



Australian Council for Educational Research

## **Schooling and youth participation in education and society**

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### **ABSTRACT**

*Economic and social changes have made a solid educational foundation more important than ever before. Young people with low levels of literacy and numeracy or who do not complete school or a vocational equivalent are more likely to experience multiple periods of time outside the workforce and are less likely to engage in further education or training after leaving school. The lack of engagement in further learning increases the ongoing risks of not being employed and social marginalisation. Employment is projected to continue growing much more quickly in occupations that require post-school qualifications than in lower skilled occupations. However, Australia's secondary school completion rates are low relative to many other OECD countries, and apparent retention rates to Year 12 have changed little over the past decade. This paper uses longitudinal data to examine the role that schooling plays in influencing young people's educational intentions, and their likelihood of completing secondary school and participating in post-school education and training. It finds that engagement in school and positive attitudes towards school contribute to the completion of secondary school and participation in tertiary education, over and above the effects of literacy and numeracy. Most of the social background factors associated with school completion operate by influencing intentions that are formed by relatively early in secondary school. This implies that policies to increase school completion rates cannot rely just on changes in Years 10-12, but also need to focus on what happens early in school.*

### **1. INTRODUCTION**

This paper seeks to better understand the factors involved in young people's decisions to complete secondary school and participate in tertiary education and training. It focuses particularly on the role of schooling experiences in shaping students' attitudes and intentions.

There has been a strong policy push in Australia for over 20 years to encourage students to complete secondary education or its vocational equivalent. This priority has been informed by clear evidence that educational achievement is a key determinant of a wide range of individual, social and economic outcomes.

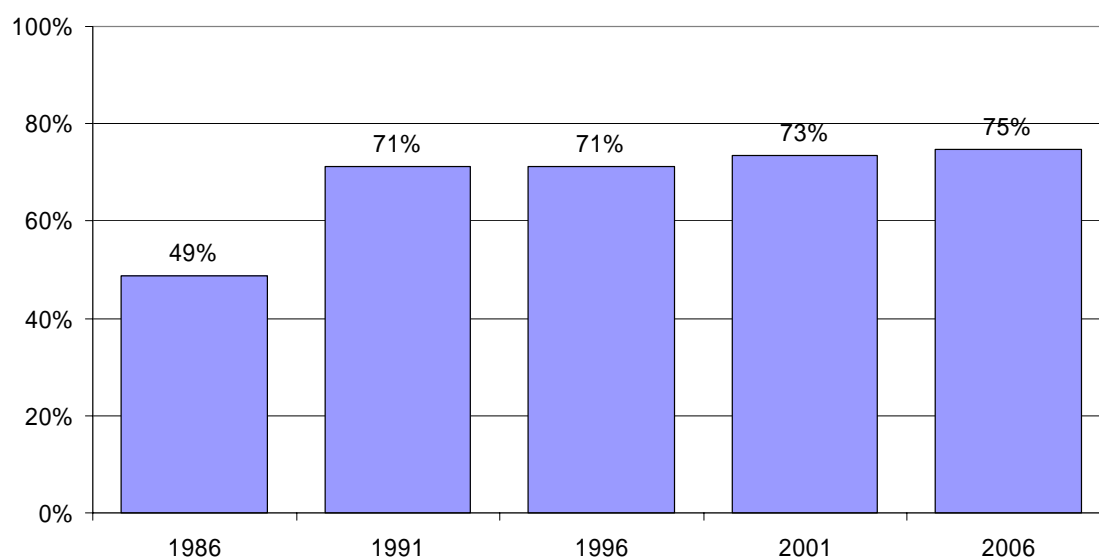
Young people with low levels of education, defined as less than successful completion of secondary schooling or a vocational equivalent, experience greater difficulty in making a successful transition to the labour market than do school completers (OECD, 2005). It is clear that school non-completers are at greater risk of under-employment and unemployment than those who do complete Year 12 or its vocational equivalent. Young people with poor skills in

literacy and numeracy are most at risk of poor outcomes as they leave school and enter the workforce. Reports based on the Longitudinal Surveys of Australian Youth (LSAY) have emphasised the key role of low achievement in literacy and numeracy in the non-completion of Year 12, which in turn affects participation in post-school study and employment (McMillan & Marks, 2003). The lack of engagement in further learning increases the ongoing risks of not being employed and social marginalisation (Hillman, 2005).

