



# On track?

Students choosing a career

A report prepared for The Smith Family  
Adrian Beavis



*everyone's family*

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**An investigation of educational and vocational plans of *Learning for Life* students**

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The Smith Family

Adrian Beavis

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## Preface

The effectiveness with which Australia facilitates and supports successful school to work transitions for its young people is a prerequisite for increasing our productivity levels in a twenty-first century knowledge economy. In the context of forthcoming Industrial Relations changes and the Commonwealth's continuing welfare to work initiatives, two developments in particular are likely to be required: an enhanced identification of the various types of supports which individuals, and young people and students in particular, need in making post-school transitions; and, evidence based policy to facilitate the development of educational systems that are more responsive to a changing array of learning needs across the population.

We know from our previous research with the Australian Council for Educational Research (ACER) that the challenges involved in gaining employment in the contemporary workplace and having a current understanding of the types of jobs available, and the preparation for them are especially significant for those seeking to enter the workplace for the first time.

The Smith Family's fourth major wave of research on the school to work transition reported upon in *On track? Students choosing a career*, compiled for us by Adrian Beavis, Principal Research Fellow at ACER, makes three distinctive contributions to an evidence base on post-school transitions: longitudinal comparisons between the post-school plans of a cohort of *Learning for Life* students made in 2004 and 2005; a path analysis of influences on the socioeconomic status of the preferred jobs of our *Learning for Life* students; and a cost-benefit analysis drawn from students' and their families' perceptions of the value of university education on their projected careers.

Data collected in these areas have raised additional questions and suggested further waves of research into why and how educational and training plans are changed; a more detailed examination of the effect of family expectations; a further assessment of the importance of cost-benefits – both monetary and other dimensions – in educational plans; and, a further investigation of plans involving decisions to take TAFE courses.

Our previous report, *What do students know about work? Senior secondary school students' perceptions of the world of work*, re-affirmed what earlier waves of research carried out for us by ACER had already suggested, namely, the importance of good quality one-on-one career counselling to assist *Learning for Life* students, and students from low socioeconomic status backgrounds in general, make realistic decisions about career options and the level of schooling and or training needed for their realisation. In addition, the report tested and challenged assumptions about the effectiveness of

VET, TAFE, structured workplace experiences, and work experience in sharpening students' understandings about the type and amount of preparation needed for their preferred job options.

The Smith Family's *Learning for Life* strategy and suite of programs have been developed with a dual generational focus that facilitates the participation of children and young people in educational and learning opportunities in the context of their families. The findings from the present report assist in developing an enhanced understanding of the trajectory and interplay of influences exerted by variables in the family context on career choices.

In conjunction with our previous studies on the school to work transition the present report adds to the evidence which guides the development of The Smith Family's *Learning for Life* strategy and suite of programs. It is also hoped that this research will assist in contributing to policy that facilitates the development of a broad skill base among Australia's young people and our present and future workforce.



**Dr Rob Simons**  
**National Manager Strategic Research and Social Policy**  
**The Smith Family**

## List of acronyms

ACER....The Australian Council for Educational Research

AIM.....Australian Interest Measure

ASCO ..... The Australian Standard Classification of Occupations

LSAY .....Longitudinal Survey of Australian Youth

NCVER .....National Centre for Vocational Education Research

RIASEC .....Realistic, Investigative, Artistic, Social, Enterprising and Conventional vocational interest types, so named by Holland (1985, 1997)

SES .....Socioeconomic status

TAFE .....Technical and Further Education

## Note on the author

Adrian Beavis is a Principal Research Fellow at ACER. He was a contributing author to The Smith Family reports *Post-School Plans* (2004), *What do students think of work?* (2005) and *What students know about work?* (2005).

## Acknowledgments

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## Executive summary

This report is the fourth in a series from The Smith Family examining the post-school plans of young people. It is the first to be able to report findings using longitudinal data. These data are valuable because they allow for study of change and continuity in those plans.

### Research questions

The major research questions addressed by the study were:

- What were student perceptions of the world of work in late 2005 and how had these changed since 2004?
- To what extent did students' post-school plans in 2005 imply upward social mobility?
- What evidence is there of the influence of family expectations on plans to go to university?
- What factors shape *Learning for Life* students' plans for attending university?

### Data

Data for this study were taken from a survey of high school students in Years 11 and 12 participating in the *Learning for Life* program. The survey data were matched to administrative data (under strict conditions of confidentiality) and to survey data collected in 2004. A response rate of 55 per cent was achieved, so some caution is required when considering the validity of the study's findings.

### Findings

#### Student perceptions of the world of work in late 2005 and how these had changed since 2004

There was evidence of some confusion about the educational requirements of occupations with around 25 per cent of young people in the 2005 survey planning a level of education too low for their preferred job. Nevertheless, most of the young people in this study had educational plans which would allow them entry to their preferred job. Results from the longitudinal data suggest that educational plans can change. These new plans may involve a mismatch in education and occupation level where previously there was a match. It should not be assumed, therefore, that sound plans made in one year will stay the same or, if they change, remain sound. Only 40 per cent of *Learning for Life* students had a match between their planned educational level and the level needed for their preferred job in 2004 and 2005.

#### The extent to which students' post-school plans in 2005 imply upward social mobility

Typically, these young people – all of whom are from low socioeconomic families – were planning a future shaped by their interests, perceived ability and, it seems, their families. The picture to emerge of these families, from these data, was one of supportiveness. The interests of young people were being encouraged and their plans set at a level to accord with their ability. For most this implied that their plans, when realised, would involve upward social mobility. Despite this, there was little evidence of overly ambitious parents pushing their children in inappropriate directions.

#### The influence of family expectations on plans to go to university

The findings about the influence of family expectations were intriguing. They pointed to the possibility of a strong effect. However, without information which allowed for the effects of expectations and plans to be disentangled from each other, the implications of the findings from the study remain unclear.

#### Factors which shape *Learning for Life* students' plans for attending university

A small majority – around 60 per cent – of *Learning for Life* students agreed that it was worth it to attend university. The strongest factors influencing this view were the socioeconomic status of their preferred job and their perceived ability. Vocational interests were also important. The likely return in the form of remuneration that follows from having a university degree did not appear to form part of the assessment made by *Learning for Life* students when deciding whether university study was worth it for them, even when students had a reasonably accurate understanding of these monetary returns.

Plans for university were influenced, in their detail, by the self-perceived ability of students. For example, those with higher ability were more likely to plan to enrol in a 'high status' university. The type of university course planned was associated with different types of vocational interests.

#### Concluding observation

This study highlights the importance of ability and interests on students' educational and vocational plans. This is a finding consistent with other studies in the ACER series of reports for The Smith Family. However, this study also introduces the role of family expectations in shaping these plans. It was unable to go very far with the available data. Careful thought needs to be given to how family expectations might best be investigated in further projects.





# 1 Chapter One

## Introduction

# Introduction

## Background

This report is the fourth in a series from The Smith Family examining the post-school plans of a group of financially disadvantaged young people.<sup>1</sup> It is the first to be able to report findings using longitudinal data.<sup>2</sup>

The previous report – *What do students know about work?* – described how young people were preparing to enter the world of work. Typically, their preparation was found to be based on a sound understanding of their own interests and abilities and the make-up of jobs in the world of work. However, their grasp of how to access these jobs was less sound. A sizeable proportion did not appear to know the educational requirements needed for their preferred job. Often, it seemed as if these young people presumed that having the necessary educational requirements guaranteed entry to a job. Few seemed to understand the likely difficulty of obtaining their preferred job. Few expected to be unemployed.

This report continues the examination of the educational and occupational plans and aspirations of young people in the later years of secondary school – Years 11 and 12 – who are participants in The Smith Family's *Learning for Life* program.<sup>3</sup> This time, the study is extended to consider:

1. how plans change over time
2. the extent to which social mobility is implied by these plans
3. the possible effects of family expectations
4. some of the specifics of plans for attending university.

The study also collected information from students who were interested in applying for a course at a TAFE college. However, in this report the focus is upon those applying for university because of a concern about some of the data relating to course preferences for TAFE. There was evidence that a substantial proportion of those interested in TAFE were confused about differences between Certificate I and II and Certificate III and IV level courses. While identifying this confusion was an important finding, it limited the value of many of the analyses that had been planned for the study.

## Research questions

The major research questions addressed are:

1. What were student perceptions of the world of work in late 2005 and how had these changed since 2004?
2. To what extent did students' post-school plans in 2005 imply upward social mobility?
3. What evidence was there of the influence of family expectations on plans to go to university?
4. What factors shaped *Learning for Life* students plans for attending university?

## Data

Data for this study were taken from a survey of high school students in Years 11 and 12 participating in the *Learning for Life* program (see Appendix 1 for the questionnaire). The survey data were matched to administrative data (under strict conditions of confidentiality, including de-identification to ensure individual student and family anonymity) and to the data collected in 2004.<sup>4</sup> The response rate to the survey was 55 per cent. It may be possible that non-respondents to the 2005 survey differed from those who responded in ways that are important for valid conclusions to be drawn. As it is unknown if and how non-respondents differed from respondents, some caution is needed when evaluating the study's findings. Appendix 2 provides information about the methodology used.

## Structure of the report

The first substantive part of this report – Chapter 2 – is a short review of literature. It focuses upon the notion of human capital. Chapter 3 examines the changing understandings of education and work held by *Learning for Life* students. Chapter 4 considers how social mobility is implied by their future plans. Chapter 5 examines how family expectations interact with plans to attend university and explores why *Learning for Life* students do or do not find attendance at university worthwhile. The final chapter of the report gives an overview, summarising the main findings and suggesting some directions for further research. Technical details are provided in a series of four appendices.

1. A. Beavis, D. Curtis, & N. Curtis, 2005a; A. Beavis, D. Curtis, & N. Curtis, 2005b; Beavis, Murphy, Bryce, & Corrigan, 2004.

2. Data were also collected in a survey of families who had previously been involved with *Learning for Life* and who had completed the 2004 ACER survey, but had exited the program in 2005. The results from these data will form the basis for another shorter, internal report.

3. *Learning for Life* scholarships are offered to students whose families meet The Smith Family eligibility criteria of low income and commitment to their children's education. The scholarship provides financial support, between \$250 and \$2000 per student per annum depending on year level at school or university, and educational support from dedicated Smith Family staff.

