

Pathways through vocational education and training for school leavers

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Abstract

Using data from the Longitudinal Surveys of Australian Youth (LSAY), selected characteristics of entrants into VET programs, the completion rates of entrants, and their the labour market outcomes (to age 24) are examined. Both Australian Apprenticeships and non-apprenticeship VET programs are considered. Australian Apprenticeships are separated into traditional apprenticeships and traineeships. Characteristics of entrants into these pathways are compared with those of school leavers who enter the workforce without undertaking any formal post-school education or training. Labour market outcomes (employment status, experience of unemployment, hours worked and earnings) for young people from the various programs and fields of study who either completed or did not complete their VET programs are compared. Those young men who undertake apprenticeships benefit substantially from them and the young women who undertake traineeships gain from them. Differences in labour market outcomes are apparent by gender, program type and field of study. There is a net benefit to program completion, but it is not uniformly distributed. Possible implications for school-based career advisors and for policy makers are discussed.

Introduction

Having left school, young people may choose to enter the workforce directly, to enter into an Australian Apprenticeship (apprenticeship or traineeship), enrol in a non-apprenticeship VET (typically a TAFE) course, or go to university. Young people do not make simple choices among these alternatives – they may begin one program, either complete that or withdraw from it then undertake an alternative one. The complexity of post-school pathways undertaken by recent school-leavers is revealed in Lamb and McKenzie (2001) and Curtis (2006).

This study investigates the pathways young Australians take between the compulsory years of schooling and entry into the labour market that involve study in the Australian vocational education and training (VET) system. The three dominant pathways through the VET sector are apprenticeships, traineeships and non-apprenticeship VET courses.

This paper reports on selected aspects of a more comprehensive project (Curtis, forthcoming) that examined the characteristics of VET sector participants, their completion rates in those programs and the outcomes that followed their participation. It focuses upon selected outcomes that have followed participation in VET sector programs. It is based on longitudinal (LSAY) data that enables extensive information on individuals' backgrounds and on their progress through school and post-school education and training programs to be used in explaining their longer term labour market outcomes.

Literature review

The vocational education and training (VET) system has increasingly become an important pathway in the transition from compulsory schooling to work. Demand from 15 to 19 year-olds for VET offerings grew by 50 per cent between 1991 and 2000 (NCVER, 2002). In 2001, almost 20 per cent of the Longitudinal Surveys of Australian Youth (LSAY) sample who had been in Year 9 in 1995 (the Y95 LSAY cohort) had commenced a non-apprenticeship TAFE course, and of this group, about 83 per cent had completed Year 12 (McMillan *et al.*, 2005, p. 12). Of the same cohort, almost 21 per cent had commenced an Australian Apprenticeship, and of these, 60 per cent had completed Year 12 (Ainley & Corrigan, 2005, pp. 8, 10). The VET sector thus provides a significant pathway for both school completers and school non-completers. Of policy interest is the extent to which the VET sector equips young people with the skills that are required in the labour market and prepares them for lifelong education and training.

Participation

Ainley and Corrigan (2005) reported on participation in apprenticeship programs, and McMillan *et al.* (2005) used LSAY data to study the involvement of the 1995 Year 9 cohort in non-apprenticeship VET courses. These studies have provided a substantial body of information on the characteristics of those who undertake these types of VET programs. For example, Ainley and Corrigan found that Australian Apprenticeship participants were more likely to be male than female, low achieving rather than high achieving, to be English speaking rather than of a non-English speaking background, and to have parents from a skilled trade rather than other occupational categories. McMillan *et al.* found that non-apprenticeship course participants were more likely to be female than male, more likely to be school-completers rather than non-completers, and equally likely to be enrolled in an associate diploma or above qualification as in certificate qualifications. However, within both Australian Apprenticeships and non-apprenticeship VET programs, substantial differences were apparent in the distribution by gender and prior ability by field of study. It is apparent that the background characteristics of participants in VET programs are quite heterogeneous.