The goal of increasing the number of young people remaining at school to complete Year 12 or equivalent qualifications has long been articulated in a number of key reports (e.g. Eldridge, 2001) and recently reemphasised by groups such as the Council of Australian Governments (2006) and the Business Council of Australia and the Dusseldorp Skills Forum (2005).

Many initiatives have been taken by the Australian and state and territory governments to ensure that the goal of greater participation in education is met. Many developments in educational policy and practice have been designed to encourage young people to complete Year 12 and proceed to education beyond school. Many of these developments have focussed on curriculum and organisation in the post-compulsory years of schooling, such as vocational education and training (VET) in schools and new senior colleges, and greater diversity in VET and higher education. Over two decades there have been a diversification of curriculum provision in the senior secondary years of school, substantial reorganisation of tertiary education and a broadening of opportunities in post-school education and training. There have also been initiatives intended to encourage students in the junior years of secondary school to see the benefits of an extended education that builds skills and knowledge, and to provide a foundation that makes successful participation in education and training more feasible. A range of other initiatives aimed at facilitating successful transitions by the provision of early careers advice and support for students who have left school have been established.

In 2006, the apparent school retention rate from Years 7/8 to Year 12 was around 75% (ABS, 2007) and just over 82% of young adults had completed Year 12 or an equivalent qualification. However, as Figure 1 shows, the apparent retention rate to Year 12 has changed very little from 1991 when it reached 71 per cent. Although the apparent Year 12 retention rate is an imperfect indicator of young people's education experiences, the fact remains that completion of secondary school is the most common pathway for the large majority of young people. The fact that the Year 12 retention rate has grown only very slowly over the past 15 years, and continues to be relatively low for certain groups of students (e.g. 40% for Indigenous students compared to 76% for non-Indigenous students) is a major concern.

