

The influence of school factors on young adult life

Summary

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- Early success in school, and completion of Year 12, are key influences on the employment and earnings of young Australians in their mid-twenties.
- Among the group of Australians who were born in 1970 the incidence of unemployment up to 24 years of age was:
 - twice as high for those whose parents worked in unskilled or semi-skilled occupations than for those whose parents worked in professional or managerial occupations;
 - three times higher for those in the lowest sixth of school achievement scores than for those in the top sixth of achievement scores; and
 - twice as high for those who had not completed Year 12 than for those who had completed Year 12.
- The duration of periods of unemployment was briefer for those young adults with high compared to low levels of school achievement, and for those who had completed Year 12 compared with early school leavers.
- Getting a good start in the labour market matters, especially for early school leavers, and for young women. Young people who do not experience full-time employment in their first year after leaving school spend substantially less time in work over the first five years than those who are employed full-time in their first year.
- Completion of Year 12, and early school achievement, is positively related to earnings at the age of 24 years. Completion of Year 12 increased hourly earnings by an average of four percent, other factors equal. The effect of Year 12 completion on earnings is considerably greater for young women than young men.
- Early school leaving in Australia is still largely concentrated among young people from disadvantaged backgrounds, and needs to be addressed on a variety of policy fronts.

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Introduction

Early success in school, and completion of Year 12, are key influences on the employment and earnings of young Australians in their mid-twenties. Longitudinal data indicate that young people who do not master the foundational skills of literacy and numeracy in the early secondary years suffer higher unemployment and lower earnings a decade or more later, and that these disadvantages persist.

Early school leavers are more likely to be unemployed, or experience marginal attachment to the labour market, in their first years after leaving school than those who complete Year 12 (Alnley, 1998). An unsatisfactory start in the labour market can be difficult to overcome. This is a particular concern in the Australian context where, despite improvements in school completion rates, early school leaving is still largely concentrated among young people from disadvantaged backgrounds.

Results such as these underline the importance of early intervention to prevent failure at school, and intensive follow-up measures for school leavers experiencing problems in the labour market.

Most of the findings presented in this paper draw on the three oldest cohorts from the Youth in Transition component of the *Longitudinal Surveys of Australian Youth* (LSAY). The analyses were conducted by Marks and Fleming (1998a,b). This program, which is conducted by ACER on behalf of the Commonwealth Department of Education, Training and Youth Affairs (DETYA), contains extensive data on six cohorts of young Australians ranging from those born in 1961 to those who were enrolled in Year 9 in 1998. In all, LSAY provides longitudinal data on education and labour market experiences, collected annually, for more than 50,000 young people. Crucially, LSAY first samples young people when they are in their early secondary school years (either at the age of 14 years or when they were in Year 9), and thereby can relate that information to what happens after leaving school.

Influence of Schooling on Young Adult Unemployment

Recent analyses of ACER's longitudinal data bases have examined the impact of a wide range variables covering young people's social background, school achievement, educational attainment, and labour market experience on the likelihood of becoming unemployed, and the length of time spent unemployed (Marks & Fleming, 1998a). Among the three cohorts concerned, early school achievement and completion of Year 12 were key influences in avoiding unemployment, and the importance of these school factors appears to be increasing over time.

Table 1 records the incidence of unemployment experienced up to the age of 24 years by members of the LSAY cohort born in 1970, classified by various social background characteristics. Table 2 shows the incidence of unemployment classified by educational achievement and attainment. (The 1970 cohort provides the most recent data up to the age of 24 years, and covers the period up to 1994. The pattern of results is broadly similar for the other two cohorts, i.e. the 1961 cohort up to the age of 33 years in 1994, and the 1965 cohort up to age 29 years).

Table 1: Unemployment incidence up to the age of 24 years for people born in 1970, by social background characteristics

	Unemployment Incidence (%)
Whole Cohort	7.7
Females	7.5
Males	7.9
English-Speaking Home	7.6
Non English-Speaking Home	9.2
Metropolitan Home Location	7.1
Non-Metropolitan Home Location	8.5
Parents' Occupation	
-- Professional/Managerial	5.6
-- Clerical/Sales	8.2
-- Trade	7.3
-- Unskilled/Semiskilled Manual	10.5

Note: Unemployment Incidence is defined as the proportion of respondents looking for work for 3 months or more for each year averaged for the period surveyed

Source: Marks & Fleming (1998a).