4. For more information on the 2004 data see Beavis et al., 2005a.



Chapter Two

**Literature review**

## Literature review

The role of human capital in supporting economic and social development is a long-standing theme, although there continues to be dispute over its exact significance. (*Centre for Educational Research and Innovation, 2001*)

Becker's (1964) foundational study of human capital argued that education was important for the contribution it made to economic growth and the generation of wealth, as well as to the increased income it generated for individuals.<sup>1</sup> Education was seen as an asset which generates income and hence it was construed as capital. More specifically, it argued that education provides individuals with skills that they can exchange for income in the world of work. Becker's argument about the public and private returns to education led to an increased appreciation of the importance of 'human capital' for social and economic policy. It is beyond the scope of this review to consider the vast literature and debate that Becker's work has generated<sup>ii</sup>, but it is important to appreciate that his views still shape the terrain in which debate concerning the relationship between education and economic prosperity takes place. His ideas also continue to inform discussion and research about choice for post-school educational destinations.

There are other perspectives – apart from the human capital tradition – that can be used to understand decisions about whether to undertake further education. The series of reports from The Smith Family on post-school plans has adopted an approach based on the traditions of vocational psychology. In this tradition, it is not the financial costs and benefits of further education which take centre stage, but the self-perceived interests and ability of the individual which define costs and benefits. However, in this report, the monetary cost of education and its perceived return is investigated, requiring an extension to the framework in which this study is located. This chapter provides a brief review of literature about decisions to undertake further education from the perspective of its (perceived) monetary costs.

The initial stimulus to investigate perceived costs and their influence on educational plans came from Usher's (2005) study. His study investigated how perceptions of monetary costs and benefits affect access to university in Canada. Using a nationally representative sample of just over 1,000 Canadian families, he showed that:

- families tended to over-estimate the tuition cost of attending a university
- low-income families tended to over-estimate the cost of university tuition more than other families

- the (likely) future value of a university education was under-estimated by Canadian families
- low-income families tended to under-estimate the future value of university more than other families.

For Usher this showed that low-income families were more inclined to make an unwise investment choice about tertiary education because of their poorer estimation of costs and benefits.

Usher also discussed the extent to which it is fair to assume that high school students and their families calculate costs and benefits when deciding what, if any, post-school education to undertake. He adopts a pragmatic view, citing Thaler's hard to argue with observation that people are 'neither rational automatons nor blithering idiots' and so they were likely to calculate these costs and benefits in 'a very rough and ready kind of way' (Usher, 2005, p. 8). However, for Usher the choice to attend university is not like choosing other consumer goods. It is a choice which is not amenable to impulse buying. It may involve families as well as the student in the decision instead of an individual consumer (upon which most models of cost-benefit are based). It may be less susceptible to price elasticity, which means switching to another product (university or post-school educational destination) is more unlikely than with other types of consumer goods. In short, while it is likely that students and their families engage in a fairly rough estimate of the costs and benefits of attending university, Usher's work warns that traditional theories based upon consumption of commodities may not apply. Within these constraints, Usher still felt it is likely that cost-benefit analyses are made and that they shape post-school educational destinations.

The results from Usher's analysis indicated that most Canadians would agree that university is a 'worthwhile investment' (Usher, 2005). This implied a certain dissonance because, despite this perceived worth, many chose not to attend university. The dissonance may, according to Usher, indicate that Canadians are a poor judge of a good investment, or that they are using criteria other than economic when making this judgement (Usher, 2005, p. 18). He cites social status as one likely criterion used by families. Support for Usher's views can be found in Leslie and Brinkman's (1987) review of the literature on student price response to higher education in the USA. They note that:

...where broad studies have considered more than economic effects on enrollment rates, sociological variables invariably have turned out to be most potent; economic variables generally rank about third. In other words, college attendance is associated more with such student traits as social class



and parents' education than with college price. (Leslie & Brinkman, 1987, p. 195)

Leslie and Brinkman also point out that the effect of price increase may not be consistent across different areas. Citing the work of Bishop (1977), they note that the effect of a price increase in tuition fees was around 60 per cent greater than an increase in room, board and travel costs.

In Australia, research appears to have been driven by policy concerns about social and individual returns on investment (Borland, Dawkins, Johnston, & Williams, 2000) as well as by theoretical argument (Lee & Miller, 2000). Lee and Miller, for example, investigated whether education developed skills that were valued in the labour market or was a screening system for identifying those with ability. They found that education does not simply act as a screening device because it generates increased returns via the higher literacy and numeracy skills of the better educated. Education is, as they concluded, a 'value-adding process' (Lee & Miller, 2000, p. 39). In contrast, Dockery (2005) argues that completing school may not be of benefit to all students. He is led to conclude from his analysis of data taken from the Longitudinal Surveys of Australian Youth that:

...in the case of both wages and the incidence of unemployment, there is considerable evidence of the benefits to schooling being concentrated among the most able. Evidence that further years of schooling is actually detrimental to some young people, as the literal interpretation of many of the results suggests, is less clear but should not be ignored by policy makers. (Dockery, 2005, Executive Summary, *but also see p. 41 for an elaboration*)

Thus within the literature, both within Australia and overseas, there is continuing use of the concept of human capital in policy and in economic and educational research. As a tool for macro-economic policy analysis and review, it appears to be of considerable value. It is not clear, however, to what extent this theory adequately explains the decision making processes – including cost-benefit analyses – that lead to a choice about whether or where to study after leaving school.





Chapter Three

**Changing understandings of education and work**

## Changing understandings of education and work

One of the central concerns of the research ACER has conducted over the last three years for The Smith Family has been the accuracy of young people's understanding of the educational requirements of occupations. For example, in 2004, the levels of education that they planned and the level of education needed for their preferred job were examined. It was found that around 50 per cent of respondents matched levels of education to their preferred job, about 25 per cent planned too much education and 25 per cent too little (Beavis et al., 2005a). This chapter continues this investigation. It describes:

- the match between the educational levels planned by *Learning for Life* students and the educational requirements of the job they would most like when 25 years old
- the ways in which this match has changed between 2004 and 2005.

### The accuracy of young people's understanding of the educational requirements of occupations in 2005

Table 1 shows the skill levels of the preferred occupation at age 25 and the highest level of intended education for all students, females and males, in Years 11 and 12 in 2005. The bold numbers along the diagonal in this table are those students whose planned educational level matches the educational requirements of their preferred job. Of the 661 respondents who provided information about their planned highest education level and could name a preferred job, 56.4 per cent appear on this diagonal. A further 19.2 per cent planned higher levels of education than their preferred occupation requires.<sup>5</sup> These appear above the diagonal in Table 1. Thus, around 25 per cent of *Learning for Life* students who responded to the survey in 2005 were planning too little education for their preferred job. These appear below the diagonal in Table 1. These findings are consistent with those from the 2004 survey.

**Table 1 Skill levels of the preferred occupation and the intended level of education for all students, females and males in Years 11 and 12 (2005)**

Planned education level	Skill level required for preferred occupation					Total	Per cent*	
	Bachelor or higher	Diploma or Advanced Dip	Certificate III or IV	Certificate I or II or Year 12	Compulsory secondary school			
Bachelor degree	All	<b>289</b>	36	15	19	3	362	54.8
	F	186	18	8	15	2	229	59.9
	M	103	18	7	4	1	133	47.7
Diploma	All	27	<b>17</b>	14	27	0	85	12.9
	F	17	12	6	23	0	58	15.2
	M	10	5	8	4	0	27	9.7
Cert. III or IV	All	6	8	<b>33</b>	5	2	54	8.2
	F	2	2	9	4	0	17	4.5
	M	4	6	24	1	2	37	13.3
Lower Cert. or Year 12	All	32	25	58	<b>34</b>	6	155	23.4
	F	13	15	13	33	4	78	20.4
	M	19	10	45	1	2	77	27.6
Before end of Year 12	All	0	1	4	0	<b>0</b>	5	0.8
	F	0	0	0	0	0	0	0.0
	M	0	1	4	0	0	5	1.8
Total	All	354	87	124	85	11	661	
	F	218	47	36	75	6	382	
	M	136	40	88	10	5	279	
Per cent**	All	53.6	13.2	18.8	12.9	1.7	100.0	
	F	57.1	12.3	9.4	19.6	1.6	100.0	
	M	48.7	14.3	31.5	3.6	1.8	100.0	

\* The percentage figures in the far right column are column percentages for each of the three groups All, Female and Male. For example, of all females, 59.9 per cent plan a bachelor's degree.

\*\* There are rounding errors in the totalled percentages in this table.

Table 2 shows the data for all persons displayed as a percentage of the grand total. An examination of the distribution below the diagonal – those planning too little education – shows that the largest proportion of this group planned an occupation with a Certificate III or IV educational requirement, but planned a Certificate I or II, or equivalent level of education. The terminology around these levels of education is not always as well understood as those related to school and university, and it is possible that respondents were unfamiliar with the distinction between these different levels of certification. As these four levels are commonly available within a Technical and Further Education (TAFE) setting, it is probable they will be planning entry into TAFE. When entering, it is likely they will be advised of the educational requirements needed for their preferred job.

5. The decision to plan more education than required is not taken to be a problem here, although some could argue that it is an inefficient use of resources. Good education has intrinsic value for individuals. Additional education may also assist obtain the preferred job by providing an advantage in a competitive job market.



Thus, it may be that the match of educational plans and job aspirations is a little better than these figures suggest. Put another way, this finding may reflect a poor understanding of terminology rather than poor career planning. Nevertheless, there remained in 2005, at least 15 per cent<sup>6</sup> of Year 11 and 12 students who were not planning a level of education which would allow them to do their preferred work.

**Table 2 Skill levels of the preferred occupation and the intended level of education, for all students in 2005 (expressed as percentage of the grand total)**

Planned education level	Skill level required for preferred occupation					Total*
	Bachelor or higher	Diploma or Advanced Dip	Certificate III or IV	Certificate I or II or Year 12	Compulsory secondary school	
Bachelor degree	<b>43.7</b>	5.4	2.3	2.9	0.5	54.8
Diploma	4.1	<b>2.6</b>	2.1	4.1	0.0	12.9
Cert. III or IV	0.9	1.2	<b>5.0</b>	0.8	0.3	8.2
Lower Cert. or Year 12	4.8	3.8	8.8	<b>5.1</b>	0.9	23.4
Before end of Year 12	0.0	0.2	0.6	0.0	<b>0.0</b>	0.8
Total*	53.6	13.2	18.8	12.9	1.7	661

\* There are rounding errors in the totalled percentages in this table.