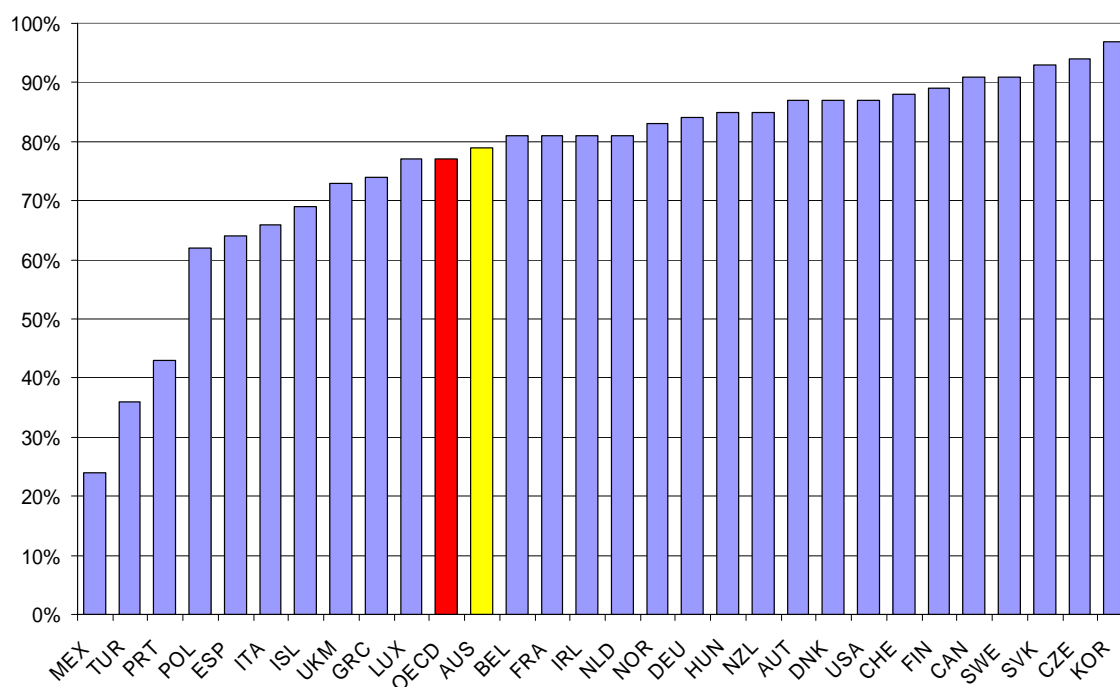


**Figure 1: Apparent retention rate from Years 7/8 to Year 12, Australia, 1986-2006** (source: ABS, *Schools Australia 2007*)

This is particularly so when exposure to international competition and the development of new technologies have had significant implications for the changing nature of work, its occupational mix and structure, and patterns of participation in the labour force. Projections by Shah and Burke (2006) highlight several trends:

- employment in Australia is likely to grow more slowly in the coming decade (projected average of 1% per annum), than in the previous decade (average of 2% per annum)
- employment will grow more quickly in higher skilled occupations than in lower skilled occupations
- in total, the number of people with qualifications is growing at a faster rate than employment growth, meaning that both new entrants to the workforce and existing workers will need to become more qualified.

Young people who do not complete Year 12 or its vocational equivalent are likely to become even more disadvantaged in this increasingly competitive labour market. As Figure 2 shows, the proportion of the Australian population aged 25-34 years that has attained at least upper secondary education (77% in 2005) is only slightly ahead of the OECD country average (75%) and is lower than in most of the other OECD countries of similar wealth. Although Australia's school completion rates have been rising, those in a number of other countries have been rising more quickly.



**Figure 2: Proportion of the population aged 25-34 that has attained at least upper secondary education, OECD countries, 2005** (source: OECD, *Education at a Glance 2007*)

It is against this background that the paper analyses the factors that influence whether young people complete secondary school and participate in tertiary education. A better understanding of the factors involved is important for designing more effective policy and practice.

