

Participation in Senior Schooling: The Vocational Alternative and the Role of VET

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Participation in senior secondary schooling increased substantially between 1980 and the early 1990s, but has been static since that time. Since the mid 1990s curriculum offerings in the senior school years have been broadened in order to cater for a wider range of student interests and aptitudes. The offering of vocational courses in schools has been a prominent component of this curriculum broadening. At the same time, changes have occurred in the post-school VET landscape with rapid growth in traineeships. The labour market context has also changed with a decline in full-time youth employment accompanied by growth in part-time youth employment for both males and females. Policies on youth participation in education and training have emphasised persistence at school or participation in a vocational alternative. Trends in school completion, VET-in-schools participation, post-school VET enrolments and labour force statistics are examined in order to explore possible causal relationships. The immediate post-school destinations of young people who do not complete secondary schooling are examined. For these young people, VET participation is an important component of their transitions between compulsory education and work. For some young people, especially males, post-school VET qualifications ameliorate their lower school completion rates. For others, post-school VET does not provide this compensation. Policy implications are considered.

Background

The policy context

Retention to Year 12 in Australian schools grew steadily from around 30 per cent in 1980 to about 75 per cent in the early 1990s. Since then, the retention rate has remained relatively constant. Australia's most senior policy makers established the goal 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" (MCEETYA, 1999, Goal 3.6). Achievement of this goal remains a concern to policy makers, who continue to note the importance of Year 12 completion or a vocational equivalent (COAG, 2006, p. 35).

Numerous policy initiatives aimed at increasing school retention have been implemented. These include increasing the availability of vocational studies in senior secondary schooling. Participation in these studies has increased from a very low base in 1996 to almost 50 per cent of senior secondary students by 2004 (Woods, 2005). The minimum school-leaving age has been increased from 15 to 17 years-old in several jurisdictions. Typically, this increase in the required education participation age accommodates non-school learning. The requirements of senior school certificates have been broadened to accommodate a wider range of student interests and aptitudes and in Victoria the Certificate of Applied Learning (VCAL) has been introduced.

Young people in the lowest academic achievement band are over represented among school non-completers, with more than one third leaving school before the end of Year 12. Dockery (2005) has argued that remaining at school may be a penalty for the non-academically inclined and that their

interests would be better served by undertaking alternative forms of education and training, specifically apprenticeships and traineeships.

Participation in post-school vocational education has continued to increase. Between 1990 and 2000, the percentage of young people (aged 15 to 19) commencing VET programs increased from 19 to 29 per cent (NCVER, 2002). Curtis and McMillan (forthcoming) found that in 2005, 84 per cent¹ of students were remaining at school and that half of female and almost two-thirds of male early leavers commenced VET programs. Thus, over 90 per cent of young people either complete Year 12 at school or undertake a form of vocational study.

Trends in school retention and youth labour market conditions

Chapman and Gray (2002) examined trends in full- and part-time employment, unemployment and preferences for full- and part-time work among unemployed young people. They argued that youth unemployment has been relatively stable over the past 20 years. In fact, the rate is rather volatile, but it follows the adult unemployment rate, having a higher base level and increasing or decreasing by about twice the change in the adult rate. What has changed substantially, and is related to school non-completion, is the availability of work for teenagers. The collapse of the youth labour market has been described in the literature on transitions from school to work for some time (see, for example, Long, 2006). There are now fewer full-time jobs for teenagers than were available in 1980 but many more part-time jobs. It seems that many young people have recognised the futility of leaving school and seeking full-time work. Instead, they remain at school, but undertake part-time work.

In their explanation of differences in school retention rates between states, Ryan and Watson (2006) found that many external factors influenced decisions to persist at school. They invoked differences in the availability of full-time work and youth unemployment rates as possible external factors. In their models of school completion, the coefficient for full-time employment was very much higher than that for the unemployment rate and they concluded that the fall in the availability of full-time work accounted for 12 percentage points in the growth of student retention at school (Ryan & Watson, 2006, p. 215).