Overall, the average level of unemployment incidence among the 1970 cohort was 7.7 percent. When comparing the various social background factors (Table 1), the highest incidence of unemployment was experienced by young people from non-English speaking homes (9.2 percent), from non-metropolitan locations (8.5 per cent), and from homes where the parents were in unskilled or semiskilled occupations (10.5 per cent). Of these social background factors the strongest influence was associated with parent's occupational status (a measure of socioeconomic status). The incidence of young adults' unemployment for those whose parents were from the semi or unskilled occupational group was almost twice the incidence for those from the professional or managerial group.

Table 2: Unemployment incidence up to the age of 24 years for people born in 1970, by education characteristics

	Unemployment Incidence (%)
Whole Cohort	7.7
School Achievement	
-- More than 1 standard deviation below mean	13.4
-- Mean to 1 standard deviation below mean	9.6
-- Mean to 1 standard deviation above mean	6.7
-- More than 1 standard deviation above mean	4.4
Did not complete Year 12	11.8
Completed Year 12	5.7
Post-school qualification	
-- TAFE Certificate	10.0
-- Apprenticeship	7.0
-- TAFE Diploma	5.6
-- Higher Education Diploma	4.6
-- University Degree	8.6

Note: Unemployment Incidence is defined as the proportion of respondents looking for work for 3 months or more for each year averaged for the period surveyed.

SD = Standard Deviation; 16% of the sample are more than 1 SD above the mean in achievement; 34% are between the mean and 1 SD above the mean; 34% are between the mean and 1 SD below the mean; and 16% are more than 1 SD below the mean.

Source: Marks & Fleming (1998a).

In terms of school background (Table 2), higher levels of unemployment up to age 24 were experienced by:

- Young people whose early school achievement was low - the unemployment incidence for those whose achievement was in the bottom sixth of the cohort was three times that for those in the top sixth.
- Young people who had not completed Year 12 – the unemployment incidence for early school leavers was twice that of those who completed Year 12.

Among those with post-school qualifications (many of whom would have completed Year 12) the lowest incidence of unemployment was experienced by those who had completed and apprenticeship or a diploma (either TAFE or university). Those with either a TAFE certificate or a university degree tended to have a higher incidence of unemployment to age 24.

Identifying the Impact of Particular Factors on Unemployment

Since a number of these social and educational background factors are correlated with each other, multivariate analyses were used to isolate the impact of each factor by controlling for the effect of the other factors. The key findings for the 1970 cohort were as follows.

- *Gender*: there were no significant differences between males and females in unemployment incidence, other factors equal.
- *Non-English speaking background*: there were no significant differences in unemployment incidence between those from an English-speaking and non-English speaking background, other factors equal (the sample sizes were too small to examine particular ethnic groups). It seems that the higher unemployment incidence reported for those from a non-English speaking background in Table 1 is largely associated with lower school achievement.
- *Area of residence*: there were no significant differences in unemployment incidence between those from homes in metropolitan and non-metropolitan areas, other factors equal. The higher unemployment incidence reported for those from non-metropolitan homes in Table 1 is due largely to the fact that they tend to have lower educational qualifications.
- *Parents' occupation*: young people whose parents were in relatively low status occupations experienced a higher unemployment incidence, other factors equal. On average, a 20-unit increase in occupational status (around one standard deviation on the 100-unit scale) decreased the odds of being unemployed by 0.79 times for the 1970 cohort. This effect is similar in size to those found for the 1961 and 1965 cohorts. Parents in high-status occupations may have access to resources and networks that improve the chances of their children finding work.
- *Early school achievement*: young people who perform well in literacy and numeracy in early secondary school tend to experience less unemployment by their mid-twenties, other factors equal. On average, an increase of one standard deviation in achievement score decreased the odds of unemployment by 0.78 times for the 1970 cohort, and a two standard deviation increase decreased the odds by 0.61 times. (Analyses of the 1961 and 1965 cohorts indicated similar effect sizes.) This result applies after controlling for other factors, including educational qualifications. In other words, even among those who hold the same qualification (such as a university degree) those with higher school achievement are likely to experience less unemployment.
- *Completing Year 12*: completion of Year 12 had a substantial effect on unemployment incidence. For the 1970 cohort completing Year 12 reduced the odds of unemployment by 0.58 times compared to those who did not complete Year 12, other factors equal. It is noteworthy that the importance of completing Year 12 seems to have persisted over time: completing Year 12 decreased the odds of unemployment in the 1961 and 1965 cohorts by 0.75 and 0.68 times, respectively. *The beneficial effect of completing Year 12 has been maintained despite the large rise in the percentage of young people with this qualification.* Furthermore, the effect of Year 12 completion on decreasing the likelihood of unemployment is independent of the effect of school achievement. This finding

suggests that encouraging low achievers to complete secondary school will improve their employment prospects.