A further examination of Table 1 shows that 84 per cent of girls planned a level of education that matched or exceeded the requirements for their preferred occupation, compared with just 64.5 per cent of boys. Much of this difference, however, was due to high numbers of males planning a Certificate III or IV level occupation and Certificate I or II level education, so the gender differences may not be as strong as these data initially suggest.

**Changes in the accuracy of young people's understanding of the educational requirements of occupations between 2004 and 2005**

To explore the issue of the accuracy of young people's understanding of the educational requirements of occupations, students were grouped according to the following categories that applied in 2004:

1. Planned a lower level of education than required for their preferred job
2. Planned the same level of education as required for their preferred job

3. Planned a higher level of education than required for their preferred job
4. Students who had no educational plans.

These groups were investigated to see how in 2005 their plans had changed in terms of the match between their planned educational level and the level required for their preferred job. This was done by using a merged set of data which combined the information collected in 2005 with that collected in 2004. In both surveys respondents were asked to provide the highest level of education they planned and their preferred job at age 25.

**Those who planned less education than needed in 2004**

Table 3 shows the skill levels of the preferred occupation at age 25 and the highest level of education intended by students in 2005, who planned *less education than needed* for their preferred occupation in 2004. Of the 107 respondents in this category in 2005, just under 50 per cent were intending an educational level equivalent to or higher than that needed for their preferred job. Conversely, just over 50 per cent were still planning an educational level too low for their preferred occupation.

**Table 3 Skill levels of the preferred occupation and the intended level of education of students in 2005, who planned less education than needed for their preferred occupation in 2004 (expressed as a percentage of the grand total)**

Planned education level	Skill level required for preferred occupation					Total*
	Bachelor or higher	Diploma or Advanced Dip	Certificate III or IV	Certificate I or II or Year 12	Compulsory secondary school	
Bachelor degree	<b>15.0</b>	2.8	0.0	0.9	0.9	19.6
Diploma	7.5	<b>6.5</b>	1.9	3.7	0.0	19.6
Cert. III or IV	0.9	3.7	<b>8.4</b>	0.0	0.9	13.9
Lower Cert. or Year 12	13.1	4.7	20.6	<b>8.4</b>	0.0	46.8
Before end of Year 12	0.0	0.0	0.0	0.0	<b>0.0</b>	0.0
Total*	36.5	17.7	30.9	13.0	1.8	107

\* There are rounding errors in the totalled percentages in this table.

Overall, a substantial proportion of this small group had adjusted their plans for improved accuracy. They no longer risked being precluded from their preferred job for want of the appropriate level of education. However, a substantial

6. This 15 per cent is made up of the figures below the diagonal in Table 2 representing those who were not planning a lower certificate for a job requiring a Certificate III or IV.

proportion still had a mismatch, and this suggests a particular need for career advice. These students had persisted with a mismatch for a year.<sup>7</sup>

**Those who planned the level of education needed for their preferred job in 2004**

Table 4 shows the skill levels of the preferred occupation at age 25 and the intended level of education of students in 2005, who planned *the level of education needed* for their preferred occupation in 2004. It can be seen that in 2005 just under 15 per cent of the 291 young people planned an educational level which was too low to obtain their preferred job. (Just under 5 per cent planned a Certificate I or II level of education, when preferring a job which requires Certificate III or IV.)

**Table 4 Skill levels of the preferred occupation and the intended level of education of students in 2005, who planned the education level needed for their preferred occupation in 2004 (expressed as a percentage of the grand total)**

Planned education level	Skill level required for preferred occupation					Total*
	Bachelor or higher	Diploma or Advanced Dip	Certificate III or IV	Certificate I or II or Year 12	Compulsory secondary school	
Bachelor degree	63.2	4.5	2.4	1.4	0.3	71.8
Diploma	3.4	2.1	1.0	3.1	0.0	9.6
Cert. III or IV	1.0	0.3	2.7	0.3	0.3	4.6
Lower Cert. or Year 12	2.1	3.1	4.5	3.4	0.7	13.8
Before end of Year 12	0.0	0.0	0.0	0.0	0.0	0.0
Total*	69.7	10.0	10.6	8.2	1.3	291

\* There are rounding errors in the totalled percentages in this table.

Overall, most of this group of young people, whose educational and occupational plans matched in 2004, still had a good match in 2005. There was only a small drift from a good match to a mismatch between 2004 and 2005. Despite the small numbers involved in this drift, it suggests that plans are fluid and errors in plans can therefore emerge.

**Those who planned more education than needed in 2004**

Table 5 shows the skill levels of the preferred occupation at age 25 and the intended level of education of students in 2005, who planned a *higher level of education than needed* for their preferred occupation in 2004. It can be

seen that just over 16 per cent planned an educational level which was too low to obtain their preferred job. However, 10 per cent planned a Certificate I or II level of education, when preferring a job which requires Certificate III or IV. Again, many of these young people may have been confused by the terminology rather than making poor educational plans. Additionally, 41.4 per cent of this group had shifted so that their educational and occupational plans optimally matched.

**Table 5 Skill levels of the preferred occupation and the intended level of education of students in 2005, who planned more education than needed for their preferred occupation in 2004 (expressed as a percentage of the grand total)**

Planned education level	Skill level required for preferred occupation					Total*
	Bachelor or higher	Diploma or Advanced Dip	Certificate III or IV	Certificate I or II or Year 12	Compulsory secondary school	
Bachelor degree	25.9	10.2	4.6	6.5	0.0	47.2
Diploma	0.9	0.9	5.6	9.3	0.0	16.7
Cert. III or IV	0.0	0.9	7.4	2.8	0.0	11.1
Lower Cert. or Year 12	1.9	2.8	10.2	6.5	3.7	25.1
Before end of Year 12	0.0	0.0	0.0	0.0	0.0	0.0
Total*	28.7	14.8	28.8	25.1	3.7	108

\* There are rounding errors in the totalled percentages in this table.

Overall, for this group of young people, most retained a good match in 2005. A substantial proportion apparently improved the match as their planned educational levels met rather than exceeded those needed for their preferred job. There was a very small drift from a good match to a mismatch between 2004 and 2005.

**Those who, in 2004, did not know what education they planned or what job they preferred**

Table 6 shows the skill levels of the preferred occupation at age 25 and the intended level of education of students in 2005, who *did not know their educational plans*, vocational plans or both types of plans in 2004. It can be seen that over 30 per cent in 2005 planned an educational level which was too low to obtain their preferred job. Around 8 per cent planned a Certificate I or II level of education, when preferring a job which requires Certificate III or IV. If this group of 8 per cent is set because they merely misunderstand the terminology,

7. Just over 20 per cent of these students were planning Certificate I and II when their occupation requires a Certificate III or IV. As previously discussed, this may reflect a problem with terminology rather than a problem with understanding career pathways. Nevertheless, even with this discounted, around 30 per cent persisted with a mismatch.



then as a minimum, just over 25 per cent of these students appear to have had vocational plans which cannot come to fruition. This is close to the mismatch rate for the whole group of respondents to the 2005 survey, suggesting the group that did not know their plans in 2004 were no more likely than others to make a mismatch in their plans.

**Table 6 Skill levels of the preferred occupation and the intended level of education of students in 2005 for whom there were missing data in 2004 (expressed as a percentage of the grand total)**

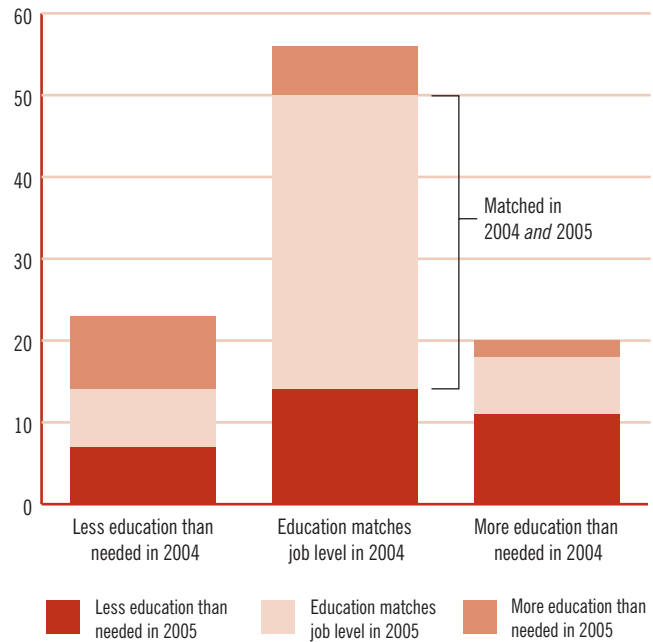
Planned education level	Skill level required for preferred occupation					Total*
	Bachelor or higher	Diploma or Advanced Dip	Certificate III or IV	Certificate I or II or Year 12	Compulsory secondary school	
Bachelor degree	39.4	5.8	1.9	4.5	0.6	52.2
Diploma	5.2	1.9	1.9	2.6	0.0	11.6
Cert. III or IV	1.3	1.3	5.2	0.6	0.0	8.4
Lower Cert. or Year 12	6.5	5.2	7.7	5.2	0.0	24.6
Before end of Year 12	0.0	0.6	2.6	0.0	0.0	3.2
Total*	52.4	14.8	19.3	12.9	0.6	155

\* There are rounding errors in the totalled percentages in this table.

**Overview**

Overall most of the young people in this study were laying educational plans which will not preclude them from entry to their preferred job. There was, however, evidence of some continued confusion about the educational requirements of occupations, with around 25 per cent of young people in the 2005 survey planning a level of education too low for their preferred job.

Results from the longitudinal data suggest that plans can change across time. Figure 1 provides an overview of these changes.



**Figure 1 Per cent of Learning for Life students showing the match between 2004 and 2005 in planned educational and occupational levels (expressed as a percentage of the grand total)**

Figure 1 shows the distribution – as a percentage of the grand total – of Learning for Life students whose planned educational and occupational levels were too low, matched and too high in 2004 and how, within these groups, their plans matched in 2005. (The counts on which this figure are based are available in an endnote.<sup>iii</sup>) The first column of Figure 1 shows that in 2004, a little over 20 per cent of students planned less education than needed for their preferred job. In 2005, just under 10 per cent still planned too little education. (This group makes up the bottom block in the first column.) Figure 1 also shows that around 55 per cent of Learning for Life students in 2004 had a good match between planned educational level and preferred job, but that in 2005, about 15 per cent of them had changed their plans and were planning too little education. (This group make up the bottom block in the middle column.) Finally, the last column of Figure 1 shows that nearly half of those who in 2004 planned too much education, were in 2005 planning too little education. (This group make up the bottom block.) In total, around 40 per cent of Learning for Life students who had a good match in 2004 maintained a good match in 2005. (This group is indicated in Figure 1.) There appears to be considerable volatility in planning among Learning for Life students. It should not be assumed, therefore, that plans made in one year which appear sound will stay the same or, if they change, will remain sound.