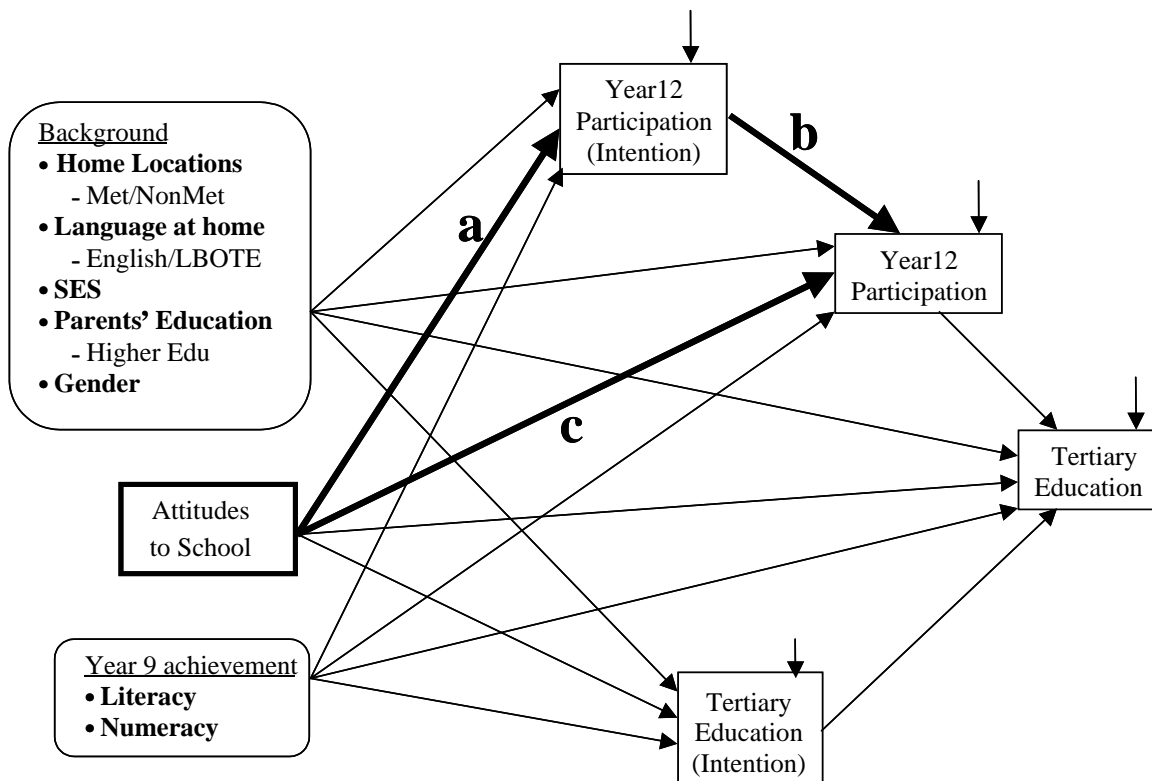
## 2. CONCEPTUAL FRAMEWORK

Khoo and Ainley (2005) provide a detailed review of the research literature on factors associated with leaving school before completing the final year. Disengagement in the early secondary years has a long-term effect on identification with school, as well as on behaviour and achievement in the later years. Poor school performance is linked to declining motivation to learn, disengagement from school and early leaving. The decision to leave secondary school before completion is influenced by attitudes concerned with social relationships in school, commitment to the institution and beliefs in the value of schooling. Ethnographic studies have supported these claims by suggesting that an emotional connection to school is a protective factor that keeps 'at-risk' students in school. Overall, there is evidence in previous research that favourable attitudes to school are associated with remaining at school to the final year, but the ways in which that relationship operates are less clear.

There appears to be a complex set of links between engagement, attitudes and motivation in terms of their influence on intentions to complete school or enter tertiary education. Distinctions made between behavioural, emotional and cognitive forms of engagement help provide a perspective on these links (Fredericks et al, 2004). Behavioural engagement refers to participation in schoolwork-related and co-curricular activities. Emotional engagement refers to identification with or attachment to school. Emotional engagement would be manifest in attitudes to school and to learning. Cognitive engagement refers to a personal investment of effort in learning that results in a person pursuing an issue with the intention of achieving mastery.

Students' stated intentions to remain at school provide a good predictor of actual completion (Marks et al, 2000; Lamb et al, 2000). Marks et al (2000) calculated that Year 12 participation (relative to non participation) was seven times as likely for those Year 9 students who intended to proceed to Year 12 than for those students who did not intend to proceed to Year 12. They concluded that the magnitude of the effect of intentions is greater than the effect of earlier achievement, although it should be noted that achievement is strongly associated with intentions. Plans to continue through secondary school are influenced by factors such as achievement and attitudes to school, as well as a number of background characteristics (such as gender, socioeconomic background and ethnicity).

A theory that links attitudes to behaviours through intentions is the theory of planned behaviour (Ajzen & Fishbein, 2000). The theory of planned behaviour assumes that attitudes influence actions through reasoned processes (that are manifested as intentions). It recognises that there may be alternative links between attitudes and behaviour that bypass intentions, but the major pathway is through intentions. According to this theory relevant attitudes are shaped by beliefs, norms and peoples' perceptions of their capacity to attain the intended outcome. In this paper the behaviour of interest is continued participation in education, the intentions are plans to continue in education and the relevant attitudes are attitudes to school. In addition, this investigation allows a direct assessment of 'capacity' (as reflected in school achievement) and incorporates information about social contexts that reflect norms. Thus it is possible the present investigation examines the extent to which attitudes influence participation through intentions as well as directly. In addition, the strength of the relationship and its interaction with other influences such as achievement, background and location are investigated. This set of relationships is summarised in the model shown in Figure 3.