The changes in early school leaving, unemployment rates, and full- and part-time employment rates are shown in Figure 1 (males) and Figure 2 (females). It was suspected that the unemployment rate would be the key signalling device about labour market conditions to teenagers. However, the correlation between the unemployment rate and school non-completion is quite modest and introducing lag functions to allow one or two years between the unemployment rate and school completion did not improve the relationship. The correlations between full-time employment and Year 12 attrition is very high (>0.9 for both males and females), suggesting that it is job availability itself that signals labour market conditions.

Data and Measures

Data for this paper were provided by the LSAY Y03 cohort, an initial sample of 10 370 students from across Australia who were aged 15 years in 2003. LSAY is a series of surveys that focus on the progress of young Australians as they move from their mid-teens to their mid-twenties, from their initial education to independent working life. These surveys involve large nationally representative samples of young people from whom data are collected each year about education and training, work and social development. The LSAY Y03 cohort is based on the Australian sample for the 2003 Programme for International Student Assessment (PISA), an initiative of the Organisation for

¹ This figure is slightly higher than that reported by the ABS (75.3%, ABS, 2007b, p. 28). ABS data do not include part-time students. It is also likely that our estimates under-represent early leavers due to attrition from LSAY.

Economic Co-operation and Development (OECD). Participating students undertook tests in mathematical literacy, reading literacy, scientific literacy and problem-solving skills, and completed a brief questionnaire, which included scales to measure their attitudes as well as questions to collect information on their backgrounds. Further information on the Australian PISA sample can be found in Thomson, Cresswell and De Bortoli (2004).

Toward the end of 2003, members of the LSAY Y03 cohort answered a brief telephone interview, which collected additional information about school and employment. Further data on education, training and labour market activities and aspirations have been collected from cohort members in 2004 and 2005 using telephone interviews. At the time of the 2005 data collection, cohort members were 17 years old, and the majority were in Year 12. There were 8691 respondents remaining in the active sample in 2005. A further description of the sample is available in Rothman (2007).

The measures used in this study of school completion, participation in VET qualifications and labour market activities are based on responses to interview questions. The interview questions sought information on the type, level and fields of study of any VET qualifications. Questions related to labour market activity led to the identification of employment status (employed, full-time or part-time; unemployed; not in the labour force) and the ASCO classification of any employment.

Completion of Year 12 or Participation in a Vocational Alternative

The percentages of young people who do not complete Year 12 at school and of those who neither complete Year 12 nor participate in an alternative vocational program are shown in Table 1. The final column shows the proportions of school non-completers who commenced a VET qualification. Several categories of young people are more likely than others to leave school without completing Year 12. These include males, Indigenous young people, youth from non-nuclear families and those whose parents are less well qualified and who have blue-collar, low-skill occupations. For some of these groups, the vocational alternative is important. Two-thirds of male school non-completers commence VET qualifications, and for them the vocational alternative ameliorates the low school completion rate. For other groups, however, the relative disadvantage in school completion is reflected in lower participation rates in VET. These groups include Indigenous youth, those from non-nuclear families and those whose parents are less well qualified.

Students from government schools are less likely to complete Year 12 than are students from non-government schools and non-completers from the government school sectors are also less likely to commence VET qualifications.

Students who intended to complete Year 12 but did not achieve this goal are less likely than others to embrace VET study. Two-thirds of those who intended not to complete Year 12 commenced a VET qualification. It seems likely that many of these young people had decided on a vocational pathway and pursued it. Academically low-achieving students are more likely than others not to complete Year 12. They are also less likely to pursue a vocational pathway. Modelling showed that mathematics achievement had a much stronger influence than reading literacy on VET participation for school non-completers.

Patterns of school non-completion and VET participation suggest possible policy targets for promoting the agreed goal of school completion or participation in vocational alternatives.

