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Apprenticeships and Traineeships: Participation, Progress and Completion

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Apprenticeships and Traineeships: Participation, progress and completion

Apprenticeships and traineeships offer pathways from school to adult working life for a significant proportion of young people by formally combining study and work to link learning in the workplace with learning in an educational institution. They contribute in important ways to the formation of skills for individuals and for the community as a whole.

Two reports from the Longitudinal Surveys of Australian Youth (LSAY) program, *Participation in and progress through New Apprenticeships* by John Ainley and Matthew Corrigan, and *The VET Pathways Taken by School Leavers*, by David Curtis, focus on three broad research questions about these pathways:

- What are the characteristics of young people who become apprentices and trainees?
- What are the points of entry to, and patterns of progress through, apprenticeships and traineeships?

- How many apprentices and trainees complete their training?

The reports use data from a nationally representative sample of young people who were in Year 9 at school in 1995 and whose educational and occupational activities were traced each year thereafter. There is a growing body of research on these forms of training, but relatively little of this research uses longitudinal data from nationally representative samples.

The longitudinal data in LSAY enable analysis of factors, including those relating to earlier points in a person's development, that influence whether young people take up an apprenticeship or traineeship, and that affect their progress through such training. Analysis of the data adds to existing knowledge about the factors that influence young people to take up training, and that affect their progress through and completion of apprenticeships and traineeships. This is especially true in relation to the significance of previous achievement at school and patterns of interest while at school.

This paper is part of a series of LSAY Briefings produced by the Australian Council for Educational Research (ACER), drawing on data from the Longitudinal Surveys of Australian Youth (LSAY), a research program managed by the Australian Government Department of Education, Employment and

Workplace Relations (DEEWR). The aim is to bring summaries of findings from LSAY research to a wider audience and in an accessible format. Key LSAY reports published by ACER on which this paper is based, and related references, are listed at the end of the paper.



Longitudinal Surveys of Australian Youth BRIEFING

HIGHLIGHTS

Participation in an apprenticeship or traineeship was higher among:

- males than females – 27% compared to 15%
- those of an English-speaking background than other students – 22% compared to 10%
- those from non-metropolitan than metropolitan backgrounds – 26% compared to 18%
- those whose father worked in a skilled trade than others – 27% compared to 19%
- those with above average trade-related vocational interests – 28% compared to 13%
- those who left school before Year 12, compared to those who completed Year 12 – 41% compared to 17%; and
- those in the lowest three quarters of family socioeconomic status compared to the highest quarter – 23% compared to 14%.
- those who left school before Year 12 compared to those who continued to Year 12 – 41% compared to 16% – keeping in mind that 61% of apprentices and trainees have completed Year 12
- those of below average reading and mathematics achievement than those of below average achievement – 24% compared to 17%; and
- those who included VET subjects in Year 12 compared with those who did not include VET subjects in Year 12 – 25% compared to 13%.

Take-up of apprenticeships and traineeships

A little more than one in five members (21%) of the LSAY cohort that was in Year 9 in 1995 – and around 81% were in Year 12 in 1998 – participated in an apprenticeship or traineeship by the end of 2003, by around age 22. Close to 12% of the cohort entered apprenticeships, while 10% went into traineeships. A small number of cohort members did both an apprenticeship and a traineeship.

Participation was highest among those who left school before Year 12 — 29% compared to 6% of Year 12 completers — although this group constituted a little less than half of all traditional apprentices. Around one-quarter of all apprentices and trainees in the LSAY 1995 cohort were employed in the business and services sector, followed by building trades, automotive and other engineering, and food and hospitality. These four fields accounted for 73% of the apprentices and trainees in the cohort.

Characteristics of young apprentices and trainees

There were some characteristics of apprentices and trainees that separated them from the remainder of the cohort, and there were some characteristics that differentiated between apprentices and trainees. Most significantly, males outnumbered females in apprenticeships by about 5 to 1, while about 3 out of 5 trainees were female. Other characteristics of these groups are shown in Table 1.