- *Post-school qualifications*: the impact of the various post-school qualifications on unemployment incidence were often not statistically significant, other factors equal, although where significance was reached (for TAFE certificate and university degree holders in the 1970 cohort), the qualification was associated with a higher incidence of unemployment. However, since most of those with post-school qualifications also have completed Year 12, and Year 12 has a powerful downward effect on unemployment incidence, the well-qualified generally do experience lower unemployment overall.
- *Overall national unemployment rate*: not surprisingly, the higher the unemployment rate for the labour force as a whole, the greater the unemployment incidence for the youth cohorts, other factors equal. For the 1970 cohort, a 1 per cent rise in the overall national unemployment rate increased the odds of becoming unemployed by about 1.1 times. Given that the national unemployment rate varied by several percentage points over the period concerned, this effect is considerable.
- *Prior experience of full-time employment*: those who have spent longer working full-time are less likely to become unemployed at any given time, other factors equal. For the 1970 cohort, a 10 percent increase in prior full-time employment reduces the odds of unemployment by about 1.4 times; a 30 percent increase decreases the odds by about 2.2 times. Problems experienced in the youth labour market tend to build upon each other.

Exiting from Unemployment

These longitudinal data permit analysis of how long people spend being unemployed as well as the likelihood of becoming unemployed. Among the 1970 cohort at age 22, for example, those who were unemployed had been without work for an average of 4.5 months. In general, if those who had higher levels of school achievement, and who had completed Year 12 did become unemployed, they exited more quickly from unemployment than those with lower school achievement or those who did not complete Year 12. For example, unemployed males born in 1961 who had not completed Year 12, and with an achievement score close to the mean, had an expected unemployment duration of 4.6 months. By contrast, unemployed males who were similar in every other way except that they had an achievement score one standard deviation above the mean had an expected unemployment duration of 3.3 months. The impact of both achievement and Year 12 completion on reducing the length of unemployment at age 22 seems to have increased slightly between the 1961 and 1970 cohorts.

Not surprisingly, young people's labour market history has a strong impact on the probability of becoming unemployed in any one year or exiting from unemployment. The LSAY data indicate that the less time one has spent in full-time work in previous years, the greater the risk of becoming unemployed, or not exiting quickly from unemployment. This effect seems to have become stronger over time. These findings reiterate the point that unemployment must be tackled early on – by preventative

measures to reduce low school achievement, and non-completion of Year 12, and by interventions which minimise the time that school leavers spend being unemployed.

The importance of getting a good early start in the labour market is illustrated by recent OECD cross-national analyses which compare the employment experiences over time of leavers from different levels of education (OECD, 1998).

Table 3 records the average cumulative amount of time spent working in the first five years after leaving school by young Australians. The results are classified by whether they were employed, unemployed, or out of the labour force altogether in the first year after leaving school. The differences are quite striking: an early bad start in the labour market can be difficult to overcome, especially for those who have not completed Year 12.

Table 3: Average cumulative time spent employed over the first five years after leaving school, by labour force status in year 1 (% of the first 5 years spent employed)

Highest Educational Attainment	Employed Full-time Year 1	Employed Part-time Year 1	Unemployed Year 1	Not in Labour Force Year 1
Males				
Less than Year 12	78	63	40	36
Completed Year 12	85	76	51	56
Females				
Less than Year 12	85	54	20	8
Completed Year 12	87	76	42	40

Note: The data are based on the Australian Longitudinal Survey, and focus on young people who made their permanent entry to the labour market around 1989-90. The reporting of employment status is taken at the time of each annual survey. Thus, the number of persons with some months employed is understated, and the number with some months not employed is overstated.

Source: OECD (1998).