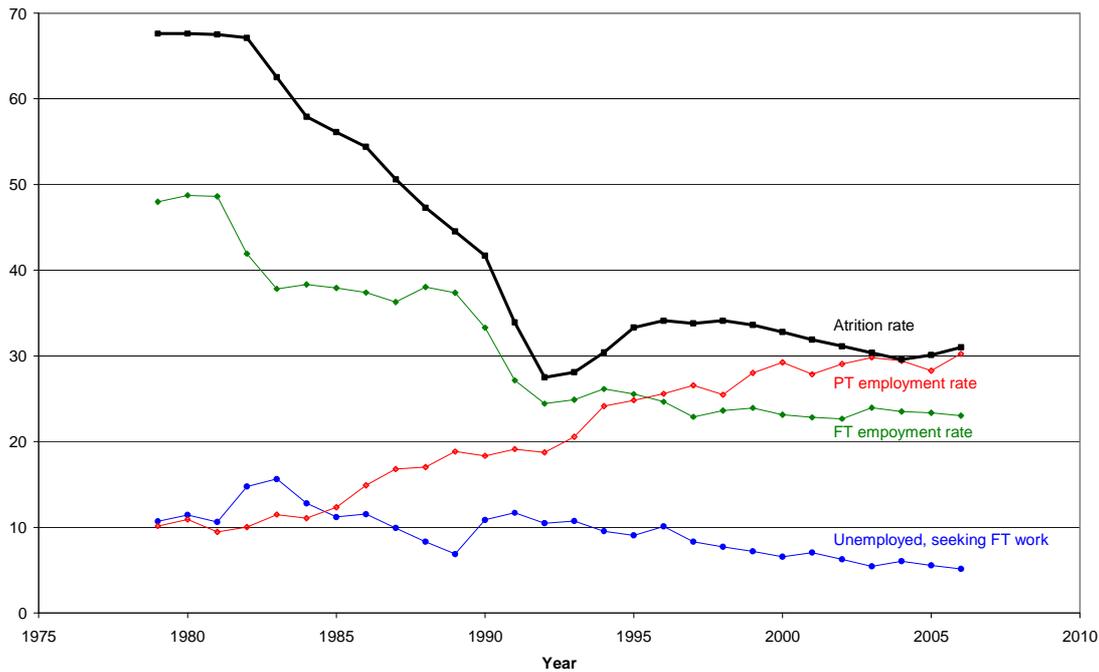


Figure 1 Changes in school attrition and selected labour market indicators, 1980-2005 – Males. (Sources: ABS 2007a; ABS 2007b)