In addition, participation was higher among those who came from schools with a higher proportion of technology subject enrolments and from schools with 20% or more of their Year 12 students studying a vocational education and training (VET) subject. Participation was 24% in schools with higher than

average enrolments in technology compared to 18% in other schools.

Since the fields of training and the background characteristics of participants in these two forms of post-school study were quite different, it is worth examining each group. Figure 1 shows this distribution of fields of training for apprenticeships and traineeships.

Apprentices

Apprenticeships operated across building, automotive and engineering, electrical, food and hairdressing fields, with the first two accounting for more than half of all apprentices. The analysis by Ainley and Corrigan (2005) highlighted several major influences on participation in apprenticeships, distinct from traineeships.

- *Sex.* Males were three times as likely as females to participate in an apprenticeship, after allowing for differences in other factors.
- *Language background.* Young people of an English-speaking background were four times as likely as their peers from a non-English speaking background to participate in an apprenticeship.
- *Parent occupation.* Young people whose fathers worked in skilled trades were nearly twice as likely as others to undertake an apprenticeship.
- *School achievement in Year 9.* Lower achievement in reading and mathematics when in Year 9 was associated with participation in an apprenticeship. An increment of one standard deviation in reading achievement was associated with a 25% lower likelihood of being an apprentice.
- *Vocational interests.* A difference of one standard deviation in trade-related interest was associated with a doubling of the likelihood of participating in an apprenticeship. Trade-related interest was measured using questions relating to ‘realistic interests’ based on Holland’s (1985) theory of vocational interest.

- *School experience.* Completing Year 12 with a VET subject increased the likelihood of apprenticeship participation compared with completing Year 12 without a VET subject. Coming from a school with a high enrolment in technology subjects in the senior secondary years also was associated with an increased likelihood of participation in an apprenticeship. Apprentices in the electrical field were more likely to have entered after completing Year 12 than their peers in other fields (see Table 2).

This analysis partially supports earlier research, which suggests that young men taking up traditional apprenticeships had relatively higher performance in numeracy and relatively poorer performance in literacy (Ainley & Clancy, 1983). A preponderance of such entrants came from the families of skilled tradespeople, possibly as a result of exposure to and interest in trades-related activities, or because their parents were able to provide contacts with potential employers (Ainley, Elsworth & Fullarton, 2001).

Similar perspectives have emerged from other studies. Ball and Lamb (2001) reported that a trade course was a common destination for males who left school before completing Year 12, and that the profile of participants in trade courses tended to be evenly distributed across socioeconomic groups.

Traineeships

Business and services accounted for more than half of the traineeship participants, with the remainder in fields such as food and hospitality, rural industries, and health and community services.

Participation in traineeships was more evenly distributed than participation in apprenticeships across the cohort, which meant that the characteristics of trainees were similar to those of other young people in the cohort. There were still some characteristics related to participation in a traineeship.

Table 1 Selected personal and social background characteristics of apprentices and trainees from the 1995 Year 9 LSAY cohort

	Apprentices	Trainees	Total cohort
	%	%	%
Sex			
Male	85	41	49
Female	15	59	51
Father's occupation			
Professional/managerial	38	40	48
Sales/clerical/service	16	19	14
Skilled trade	32	21	21
Semi or unskilled	14	19	16
Father's education			
Higher Education	24	25	34
Trade/Technical	29	21	20
Complete secondary	22	27	22
Did not complete secondary	25	26	24
Home language			
English	95	94	88
Language other than English	5	6	12
Location in Year 9			
Metropolitan	46	42	55
Provincial	29	29	24
Rural and remote	25	30	21

Note: Sections may not sum to 100 due to rounding

- *Sex.* Females had a 40% greater likelihood than males of participating in a traineeship.
- *Reading achievement.* One standard deviation higher reading achievement was associated with 20% lower odds of participation in a traineeship.
- *Vocational interests.* Trainees had lower scores on investigative interests.
- *School location.* Young people from schools in non-metropolitan locations were 25% more likely to participate in traineeships than their peers from metropolitan schools. This was particularly so for young people from larger rural cities.
- *Social composition of the school.* Trainees were more likely to come from schools of lower than average socioeconomic status.