**Figure 3: Model of the influences of background and attitudes on educational intentions and attainments**

### 3. DATA AND MEASURES

Longitudinal data make a distinctive and significant contribution to knowledge about influences on educational attainments (Rothman & McKenzie, 2006). Longitudinal data provide opportunities analyses not readily available with cross-sectional data to facilitate causal analyses because data are collected in a temporal sequence and do not rely on concurrent or retrospective data. Through the linkage of individual records over time from the same group of young people, a longitudinal survey permits the study of relationships between factors measured in one period -- such as achievement, aspirations and behaviours -- and outcomes measured in future time periods.

The data for this paper are drawn from the Longitudinal Surveys of Australian Youth (LSAY). Data on attitudes and intentions are collected when students are in the middle years of secondary school (Year 9 in this case) and then related to attainments some years after that. LSAY data are based on individual records that contain background, achievement, intentions and attainments. There are few data collections that have all these elements. Although cross-sectional studies can and do use statistical controls for the influence of background factors, and to infer change over time, the conceptual grounds for doing so are stronger in longitudinal designs.

The sample consisted of 13 000 students who were in Year 9 cohort in 1995. Seventy-two per cent of the Y95 sample was retained to 1998 (the year of participating in Year 12) and 51 per cent were retained to 2001. Weights are used to allow for initial disproportionate sampling and to compensate for differential attrition from the sample. Other investigations (Rothman, in press)

have indicated that the effects of differential attrition do not introduce much bias in regression coefficients for analyses such as these that follow the samples to Year 12 or one year beyond.

The sample began participation in the program with tests in reading comprehension and mathematics and a brief questionnaire, providing information about attitudes, intentions and background. Annual surveys were then used in LSAY to determine young people's experiences in school and the labour force, changes in attitudes and aspirations, participation in social and community activities, and some aspects of their personal circumstances. Following the initial data collection in schools and mail surveys in the second wave, subsequent contact with the sample is by a telephone survey that averages 20 minutes in length. Details on the LSAY measures variables are provided by Khoo and Ainley (2005).

#### 4. ANALYSIS AND RESULTS

Table 1 records the means for each of the main variables in the analysis and the correlation coefficients for the associations between those variables. The data show the strength of the unadjusted associations with the participation measures. In summary:

- Participation in Year 12 is strongly associated with intentions expressed during Year 9: 87 per cent of those who indicated that they planned to proceed to Year 12 did in fact continue to Year 12, and 79 per cent of those who indicated that they planned to leave school before Year 12 did so
- Participation in tertiary education is strongly associated with participation in Year 12
- Participation in tertiary education and Year 12 are both associated with developed educational aptitudes: achievement in Year 9 reading and mathematics and positive attitudes to school.
- Participation in tertiary education and Year 12 are both associated with aspects of student background: socioeconomic status, parental education, language background (positive for students from language backgrounds other than English) and gender (positive for females compared to males). There is a small negative association for being from a non-metropolitan location. Of these associations, the strongest are for parental education and socioeconomic status.

Table 1 indicates that attitudes to school are moderately strongly correlated with intentions but are only weakly correlated with achievement in reading and mathematics in Year 9. Attitudes to school are only very weakly correlated with student background characteristics. This is a positive outcome for schooling because it implies that students' attitudes are not determined by their backgrounds, but rather shaped by what happens in schools.

