FAMILY</b>		
SES	Family SES	Composite measure based on parental occupation, parental education, family wealth and cultural resources.
Language background	LBOTE	Refers to the main language spoken at home with a language other than English coded as 1 and English coded as 0.
Family size	Number of siblings	Refers to the number of siblings from 0 to 5 or more.
Parent aspirations	Tertiary education	Measured by asking students when they were in Year 9: 'In the year after leaving school, what do your parents want you to do?'. Those identifying tertiary education plans are coded as 1 and those without post-school education and training plans as 0.
<b>SCHOOL</b>		
Sector	Catholic	Attended a Catholic school in Year 9.
	Independent	Attended a non-Catholic private school in Year 9.
Quality of teachers	Content knowledge	Rating by students in Year 10 on a five-point scale from excellent to very poor of teachers 'Knowing their subject matter well'.
	Expertise	Rating by students in Year 10 on a five-point scale from excellent to very poor of teachers 'Being able to explain things clearly'.
	Preparation	Rating by students in Year 10 on a five-point scale from excellent to very poor of teachers 'Being well prepared and organised'.
	Communication	Rating by students in Year 10 on a five-point scale from excellent to very poor of teachers 'Being able to communicate well with students'.
	Maintaining interest	Rating by students in Year 10 on a five-point scale from excellent to very poor of teachers 'Being able to maintain student interest'.

	Discipline	Rating by students in Year 10 on a five-point scale from excellent to very poor of teachers 'Managing discipline well'.
School climate	Behaviour	School mean of student responses to the likert-scaled item 'Students are well-behaved'.
	Application	School mean of student responses to the likert-scaled item 'Students work hard'.
	Academic	School mean of student responses to the likert-scaled item 'Students make good progress'.
	Motivation	School mean of student responses to the likert-scaled item 'Students are eager to learn'.
Intake	Mean SES	School-level mean of student SES.
	Mean achievement	School-level mean of Year 9 student achievement scores in literacy and numeracy.
<b>PEER</b>		
Reading habits	Amount of reading	Class-peer mean of student responses to the scaled item on the frequency of 'Reading books'.
School aspirations	Peer school plans	Class-peer mean of student responses to the item on school-leaving plans ('I plan to leave school after Year ...?').
Post-school plans	Peer post-school plans	Class-peer mean of student responses to the item on post-school plans (tertiary study or not).
Attitudes to school	Learning	Class-peer mean of student responses to the likert-scaled item 'My school is a place where I like learning'.
	Teachers	Class-peer mean of student responses to the likert-scaled item 'My school is a place where teachers help me to do my best'.
	Development of skills	Class-peer mean of student responses to the likert-scaled item 'My school is a place where I have aquired skills that will be of use to me when I leave school'.
	Motivation	Class-peer mean of student responses to the likert-scaled item 'My school is a place where I always try to do my best'.
Academic self-esteem	Peers' academic self-esteem	Class-peer mean of student responses to item 'Compared with most of the students in your year level at school, how well are you doing in your school subjects overall?' Five response options were provided: very well; better than average; about average; not very well; and very poorly.
TV watching	Hours of TV watching	Class-peer mean of student-reported number of hours spent each week watching television.
<b>SCHOOL ENGAGEMENT</b>		
Engagement	Enjoys school	Student response to the likert-scaled item 'My school is a place where I really like to go each day'.
	Likes teachers	Student response to the likert-scaled item 'My school is a place where teachers help me to do my best'.

	Values skills	Student response to the likert-scaled item ‘My school is a place where I have acquired skills that will be of use to me when I leave school’.
	Motivated to learn	Student responses to the likert-scaled item ‘My school is a place where I always try to do my best’.
	Academic self-concept	Student responses to item ‘Compared with most of the students in your year level at school, how well are you doing in your school subjects overall?’ Five response options were provided: very well; better than average; about average; not very well; and very poorly.
Academic motivation	Participates in school act.	Measure of participation in the following extra-curricular school-organised activities: sport, music, debating, drama, camps, community work. Participation is based on a five-point scale.
	Hours of homework	Student-reported number of hours of homework done each week on average.
	Does extra homework	Student-reported number of hours spent each week doing extra work, in addition to homework.
	Works hard at school	Student response to the likert-scaled item ‘My school is a place where I have learnt to work hard’.
	Hours watching TV	Student-reported number of hours spent each week watching television.
	Does extra work at school	Student response to the likert-scaled item ‘My school is a place where I like to do extra work’.
Aspirations	School completion plans	Student responses in Year 9 to the item on school-leaving plans, ‘I plan to leave school after Year ?’.
	Post-school plans	Students planning to undertake study in the year after leaving school.
Academic achievement	Year 9 achievement	Early school achievement is a composite score based on a combination of results from two ACER tests of literacy and numeracy administered in Year 9.