There was no difference in the likelihood of participating in a traineeship between those who left school before Year 12 and those

Figure 1 Distribution of apprenticeships and traineeships among the 1995 Year 9 LSAY cohort, by field of training

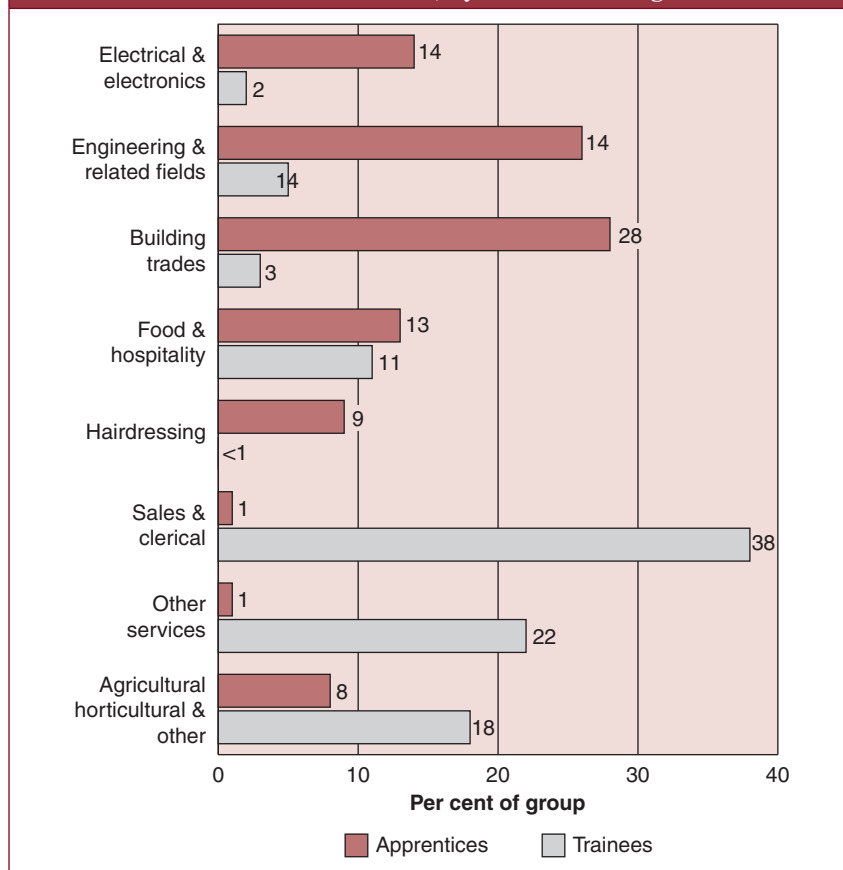


Table 2 Percentage of commencing apprentices and trainees from the 1995 Year 9 LSAY cohort who completed Year 12, by field of training

Field of training	Apprentices	Trainees
Electrical & electronics	75	--
Engineering & related fields	51	--
Building trades	41	--
Food & hospitality	40	70
Hairdressing	46	--
Sales & clerical	--	76
Other services	--	76
Agriculture, horticulture & other	55	59
Total	51	72

who completed Year 12 with a VET subject, but those who completed Year 12 without a VET subject were less likely to undertake a traineeship than those who left school early.

Progress through apprenticeships and traineeships

Commencing training

Most apprentices began their training in the year in which they completed school or in the following year (see Table 3). More than three-quarters (77%) began within a year of finishing school, although the gap between school and training for trainees was smaller than it was for apprentices.

Most apprentices participated in just one apprenticeship up to 2003, but 40% of trainees had done another course of post-compulsory education either before or after their traineeship. A small number of trainees combined two traineeships.

Completing training

By 2004, 79% of apprentices and 84% of trainees in the LSAY sample had completed their initial post-school training. Of those who had started an apprenticeship or traineeship as a second or subsequent course of post-school study, 73% had completed their course of training. Four per cent of initial apprentices and one per cent of initial trainees were still in training in 2004. Projections suggested that the completion rate is closer to 82%

for apprentices and 83% for trainees (Curtis, 2007).