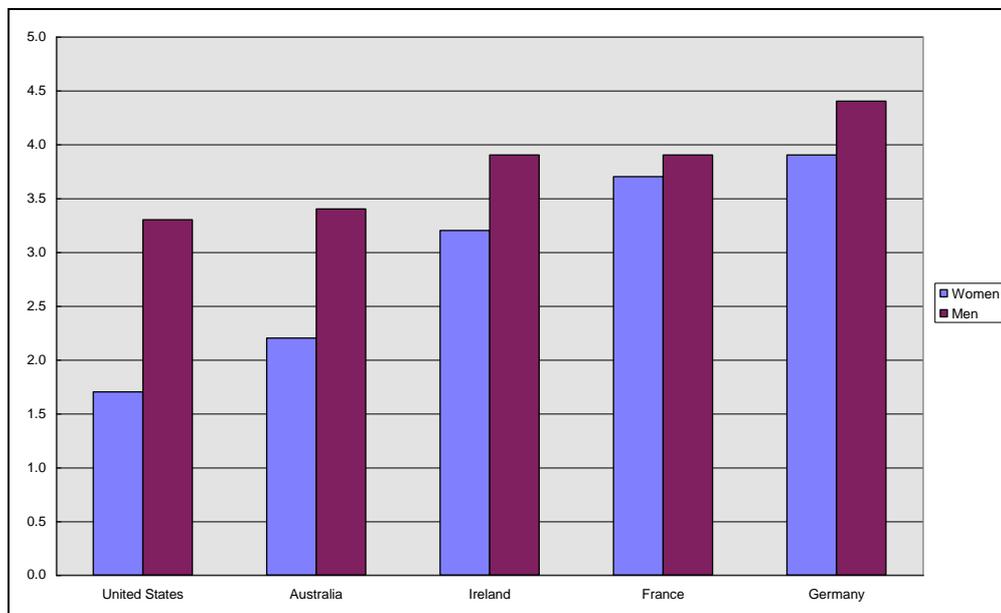
Young people who are either employed part-time, unemployed or outside the labour force in the first year after leaving school spend substantially less time in work over the following five years than those who are employed full-time in their first year. This is especially so for those who leave school before completing Year 12.

- Young men who do not complete Year 12, but who find a full-time job in their first year after leaving school, spend on average 78 percent of the first five years working. But those who are unemployed in the first year spend only 40 per cent of first five years employed.
- Young women who do not work full-time in the first year spend on average less time working than men during the years after leaving school particularly if they have not completed Year 12. Female early school leavers who did not get jobs in the first year worked only for only 20 percent of the first five years after leaving school.
- For females who leave school early and spend the first year outside the labour force altogether, the proportion of time spent employed over the first five years especially low (8 percent).

Such data reinforce the need for close monitoring of school leavers' labour market experiences and early action to ensure access to employment. Getting a job early matters, especially for those whose educational attainment is low.

Furthermore, the labour market difficulties of early school leavers seem to be particularly pressing in Australia. As Figure 1 indicates, the limited international data available from national longitudinal studies suggests that early school-leavers in Australia tend to spend less time in employment than similar young people in Ireland, France and Germany, although slightly more than early school leavers in the United States.

Figure 1: Average cumulative time spent employed over the first five years after leaving school, by those who have not completed upper secondary, Australia, France, Germany, Ireland and the USA



Source: OECD (1998).

Influence of Schooling on Young Adult Earnings

The extent to which young people perform well in tests of early school achievement, and complete Year 12, affects not only the likelihood of being employed in their mid-twenties, but also their hourly earnings.

Table 4 presents correlation coefficients between hourly earnings and selected social, educational and labour force variables for the cohort born in 1970. The size of the correlations can be compared to show which factors have stronger associations with earnings.

As would be expected, there is a correlation between earnings and gender reflecting a gender gap in income. Hourly earnings for men are, on average, higher than for women although the gap is smaller than was evident in the 1961 cohort.

Table 4: Correlation coefficients of hourly earning with social background, educational qualifications and labour market experience

Factor	Coefficient
Gender (male cf female)	0.06
Parental Occupational Status	0.08
School Achievement	0.10
Year 12 Completion (cf non-completion)	0.17
Degree	0.24
Apprenticeship	0.15
Certificate at TAFE	0.10
Diploma at CAE/University	0.12
Diploma at TAFE	0.06
Percent Time Employed Full-Time	0.17
Percent Time Unemployed	-0.07

Source: Marks & Fleming (1998b).