**Table 1 Means for and correlation coefficients between variables**

	Means	Correlation Coefficients										
		Uni.	Year 12	Uni. Intent	Yr 12 Intent	Reading	Maths	Attitude	Parent edu.	SES	Location	LBOTE
University	0.33											
Year 12	0.77	0.80										
Uni intent	0.49	0.59	0.58									
Yr 12 intent	0.88	0.64	0.80	0.77								
Reading	-0.02	0.43	0.37	0.41	0.36							
Maths	0.01	0.46	0.40	0.43	0.40	0.55						
Attitudes	0.50	0.24	0.28	0.33	0.37	0.10	0.12					
Parent edu.	0.25	0.29	0.26	0.33	0.25	0.23	0.23	0.09				
SES	3.82	0.24	0.24	0.26	0.25	0.21	0.22	0.07	0.36			
Location	0.34	-0.09	-0.14	-0.15	-0.11	0.03	-0.01	-0.02	-0.10	-0.06		
LBOTE	0.23	0.11	0.15	0.18	0.15	-0.11	-0.03	0.09	0.03	-0.07	-0.28	
Gender	0.51	0.15	0.17	0.19	0.21	0.10	-0.10	0.09	0.01	-0.02	0.01	0.02

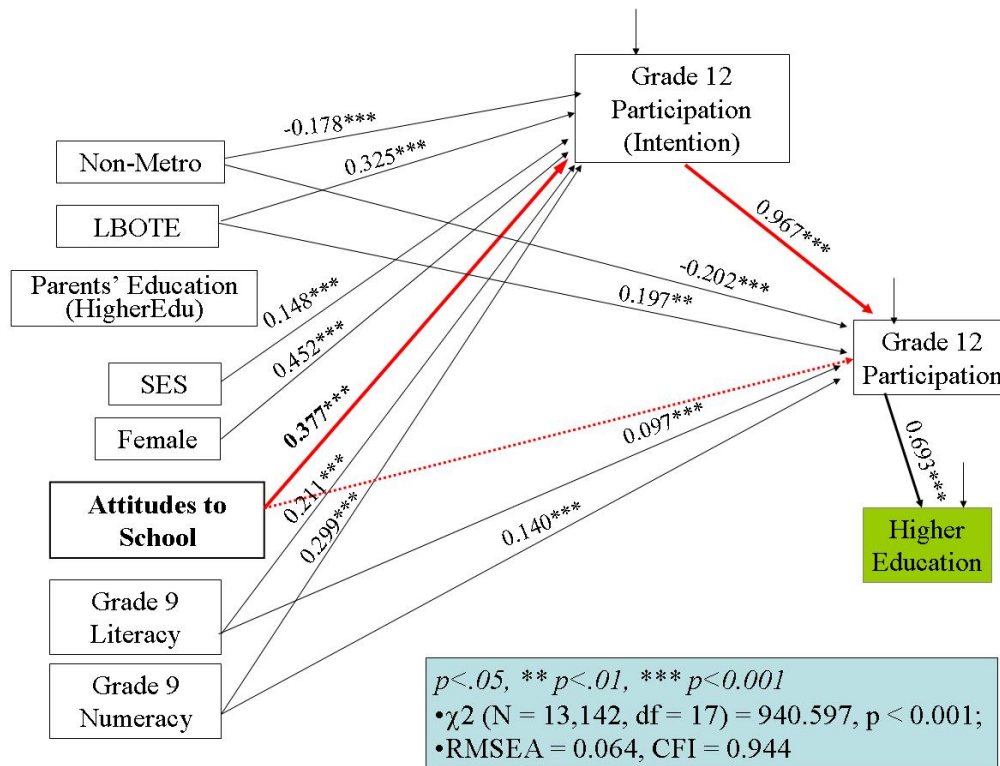
Because there are potentially several relationships involving attitudes, intentions, background and participation, it is important to use multivariate analysis so that net effects (that is, the effect of one variable on another when other influences are taken into account) can be estimated. A sequence of regression analyses is therefore conducted to build up a final model. Each of the hypothesized models encompasses several regression analyses which are specified in the structural equation modelling (SEM) framework. In the paper we represent the results in the form of path diagrams.