# Chapter Four

**Social mobility implied by future plans**

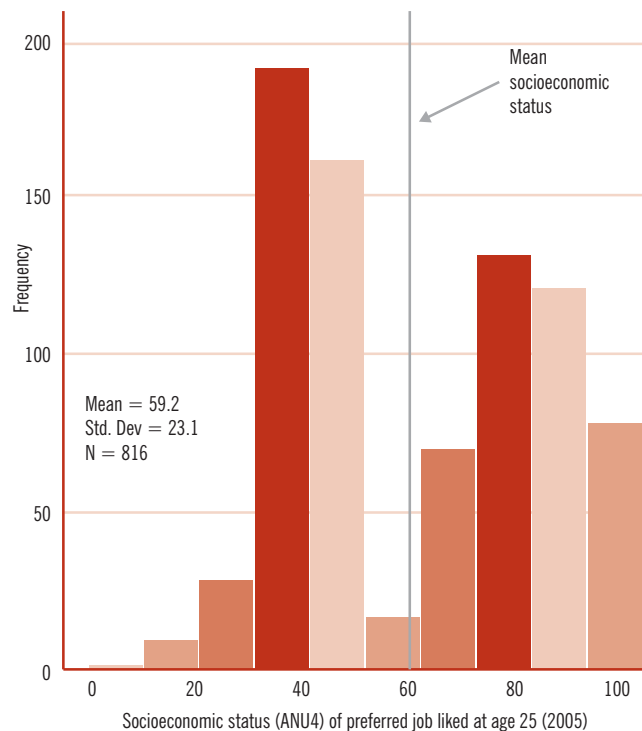
## Social mobility implied by future plans

Previous research by The Smith Family has shown that most *Learning for Life* students want a professional level job and very few want a low-skilled job. This pattern of aspiration differs from the current pattern of availability in the Australian labour market. The proportion of *Learning for Life* students aspiring to higher-level jobs is higher than the proportion of jobs in the market, while the proportion of students aspiring to lower level jobs is relatively lower than the proportion of these jobs in the labour market. This research also showed that students appear to seek jobs they will like – in accord with their gender and interests – and within this pool of jobs select a job which matches their perceived ability. The implications of these aspirations, from a career planning perspective, and the factors shaping these aspirations have previously been considered, particularly in light of the apparent optimism that these young people bring to their plans. In 2005, for example, around 80 per cent expected to get the job they would most like at age 25 and, not surprisingly given this optimism, very few expected to be unemployed.

These aspirations are also important for other reasons. This chapter investigates one of these reasons – the extent of the social mobility implied by these plans. All respondents to the survey come from a family with low socioeconomic status and one of the strong interests of The Smith Family is to ensure that this background does not adversely influence the aspirations of young people from these families. The support provided to *Learning for Life* families facilitates participation in education as a way to realise their aspirations.

### Description of the socioeconomic status for which *Learning for Life* students aspire

The socioeconomic status of the job which these young people would like to have at age 25 provides an indicator of the extent to which their plans imply upward social mobility. On a scale of 0 to 100<sup>8</sup>, these young people prefer occupations with an average socioeconomic status score of 59.2.<sup>9</sup> This is around the level of socioeconomic status accorded to the occupation of qualified accountant (on the ANU4 scale used in this study). So, typically, these students prefer reasonably high socioeconomic status occupations. A closer examination reveals a bimodal distribution of socioeconomic status. This can be seen in Figure 2.



**Figure 2** Distribution of socioeconomic status for the preferred job at age 25

The vertical line running through Figure 2 marks the average socioeconomic status and it can be seen that there are two groupings either side of this mean: those with a score in the 40s and 50s which are typically trades and clerical type jobs, and those with a score in the 60s and above which are typically professional or para-professional jobs. There are very few who prefer jobs with a socioeconomic status score below 30. Because they come from a low socioeconomic status background, nearly all of these young people have the opportunity to plan for an occupation which involves some upward mobility.

### Path analysis

This section of the report investigates the factors which shape these young people's plans for upward social mobility. This is done by using a technique called path analysis.<sup>iv</sup> In path analysis, the relations between the variables are organised into a causal sequence: some variables cause a change in other variables, which in turn may cause change in other variables. This order is guided by theory and argument.

To depict the order of variables, path diagrams are used. Figure 3 is an example of such a diagram. As gender and interests are seen to be foundational, they are placed to the far left of the diagram. As the measure of ability is a self report and not an objective measure, it was felt that it would be shaped by the vocational

8. The scale used is the ANU4 scale (Jones & McMillan, 2001), so named as it is part of the long tradition of socioeconomic status scales developed at the Australian National University. It is the standard measure of socioeconomic status used in Australian social research.

9. Standard deviation = 23.12.

interests of the respondents. In particular, those with an interest in Mathematics and Science – Investigative types – are, stereotypically, perceived to have high levels of academic ability. Together gender, interests and ability are the background against which families make judgements about encouraging their offspring to go to university. Such encouragement (or lack of it) will be likely to influence judgements about the extent to which the cost of university is seen to be worth bearing, which will in turn be influential in determining the highest level of education planned.<sup>v</sup>

The results of the analysis are expressed as standardised coefficients. These may be positive (an increase in one variable is associated with an increase in another variable) or negative (an increase in one variable is associated with a decrease in another variable). In Figure 3, for example, the more students agreed that the cost of university was worth it for them, the more likely they were to plan higher levels of education. Conversely, the stronger were students' Realistic interests, the less likely were families to expect them to go to university. (In Figure 3 this is the only negative coefficient.)

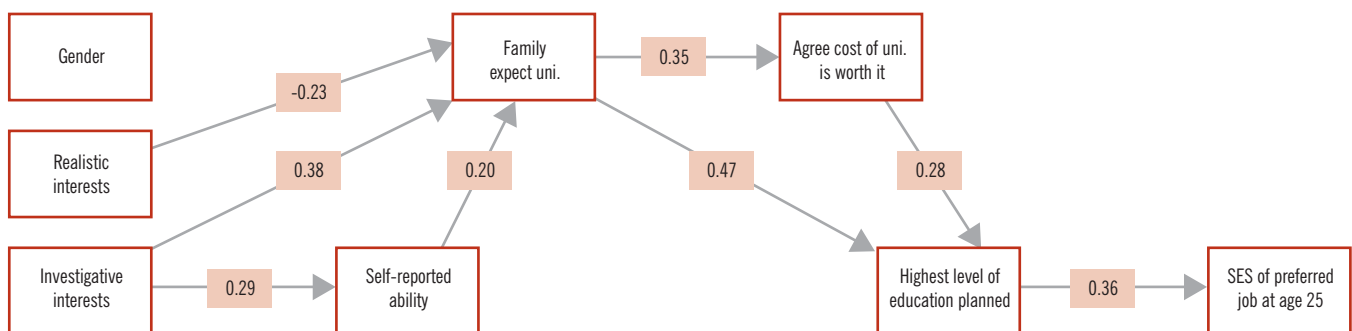
The coefficients appearing on Figure 3 are moderately strong. All are statistically significant. There were many other statistically significant coefficients, so Figure 3 is simplified by showing only the strongest direct effects. It was simplified so that its main features can be more clearly seen. The full set of coefficients from this analysis is shown in Appendix 4.

The results of the analysis, seen in Figure 3, are interesting both for the effects shown to exist between some variables and shown not to exist between other variables when an effect was expected. The analysis

using these variables explained just over 40 per cent of the variance.<sup>vi</sup> This is a strong finding. These variables, in combination, explain a good deal of the socioeconomic status that these young people aspire towards.

The main features of Figure 3 are:

1. There was no evidence that gender had any effect on the socioeconomic status of the occupation at age 25. Table 7 shows the direct, indirect and total effects on socioeconomic status, and it can be seen that neither the direct nor indirect effects of gender were statistically significant. In other words, on these data there was no evidence of the effect of gender being different from zero. (See Endnote *iv* for an explanation of direct, indirect and total effects.)
2. There was no strong direct effect between perceived ability and the highest educational level planned by the respondent. This is a surprising and interesting result. In these data, the effect of ability was largely mediated by the family's level of support for university and by the perceived cost-benefit of university. This is evidence that the family shaped the plans of these young people and that their perceived ability was an important factor in this process. This implies that families encouraged those with the ability to pursue higher levels of education and were less inclined to encourage those with lower perceived levels of ability to inappropriate choices. From this it can be inferred that, on average, families were steering students who have the perceived ability towards university. Students who appear not to have the perceived ability were not being directed towards university – a destination to which they were probably not suited.



**Figure 3 Path diagram showing strongest direct effects predicting the socioeconomic status of the most liked job at age 25**

*Gender:* Coded as 1 = male, 0 = female.

*Realistic interests:* an interest in solving problems by working with the hands. Data were collected in 2004.

*Investigative interests:* an interest in solving abstract problems and working with ideas. Data were collected in 2004.

*Self-reported ability:* how well doing at school compared with students in the same year level. Data were collected in 2005.

*Family expect uni:* the family expects the respondent to go to university (coded as 'Yes' = 1, 'No' or 'Don't know' = 0). Data were collected in 2005.

*Agree cost of uni worth it:* extent of agreement with the statement: The cost of university education is worth it for me. Data were collected in 2005.

*Highest level of education planned:* after leaving school. Data were collected in 2005.

*SES of preferred job at age 25:* the socioeconomic status of the job most liked to have at age 25. This variable uses the 'ANU4 scale'. Data were collected in 2005.