Among trainees, four-fifths — or 81% — had completed their traineeship, 14% had discontinued, and 5% were continuing. The projected completion rate overall was 85%. Unlike apprentices, there was a substantial difference in projected traineeship completion rates for those who had completed Year 12 — 88% — and those who had not — 78%. Figure 2 shows the percentage of apprentices and trainees who completed or were continuing, by field of training.

While the focus of analysis of the LSAY data was on the participation and progress of young people, it should be noted that young people are not the only ones who take up apprenticeships or traineeships. NCVET research focuses on participation and completion for all apprentices and trainees — including older entrants — and completion according to occupation.

Ball (2004) indicated that those aged 20 to 24 are least likely to complete an apprentice or trainee contract of training, while apprentices or trainees who commence their training contract at 45 or older are most likely to complete. Also according to Ball, apprentices and trainees who commence training without completing Year 12 are less likely to complete training than apprentices and trainees who do complete Year 12. This supports earlier analyses of non-completion of traineeships (Grey et al., 1999) and

Table 3 Transition from school to apprenticeship/traineeship among the 1995 Year 9 LSAY cohort

Years between school and apprenticeship/traineeship	Year 12 non-completers	Year 12 completers	All school leavers
	%	%	%
Straight away	47	63	55
One year	21	23	22
Two years	17	9	13
Three years or more	10	1	5
Not available	6	3	4
Number in sample	271	290	561

Notes: Columns may not sum to 100% due to rounding.

apprenticeships (Ray et al., 2000) undertaken for the Commonwealth Department of Education, Training and Youth Affairs. Grey et al (1999) found that non-completion rates were highest for traineeships undertaken fully on-the-job and highest for trainees with low levels of educational attainment. Trainees aged 20 to 24 years had a higher rate of non-completion than those aged 15 to 19, while trainees aged 25 or older had the lowest rate of non-completion.

While earlier studies found that Year 12 completion was related to persistence in apprenticeships and traineeships, Curtis (2007) found otherwise. Among members of the LSAY 1995 Year 9 cohort, Year 12 completion had no effect on persistence in apprenticeships and only a small, positive influence on persistence in traineeships. Differences were found, however, when participation in a VET in Schools program was considered,

with VETiS participants persisting longer in apprenticeships, but shorter in traineeships.

Discontinuing training

One in six (16%) apprentices and trainees had withdrawn from their training, from both first and subsequent courses. There were also differences among fields of training in the percentages that discontinued their training. Higher percentages discontinued in hairdressing, and food and hospitality than in other fields. None of the other personal and educational background characteristics that were investigated, however, was associated with discontinuation.

NCVER research also indicates differences in completion rates across occupations, which mirror differences in labour market mobility across occupations. Ball and John (2005), for example, show that for apprentices and trainees who commenced training

in 1999, the completion rate for those employed in foods trades was 34%, in mechanical and fabrication engineering 61%, and in advanced clerical and service worker occupations 68%.

Reasons for discontinuing

Reasons given by the LSAY 1995 cohort for not continuing an apprenticeship or traineeship were most frequently to do with health and personal factors, followed by dislike of the type of work, getting along with supervisors or others at work, being offered a better job or feeling that the pay was too low. The most frequently cited reasons for discontinuing, in other words, appear to be personal, related to the workplace or related to rewards. The difficulty of study, future job prospects or the nature of the on-the-job or off-the-job training were not key reasons for discontinuing an apprenticeship or traineeship (Ainley & Corrigan, 2005).