Completion

Completion in VET is a more complex issue than in other education sectors. In VET, the focus on skill formation has led to the creation of course structures in which individuals may enrol in programs with the primary intention of gaining specific skills. Having gained the desired skills through the completion of one or more units of competency or modules, they may choose to discontinue their course. Thus, discontinuation in the VET sector does not have the same connotations as it does in the higher education sector. (See Foyster *et al.*, 2000). A variety of factors are associated with non-completion and the relationships are not simple (Ball & John, 2005). Nonetheless, there is interest in knowing the influence of non-completion on subsequent labour market outcomes. The rates of discontinuation reported on the basis of LSAY data tend to be lower than those based on AVETMIS data. LSAY interviews are annual, and a person who commences a program early in a year and leaves it quickly, may not report that commencement and this will lead to an underestimation of withdrawals. During the period of interest, the late 1990s, reported rates of completion were higher than they were subsequently (Ball & John, 2005, p. 13).

Reasons for non-completion, which are not reported in this paper, are discussed in Curtis (forthcoming).

Outcomes

The annual Student Outcomes Survey (eg NCVER, 2004) tends to show high levels of employment following both course and module completion. However, Dockery, Koshy and Stromback (2005) observed that it is necessary to take a longer view of the influence of education and training programs, and this study is able to do that using 10 years of data on individuals.

Ryan (2002) found that VET diplomates enjoyed similar rates of full-time employment to those of university graduates. University graduates have been shown to experience very low unemployment and to receive higher salaries than other members of their cohorts (Marks & Fleming, 1998). People who have completed apprenticeships, especially traditional apprenticeships, have very favourable labour market outcomes (NCVER, 2004). Stanwick (2005) reported that the returns to lower certificate programs were rather marginal but Dockery *et al.* (2005), found more encouraging returns to traineeships, many of which involved lower level qualifications. They suggested that lower level qualifications, in conjunction with labour market experience, provide more favourable returns than labour market experience alone. However, Marks (2005) reported that VET sector participation did not result in substantial gains compared with those who did no post-school study but who did find employment.

A policy perspective

In the analyses reported below, the outcomes for VET sector participants are compared with those of young people who undertake no post-school education or training. This group is of policy interest because, in a climate of skills shortages and knowing that people with low skill levels may be marginalised in the labour market (de Broucker, 2005), this group might be encouraged to engage with the VET sector in order to enhance their skills and their future labour market prospects. Not all young people who lack post-school qualifications fare poorly in the labour market. Marks (2005) has shown that young people who make successful initial forays into the labour market tend to continue to enjoy success. However, it is worth noting that the labour market has been buoyant since the mid-1990s when this cohort of young people began to enter it and one can only speculate about the relative prospects of vocationally qualified and experienced employees compared with experienced but unqualified ones in changed economic circumstances.

Research methods

The data used in this study were collected from a representative sample of 13,613 young people who were in Year 9 in 1995 and referred to as the Y95 cohort. They were selected as one of the cohorts of the Longitudinal Surveys of Australian Youth (LSAY) program which is a joint research program conducted by the Department of Education Science and Training and the Australian Council for Educational Research. The sample was selected in two stages. Initially, approximately 300 schools were selected to be representative of the states and territories, of school sectors (government, Catholic and independent) and of locations (metropolitan, regional, and rural and remote). Within those schools, individual students were sampled. Young

people completed a questionnaire and some achievement tests (in literacy and numeracy) in 1995. In 1996, they completed a mailed questionnaire and since that time they have been surveyed by telephone interviews. Those interviews have sought demographic data and information on their education, training and work activities and other dimensions of their lives.

Sample attrition was such that in 2001 there were 6,876 active participants and in 2004 when outcomes were examined, 4,660 individuals remained. Some sub-groups were over-sampled initially and sample weights are used to accommodate both the original sampling and subsequent attrition. Rothman (forthcoming) has shown that the use of weights overcomes bias that may otherwise result from attrition.

The modal school leaving year was 1998 when most of the cohort completed Year 12 but some students left before this important transition point. About 70 per cent of those who left school before completing Year 12 and 90 per cent of school completers undertook some form of post-school education or training. Because of the various years in which young people left school and the possibility of them undertaking a range of activities between leaving school and commencing a VET sector program, course commencements to 2001 were included in the analyses. Further, in order to allow time for the completion of VET sector programs, outcomes experienced by 2004 were considered.

Using the demographic data provided by individuals and information on their education, training and work activities each year, variables were constructed to represent their commencement of types of programs (apprenticeships, traineeships and non-apprenticeship – mainly TAFE – courses); levels of VET sector programs (lower certificates, higher certificates and diploma or higher qualifications); their progress through those programs; and the education and labour market outcomes that they experienced subsequent to their participation.