3. Related to the above finding is the effect that vocational interests have on family support for university. It will be observed that the direct effect between Realistic interests and support for attending university is negative (-0.23). That is, those respondents with Realistic interests (an interest in manual type occupations) were less likely to find support in their family for attending university, while those with Investigative interests (an interest in conceptual work) were more likely to receive support (the direct effect is positive 0.38). What this suggests is that these families were supporting the educational and occupational aspirations of these young people. Those who have Realistic interests are typically not interested in occupations requiring a university education; typically they require a trade or related qualification. Thus, these families were supporting those requiring a university education as part of their vocational plans; and those who do not require a university education typically were not being 'driven' to attend a university.
4. The strongest direct effect was that between family support for university and the planned level of education; the stronger the support, the higher the level planned. This effect was also mediated via the cost-benefit analysis that young people made (although this mediated effect is weak.) Again this finding points to the importance of families in shaping the plans of these young people.
5. There was a moderately strong direct effect of planned educational level on the socioeconomic status of the preferred job at age 25. Given the weight of research evidence suggesting this linkage is strong, the observed strength of this effect was weaker than expected. This may be in part due to the mismatch of educational levels and planned occupations (investigated above), which points again to the need for some support in career planning for some of these young people.<sup>10</sup>

Table 7 provides another view of the relations between this set of variables. (Figure 3 only provides information about the direct effects between the variables.) In Table 7, the direct, indirect and total effects on the socioeconomic status of the most liked job at age 25 are shown.

**Table 7 Direct, indirect and total effects on the socioeconomic status of the most liked job at age 25**

The socioeconomic status of the job most liked to have at age 25	Direct Effect	Indirect Effect	Total Effect
Gender	-0.014 <sup>ns</sup>	.033 <sup>ns</sup>	<b>-0.019</b>
Realistic type vocational interests	-0.146	-0.147	<b>-0.294</b>
Investigative type vocational interests	.191	.227	<b>.418</b>
Self-reported ability	.044 <sup>ns</sup>	.131	<b>.175</b>
Family expects the respondent to go to university	.127	.131	<b>.258</b>
Agreement that: <i>The cost of university education is worth it for me</i>	.086	.068	<b>.184</b>
Highest level of education planned	.355	—	<b>.355</b>

*ns: Not statistically significant*

It can be seen that the two strongest effects on the socioeconomic status of the preferred occupation were having Investigative interests (Total effect = 0.418) and the level of education planned (Total effect = 0.355). About half of the effect of Investigative interests was mediated via other variables. Because of its location in the path diagram, there was only a direct effect of educational level on socioeconomic status. (There were no intervening variables between education and socioeconomic status.) As noted previously, gender had negligible, if any, effects. Self-reported ability and the cost-benefit analysis of attending university had moderately strong effects on socioeconomic status; these were about half as strong as Investigative interests and the highest level of education planned. Nearly all of the effect of ability was indirect, so it shaped family support for university, and to a lesser extent the cost-benefit analyses and level of education planned and hence the socioeconomic status of the preferred occupation.

### Summary

The path analysis suggests these young people – all from low socioeconomic families – were planning a future shaped by their interests, perceived ability and, in important ways, their families. The picture to emerge of these families, under the model used for this analysis, is one of supportiveness in which the interests of young people were being encouraged and their plans set to accord with their ability. There is little evidence of overly ambitious parents pushing their children in inappropriate directions. It is also evident that young people undertook a cost-benefit analysis of university education which influenced their plans. This suggests that the accuracy of their understanding of the true costs and benefits of university needs to be understood to assess the quality of their planning decisions. The next chapter looks more closely at the role of family expectations, cost-benefit analyses and other aspects of young people's plans for a university education.

10. A note of caution is needed here. This conclusion is dependent upon accepting the correctness of the model as depicted in Figure 3. As is discussed in the next chapter, these data about family expectations are not without ambiguity.





## Chapter Five

### Plans to attend university

## Plans to attend university

The results of the path analysis suggested that families were supportive and did not appear to harbour ambitions that were incongruent with students' interests and ability. This chapter examines families' expectations about the future education of *Learning for Life* students in more detail. The path analysis also suggested that students' cost-benefit analyses influenced planning for education. This chapter looks more closely at these cost-benefit analyses.

### Family expectations and planning to go to university

Table 8 shows the proportion of families, as seen by *Learning for Life* students, who expected them to go to university. Fewer than 40 per cent expected a university education to be undertaken. Just under a half of the families did not expect a university education for the student.<sup>11</sup>

**Table 8 Whether the family expects the student to go to university**

	Frequency	Per cent	Valid Per cent
Family does not expect	550	48.7	49.1
Family expects	419	37.1	37.4
Don't know	152	13.5	13.6
Total	1121	99.3	100.0
Missing	8	0.7	–
<b>Total</b>	<b>1129</b>	<b>100.0</b>	<b>–</b>

Table 9 shows the highest level of education planned by *Learning for Life* students and the expectations their family had of them attending a university. It can be seen that just under 90 per cent of those whose parents expected them to attend university, planned to do so. In contrast, around 15 per cent of those whose families did not expect them, planned to go to university. The interpretation of these figures needs to be cautious if causal connections are sought: parents may expect offspring to go to university because the offspring plan to go, or conversely, the educational plans of the offspring may be shaped by parental expectations, or there may be an interaction between the two. An interesting feature of Table 9, however, is the high proportion (23.7 per cent) of those young people who did not know their educational plans when they believed that their parents did not expect them to go to university. Furthermore, 43.2 per cent of students did not know their educational plans when they did not know if their families expected them to go to university. This compares with 6.7 per

cent of young people from families who expected them to attend university. These differences suggest that family expectations may have helped young people to develop or to clarify their educational plans.

**Table 9 Highest planned level of education by family expectations for university education (shown as column percentages)**

Highest level of education planned	Does your family expect you to go to university?			Total
	No	Yes	Don't know	
Before end of Yr 12	1.9	0.0	0.7	1.0
End of Yr 12	19.5	1.4	4.7	10.6
Certificate I or II	15.7	0.7	12.8	9.6
Certificate III or IV	10.2	0.7	4.1	5.8
Diploma	13.4	1.2	14.2	8.9
Bachelor degree	15.5	89.2	20.3	44.3
Don't know	23.7	6.7	43.2	19.8
Total (N)	528	418	148	1094

The survey asked if the family expected the *Learning for Life* student to attend university and whether they also expected them to attend a particular course. If so, it was then possible to compare the type of course in which the family expected the student to enrol with the type of course in which the student planned to enrol. University courses were classified into five groups:

1. Visual arts and music<sup>vii</sup>, for example, 'Fine' arts, graphic arts and conservatorium music courses
2. Humanities and social sciences<sup>viii</sup>, for example, 'Arts' courses, media studies courses
3. Applied social science<sup>ix</sup>, for example, teaching and nursing courses
4. Business, Law<sup>x</sup>, for example, commerce, economics and law courses
5. Professional sciences<sup>xi</sup>, for example, architecture, surveying, engineering and computing courses, medicine, dentistry, optometry, and agriculture courses. (Harvey-Beavis & Elsworth, 1998. pp. 15ff)<sup>xii</sup>

Table 10 shows the type of university course expected by the family and the type of university course preferred by the student. The cells along the diagonal in this table, where the courses expected and preferred are the same, are marked in bold. It can be seen that 61 of the

11. While not directly comparable, the Longitudinal Survey of Australian Youth (LSAY) data indicate that around 72 per cent of Year 12 students plan to go to university (see Table 1 in G. Marks, 2005). For Victoria, 79.6 per cent of students who were eligible to complete a senior secondary certificate made a timely application for a course to the Victorian Tertiary Admission Centre (personal communication, February 2006).

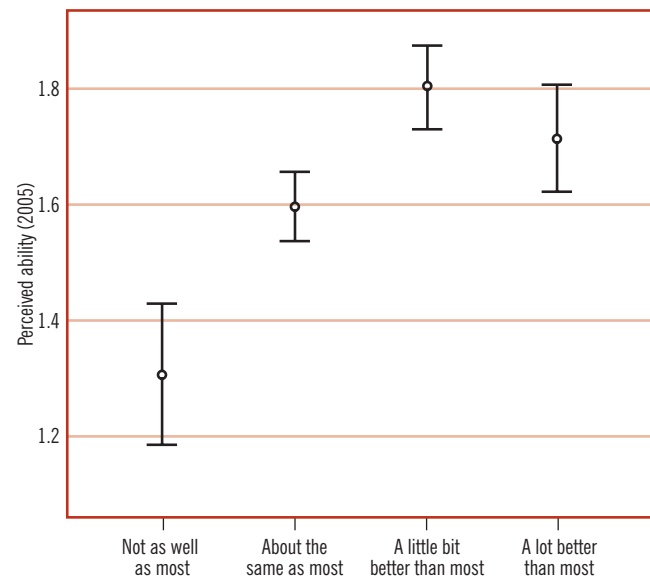
71 cases available for the analysis appear on this diagonal. The small number of cases limits the strength of claims which can be made, however, there does appear to be a close connexion between family expectations and the type of university course preferred by young people.

**Table 10 Type of university course expected by family, by type of university course preferred by the respondent**

Type of university course preferred by the Learning for Life student	Type of university course expected by family					Total
	Visual arts or music	Humanities & Soc Science	Applied Soc Science	Business, Law	Professional Sciences	
Visual arts or music	5	0	0	2	0	7
Humanities and Social Science	0	2	0	0	0	2
Applied Social Science	1	1	14	1	0	17
Business, Law	0	2	1	13	0	16
Professional Sciences	0	0	2	0	27	29
<b>Total</b>	6	5	17	16	27	<b>71</b>

Further investigation of family expectations for university showed that as the student's self-perceived ability increased, so also did the family expectation of a university education for the student. This can be seen in Figure 4<sup>xiii</sup>, where the higher the score on the vertical scale, the more likely it was that the family expected the Learning for Life student to attend a university.