Each of the models includes an analysis of variance to estimate the amount of variance explained by each level — between students, and between schools. By comparing the estimates of variance across models, it is possible to identify which group(s) of variables contribute most to explaining differences in the likelihood of completing Year 12.

It is important to remember in examining the results of the modelling that there are numbers of factors that are not included in the models but which may well influence retention, some of which have been identified in the conceptual model presented in Figure 7.1 in Chapter 7. They are not included because information was not collected or available from the survey data in LSAY or their impact was not possible to measure. These include state education and training policies such as school programs, certification structures and funding; federal and national policy factors including those related to income support and school funding; urban, rural, regional and remote locations of schools; classroom features including pedagogical practices; teacher background attributes; regional and economic context including local labour market opportunities; and neighbourhood effects including school-community relations.

### *Variance analysis*

The amounts of variance that are explained by each block of factors are presented at the base of the table. Variance is separated between the two levels — students and schools. The first two rows present the amounts of variance. The following rows present the percentages of variance explained at the student and then the school levels. The final row presents the total amount of variance explained in percentage terms. By examining changes in the size of the variance estimates after the addition of each block of variables it is possible to measure the size of the effects of student, family, school, peer and school engagement factors that influence Year 12 completion. In this way we can estimate the extent to which factors linked to families rather than schools and peers shape differences in retention.

As a first step, a fully unconditional (or ‘null’) model was tested. This model does not include any predictor variables, but enables us to estimate the amount of variance in retention that is due to differences between schools and to individual background differences. The results of this model show that about 10 per cent of the total variance in retention is due to differences between schools. This suggests a moderate though significant impact of differences between schools.

The next step in the analysis involved adding the student-background predictors (gender, indigenous status and disability status) to the model of Year 12 retention. The results presented in column 4 show that controlling for differences in the background characteristics of students accounted for 2.2 per cent of the estimated variance at the student-level and 9.5 per cent of the variance between schools.

Adding the family background variables (SES, language background, family size and parental aspirations) in the next step substantially increases the percentages of explained variance at each level. When retention is adjusted for the family background variables the amount of variance explained at the student-level

increases to 9.8 per cent. At the school-level the amount of variance explained increases to 47.6 per cent. These results suggest that family background factors are an important source of influence on retention accounting for much of the variance at the school-level, but also a reasonable amount of the variance between individuals.

Building in the school variables — sector, quality of teachers, school climate and intake — in the next model further increases the percentage of variance explained at the school-level. The between school variance explained jumps from 47.6 per cent to 66.7 per cent. At the individual-level the explained variance increases to 12 per cent.

The fifth model introduces peer group factors. As a block these have a marked influence on the school-level variance increasing the variance explained to 85.7 per cent.

The final model includes the school engagement factors such as academic motivation, student attitudes to school, school and study aspirations and achievement. As a group these variables are very influential and substantially increase the amount of variance explained at the student level taking it from 14.2 per cent to 26.2 per cent. They add only a small increase at the school-level because at this level most of the variance is already accounted for.

Taken together, the models explain over a quarter of the total variance between students in Year 12 retention and over 90 per cent of the variance between schools. This translates to about one-third of the variation in retention being accounted for by the various groups of factors.

### *Influential factors*

In the individual student model, shown in the fourth column of Table 10.1, it can be seen that all of the variables have a marked influence on retention. Consistent with previous studies, gender has a significant effect on retention with girls much more likely to remain to Year 12 than boys. Also, indigenous Australians are less likely to complete school than students from non-indigenous backgrounds. This pattern is also apparent for students with disabilities or health problems. Those in this category are less likely to remain to Year 12 than those without a physical disability.

The family background variables — SES, language background, family size, and parental aspirations — all have strong independent effects when added to the model of retention. They are strong predictors. The results show that, independently of other factors, students from higher rather than lower SES families, those from a non-English-speaking rather than English-speaking family, those from smaller rather than larger families, and those in families where the parents have tertiary education ambitions for their children, are significantly more likely to complete Year 12.

School setting variables are also important. Previous research has pointed to the importance of the social and academic composition of schools as influences on



achievement and other outcomes (e.g. Coleman et al., 1966; Coleman, Hoffer & Kilgore, 1982; Lee & Bryk, 1989; Rumberger, 1995; Bryk, Lee & Holland, 1993). In the present study, the mean SES of schools and mean achievement were significantly related to the likelihood of students remaining to Year 12. It suggests that the intake of schools does have an influence on levels of retention. Other things equal, schools with a higher mean SES or achievement intake significantly increase the rates of student retention.