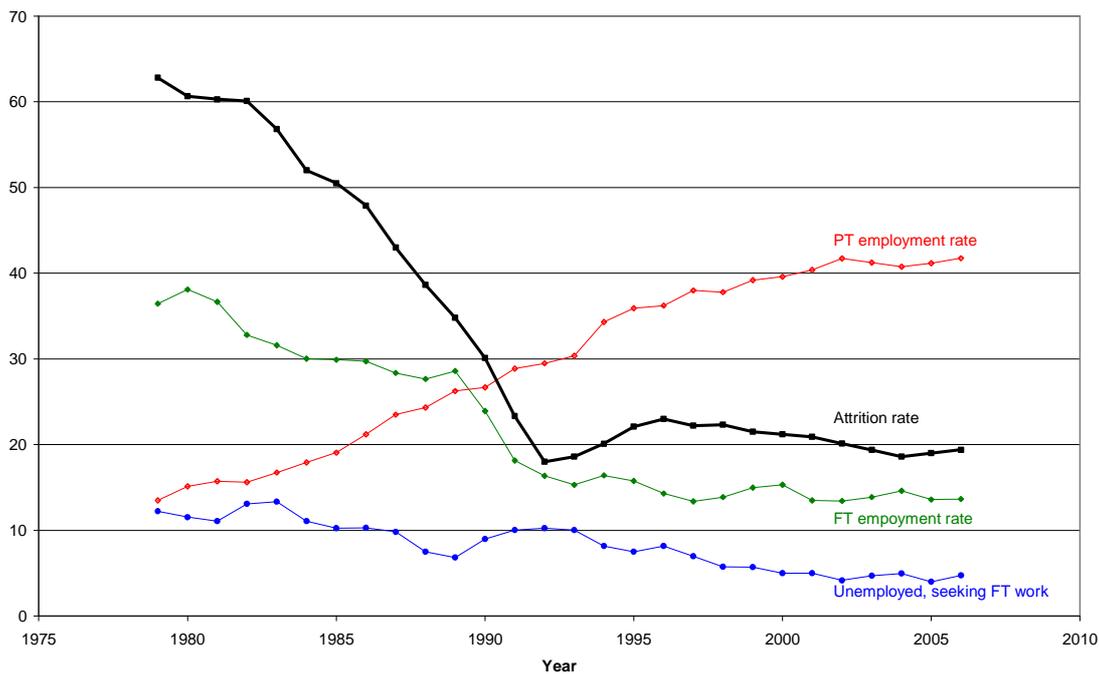


Figure 2 Changes in school attrition and selected labour market indicators, 1980-2005 – Females. (Sources: ABS 2007a; ABS 2007b)

Table 1 Non-completion of Year 12 at school or a vocational alternative by selected individual characteristics

		Non-completers of		Percentage of early leavers commencing VET
		Year 12 (%)	Year 12 or vocational alternative (%)	
<i>Individual characteristics</i>				
Gender	Female	13	7	46
	Male	19	7	63
Indigenous Status	Non-Indigenous	15	7	53
	Indigenous	30	18 ^a	40 ^a
Location	Metropolitan	13	6	54
	Regional	22	9	59
	Rural	20 ^a	11 ^a	45 ^a
Family Structure	Single parent family	22	13	41
	Nuclear family	13	5	62
	Mixed family	22	11	50
	Other	25	12 ^a	52 ^a
Immigrant status	Native students	17	8	53
	First-generation students	11	5	55
	Non-native students	8	4	50
Parental education	University	7	3	57
	Technical or trade qualification	19	8	58
	Completed secondary	15	7	53
	Less than complete secondary	21	11	48
Parent occupational category	White-collar high-skill	10	4	60
	White-collar low-skill	15	8	47
	Blue-collar high-skill	20	8	60
	Blue-collar low-skill	23	11	52
<i>School-related factors</i>				
Intention to complete Year 12	Intends to complete Year 12	9	5	44
	Unsure about Year 12	69	28	59
	Intends not to complete Year 12	88	32	64
Post-school study intention	No post-school study intent	20	11	45
	Intends post-school study	15	6	60
School sector	Government	20	10	50
	Catholic	11	4	64
	Independent	5	2	60
Reading quartile	Lowest achievement	36	17	53
	Low-mid achievement	19	8	58
	Medium-high achievement	9	4	56
	Highest achievement	3	1	67
Maths quartile	Lowest achievement	34	17	50
	Low-mid achievement	18	8	56
	Medium-high achievement	11	4	64
	Highest achievement	3	1	67
<i>All</i>		16	7	56

Note: ^aThe absolute frequencies in these cells are low (<30) and caution should be exercised in drawing inferences from them.

Initial Destinations of School Non-completers: Education and Training

Participation

Attention now turns to the early post-school education and training activities of school non-completers. For the purposes of this report, participation refers to the completion of a qualification by

age 17 or working towards a qualification at age 17. Where respondents had completed more than one qualification, or completed one qualification and were working towards another, participation refers to the first completed qualification.

School non-completers' level of participation in post-school vocational education and training (VET) is reported in Table 2. Over half of school non-completers engaged in some form of VET in the early post-school years, suggesting that disengagement from school does not necessarily equate with disengagement from learning. Gender differences are evident. While males were more likely than females to leave school before the completion of Year 12 (Curtis & McMillan, forthcoming, p. 10), male non-completers were more likely than female non-completers to be VET participants in the early post-school years. When post-school VET participation is considered as an alternative to Year 12 completion, males and females are equally likely to remain engaged in education and training to age 17 years (Curtis & McMillan, forthcoming, p. 45). However, gender differences are apparent in the type of VET participation. Male non-completers were four times as likely as female non-completers to participate in apprenticeships, while females were more likely than males to participate in traineeships or other VET courses.