Data were cross-tabulated to show relationships between demographics, participation, completion status and outcomes. In order to explore the effects of particular variables net of the influences of others, logistic regression methods have been employed.

The research questions addressed in this paper are: (a) What are the characteristics of the young people who undertake the major post-school pathways available to them? (b) What proportions of young people complete the VET programs they commence? And (c) What are the labour market outcomes that follow VET qualifications?

Findings and discussion

Participation

The main post-school pathways available to young people are identified as; no post-school study, an apprenticeship, a traineeship, a non-apprenticeship (TAFE) course, or a higher education course. The socio-demographic and school-related characteristics of young people who commence these main post-school pathways are shown in Table 1 and Table 2. Almost one quarter of young people do no post-school study, 40 per cent go to university and over 40 per cent commence a VET sector qualification. Most young people commence one post-school program, but some commenced up to five

(Curtis, 2006, pp. 5-7), and the extent of multiple course commencement is reflected in the row totals of these tables which sum to more than 100 per cent.

Some differences in the characteristics of participants in the various programs are apparent. Males are less likely than females to commence university courses, but much more likely to enter apprenticeships. Indigenous young people are less likely than others to go to university, but much more likely to undertake traineeships, possibly in association with Community Development Program initiatives. Parents' education, occupation and family SES tend to be closely related. It is apparent that children from high status families are much more likely to go to university than others and there is a complementary pattern in VETR sector participation, although this is more equitable. Children from lower status families are more likely than others to do no post-school study.

Table 1 Socio-demographic characteristics and post-school pathways

Characteristic	Sample per cent	No post-school study	Apprentice-ship	Trainee-ship	Non-app VET	Higher ed. course
Sex						
Female	51	22	3	11	27	47
Male	49	25	20	8	21	35
Indigenous status						
Indigenous	2	30	14	24	25	22
Non-indigenous	98	23	12	9	25	42
Location of residence						
Metro	55	21	10	7	26	46
Regional	24	26	14	12	21	37
Rural or remote	21	25	14	14	24	34
Parent's occupation						
Professional or paraprofessional	24	16	8	7	20	59
Manager or administrator	22	18	11	10	24	47
Clerical or personal service	17	22	11	11	26	40
Tradesperson	20	26	18	10	25	32
Plant or machine operator	4	30	7	11	31	32
Labourer	13	28	10	12	26	33
Parent's education						
Incomplete Secondary	24	29	11	11	25	32
Completed secondary	22	25	11	12	25	38
Trade or technical qual	20	21	16	10	25	38
Higher education qual	34	13	8	7	19	64
SES quartile						
High SES	13	13	6	6	19	68
Mid-high SES	23	17	9	9	23	52
Low-mid SES	37	24	15	11	25	37
Low SES	27	29	11	11	26	32
Language background						
English	89	24	12	10	24	40
Other than English	12	19	5	5	28	51
All	100	23	12	10	24	41

Notes: Data are weighted; Row percentages sum to more than 100 due to multiple course commencements.

Being born overseas and having a home language other than English is associated with a greater likelihood of attending university and a reduced likelihood of undertaking an apprenticeship or traineeship or of doing no post-school study.

Not surprisingly, being a high academic achiever is associated with university enrolment and a correspondingly lower probability of undertaking VET study. Low academic achievers are over-represented in the no post-school study group. School non-completers are also over-represented in the no post-school study group, with 40 per cent of early leavers not pursuing further education or training. In order to meet the objectives of the National Goals for Schooling of Year 12 completion or a vocationally equivalent level of education (MCEETYA, 1999), considerable work remains to be done with this group. The patterns of post-school pathways associated with school sector are thought to be related to a family status factor. Participation in school VET programs is associated with both greater participation in post-school VET programs and with no post-school study. Two competing explanations are possible. School-based VET may equip some young people with the skills they require for employment and hence they do no further study, or it may provide them with a basis for further training. Participation in school-VET program may also reflect other factors, such as streaming within schools.

Table 2 School-related characteristics and post-school pathways

Characteristic	Sample per cent	No post-school study	Apprenticeship	Traineeship	Non-app VET	Higher ed. course
Achievement quartile						
Lowest quartile	25	35	16	11	31	15
Second quartile	25	26	13	11	29	32
Third quartile	25	19	11	11	22	49
Highest quartile	25	13	7	6	15	68
School sector						
Government	68	27	13	11	26	33
Catholic	20	16	9	7	24	53
Independent	13	13	7	6	19	66
Year level attained						
Year 10 or less	12	42	29	14	22	1
Year 11	9	41	25	14	24	4
Year 12	80	18	8	9	25	51
Any VET in School						
No VET study	76	18	7	8	22	54
Some VET study	24	29	15	12	31	22
All	100	23	12	10	24	41

Notes: Data are weighted; Row percentages sum to more than 100 due to multiple course commencements.