**Figure 4 Perceived ability and the likelihood that the family expected their offspring to go to university**

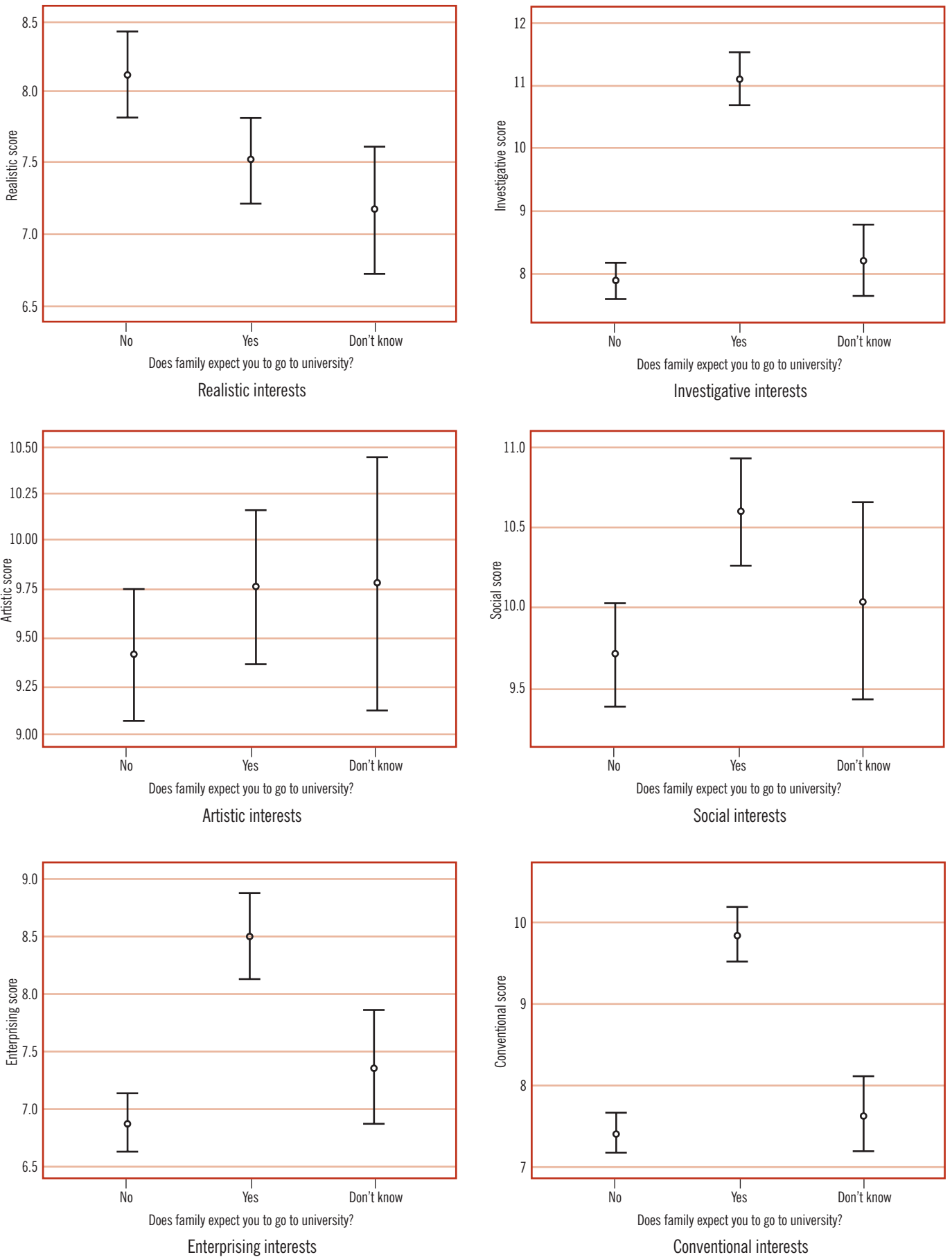


The vocational interests of students were also related to the propensity for the family to expect them to attend university. Those with Realistic interests were less likely to be expected to attend university, while those with Investigative, Social, Enterprising and Conventional interests were more likely to be expected to attend university.<sup>12</sup> Figure 5 shows these relations.<sup>13</sup> The negative association between Realistic interests and expectations for university reflects the fact that universities typically do not offer courses of study that are of interest to people with Realistic type vocational interests.

12. There were no statistically significant differences between levels of Artistic interests.

13. The scales on the graphs making up Figure 5 differ from each other.

**Figure 5** Mean RIASEC score according to whether the respondent believes their family (1) expects them to go to university, (2) does not expect them to go to university, or (3) does not know whether they are expected to go to university



These findings are pointing to an interesting set of relations between family expectations and the educational plans of the student. This is especially so given the findings from the path analysis reported earlier (p. 14 and following), which suggested that expectations may be important in shaping the plans of these young people. However, without information which allows for the effects of expectations and plans to be disentangled from each other, the implications of these findings must remain uncertain. Also confounding these results may be the effects of The Smith Family Education Support Workers who are closely engaged with these families. The families may not be representative of all low socioeconomic families because, in order to participate in the *Learning for Life* program, they have to demonstrate a willingness to support their children in education.

### Planning for university

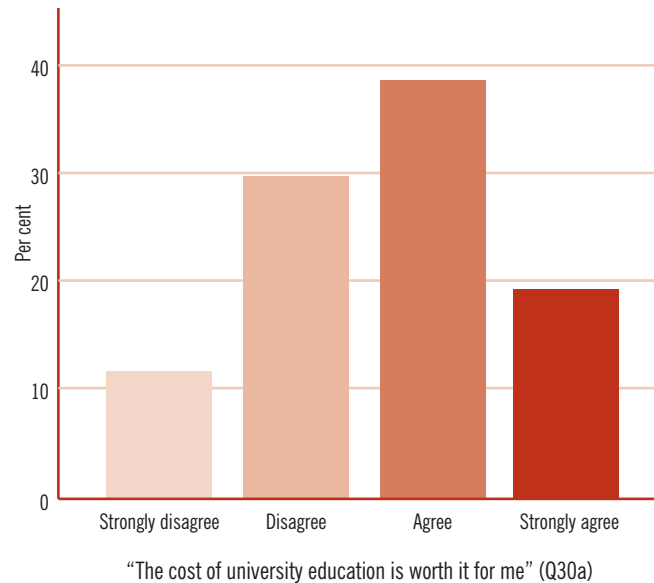
The results of the path analysis suggested that *Learning for Life* students made a cost-benefit analysis when planning their education. To explore this issue the following concerns are addressed:

- Why *Learning for Life* students do, or do not, consider it worth attending university
- How ability is related to the perceived status of universities as indexed by preferences for courses in the high status universities
- What factors are associated with expectations of enrolling in a preferred course at university.

### The perceived worth of attending university

Figure 6 shows that around 40 per cent agree that university is worth the cost, and a further 20 per cent strongly agree with this statement. Around 40 per cent disagree or strongly disagree with it. So, a (small) majority of *Learning for Life* students believed it is worth attending university.

**Figure 6** How strongly *Learning for Life* students agree with the statement: *The cost of university education is worth it for me*



To investigate the factors that help to understand why students did or did not agree that university was worthwhile, a regression analysis was performed. The variables in the analysis included: gender, measures of the RIASEC vocational interest scales, perceived ability, the socioeconomic status of the preferred job, and whether they expected to get their preferred job. These were the key variables available relating to occupational plans.<sup>xiv</sup> The results can be seen in Table 11 – perceived ability and the socioeconomic status of the preferred job were statistically significant. None of the vocational interest measures, gender, or whether the respondent expected to get their preferred job were statistically significant. These findings suggest that the higher the socioeconomic status of the preferred job, and the higher their perceived ability, the more likely the students were to agree that university was worth the cost.

**Table 11 Results of a regression analysis predicting the extent to which *Learning for Life* students agree with the statement: *The cost of university education is worth it for me***

	Standardised beta	Statistical significance
Perceived ability (2005)	<b>0.109</b>	0.003
Gender (female = 0, male = 1)	-0.034	0.447
Socioeconomic status of the job liked at 25	<b>0.299</b>	0.000
Expect to get the job you would like? (yes = 1, no = 2)	-0.052	0.135
Realistic vocational interests	-0.077	0.077
Investigative vocational interests	0.063	0.157
Artistic vocational interests	0.009	0.820
Social vocational interests	0.011	0.792
Enterprising vocational interests	0.073	0.082
Conventional vocational interests	0.061	0.191

To simplify these findings, a series of analyses were undertaken, removing one variable at a time from the regression until a reduced set was identified. Table 12 shows the results at the end of this process. It can be seen that socioeconomic status of the preferred job remained the strongest predictor. It is around three times as strong in its effect as perceived ability. Expectation of getting the job was retained in the analysis, even though it was not statistically significant, for this finding suggests that an expectation of getting a job does not affect the perceived worth of attending university.

**Table 12 Results of a regression analysis using a reduced set of variables predicting the extent to which *Learning for Life* students agree with the statement: *The cost of university education is worth it for me***

	Standardised beta	Statistical significance
Perceived ability (2005)	<b>0.117</b>	0.001
Socioeconomic status of the job liked at 25	<b>0.314</b>	0.000
Expect to get the job you would like? (yes = 1, no = 2)	-0.045	0.184
Realistic vocational interests	<b>-0.079</b>	0.024
Conventional vocational interests	<b>0.138</b>	0.000

The effect of some types of vocational interest, while not strong, was evident. As might be expected, those higher on Realistic interests, having an interest in working with their hands, tended not to view university as worth the cost. Those with Conventional interests, having an interest in handling data and information, for example accountancy work, tended to make a positive assessment of the worth of attending university.

These models explain just under 20 per cent of the variance, so are moderately powerful accounts. The full model (Table 11) explained 18.7 per cent, and the reduced model (Table 12) explained 18.4 per cent.<sup>xv</sup> Overall, therefore, the socioeconomic status of the preferred job seems to have the strongest effect on estimates of the worth of attending university. Given that high socioeconomic status jobs typically require a university degree, this points to a broadly accurate understanding of the benefits of attending university when the criterion used is socioeconomic status.

Another possible criterion used to assess the worth of attending university is the remuneration attached to jobs which require a degree. To this end, respondents were asked the following question:

*In Australia, in 2000, the average salary for a person working with no further education after leaving school was \$37,500 per year. How much do you think the average salary was for a person with a university degree? If you do not know, have a guess at what you think the salary might be. If you have no idea at all, then tick the box. (The box was labelled 'Don't know'.)<sup>xvi</sup>*

The average salary in 2002 for an Australian full-time worker with a university degree was around \$58,500 (NCVER). Of those who answered this question, 519 (46 per cent) indicated that they did not know. A variable was constructed which consisted of two values: those who did not know the average salary and those who gave an answer to the question. The variable was added to the regression equation to predict the extent to which the cost of university was seen as worth it to the students. It was not statistically significant. This result indicates that whether these students did or did not know the salary benefits of a university degree, they were nevertheless making a judgement about whether attending university was worth it for them. This implies that they were using other criteria apart from future remuneration.