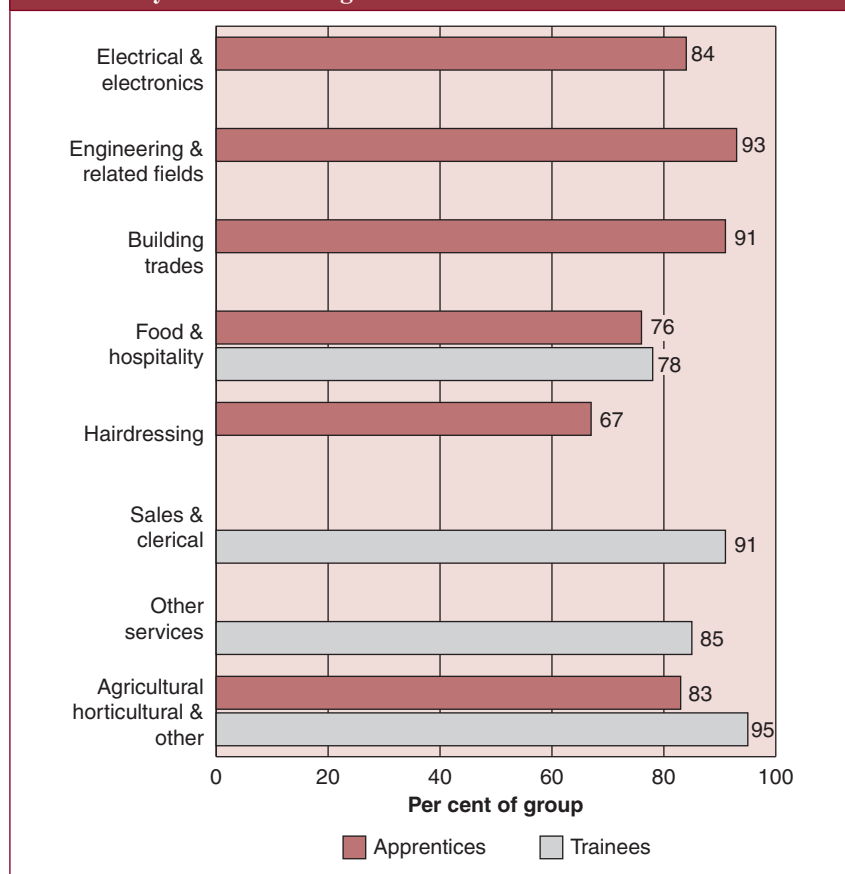
There were differences between apprentices and trainees in the reasons given for discontinuing training. Trainees were more inclined than apprentices to say they discontinued because they were offered a better job or saw poor job prospects in the selected industry. They were also more likely than apprentices to identify health and personal reasons, not getting on with the boss and others, and not being happy with their training as reasons for discontinuing.

Approximately 16% of those who discontinued an apprenticeship proceeded to another course of study. For 8% overall this was a VET certificate, 2% overall studied for a TAFE diploma, and 6% overall entered university to study for a bachelor degree (Ainley & Corrigan, 2005).

Moving on from training

While those who completed an apprenticeship or traineeship generally had better outcomes when moving into employment, compared to those who did no post-school study, the same could not be said

Figure 2 Percentage of apprentices and trainees among the 1995 Year 9 LSAY cohort who completed or were continuing in 2003, by field of training



for those who did not complete their contract of training. Traineeship non-completers fared worse in the labour market than those who had done no post-school study, but apprenticeship non-completers fared better than those who did no post-school study.

Of those who had completed an apprenticeship, 96% were employed in 2004 compared to 89% of those who had discontinued their training. Only 80% of those who had done no post-school study were employed in 2004. In addition, former apprentices were more frequently in full-time rather than part-time work compared to those who had done no post-school study (Curtis, 2007).

Implications

The analysis of participation in and progress through apprenticeships and traineeships reported here leads to several conclusions relevant to the ways these forms of study contribute to the skilled labour force.

First, expanded output from the apprenticeship system is more likely to come from expanded entry numbers than improved completion rates, because completion rates are already high and non-completion is related more to the workplace circumstances and changed interests than it is to entry characteristics.

Second, there is more scope for expansion among those who complete Year 12 than among those who leave school before the end of Year 12. At present only 6% of those who complete Year 12 take up traditional apprenticeships, even though 51% of all traditional apprentices have completed Year 12. That take up has been relatively stable – 7% in 1980, 3% in 1984, 5% in 1998 and 6% in 1994. Nonetheless, the percentage of apprentices who had completed Year 12 increased from 14% in 1980 to 19% in 1989 and 41% in 1994 (Long et al., 1999). Meanwhile, 29% of the LSAY 1995 cohort who left school before Year 12 took up a traditional apprenticeship. Clearly, there is more scope for increasing apprentice

numbers from Year 12 completers than early school leavers.