School type has an important independent effect on retention. Other things equal, students attending Catholic schools are more likely to complete school than to leave early. This does not apply to independent schools suggesting that the higher completion rates for independent schools are linked to intake rather than any additional effect. This finding is not consistent with other studies of the effects of independent schools on Year 12 completion (e.g. see Williams & Carpenter, 1990; Lamb, 1997).

Other school factors exerting an influence on retention are related to the quality of teachers. Schools in which there are more teachers who are perceived by students as those with strong content knowledge of the subjects they teach, those who are perceived as having expertise in teaching and those who display strong interest in students are associated with higher levels of retention.

Among the peer-group factors, presented in column 7, two have a significant effect on Year 12 completion chances. The first is the school aspirations of peers as a group. It would seem that young people who have peers who aspire to complete Year 12 will also complete Year 12. Who young people mix with has an impact on their retention behaviour. In other words, peer group aspiration levels are influential. The second influential factor is the television viewing habits of peers. Other things equal, the more hours of television viewing that is shared among friends, the lower the likelihood of retention to Year 12. This may reflect the effects of opportunity cost and the school-related activities of peers who watch fewer hours of television.

There are several very influential engagement or school orientation factors, the effects of which are displayed in the final column. The most influential predictor of retention is aspirations. Other things equal, school completion plans expressed as early as Year 9 are an extremely strong predictor of the likelihood of Year 12 completion. Aspirations are likely to relate strongly to achievement, motivation to learn and orientation to learn. Though the model suggests that independently of these things, aspirations predict retention outcomes. Of course, aspirations expressed at Year 9 may well have been internalised well before this year level. The data does not provide information on the survey respondents before Year 9.

Academic achievement is a major predictor of retention. Young people who were achieving well in school (as early as Year 9 according to this data and likely to be well before that) tend to complete school far more often than those who are not achieving well. Similarly, academic motivation as measured by the number of hours of homework undertaken and the incidence of doing extra homework (beyond what is set) have independent effects on retention. Academic self-concept, which is

different to achievement in that it reflects perceived ability and performance rather than actual performance, also exerts a strong influence.

The engagement block of factors not only have strong independent effects on retention, they also transmit or relay the effects of the individual, family, school and peer factors. This is evident from the marked drop in the final column in the sizes of the odds ratios for SES, gender, and parental aspirations. It means that the influence of these factors on retention is being mediated through the school engagement factors such as achievement, aspirations, motivation and participation in school life. These latter factors are more directly linked with decisions about completion or early leaving, but themselves are shaped by family background, school context and peer groups.

## **Conclusion**

The modelling results presented in this chapter show that the process of early leaving is shaped by the different contexts within which individuals are situated. For example, family context has a major impact on retention (family background factors explain about 11 per cent of variation in retention rates). Children from low SES backgrounds have a much lower rate of school completion than children from high SES families. Although there are variations within low SES groups, (e.g. by language background), for children from low SES families as a group the chances of completion vary according to the schools they attend, the states or territories they are in, the region where they live, and local labour market opportunities. In other words, the impact of SES on completion can be modified by a variety of contextual factors.

As well as family context, the results suggest that parental aspirations and the aspirations of peers are influential along with the quality of teaching and features of school climate. Differences linked to schools and school policies explain about ten per cent of the variation in retention. Much of the effect of family, school and peer factors is made through the impact of these influences on academic achievement, students own aspirations and their levels of engagement in school.

Policies to address differences and obtain improvements in student retention will need to consider these interrelated factors which shape completion and early leaving.

**PART D:**  
**POLICY CONSIDERATIONS**

# 11 Policy Considerations

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## Introduction

This section presents an analysis of policy options and proposals based on the results of the study. The analysis was also informed by workshops which were held with senior education policy officers in four states. The workshops were conducted to discuss the project findings derived from the results of the statistical modelling as well as from the literature review and from the school and staff interviews. The workshops were an opportunity to obtain input from senior officers and gain their views on the policy implications of the project findings.

The results of this study suggest that there is no single factor that produces differences in patterns of retention and, therefore, no single policy that will be successful in reducing differences. Variations in patterns of student retention are based on a complex interplay between a range of factors including social and demographic (e.g. gender, region, socioeconomic status), economic and labour market (e.g. employment and unemployment, apprenticeships, industry teenage labour market opportunities), curriculum and certification (e.g. breadth of offerings, VET in Schools), school organisation (e.g. sector, senior colleges), student performance (e.g. early school achievement and academic progress), and personal (e.g. finances, physical and mental health, pregnancy). Policies to address differences and obtain improvements in student retention will need to consider the interplay between the various sets of factors.