Five hundred and seventy-one of the *Learning for Life* students answered the question – *What is the average salary of persons with a degree?* The average they gave was \$57,900. This was very close to accurate. However, there was considerable spread around this mean (SD = \$17,180). To explore this further, those who answered within \$15,000 above or below the correct answer (\$58,500) were classified as giving a correct answer and those outside this range were classified as giving an incorrect answer. Of the 571 who answered, 56.4 per cent gave a correct answer under this definition. When this variable was added to the regression equation predicting the worth of a university education, it was not statistically significant. This implies that the accuracy of information about the salary

benefit of a university degree was not influencing these students' judgement that the cost of university was worth it to them.

On the evidence from the above analyses, the remuneration attached to occupations requiring a degree does not appear to have influenced the assessment made about the worth of attending university by these *Learning for Life* students. Rather, the socioeconomic status of their preferred job, their perceived ability and their vocational interests were the factors that appear to have influenced their assessment. The socioeconomic status of the preferred job had a much stronger effect than either ability or interests.

### Ability and the perceived status of universities

There was evidence of a fairly well developed appreciation by these young people of status differences between universities. In part these observed differences may reflect the courses only on offer from 'Group of Eight' universities, but nevertheless those with higher ability were more likely to plan to go to a Group of Eight university.<sup>xvii</sup> This can be seen in Figure 7, where a statistically significant difference can be observed<sup>xviii</sup> between those preferring a Group of Eight university and those preferring another university.<sup>14</sup>

**Figure 7 Average perceived ability by preferred university: Group of Eight versus others**

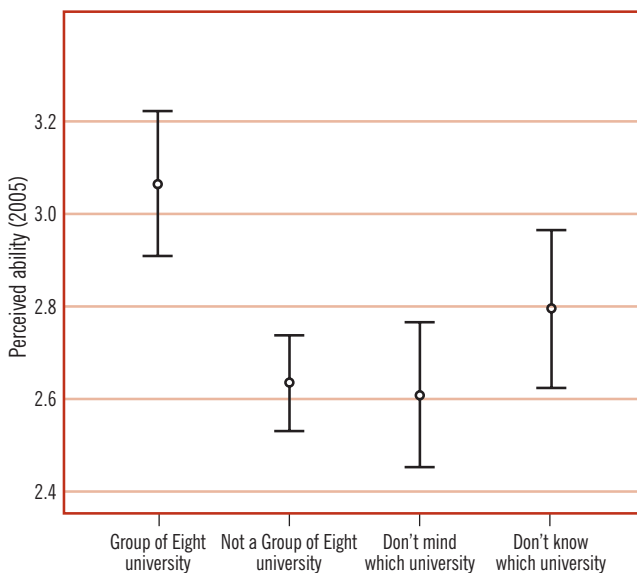


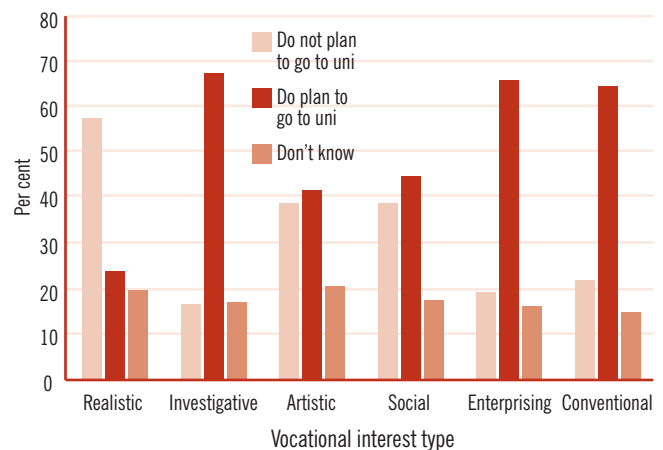
Figure 7 also shows the perceived ability for those students who did not mind which university they attended and those who did not know. There is a statistically significant difference between those planning a Group of Eight university and those who don't mind, but not between those planning a Group of Eight

university and those who don't know. On this evidence, it also appears that those students with a higher perceived ability have clearer plans for university.

### Vocational interests and plans for different types of university course

The regression analysis also indicated that vocational interests play some role in planning for university. Figure 8 shows the numbers of *Learning for Life* students who planned to attend, not to attend or who did not know if they would attend a university, classified by their strongest vocational interest type. It can be seen that those with strong Realistic interests were most likely to plan no university, those with Investigative, Enterprising and Conventional interests were very likely to plan to go to university, and those with Artistic and Social interests were about equally likely to plan to attend as not attend university. For example, of all students with a strong Social type vocational interest, just under 40 per cent did not plan to go to university and around 45 per cent did plan to go.

**Figure 8 Vocational interests and plans to attend university**



This classification of university courses developed by Elsworth (n.d.), and replicated in 1998 (Harvey-Beavis & Elsworth, 1998) has been shown to be systematically associated with RIASEC interests, such that:

- Artistic interests are strongly associated with application to courses in the Visual Arts and Music field of study
- Enterprising interests are associated with application to courses in the Humanities and Social Science field of study
- Social interests are associated with application to courses in the Applied Social Science field

14. The use of the Group of Eight here is not intended to imply that *Learning for Life* students ought to be aspiring for a course at these institutions, or indeed ought to be making plans to attend any university. The Group of Eight is used here as an indicator of levels of understanding about the status hierarchy of universities in Australia.

- Conventional interests are associated with application to courses in the Business and Law field of study
- Investigative interests are associated with application to courses in the Professional Science field of study (Harvey-Beavis & Elsworth, 1998, pp. 26-28).

Figure 9 shows how the *Learning for Life* students classified according to their strongest vocational interest type. The modal course type within each interest group is marked in darker tone. It can be seen that there were very few students with Realistic interests who planned university study, and of those who did the largest group were planning a course in the Professional Sciences. Most of these were Engineering courses or courses related to Engineering. Many students with Investigative interests were planning university study, and for a large majority, this was in the Professional Sciences. Those with Artistic interests were most likely to plan for an Applied Social Science or a Professional Science course. Those with Social interests were most likely to plan for an Applied Social Science course. Students with Enterprising and Conventional interests were most likely to plan for a Business or Law course.<sup>xix</sup>

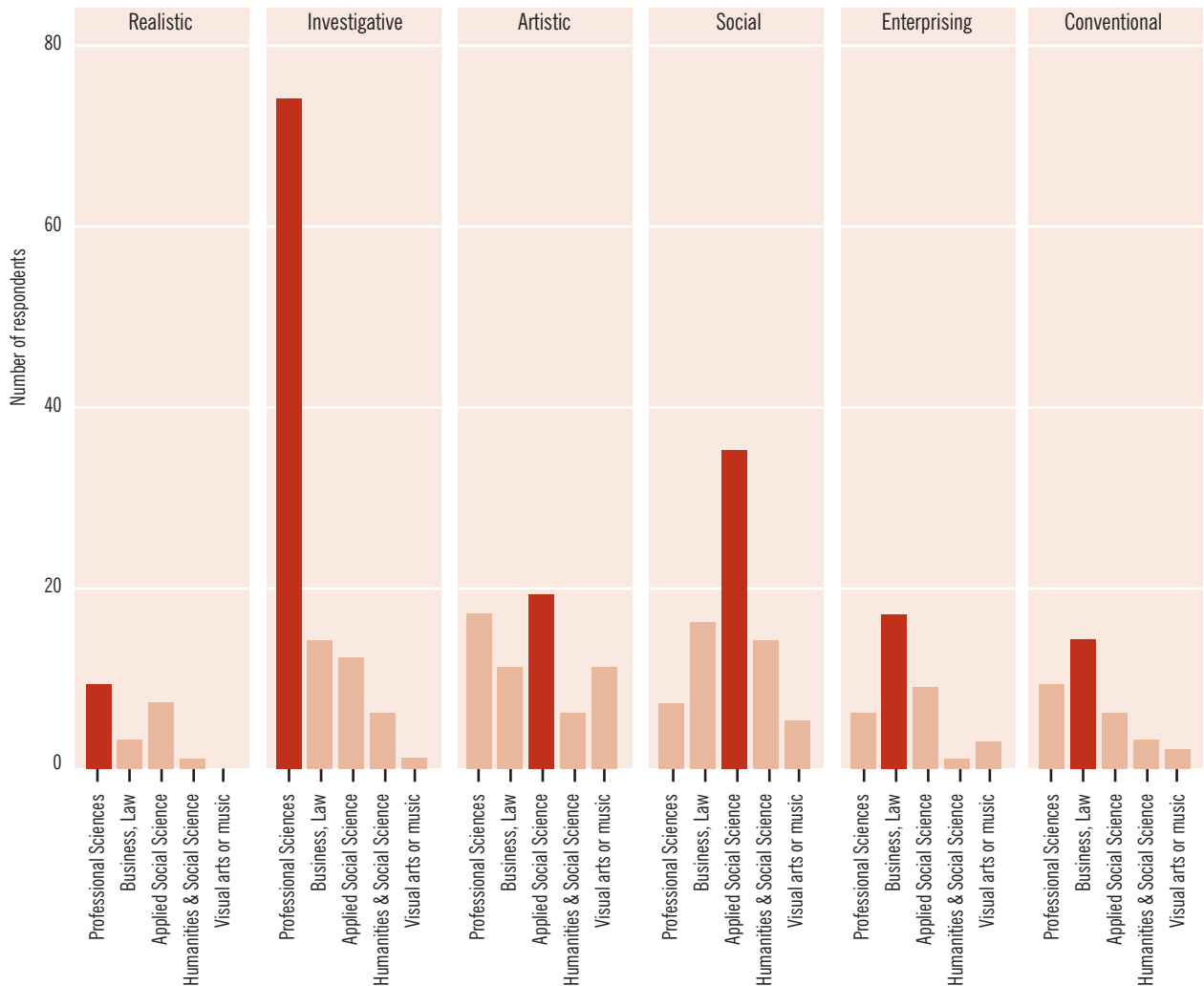
Overall, these data point to the importance of vocational interests in shaping plans for university, especially when students have strong Investigative vocational interests.

**Expectations of admission to preferred university course**

Of the 387 students who could name the course they planned to enter, only 1 per cent did not expect to gain admission. A further 37 per cent of these students reported that they did not know if they would gain admission and 62 per cent expected to gain admission. There was a statistically significant difference between the average perceived ability of those expecting and those not knowing if they would be able to implement their plans for a specific university course, but the effect size was small<sup>xx</sup>, suggesting that perceived ability is not of much practical importance in understanding the differences between these two groups of students. Nor was there any evidence of the following being related to expectations about getting admission to the preferred course:

- gender
- family expectations about attending university

**Figure 9 Numbers of *Learning for Life* students planning different types of university course by vocational interest type**





- type of vocational interests
- preferred field of study
- whether the student felt attending university was worth it or not.