Socioeconomic background (measured by parental occupational status) also shows a small correlation with hourly earnings. Further analyses of the correlation with parental occupational status reveal that the correlation is weaker at younger ages and increases as the cohort grew older: mainly due to the tendency for respondents from higher occupational status backgrounds to gain degrees.

Completion of Year 12 and early school achievement are significantly correlated with hourly earnings. There is no indication here that these correlations are diminishing over time. Additional analyses showed that there was little difference in the magnitude of the correlation between achievement and earnings for men and women.

The qualification with the strongest correlation with earnings is a degree. Apprenticeships, TAFE certificates, post-graduate diplomas and diplomas and other post-school qualifications have positive, but slightly lower, correlations with hourly earnings.

Percentage of time employed full-time is moderately correlations with hourly earnings. In addition there is an indication that the greater the proportion of time spent unemployed, the lower the hourly earnings. This is possibly because people who experience frequent bouts of unemployment tend to be employed in low paying jobs when they are working.

In general these findings correspond with the findings in the wider literature. Degree holders earn higher salaries followed by those with other qualifications. The question is to what extent can the size of these correlations be attributed to correlations with other variables. For example, degree holders tend to score higher on the school achievement tests and almost necessarily have completed year 12.

Multivariate analyses based on the LSAY data for the 1970 cohort (i.e. up to the age of 24 years) revealed the following pattern of results (Marks & Fleming, 1998b).

- *Gender*: males earn more than females, other factors equal, but the gender gap in earnings appears to be narrowing (from about 12 percent for the 1961 and 1965 cohorts to 6 percent for the 1970 cohort).
- *Social background*: factors such as parents' occupational status and coming from a non-English speaking home do not have an effect on hourly earnings net of qualifications and employment experience. However, living in a non-metropolitan area during the school years is associated with lower hourly earnings of about 2 percent for the 1970 cohort, other factors equal.
- *Early school achievement*: School achievement has a moderate effect on hourly earnings, net of qualifications and employment experience. For the 1970 cohort a one standard deviation increase in achievement increases hourly earnings by 4 percent, other factors equal. Furthermore, the effects of achievement appear to be increasing slightly over time (a one standard deviation increase in achievement was associated with higher hourly earnings of 3 percent and 2 percent in the 1961 and 1965 cohorts respectively). The other noteworthy finding is the impact of achievement on earnings strengthens as a cohort grows older. Before the age of 22 there was little impact, between 23 and 27 years of age the effect of achievement was moderate, and after 28 years slightly stronger still. These results suggest that the skills and knowledge measured by the literacy and numeracy tests do make people more productive.
- *Completing Year 12*: completion of Year 12 had an effect on hourly earnings, net of school achievement, other qualifications and social background factors. For the 1970 cohort Year 12 increased hourly earnings by 4 percent on average, which was one or two percentage points less than in the 1961 and 1965 cohorts. The impact of Year 12 completion on hourly earnings is stronger for women than for men (8 percent and 2 percent respectively in the 1970 cohort). It may well be that completing Year 12 opens up a proportionately wider range of job possibilities for young women than for young men, since most of the job market is open to men in any case.
- *Post-school qualifications*: having a university degree is one of the major positive influences on hourly earnings, other factors equal (22 percent for the 1961 cohort and 19 percent for the 1965 cohort) while most other forms of tertiary qualification appeared to make little additional difference to earnings. However, because most people with post-school qualifications have also scored relatively highly on tests of early school achievement, and have completed Year 12, those with tertiary qualifications generally earn more than those without such qualifications. Having completed an apprenticeship is associated with an initial earnings advantage (16 percent in the 1970 cohort) which tends to decline as the youth cohorts grow older.
- *Labour market experience*: the amount of time spent in full-time employment does have a positive effect on hourly earnings, but its effect tends to be smaller than was reported in the previous section for unemployment incidence. This may well reflect the fact the relatively narrow distribution of earnings in the youth labour market.

Preventing Early School Leaving

The preceding findings have documented the beneficial labour market effects of having completed Year 12 for young people in their mid-twenties and older. These effects seem to have generally increased over time, even though Year 12 retention rates have risen substantially over the 15 or more years covered by the LSAY data. Completing Year 12 seems to be especially beneficial for young women, at least in terms of hourly earnings. Even those young people who struggle with literacy and numeracy in early secondary school gain employment and earnings benefits by completing Year 12.