### Participation in Year 12

The significant paths in the regressions of intention towards and participation in Year 12 are shown in the path diagram in Figure 4. This diagram shows the relative importance of the various influences on students' intentions to participate in Year 12 and on their actual participation in Year 12. The paths with arrows indicate the links that are statistically significant, with the level of significance shown by the number of asterisks and the strength of the effect indicated by the size of the coefficient on the line. The bolded lines show the relationships of particular interest in this study: between attitudes to school and intention to participate in Year 12, and between intentions to participate in Year 12 and actual participation in Year 12.

After the background and Year 9 literacy and numeracy achievements of the respondents are taken into account, the important conclusions that can be drawn from these results are:

- attitudes to school significantly predict the intention to participate in Year 12;
- intention to participate in Year 12, in turn, significantly predicts actual participation in Year 12;



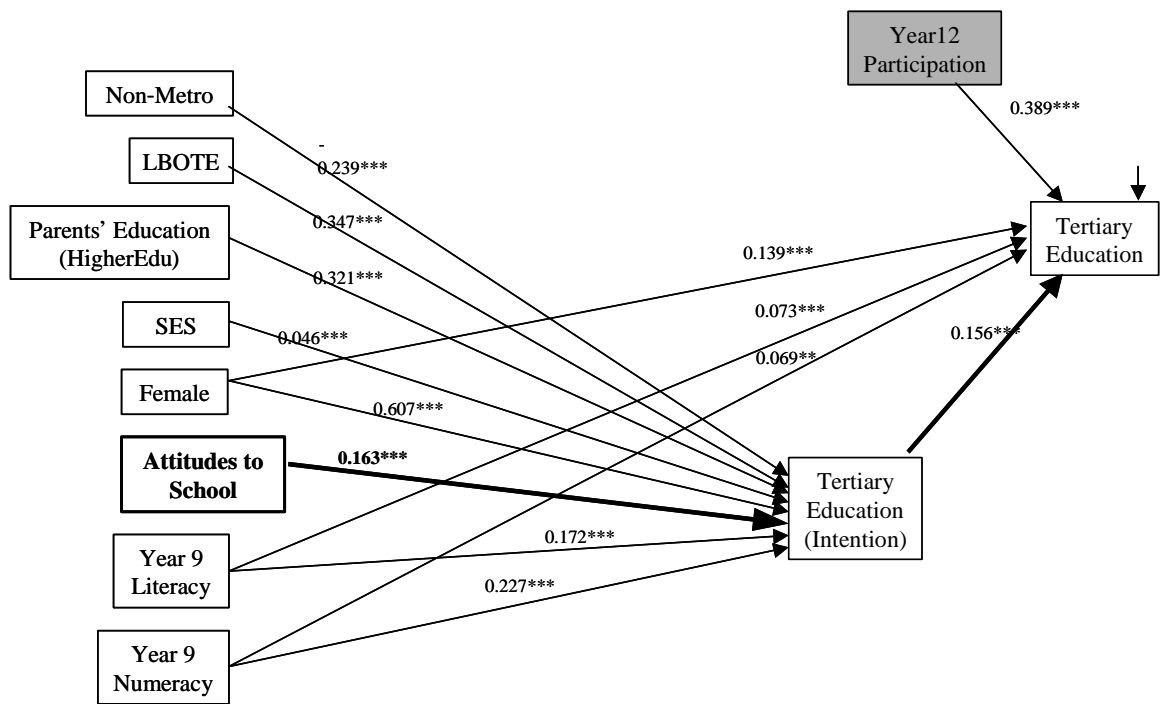
**Figure 4: Influences on intentions towards and participation in Year 12**

- the direct effect of attitude to school on actual Year 12 participation is not statistically significant; and
- the mediated effect is significant and accounts for over 95% of the total effects.