In identifying policies to promote higher levels of retention, it is important to recognise that aiming for higher levels of retention as an end in itself, without regard to the quality of programs, quality of experiences and quality of outcomes, is inadequate. The goal, and the policies needed to promote it, is not retention per se but quality retention. As the following discussion highlights, policy settings to reduce differences in patterns of retention need to focus on the quality of schooling (teaching and learning) and quality of post-compulsory provision which frames learning experiences, achievement, learner self-esteem, and other affective and social outcomes on which retention should be based.

## Retention: the MCEETYA perspective

In 1999, the Ministers of Education, Employment, Training and Youth Affairs committed Australian schools to ensuring that ‘all students have access to the high quality education necessary to enable the completion of school education to Year 12 or its vocational equivalent and that provides clear and recognised pathways to employment and further education and training’ (*Adelaide Declaration*, 3.6).

The Adelaide Declaration bases Year 12 completion on access to *high quality education*. While not all school completion might reflect student experience of high quality schooling — the sharpest economic crises between 1929 and 1990–91 all

drove up retention — the national goal of completion is that it should be based on this experience. Reaching Year 12 should result from enjoyment of high quality schooling, not be a reaction to poor economic conditions.

Commitment to high quality schooling has provided the states and territories with considerable scope to vary approaches to increased participation in line with their environments, without endorsing any particular model. VET in Schools is the most conspicuous example of renovating mainstream curricula through a quality approach to school programs which varies across jurisdictions. School-based apprenticeships are another example. Alternative certificates, such as the Victorian Certificate of Applied Learning (VCAL), are a third example.

At the heart of these different approaches is the recognition that mass retention brings with it very significant tensions. These tensions are not new. But they are felt more acutely when a high proportion of young people complete school and when the economic stakes of completing school and continuing in education or training are raised.

These tensions can be summarized in two questions — *does retention result from satisfactory achievement*, and *does retention offer a good platform for employment, further education or training?* These two questions capture the two qualitative issues with which the Adelaide Declaration is most concerned.

Research on who completes school and who leaves early and on what happens to both groups when they do leave school confirms that these are major issues. The findings can be set out under four general conclusions.

1. *Not all retention is 'good'*. Some students who complete school have had an unsatisfactory experience of learning and of school. It is questionable whether their completing school was a useful exercise. The MCEETYA position which gives priority to quality education over completion as such is very relevant here.
2. *Not all early leaving is 'bad'*. The biggest single motive for early leaving is the demand for work. When this leads to work associated with a contract of training (particularly apprenticeship), parents and schools claim this as a successful outcome. Many young people who leave school early and enter an apprenticeship have had a positive experience of school and report favourable attitudes. From this point of view, too, the outcome could be considered positive and consistent with MCEETYA priorities.
3. *Not all schooling provides 'clear and recognised pathways' beyond school*. Many students who complete school do not undertake any recognised form of education or training and gain only part-time or casual work (or are unemployed). Weak transition outcomes for some groups — especially low achievers — mean that retention should not be viewed as a goal in itself or as necessarily representing the best outcome. How robust *in transition terms* are all 'strands' within the mainstream curriculum? Do all 'strands' represent high quality schooling?

4. *Not all 'clear and recognised pathways' are viable.* Though some pathways involve well-developed program linkages (e.g. between the senior certificate and university) and are felt to be secure routes, in fact for many apparently successful students they are not. A large proportion of university students (29%) will not complete their studies. The reasons are complex. Attrition also occurs in Diploma programs, and discontinuation is frequent in both apprenticeships and traineeships. The general point here is that it may not be the 'profile' of a pathway that counts so much as the quality of the learning experience leading up to it and the nature of the students who take it.

These broad findings point back to the programs in schools on which retention *and* early leaving are based and to how successful different groups of individuals are in managing the demands of these programs. But they also point to different needs, such as the need to work or the need to learn in a certain way, which may limit access to a program (given how it is structured and delivered) or prevent building on it when it is successfully completed.

Not surprisingly, given these issues, the Adelaide Declaration leaves open the question whether the best outcome to be achieved by a school system should be measured in terms of Year 12 completion or a vocational equivalent. Completing school could mask such large differences in achievement or in transition effectiveness as to make 'retention' a very misleading indicator of success. More retention in this context would be a questionable goal. Similarly expanding program options to boost retention may recognise other forms of achievement and provide under-participating groups with valuable educational opportunities, but ignore variability in student learning in the mainstream program and indeed lower incentives to improve this program in design and pedagogical terms.