Table 2 School non-completers' participation in post-school vocational education and training, by gender to 2005

Type of VET	Males (%)	Females (%)	Persons (%)
Apprenticeship	41	10	28
Traineeship	7	13	10
Non-apprenticeship VET	12	22	16
Not in VET	40	55	46
Total %	100	100	100
Total n	794	536	1330

Notes Participation comprises qualifications completed since leaving school and participation at the time of the 2005 interview. Column percentages may not add exactly to 100 due to rounding.

Course level

The course levels of school non-completers who participated in VET are reported in Table 3. The vast majority undertook certificate level courses. Males were more likely than females not to know their certificate level or to be working towards a lower-level certificate, while females were more likely than males to be participating in a course leading towards a certificate III/IV or diploma, advanced diploma or associate degree. These differences are likely to be related to the different fields of study pursued by males and females. In the past, apprentices were more likely than others not to know the level of their qualifications.

Table 3 Course level of school non-completers who participated in VET, by gender to 2005

Course level	Males (%)	Females (%)	Persons (%)
Certificate I & II	50	45	48
Certificate III & IV	34	42	37
Certificate (level unknown)	15	5	12
Diploma, advanced diploma or associate degree	2	7	4
Total %	100	100	100
Total n	475	242	717

Notes Course level refers to courses completed since leaving school and courses being undertaken at the time of the 2005 interview. Figures shown in grey are based on low (<30) cell frequencies. Column percentages may not add exactly to 100 due to rounding.

Field of education

The fields of education of the VET participants — classified by the Australian Standard Classification of Education (ASCED) broad fields (ABS, 2001) — are reported in Table 4. Again, marked gender

differences are evident. Male non-completers were concentrated in engineering and related technologies, and architecture and building. Female non-completers were concentrated in management and commerce, and food, hospitality and personal services. Participation in each of the remaining eight ASCED broad fields of education could not be reported separately due to their small sample sizes.

Table 4 Field of education of school non-completers who participated in VET, by gender to 2005

Field of education	Males (%)	Females (%)	Persons (%)
Engineering & related technologies	42	1	29
Architecture & building	24	1	16
Management & commerce	9	32	16
Food, hospitality & personal services	11	47	23
Other	14	19	16
Total %	100	100	100
Total n	475	242	717

Notes Field of education refers to courses completed since leaving school and courses being undertaken at the time of the 2005 interview. Figures shown in grey are based on low (<30) cell frequencies. Column percentages may not add exactly to 100 due to rounding.

Achievement at school and post-school education and training

The relationship between school non-completers' participation in vocational education and training and their earlier achievement in four literacy domains is shown in Figure 3. There was a clear, linear relationship between mathematical literacy while at school and subsequent VET participation. Only half of those in the lowest quartile of mathematical literacy were VET participants, rising to over 60 per cent of those in the highest quartile. The relationship between VET participation and achievement in science literacy and problem solving was less clear, but in both of these domains those in the lowest achievement quartile displayed the lowest VET participation rates. Achievement in reading literacy was not significantly related to subsequent VET participation.