In other words, among members of the 1995 Year 9 LSAY cohort, positive attitudes to school influenced intentions to continue at school to Year 12, net of other influences, and intentions had a strong influence on subsequent participation. In terms of total effects the coefficients of the combined direct and indirect paths from achievement to Year 12 participation were 0.30 for literacy and 0.43 for numeracy. The total effect of attitudes on Year 12 participation was 0.38. In addition, Table 1 showed that attitudes to school were only weakly associated with student background and achievement. The formation of positive attitudes to school thus provides a vehicle for influencing educational intentions and subsequent participation through to the final year of school.

**Participation in Post-school Education and Training (tertiary education)**

Post-school education and training can involve university study, technical and further education or other forms of vocation education and training. We have referred to this as tertiary education. For this paper the focus is on tertiary education participation but with reference to the separate results for university study. The results of the analysis of influences on participation in tertiary education are shown in Figure 5.



**Figure 5: Influences on intention towards and participation in tertiary education**

After the background and Year 9 literacy and numeracy achievements of the respondents are taken into account:

- attitudes to school significantly predict the intention to participate in tertiary education;
- intentions towards tertiary education, in turn, significantly predict actual participation in tertiary education; and
- the direct effect of attitude to school on actual participation is not statistically significant, an indication that almost all the influence of attitudes to school on participation in tertiary education is mediated by the intention to participate.

There are two indirect paths from attitude to school to participation in tertiary education:

- From attitudes to school to tertiary education intention to tertiary education participation, and
- From attitudes to school to Year 12 participation (shown in Figure 4) to tertiary education participation.

The total mediated effect is significant and accounts for almost all of the total effects. Year 9 achievement in literacy and numeracy also have significant direct effects on participation in tertiary education after the mediated effects of background variables and attitudes to school through intention to participate are taken into account.

If the influences on participation in tertiary education overall are compared with those for participation in university education a smaller effect of Year 12 participation is evident. In addition the direct effects of achievement in literacy and numeracy are weaker for participation in tertiary education than for participation in university education, but the effects are still evident. In addition, the influences of achievement on intentions are a little weaker for tertiary than for university education. The effects of attitudes to school on intentions are also weaker when those intentions refer to broader forms of post-school study than just universities. Beyond these

differences and the emergence of a direct effect of gender (that is, female compared to male) on participation in tertiary education, the overall pattern for tertiary education resembles that for higher education.

## 5. CONCLUSIONS

Education faces the challenge of equipping *all* young people to effectively participate in, and contribute to, a rapidly changing society. Governments and other key stakeholder groups have set targets for near-universal completion of Year 12 or its vocational equivalent. A substantial number of policy initiatives have been put in place both within schools and in tertiary education and training to lift educational attainments. However, progress towards achieving these targets has been fairly slow, and Australia lags behind many other OECD countries in the proportion of young people who complete upper secondary education.

This paper used longitudinal data to examine the role that schooling plays in influencing young people's educational intentions, and their likelihood of completing secondary school and participating in post-school education and training. It found that engagement in school and positive attitudes contribute to the completion of secondary school and participation in tertiary education, over and above the effects of literacy and numeracy. Most of the social background factors associated with school completion operate by influencing intentions that are formed by relatively early in secondary school. This underlines the importance of focusing on what happens early in schooling, as well as reforming the post-compulsory years.

It is also evident that achievements in literacy and numeracy have a direct influence on participation. This implies that capable students who do not intend to proceed with education may decide to continue, and students who intend to continue but who are not proficient may decide not to continue in education. Nevertheless, the analyses indicate that, after student background and achievement in literacy and numeracy are taken into account, attitudes to school have an influence on students' intentions to continue to Year 12 and those intentions affect their participation in Year 12 and in tertiary education. The analyses also show that attitudes to school are relatively independent of both proficiency in literacy and numeracy and student background.

A significant number of students appear to become disenchanted with, and disengaged from, schooling. The development of favourable attitudes to school provides an important avenue for influencing participation through school and into education beyond.

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