Alternatives to retention should be viewed in the context of the distributional effects of existing school programs. However, there are two choices available, not one. If the mainstream curriculum does not work well for certain groups, they could be removed from it (or encouraged not to enter it) *or* the curriculum could be renovated and teaching strategies improved to make it more accessible over time. Alternatives to school run the risk of 'solving' failure through exclusion, just as curriculum streaming within school risks segregation and lowered expectations. In both cases, pressure is taken off schools (and curriculum authorities) to do more through good teaching and design.

On the other hand, the economic needs and circumstances of young people and their families cannot be ignored. Alternatives that involve early entry to work may ultimately achieve an outcome at least as effective as completing a senior certificate (account taken of the range of achievement within the certificate). This is especially the case with the traditional craft apprenticeship. In assessing possibilities, a great deal of attention has been paid to the vexed issue of *equivalence*. This has involved mapping of content across academic and VET study components and attempts to 'embed' accredited VET within accredited academic programs.

The Adelaide Declaration uses the expression 'vocational equivalent'. But this does not necessarily mean equivalent *in academic terms*, assuming this could be determined by cognitive mapping. A vocational program may not be equivalent to

the senior certificate in academic terms, but still delivers a benefit which is equal *in a range of beneficial effects*. An early leaver who completes an apprenticeship has a very strong likelihood of being in full-time employment at the end of training and possibly a stronger chance than that of a low achiever who completes a senior certificate, but does no further education or training over the equivalent period of an indenture. While the cultural impact of the senior certificate may be greater in terms of academic self-esteem, generic competencies, and general knowledge, this depends on level of achievement within the certificate and on the behaviour and attitudes of the learner when exposed to learning opportunities. Greater beneficial effects may result from entering a VET program in a non-school setting than persisting in a mainstream school program without commitment and effort. The ‘equivalence’ of a vocational program would seem to be more fruitfully investigated in terms of ‘range of beneficial effects’ than cognitive equality.

In this discussion, we have highlighted a range of issues associated with retention or its vocational equivalent and drawn attention to the MCEETYA priority of ‘high quality education’ as a basis for either of these outcomes. We have also noted issues in relation to ‘clear and recognised’ pathways to employment or further education and training. Attention to these issues and to the problematic nature of school retention as a performance indicator is intended to stress the importance of building higher levels of educational participation *on the basis of quality learning experiences and achievement*.

Strategies to reduce early leaving and to boost retention do not always reflect this emphasis. Context, rationale, intended impact and target group all influence the nature of preventive and intervention strategies. Some are intended to compensate for the lack of quality learning experiences in school and the need to re-create opportunities in non-school settings. Others aim at preventing a rift occurring by providing a range of support measures which strengthen the individual’s relationship to school. But the Adelaide Declaration provides a broad perspective through which to view the range of strategies and to weigh up their strengths and weaknesses.

## **Guiding principles for retention**

### *Retention as a trend, quality retention as a goal*

Two observations describe the context of debates about school completion in Australia. The first is the restoration of the long upward trend in retention that reaches back to the post-war years. Halted at different times over that period — the late 1970s, much of the 1990s — that trend towards ‘mass retention’ has now resumed.

The second observation is that there remain large differences in retention between the Australian States and Territories. The long-term factors which have driven up retention — social aspirations, industry and occupational change, that is the collapse of the full-time labour market for teenagers — have not had a uniformly similar effect across a nation as large and diverse as Australia.

The statistical modelling undertaken for this study shows that the gaps between the states and territories are not as great as appears when account is taken of population differences, remoteness, interstate migration, and modalities of school use (part-time *versus* full-time). Removing the impact of these population factors greatly compresses interstate differences.

Of course, this is an exercise in abstraction. It tells us what the levels of retention would be, were the states and territories more uniformly similar in their population characteristics, in the geographical dispersal of their communities, and in the exchange of their populations which occurs across interstate boundaries. But states and territories are not uniformly similar in these respects, and in fact are drawn apart by the play of macro-economic and social forces. From a national perspective, retention is very uneven, despite the long-term upward trend. Statistical modelling of interstate differences only tends to highlight factors over which school systems have relatively little influence.

The two observations of growth and diversity need to be seen together. The fact that retention varies widely across the states and territories has not prevented growth at a national level or within jurisdictions. More growth is likely to occur because economic dependence on school and on tertiary education is increasing, and this is a national trend.