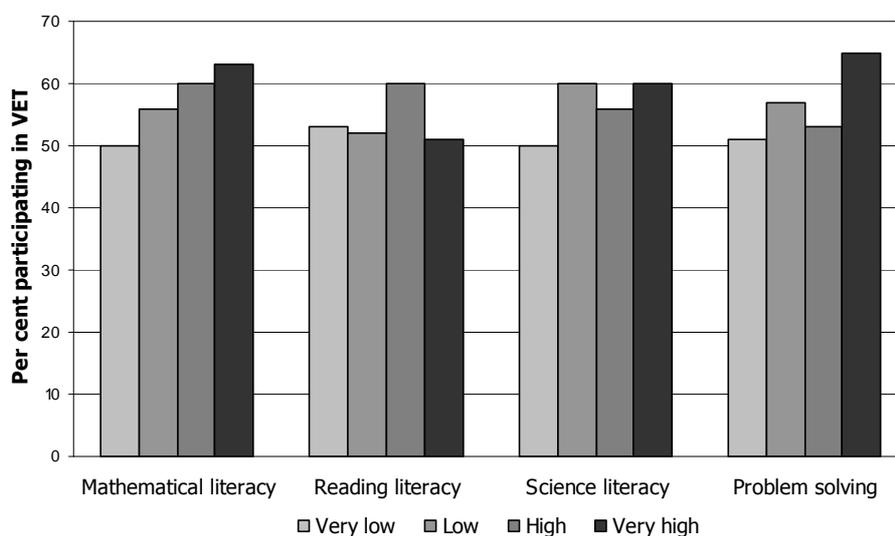


Figure 3 VET participation to 2005 by achievement level and domain among school non-completers

There was a slight tendency for those with lower achievement levels compared with those with higher levels to be in low-level (certificate I/II) courses and, conversely, for those with higher achievement

levels compared with those with lower levels to be in higher-level (certificate III/IV) courses. While this relationship was evident across all four achievement domains, it was not statistically significant. Reading literacy, however, was clearly related to the field of education that VET participants entered (Figure 4). Among those fields most commonly entered by males — engineering and related technologies, and architecture and building — a negative relationship was evident. For example, over 30 percent of those with very low reading literacy levels entered engineering and related technologies compared with less than 20 per cent of those with very high literacy levels. In contrast, young people with lower reading literacy levels were less likely than those with higher literacy levels to enter the management and commerce field; 13 per cent of VET participants in the lowest literacy quartile compared with 37 per cent of VET participants in the highest literacy quartile entered this field.

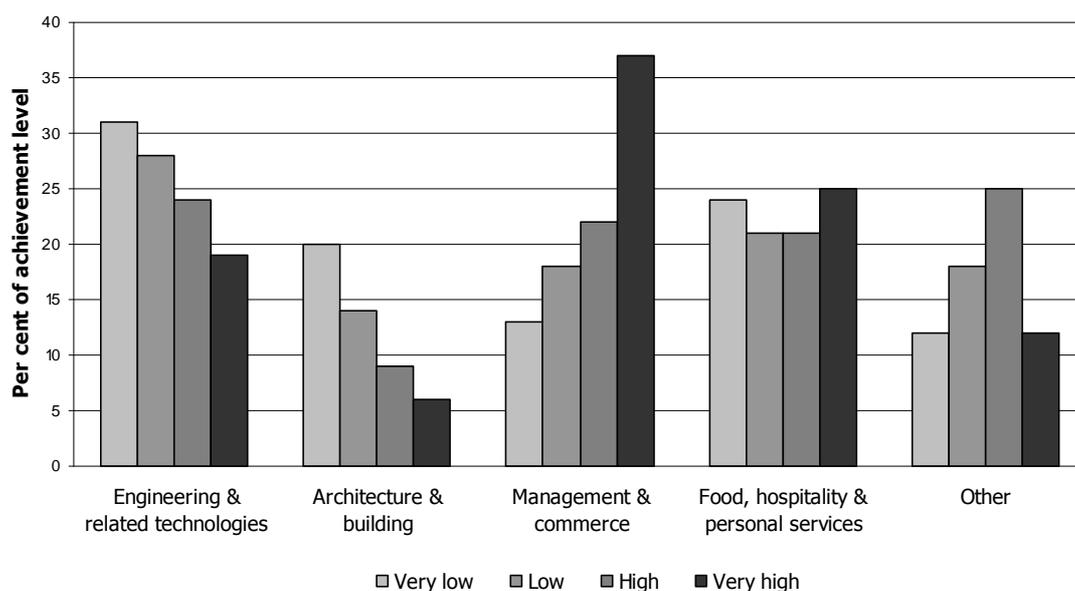


Figure 4 Field of education by reading literacy quartiles among school non-completers participating in VET to 2005