Third, participation among those who complete Year 12 can be enhanced by paying more attention to the experiences and advice provided to students in the earlier years of school that shape interests, and by curriculum provision in the senior years through technology studies and well-directed VET in Schools programs. What is available in the senior school curriculum is an important influence on participation in apprenticeships and traineeships for those who stay at school to Year 12. Analysis of data from the LSAY 1995 cohort indicates that individuals who include VET subjects in their Year 12 course are more likely to enter an apprenticeship or traineeship than those who do not. This influence is even stronger for apprenticeships in trade fields than in other fields. As well, coming from a school with high enrolments in technology subjects in the senior secondary years is associated with an increased likelihood of participation in an apprenticeship.

References

- Ainley, J. & Clancy, J. (1983) Entry to the skilled trades in Australia: the role of family background and school achievement. *Research in science and technological education*, 1 (2), 145-159.
- Ainley, J. & Corrigan, M. (1999) *Participation in and progress through New Apprenticeships*. LSAY Research Report No. 44. Melbourne: ACER.
- Ainley, J., Elsworth, G. and Fullarton, S. (2002) Choosing vocational education: Issues of background, interest, and opportunity. Paper presented as part of a symposium on individual interest and lifelong learning at the annual meeting of the American Educational Research Association, Seattle, April 2001.
- Ball, K. (2004) Factors influencing completion of apprenticeships. Australian Labour Market Research Workshop, 6-7 December, 2004,

at the Centre for Labour Market Research, University of Western Australia.

Ball, K. & John, D. (2005) *Apprentice and trainee completion rates*. Adelaide: National Centre for Vocational Education Research.

Ball, K. & Lamb, S. (2001) *Participation and achievement in VET of non-completers of school*. LSAY Research Report No. 20. Melbourne: ACER.

Brooks, L. (2004) *Australian vocational education and training statistics: trends in traditional apprenticeships*. Adelaide: National Centre for Vocational Education Research.

Curtis, D.D. (2007) *The VET pathways taken by school leavers*. LSAY Research Report No. 52. Melbourne: ACER.

Grey, K., Beswick, W., O'Brien, C. and Ray, D. (1999) *Traineeship non-completion*. REB Report 1/99. Research and Evaluation Branch, Department of Education, Training and Youth Affairs, Canberra.

Holland, J.L. (1985) *Making vocational choices: A theory of vocational personalities and work environments* (2/e). Englewood Cliffs, NJ: Prentice-Hall.

Long, M., Carpenter, P. & Hayden, M. (1999) *Participation in Education and Training 1980–1994*. LSAY Research Report No. 13. Melbourne: ACER.

Ray, D., Beswick, W., Lawson, C., O'Brien, C. and Madigan, S. (2000) *Attrition in apprenticeships: An analysis of apprentices commencing between July 1994 and June 1996*. REB Report 1/00. Research and Evaluation Branch, Department of Education, Training and Youth Affairs, Canberra.



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The Longitudinal Surveys of Australian Youth

The Longitudinal Surveys of Australian Youth (LSAY) is a research program managed by the Australian Government Department of Education, Employment and Workplace Relations (DEEWR). Funding for LSAY is also provided by the Australian Education, Early Childhood Development and Youth Affairs Senior Officials Committee (AEEYSOC).

The program includes more than 20 years of data on young Australians as they move through school and into tertiary education, the labour

market and adult life. LSAY commenced in its present form in 1995 with a national sample of Year 9 students. Another sample of Year 9 students was drawn in 1998; additional samples of 15 year-olds were drawn in 2003, 2006 and 2009. Data are first collected in schools, then by mail and telephone interviews.

Advice and guidance are provided by a Strategic Advisory Committee, with representatives from DEEWR, other Australian Government departments, AEEYSOC, the Chief

Executive Officers of State and Territory training authorities, non-government schools, academics and ACER.

The data collected through LSAY are deposited with the Australian Social Science Data Archive for access by other analysts.

Further information on the LSAY program is available from its website at www.lsay.edu.au. Information about ACER's LSAY research can be found at www.acer.edu.au.



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