Arguably the question for policymakers is not the *level* of retention as such which could or should be pursued — nationally or within jurisdictions — but the *quality* of retention. While it is important to set expectations regarding educational attainment, increases in retention and other forms of educational participation have to be assessed for their value in qualitative terms. For higher retention does not automatically confer benefits either on individuals or on communities. The gains that are associated with higher retention, such as lower unemployment rates, represent an average impact, not enjoyed equally by all groups and communities and masking continuing disadvantage. Close analysis of the gains suggests, moreover, that they are sometimes more illusory than real. Completing school increases the chances of being employed as against not being employed, but the jobs that school leavers get are very often part-time or casual, have low skills content and are poorly paid. The question is whether the experience of completing school is strong enough to encourage and support lifelong learning.

Problematic post-school outcomes — and who gets them — point back to underlying qualitative issues. These concern learning experience, achievement, learner self-esteem, and other affective and social outcomes on which retention should be based and which give schooling an enduring impact on life-chances reaching well beyond the teenage labour market.

Framing retention as a qualitative rather than quantitative issue is reinforced by a third observation — the variation in retention *within jurisdictions*. If retention is to grow at a national level, this will require variability in retention *within the states and territories* to be reduced. When 90 per cent of young people from the socially most advantaged families complete school, the scope for national increases lies almost wholly in the behaviour of young people from less advantaged families, one-third of whom leave school early. Nationally retention rates are now at such an



elevated level (75 per cent) that any further growth rests on Australia's capacity to confront relative socioeconomic and other forms of disadvantage which hold back retention (as well as frequently robbing it of meaning when it does occur).

Viewing retention as a qualitative issue means putting the policy emphasis on the objectives and outcomes that make retention meaningful and beneficial and seeing levels of retention as a by-product and as by no means an adequate indicator of performance of school systems. How do we know whether any given level of retention is associated with the achievement of underlying objectives and outcomes?

### *Working towards quality retention*

Our most important guide relates to student learning in the later years of secondary school. Statistical modelling brings out the impact of successful learning on retention, including both the direct effects on individual plans and the indirect effects of peer impact and family aspirations. The research literature highlights the fact that early leavers are drawn disproportionately from the ranks of low achievers. Failure to establish meaning in the curriculum or to build satisfactory teaching relationships removes the possibility of successful learning which is the most important intrinsic motive for staying on at school. Economic pressures to find work and earn a living may hasten early leaving, but where a positive experience of learning has not been established, resistance to these pressures is futile.

To improve the benefits that young people gain from school — benefits which cannot be read simply from a retention statistic — requires systems to monitor achievement patterns for different groups and communities within the later years of secondary school and to benchmark the performance of schools with a view to setting expectations. Quality of instructional experience should also be measured, partly through student feedback and partly through professional development programs. What happens to young people when they leave school — and what happens to different groups (high and low achievers, high and low SES, indigenous students, etc.) — provides essential insights into short and long-term benefits as well as helping evaluate school programs (effectiveness of VETIS, etc.).

Policies should aim at reducing the achievement gap in schools as a precondition for 'quality retention' and raising aspirations to encourage and support this. It is the factors that *inhibit successful learning*, rather than retention as such, which should be targeted by intervention strategies, so that a stronger attachment to school can be built as well as the capacity to utilise learning opportunities beyond school.

To reduce the achievement gap implies understanding why the demands of senior certificate programs act more adversely on some student groups than others (e.g., the language demands of certain assessment tasks in mathematics). The evaluation of programs *from a pedagogical perspective* is essential if they are to be made more inclusive. Thus as much attention has to be paid to the operation of programs as to supporting the individuals who are dislodged by the programs or by how these are taught. At the same time, it has to be recognised that the capacity of schools to vary programs in the upper secondary years may be quite limited. Enrolment levels, limited resources, facilities, and centralised curriculum prescription will all

influence how much scope for adjustment to programs is possible and, conversely, how much the effort for improvement will rest with teachers.

### *Alternatives to retention*

Quality retention implies an ongoing effort to evaluate and renovate school programs — both at a school level and at a central level. When three out of four young people complete school, this is essential to assure quality of learning and durable effects for all groups. How much higher can retention go without this renewal process? Some of the 25 per cent of young people who leave early can be retained in school if the design of programs and the quality of teaching relationships are improved. For failure and lack of interest are major contributing factors to school drop-out. But some of the 25 per cent are not unsuccessful learners or dissatisfied students. Their employment needs are strong and they frequently belong to a family or community culture which sanctions early entry to work. While stronger program incentives might be found to keep them at school, at least as much policy effort should be made to provide opportunities for them to undertake part-time alternatives beyond school. Today these include apprenticeships, traineeships, and part-time study in TAFE/VET.