Initial destinations of school non-completers: Main activity

While the previous section referred to education and training among school non-completers occurring by age 17, attention turns to activities at age 17. The main activities of school non-completers at age 17 are reported in Table 5. The majority of non-completers were fully engaged in ‘learning or earning’. Over 60 per cent were in full-time employment (including Australian Apprenticeships); six per cent were in full-time education and training; and two per cent were combining part-time employment and part-time study. Fourteen per cent of non-completers were partially engaged in learning or earning, mostly in part-time employment. A roughly similar proportion of non-completers were not engaged in employment, education or training. Two-thirds of the latter group were unemployed, while the remainder were not in the labour force.

Marked gender differences were evident in the activities of school non-completers. Just under three-quarters of male non-completers were in full-time employment, compared with less than half of female non-completers. Female non-completers, on the other hand, were far more likely than male non-completers to be partially engaged in employment, education or training (23% and 8% respectively), and slightly more likely than male non-completers not to be engaged in learning or earning (19% and 13% respectively). Of those who were not in the labour force and not studying, females were more likely than males to be engaged in childcare (although the number of 17 year-olds in this category was small and should be treated with caution).

Table 5 School non-completers' engagement in employment, education and training by gender, 2005

	Males (%)	Females (%)	Persons (%)
Fully engaged			
Full time work	74	47	63
Full time education/training	5	8	6
Part time work and part time education/training	1	3	2
Partially engaged			
Part time work	8	21	13
Part time education/training	<1	2	1
Not engaged			
Unemployed	9	12	10
Not in the labour force and not studying	4	7	5
Total	100	100	100
Total n	787	534	1321

Note: Figures shown in grey are based upon low (<30) cell frequencies. Column percentages may not add exactly to 100 due to rounding.

Initial destinations of school non-completers: Occupations

The occupations of employed school non-completers at age 17, classified by the Australian Standard Classification of Occupations (ASCO) major groups (ABS, 1999), are reported in Table 6. Just over 40 per cent of employed non-completers were in trades and related occupations. The next most common categories of workers were elementary clerical, sales and service workers (22%), labourers and related workers (18%), and intermediate clerical, sales and service workers (10%). Only five per cent of employed non-completers were intermediate production and transport workers, and a further five per cent were in upper white-collar occupations (mainly associate professional work).

Table 6 Employed school non-completers' occupations by gender, 2005

Occupation group	Males (%)	Females (%)	Persons (%)
Upper white-collar workers ^a	3	8	5
Tradespersons & related workers	56	15	41
Intermediate clerical, sales & service workers	2	23	10
Intermediate production & transport workers	7	2	5
Elementary clerical, sales & service workers	12	39	22
Labourers & related workers	20	14	18
Total	100	100	100
Total n	665	396	1061

Notes: ^aUpper white-collar workers include the following ASCO major groups: managers and administrators; professionals; associate professionals; and advanced clerical and service workers. These categories were combined due to the sample size. Figures shown in grey are based on low (<30) cell frequencies. Column percentages may not add exactly to 100 due to rounding.

Gender differences were again evident. Employed males were predominantly blue-collar workers: 56 per cent were tradespersons and related workers; 7 per cent were intermediate production and transport workers; and 20 per cent were labourers and related workers. The corresponding figures for employed female non-completers were 15 per cent, 2 per cent and 14 per cent, respectively. Employed females were far more likely than males to be white-collar workers: 39 per cent were elementary clerical, sales and service workers; 23 per cent were intermediate clerical, sales and

service workers, and 8 per cent were in upper white-collar positions. The corresponding figures for employed male non-completers were 12 per cent, 2 per cent and 3 per cent, respectively.