This set of findings provides strong support for the consistent policy push by Australian governments over the last 15 years to lift Year 12 retention rates. The findings suggest that demand from the labour market for qualified young people is at least keeping pace with the increased supply of young people with Year 12 qualifications. The findings also suggest that secondary schools have been remarkably successful in responding to the much broader range of young people who enrol in senior secondary schooling compared with the situation in the past. Few OECD countries have achieved the rise in senior secondary participation rates that Australia has over the past 15 years.

The reality remains, however, that Year 12 retention rates declined in Australia over the period from 1992 to 1996, and that around 30 per cent of young people do not complete secondary school. Those who do not complete Year 12 tend to be drawn disproportionately from social groups that are already disadvantaged (see Table 5). The long-term problems associated with leaving school early compound other disadvantages, and increase the risk of social and economic marginalisation.

Table 5: Non-completion of Year 12 by background characteristics (%)

	Males	Females
Parents' Education		
University	15	5
Other tertiary	22	12
Secondary or less	36	20
Parents' Occupation		
Professional or managerial	16	7
Intermediate non-manual	22	14
Skilled manual	30	17
Unskilled manual	38	21
Location		
Urban	28	14
Rural	43	25
Parents' Country of Birth		
Australia	33	19
Other English-speaking	27	13
Non-English-speaking	19	9
School Type		
Government	35	21
Catholic	18	10
Private non-Catholic	11	5

Source: Lamb, Dwyer & Wyn (in preparation).

The experience of the 1980s and early 1990s provided evidence that the growth in school holding power was greater in education systems and schools where curriculum structures had sufficient flexibility to accommodate and encourage courses of study in addition to those with a specifically academic orientation (Ainley et al, 1984; Vickers, 1995). It has been argued that over that period broader economic and social changes provided the imperative for more young people to consider remaining at school but that conditions in schools provided the opportunity for them to actually remain in school. A question that deserves investigation is whether the new generation of school programs linked to the world of work (such as VET in schools) provides the same encouragement for a wider group of young people to remain to complete secondary school.

The recent OECD review of young people's transition from education to work suggested that, in addition to continuing to broaden the curriculum, there were three broad policy requirements needed to meet the needs of at-risk young people in Australia. (OECD, 1997). That report argued that schools as they are presently structured are unlikely to be able to provide the range of support services that at-risk youth need if they are to be expected to navigate their way successfully through school and into the labour market.

The first suggestion was to consider the development, especially in communities serving large numbers of at-risk youth, of 'full-service schools'. These are schools that provide access to a broad range of health, employment, counselling and social services for young people and their families, that are typically open during evenings and weekends, and that acknowledge that in many neighbourhoods the school is virtually the only institution with which families have extended contact.

The second broad policy suggestion acknowledged that there will still be some young people whose educational and developmental needs are unlikely to be met within the structure of a typical secondary school. Thus the OECD review team recommended the creation of networks of smaller scale, alternative secondary schools such as those that operate in Denmark in a satellite arrangement with mainstream schools. Not all of the young people in such settings are socially alienated. Many of them simply have had difficulty in mastering the basics of literacy and numeracy in conventional schools. Although the intensive, personalised approach of the alternative school settings in Denmark requires considerable resources, they are seen as cost-effective over the longer-term in preventing drop-out and marginalisation.

The third broad policy suggestion by the OECD review team was to develop an education and training entitlement that young people who leave school early could use to purchase approved education and training programmes from public or private providers at times and in forms that are best suited to their needs. The reviewers argued that an entitlement that opened up learning opportunities would serve important equity and efficiency goals.

Conclusion

Achieving well in school, and completing Year 12, have significant employment and earnings outcomes for young people a decade or more after leaving school. Early school leavers have less chance of securing full-time employment, and a problematic early start in the labour market can be difficult to overcome.

From an educational policy perspective, the strongest thrust needs to be preventative: improving young people's foundation skills for lifelong learning, and providing learning environments that are attractive and relevant to the great majority of the young. Experience in Australia and elsewhere shows that there is no inevitability about the number of early school leavers, and that chances for successful intervention are higher while young people are still in school. Offering a range of pathways suited to differing interests and needs at the end of compulsory education encourages a higher proportion of young people to remain in education and training. Intensive measures to help early leavers in the labour market can be all the more effective if resources are freed up by keeping their numbers low in the first place.

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