Whether or not these alternatives are equivalent in a cognitive sense to the senior certificate is arguably not the issue, but rather whether they produce valuable and perceptible benefits that build on school. Any question of equivalence has to begin with whether there is genuine equivalence of program strands *within the mainstream certificate* before the meaningfulness of comparisons with non-school alternatives can be considered.

The issue with alternatives is basically the same as the issue with retention. Do they involve quality learning experience, successful learning outcomes, and effective workforce transition or further education and training?

### *A concluding summary*

The focus of policy efforts should be on creating the conditions for effective learning and personal growth that underpin quality retention.

Current levels of retention are associated with a wide gap in achievement and in quality of instructional experience. Reducing this gap should have priority.

This will involve a combination of measures relating to school performance, on the one hand, and to program monitoring and evaluation, on the other. Consequential interventions flow from each side, e.g. teacher professional development.

A national strategy for increasing retention should aim at reducing differences between student groups and communities *within states and territories*. In the long-term, this will also reduce the gaps between the states and territories, particularly those that are based on socioeconomic and cultural differences in populations. Other factors, such as remoteness, will continue to exercise an influence and will require different strategies related to provision and access.

Vocational alternatives to retention have an important role to play, particularly for young people who need full-time work or have carer roles. These alternatives include apprenticeships and traineeships, on the one hand, and other VET programs which are not employment-based, on the other. The role of these programs should not be to relieve the pressure of student diversity on schools, but to provide a quality pathway to employment or further education. VET programs should have valuable and demonstrable benefits and should involve the same commitment to effective learning and personal growth as ought to underlie retention in school.

To raise attainment either in school or through alternative programs in the VET sector implies greater focus on the *economic incentives* to successful learning and award completion. These are strong for high achievers, but weak for low achievers. They include access to full-time work, a reliable training pathway, structured workplace learning opportunities, flexibly delivered programs that accommodate working hours, manageable tuition costs and charges, and physical accessibility. Without valuable and perceptible economic benefits, there is less incentive for young people to complete school or to undertake alternative programs if they leave school early.

Retention should be assessed in terms of the transition outcomes associated with it as well as the range of learning experiences on which it is based. Retention to Year 12 is not an assured pathway in itself either to good jobs or to further education and training. This has important implications for the design and emphasis of the programs on which it is based or which operate as alternatives.

In some states and territories, retention has come to operate as the beginning of a new phase of education or training for as many as three-quarters of the completing cohort. To regard retention as the end of a phase has become outmoded.

## **From principles to policies**

What policies are required to translate the broad objective of quality retention or its alternatives into action at the school or system level? They are outlined below.

1. *Early intervention.* Strategies to improve student achievement need to be implemented early in schooling and to be properly targeted (see Chapter 1, p. 10; Chapter 2, pp. 22–23, 29ff). Some current programs, such as basic literacy programs in early primary school, are not targeted to schools with high concentrations of disadvantaged groups.
2. *Ongoing monitoring.* Schools and systems require data on student achievement over the whole cycle of schooling so that gaps in achievement can be identified and acted upon early. Ideally measures of student learning should be for individuals so that improvement can be assessed over time and performance of schools interpreted in terms of value-added. Unique student identifiers are an important element of a monitoring program, in order to measure growth in learning accurately.

3. *Community–school relations.* Programs to involve parents in school and programs which enhance communication between schools and parents are of special relevance in disadvantaged settings. Recent survey findings indicate that low-income parents are especially critical of the frequency and quality of feedback on their children’s progress (see, for example, Cuttance & Stokes, 2000). Clear reporting to parents in ways which reflect the concerns of parents themselves would improve community relations and gain greater parental support for teachers in their efforts.
4. *School factors: creating a positive learning culture.* Research findings point to the key role played by aspirations and the need to create a climate of achievement through effective leadership and a high level of teacher commitment and expectations on student learning (see Chapter 1, p.11; Chapter 2, p.21ff; Chapter 10, p. 134ff). Mentoring programs are an important vehicle for including students in this culture. For schools where there is high staff turnover or difficulties in recruiting teachers, a stronger focus on pedagogical strategies to enhance student learning in the classroom is needed, for example, negotiated learning processes, and more individualised instruction. Case management is the foundation to many successful programs (see Chapter 5, p. 57ff; Chapter 6, p. 83ff).
5. *Student support services.* Provision of health and welfare services at the point of delivery of school programs is vital in communities in which there are high levels of poverty, family breakdown, and unemployment. These are the areas in which retention is lowest and achievement most at risk. Examples include homework centres, access to ICT, mentoring, and provision of student housing (see Chapter 5 for a list of initiatives and interventions, e.g. the Full Service Schools Program).
6. *Quality programs.* For school programs to engage learners, they need to be challenging, stimulating, involve opportunities for sharing learning tasks, are satisfying as learning experiences, and have clear and demonstrable benefits beyond school (see Chapter 4, p. 48ff; Chapter 6, pp. 75–80). VET in Schools represents the most significant reform to the senior secondary curriculum and contains many of these features. VET programs are of wider relevance than at this level for they contribute to a greater perception of relevance and stronger motivation from students (see Chapter 4, pp. 50-51; Chapter 6, pp. 78–80).
7. *Careers education and guidance.* Student satisfaction with careers education and guidance tends to decline with achievement levels and as student distance from university grows. The emphasis should shift from information to strategy-building and case-management, including transition mentoring (see discussion in Chapters 5 and 6).
8. *Transition outcomes monitoring.* Schools need an accurate guide to what happens to school leavers from each exit year-level, and this information needs to be disaggregated by key student background characteristics (such as achievement level) to provide a focus for program development within schools and more effective pathways management (see Chapter 5, p. 64).