Both blue-collar occupations and white-collar occupations encompass a range of skill levels. Another way of examining gender differences in occupations is to examine the skill levels of the jobs obtained. Male non-completers were considerably more likely than female non-completers to enter skilled occupations (such as trades and related work) and were less likely than females to enter unskilled occupations (such as elementary clerical, sales and service work). This is emphasised by examining the broad skill levels of the jobs undertaken by school non-completers (Table 7). Very few school non-completers were in occupations with very high skill levels as defined by the ABS (1999). However, over half of employed male non-completers were in jobs at ASCO skill level 3, compared with only 17 per cent of employed female non-completers. Females were more likely than males to occupy jobs at the lower skill levels. The longer term consequences of this pattern warrant consideration. Males who complete apprenticeships have quite favourable medium-term outcomes, experiencing high rates of full-time employment, low rates of unemployment and favourable salary outcomes (Curtis, forthcoming).

Table 7 ASCO skill levels of school non-completers' occupations by gender, 2005

ASCO skill level	Definition: Skill level commensurate with ...	Males (%)	Females (%)	Persons (%)
1-2	A bachelor degree or higher qualification, an AQF Diploma or Advanced Diploma or at least 3 years relevant experience	3	6	4
3	An AQF Certificate III or IV or at least 3 years relevant experience	56	17	42
4	An AQF Certificate II or at least 1 years relevant experience	9	24	15
5	The completion of compulsory secondary education or an AQF Certificate I qualification	32	52	39
Total		100	100	100
Total n		665	396	1061

Summary and Conclusion

School completion rates grew to the early 1990s but have been relatively static since then. Participation in VET in school and in post-school VET has grown since the early 1990s. Two-thirds of the 19 per cent of males and half of the 13 per cent of females who leave school without completing Year 12 enter post-school VET.

Fewer young people are leaving school now without completing Year 12 to find a job. This reflects a substantial reduction in full-time employment opportunities for low-skilled young people. The proportion of school non-completers who are unemployed is now considerably lower than it was in the late 1980s and mid 1990s, reflecting the more favourable economic conditions of the early 2000s, mainly a result of a very substantial increase in the availability of part-time work.

Male school completion is approximately 10 percentage points lower than that of females. Male non-completers, however, are more likely than female non-completers to commence post-school VET qualifications, many of them as apprentices and they have more favourable longer-term labour market outcomes.

The changing labour market structure is altering the opportunities available for young people. There are fewer full-time, low-skill jobs but many more part-time jobs. Competition for part-time jobs arises from young people who have remained engaged in education and training. Young female early school leavers are facing competition from other young women who have continued to study and from older women who are working part-time or who are re-entering the labour market. On average, female non-completers experience less successful transitions from school than male non-completers. A higher proportion of females were only partially engaged in employment, education or training, or were unemployed or not in the labour force. Of those in employment, females were considerably less likely than males to be in skilled occupations and were less likely than males to participate in VET after leaving school.

There appears to be scope to provide young people with better information about labour market conditions and about the opportunities that do exist in the current labour market (see Rothman, Hillman, Curtis, & McMillan, 2008).

Any further substantial increase in school retention is unlikely, given recent experiences in various jurisdictions in which many more options for senior secondary study are available. There are, however, some groups whose participation is well below the population average and for whom continued emphasis on school retention is warranted. The increases that have occurred appear to be related to external, labour-market factors rather than to school system initiatives (Ryan & Watson, 2003). Further, there is doubt about the value to lower ability individuals of remaining at school (Dockery, 2005). Post-school VET appears to offer the venue for enhancing early leavers' participation in education and training most effectively. However, if young people are to participate in vocational education, attention is required to the factors that are associated with successful participation.

There is a positive relationship between mathematical literacy while at school and the subsequent VET participation of school non-completers. Reading and science literacy were related to fields of education that VET participants entered. However, levels of achievement in mathematics, reading and science literacy, and problem solving were unrelated to the level of courses undertaken by school non-completers.

Students who are planning to leave school early, either to enter the workforce directly or through a vocational program, may benefit from a greater emphasis on mathematics, as this appears to be associated positively with post-school VET participation.

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