In a multivariate analysis of the factors identified above, school completion was found to predict participation in non-apprenticeship VET, but to be negatively associated with the apprenticeship pathway (Curtis, forthcoming). Apprentices were found to have lower than average reading achievement scores, but higher than average numeracy scores.

The factors associated with participation in the major post-school pathways show both complementary patterns, for example high achieving students going to university and lower achievers undertaking VET programs or doing no formal post-school study, and

similar patterns, with females preferring both university and non-apprenticeship courses whereas males were much more likely to undertake apprenticeships.

Completion

Average completion status by program type is shown in Table 3. The proportion of completed programs is higher than is typically reported from AVETMIS data (Ball & John, 2005) and several factors are thought to account for this. First, it is possible that there is some under-reporting of programs that were commenced but abandoned at an early stage. Second, some individuals commenced one program, withdrew from it, then commenced a second program of the same type and completed it. These people will be shown as a single completion as we are more interested in individual trajectories than in accounting for all commencements. Curtis (2006) showed that movements within program types, eg from one apprenticeship to another, were more common than movements between program types or sectors. Similarly, McMillan (2005) found that course change was much more common than course attrition in the higher education sector. It seems that many young people spend some time working out what they want to do in their lives.

Table 3 Completion status by VET program type (percentages)

Program type	Completion status			
	Completed	Continuing	Deferred	Withdrawn
Apprenticeship	78	5	1	16
Traineeship	82	1	1	16
Non-apprenticeship	72	1	6	21
All VET programs	76	2	4	19

We are concerned with the outcomes experienced by individuals rather than with the status of each VET program commencement, although of course that is a legitimate focus. A question that arises from completion data is; ‘What labour market outcomes are experienced by non-completers of VET programs?’

Outcomes

The 2004 education and labour market status¹ of young people who did either a VET sector program or no post-school study is shown in Table 4.

¹ A much more comprehensive set of outcomes is reported in Curtis (forthcoming).

Table 4 Education and labour market status in 2004 (percentages)

Education and labour market status, 2004						
Sex	Type of course	Full-time study	Full-time work	Part-time work	Un-employed	NILF
Female	No PS study	2	60	14	7	18
	Apprenticeship	3	72	15	2	8
	Traineeship	3	76	8	4	8
	Non-app VET	5	70	11	4	11
	Total	4	67	12	5	13
Male	No PS study	2	78	8	9	4
	Apprenticeship	1	94	2	1	1
	Traineeship	2	87	6	0	5
	Non-app VET	4	82	7	5	2
	Total	2	84	6	5	3

These data show that young people who do no post-school study are at much greater risk of marginalisation in the labour market than those who do commence programs. Young women who lack post-school qualifications are at particularly high risk with one quarter being either unemployed or out of the labour force (NILF). However, it should be noted that about two-thirds of the NILF young women report that they are caring for their own children or other family members (Hillman, 2005). Young men who have undertaken a VET program are much less likely to be unemployed or out of the labour force than those who did no post-school study, although the effect for young men is less dramatic than for young women. The young men who experience the most favourable labour market outcomes are those who did apprenticeships. Having participated in a VET program is also facilitative of full-time rather than part-time employment for both sexes, but especially so for young men.

For those young people who reported being employed in 2004, the median number of hours worked per week and median weekly earnings, both with interquartile ranges, are shown in Figure 1. Hours worked and earnings are skewed, negatively for females and positively for males. There is little difference in the number of hours worked by pathway type but males reported working more hours and receiving higher wages than females. Taking the no post-school study group as a reference point, for females, median earnings of former apprentices are higher, but former trainees and non-apprenticeship course participants report similar earnings. Among males, former apprentices reported substantially higher earnings than the reference group and, as for females, former trainees and non-apprenticeship course participants earned similar wages to the no post-school study group.