9. *Quality alternative pathways.* Many early school leavers do continue in education or training. The challenge is to ensure that the programs they undertake are suitable and of high quality, that they foster commitment to learning and personal development, and that they have valued employment or further education and training outcomes. Alternative education and training options should provide pathways to continued lifelong learning. Apprenticeships and traineeships are examples of important alternative pathways traditionally taken by early school leavers (see Chapter 2, p.20).
10. *Program evaluation.* Curriculum authorities need to undertake periodic evaluation of accredited programs in different school settings, including both teacher and learner views. The uneven way in which senior certificate programs operate for different student groups requires a different approach, which is context-sensitive and potentially linked to professional development and school improvement programs.
11. *Returning to study programs.* Returning to study is made possible through several models, including schools which enrol adults, TAFE institutes and adult and community education providers (see Chapter 5, pp. 65–68; Chapter 6, p. 80). Students returning to study include those previously suspended and excluded, and school-age mothers. More extensive provision of adult recovery programs would allow school programs to be completed over different periods of time, paced to suit individual circumstances, and accessible to students with a troubled experience of school.
12. *Measuring attainment and outcomes.* Current measurement approaches to retention are unsatisfactory. They are error-prone and ignore alternative forms of educational participation. A student ID presents major advantages in improving retention statistics and could be progressed by the MCEETYA Performance Measurement and Reporting Taskforce, if directed by MCEETYA. The ABS and its education advisory group should improve its measure of retention by taking into account other forms of education and training, and addressing current problems in the measurement of retention (see discussion in Chapter 8).

## **Further work**

This report has attempted to measure the impact of some of the factors that shape differences in retention across the states and territories of Australia. Data available for this study did not include information on some factors that may have an impact. These include such things as grade repetition, curriculum and certification differences and the role of VET as an alternative to schooling. Further work is needed to identify sources of data that could be used to analyse the impact of such factors. For example, several states and territories have established or are establishing surveys of post-school transition that will provide information on the take up of VET equivalents to the senior school certificates that can then be used to make further adjustments to published apparent retention rates.

An issue that remains is how to measure the *independent* effects of these factors over and above the effects of other factors. This becomes very important in examinations of the interplay between policy and non-policy factors in state and territory differences. This has been a challenge for the Commonwealth Grants Commission which attempts to measure accurately the impact of policy over non-policy factors on state and territory differences in post-compulsory enrolments (CGC, 2003). It is an important issue because if it is possible to measure the unique effects of different policies across jurisdictions, then it is possible to identify the extent to which different policies can help improve rates of retention nationally. At present the impact of only a relatively small number of policy factors are measured, such as age of commencement and the provision of senior secondary colleges. Further work is needed to expand the list of policy factors and identify appropriate sources of data as well as test ways of measuring more sensitively the impact such policies may have.

Data restrictions are also relevant to the modelling of student retention decisions presented in Chapter 10. The analysis of retention is not exhaustive of all of the factors that may shape retention decisions. For example, economic context, region, employment, neighbourhood effects, income support, school programs and policies are not included. At present, there is no single data source that contains data for all of the variables that may be influential. However, the longitudinal data set used in this study provides an important foundation to developing an extensive model. Further work is needed to look at extending the range of variables and applying the models using more recent cohorts of young people.

The model applied in Chapter 10 is based on school retention. Yet, many early school leavers do continue in education or training when they leave school and participate in alternative pathways that lead to a senior secondary certificate or to a vocational equivalent as reflected in the national goals. Further modelling is needed to extend the notion of retention to cover alternative forms of education and training in addition to school.

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