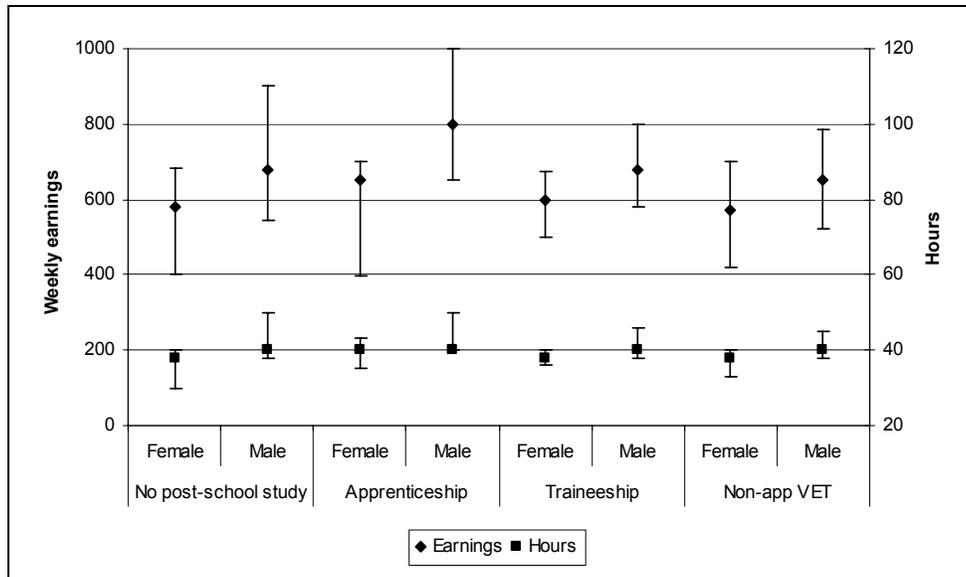


Figure 1 Earnings and hours worked in 2004 by program type

It should be noted that no account has been taken of the background characteristics of the young people who pursue the various pathways, nor has any allowance been made for labour market experience. Trainees and non-apprenticeship course participants tended to have higher levels of early academic achievement and were more likely to have completed Year 12 than were apprentices, who had similar educational backgrounds to the no post-school study group. Marks (2005) noted that prior labour market experience was an important factor in later labour market success, and the no post-school study group has had greater labour market opportunity than those who undertook non-apprenticeship post-school courses. Apprentices and trainees have had labour market exposure.

Conclusions

This paper has focused on young people who pursued post-school pathways through the VET sector and has compared them with those young people who have undertaken no post-school study. In this paper, a few of many outcomes have been reported. Further, the focus has been on the major pathways and not on fields of study and qualification levels. Pathway types, field of study and qualification level are inter-related. A more comprehensive treatment of these factors is available in Curtis (forthcoming).

There are differences in the socio-demographic and school-related characteristics of the young people who pursue the various major pathways from school to work. Pathways through VET provide for a diverse range of individuals. The higher education pathway, appropriately, is used by young people who are relatively high academic achievers, and who tend to come from high socioeconomic status families. The VET pathways attract young people from a broader SES background, although low SES individuals are over-represented in the no post-school study pathway. Non-apprenticeship courses (80% school completers) and traineeships (70% school completers), net of other characteristics, tend to be accessed by Year 12 completers, while the apprenticeship pathway (50% school completers) makes greater provision for school non-completers.

When allowance is made for program change, completion rates in the VET pathways of almost 80 per cent for apprenticeships and traineeships and 70 per cent for non-apprenticeship courses are found. Qualification completers fare rather better than non-completers in labour market outcomes.

A major benefit to VET pathway participation is the protection it affords against unemployment and disengagement from the labour market. Former apprentices tend to work more hours per week and to enjoy higher earnings than young people who do no post-school study, and this is especially so for males. The earnings benefits to traineeship and non-apprenticeship courses are less clear, but prior labour market experience has not been taken into account. It would be useful to model both prior educational attainment and labour market experience and to monitor earnings trajectories over time. The investment, through forgone or reduced earnings during training, should lead to a higher wages trajectory, but this requires an alternative analytic approach to that employed in this study.

The no post-school study group does represent a policy challenge. This group makes up almost one quarter of the cohort and, while 60 per cent of them have completed Year 12, those who did not and who chose not to seek further skills development (over 10 per cent of the cohort), do appear to be at greater risk of labour market marginalisation. The data on outcomes following the various post-school pathways could be made more readily available to young people through careers education early in their secondary schooling, a time when intentions for school completion and post-school study are formed. These data could help young people make informed career decisions.

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