It remains unclear why some students expect to get into their preferred university course and others do not know if they could gain admission.

### Overview

A small majority – around 60 per cent – of *Learning for Life* students agreed that it was worth it for them to attend university. The strongest factors influencing this view were the socioeconomic status of their preferred job and their perceived ability. Vocational interests were also important. The likely return in the form of remuneration that follows from having a university degree did not appear to form part of the assessment made by *Learning for Life* students when deciding if university was worth it for them.

Plans for university were influenced, in their detail, by the perceived ability of students, in that those with higher ability were more likely to plan to enrol in a high status Group of Eight university. This suggests these students can identify a status hierarchy among universities similar to that proposed by the Group of Eight universities.

Vocational interests were shown to be associated with a decision to attend university, with Realistic types least likely to plan a university education. The type of university course planned was also associated with vocational interests. In particular, those with Investigative interests were strongly attracted to Professional science courses, those with Conventional and Enterprising interests tended to be attracted to Business or Law courses and those with Social interests were attracted to the Applied social sciences. Those with Artistic interests were not strongly attracted to one field.

Thus, planning for university appears to be influenced by the social status of the preferred occupation, perceived ability and vocational interests. There was evidence of quite subtle appreciations of status distinctions between universities amongst some of these students which points to an increasingly sophisticated understanding of post-school options.





# 6 Chapter Six

**Conclusion**

## Conclusion

This chapter provides an overview, summarises the main findings and suggests some directions for further research.

### Overview

The major research questions addressed by the study were:

- What were student perceptions of the world of work in late 2005 and how had these changed since 2004?
- To what extent did students' post-school plans in 2005 imply upward social mobility?
- What evidence is there of the influence of family expectations on plans to go to university?
- What factors shape *Learning for Life* students' plans for attending university?

### Findings

#### Student perceptions of the world of work in late 2005 and how these had changed since 2004

There was evidence of some confusion about the educational requirements of occupations with around 25 per cent of young people in the 2005 survey planning a level of education too low for their preferred job. Nevertheless, most of the young people in this study had educational plans which could allow them entry to their preferred job. Results from the longitudinal data in this project suggest that educational plans can change. Further, new plans may involve a mismatch in educational and occupational level where previously there was a match. It should not be assumed, therefore, that sound plans made in one year will stay the same or, if they change, remain sound. Indeed, only about 40 per cent of *Learning for Life* students had educational plans that matched the level required for their preferred job in 2004 and in 2005.

#### The extent to which students' post-school plans in 2005 imply upward social mobility

Typically, these young people – all of whom are from low socioeconomic families – were planning a future shaped by their interests, perceived ability and, it seems likely, their families. The picture to emerge of these families, from these data, was one of supportiveness. The interests of young people were being encouraged and their plans set at a level to accord with their perceived ability. For most this implied that their plans, when realised, would involve upward social mobility. Despite this, there was little evidence of overly ambitious families pushing their children in inappropriate directions.

#### The influence of family expectations on plans to go to university

The findings about the influence of family expectations were intriguing. They pointed to the possibility of a strong effect. However, without information which allowed for the effects of expectations and plans to be disentangled from each other, the implications of the findings from the study remain uncertain.

#### Factors which shape *Learning for Life* students' plans for attending university

A small majority – around 60 per cent – of *Learning for Life* students agreed that it was worth it for them to attend university. The strongest factors influencing this view were the socioeconomic status of their preferred job and their perceived ability. Vocational interests were also important. The likely return in the form of remuneration that follows from having a university degree did not appear to form part of the assessment made by *Learning for Life* students when deciding if university was worth it for them, even when students had a reasonably accurate understanding of these monetary returns. This finding is interesting because it is inconsistent with what might be expected if the human capital theories held true.

Plans for university were influenced, in their detail, by the perceived ability of students. For example, those with higher ability were more likely to plan to enrol in a Group of Eight university. This suggests these students can locate universities on a status hierarchy. The type of university course planned was associated with different types of vocational interests. In particular, those with Investigative interests were strongly attracted to Professional science courses, those with Conventional and Enterprising interests tended to be attracted to Business or Law courses and those with Social interests were attracted to the Applied Social Sciences.

#### Further research directions

The findings from this study suggest the following further research directions with *Learning for Life* families:

- An investigation of the fluidity of educational plans appears needed. Most of the *Learning for Life* students changed their educational plans so that the match between levels planned and needed for their preferred job differed over the period of a year. The reasons for this fluidity are unknown.
- A more detailed examination of the effect of family expectations is required. The findings from this study suggest they are important but it remains unclear how these expectations work or vary across sub-groups of young people.



- Further assessment of the importance of cost-benefits – both monetary and other dimensions – in educational plans should be considered. The surprising finding from this study that it appears to play only a minor role needs to be further investigated. It is possible, for example, that what is being observed here is an effect of the *Learning for Life* program with Education Workers informing decisions.
- Plans involving a TAFE education should be investigated more deeply as there was some evidence of confusion among the *Learning for Life* students about the different levels of education on offer from TAFE.
- The extent to which *Learning for Life* students are successful in implementing their plans post-school requires on-going evaluation.
- The *Learning for Life* families come from a disadvantaged background, but their involvement in the program also marks them as not necessarily representative of all disadvantaged families. Therefore, future research, especially if it focusses upon evaluating the success of educational plans of families, needs to make comparisons with plans of non-participants in the program who also come from a disadvantaged background.

### Final observations

This study highlights the importance of ability and interests for students' educational and vocational plans. This is a finding consistent with other studies in the ACER series of reports for The Smith Family.<sup>15</sup> However, for the first time this study began to consider the role of family expectations in shaping these plans. The early indications are that family expectations shape young peoples' plans. How and to what extent is largely unknown. The extent to which this influence may vary according to, say, the gender, interests and ability of these young people and their family characteristics also remains unknown. The effect of the *Learning for Life* program on these expectations is also unknown. Careful thought needs to be given to how family expectations might best be investigated.

15. Beavis et al., 2005a; Beavis et al., 2005b; Beavis et al., 2004.

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# Appendix 1: The Questionnaire\*

The Smith Family Survey for Year 11 and 12 students conducted by the Australian Council for Educational Research September 2005

## About this questionnaire

### Who?

This survey is intended for selected families who receive Learning for Life support from The Smith Family in 2005.

### Why?

We are collecting information about young people, their education and job plans. This will help The Smith Family to understand how it can best work with young people and their families. Please complete this survey even if you completed a similar one in 2004; we need current information.

### How?

For most questions you only need to tick a box.

### When?

Please complete and return the survey within the next seven days.

### How long?

Do not spend too much time on any one question.

### Where?

Use the envelope that comes with this questionnaire to return it to the Australian Council for Educational Research (ACER). They are conducting the survey for The Smith Family. If you lose the envelope, then please send the completed survey to: Australian Council for Educational Research The Smith Family Study Reply Paid 63589 Private Bag 55 CAMBERWELL Vic 3124 If you use this address, you don't need to pay postage.

### About ACER

ACER is a non-government, not-for-profit organisation that does educational research. You can find out more about ACER at [www.acer.edu.au](http://www.acer.edu.au).

### Use of the data

The data collected from this survey will be analysed for The Smith Family by the Australian Council for Educational Research. No one will be identified and no names will be used in any way. Please don't put your name on this questionnaire.

### Any questions?

If you have any questions please contact your Education Support Worker. If you prefer not to do the survey, please leave it blank and return it to the Australian Council for Educational Research. If you do this we will not send you reminders and this will save both of us time!

Thank you very much for your help.

\*The layout and size of The Questionnaire have been reduced for design purposes.

## PART 1: SCHOOL

**Q1 Think of students in your year, at your school now. Generally how well do you do in your school subjects compared with them?**

Please tick one box only.

- Not as well as most
- About the same as most
- A little bit better than most
- A lot better than most

Strongly disagree  
Disagree  
Agree  
Strongly agree

**Q2 My school is a place where...**

Please tick one box on each row.

- |                                      |                          |                          |                          |                          |
|--------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| a. I feel happy.                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. I really like to go each day.     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. I get enjoyment from being there. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. I enjoy what I do in class.       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**Q3 Have you done, or are you doing, any Vocational Education and Training (VET) subjects or courses at school?**

- No. Please go to Q5.
- Yes

**Q4 Does this VET study involve any time spent learning in a workplace away from your school?**

- No
- Yes

**Q5 Have you done, or are you doing, any TAFE subjects?**

- No
- Yes

**Q6 When do you plan to leave school?**

Please tick one box only.

- During Year 11
- At the end of Year 11
- During Year 12
- At the end of Year 12
- I don't know, or I have not made up my mind yet

## PART 2: YOUR FUTURE PLANS

**Q7 Does your family expect you to go to university?**

Please tick only one box.

- No. If No, please go to Q9.
- Yes
- Don't know. If you Don't know, please go to Q9.

**Q8 Does your family expect you to do a particular course at university?**

- No
- Yes. If yes, what course does **your family** want you to study at university? \_\_\_\_\_
- Don't know





**Q9 Do you plan any further study after you leave school?**

Please tick one box only.

If your plans depend upon your school results, and you are not sure of how well you will do, assume you will do well enough to continue with further study, and tick the Yes box.

- No. If No, please go to Q22.  
 Yes  
 Don't know

**Q10 Do you plan to go to university after school?**

- No. If No, please go to Q17.  
 Yes  
 Don't know. If you answered Don't know, please go to Q17.

**Q11 What is the name of the university you would most like to attend?**

Please write the name of the university in the space provided, for example, Charles Darwin University, or tick a box.

Name of university: \_\_\_\_\_

- I don't mind which university I attend  
 I don't know which university I would like to attend

**Q12 What is the name of the course you would most like to study?**

Please write the name of the course in the space provided. Give as much information as possible, for example, Bachelor of Arts (History), Bachelor of Science (Chemistry). If you do not know please tick the box.

Name of course: \_\_\_\_\_

- I don't know which course. If you answered Don't know, please go to Q 16.

**Q13 Where do you expect to get the money to attend this course?**

Please tick as many boxes as apply.

- a. Fee Help (used to be called HECS)  
 b. Work  
 c. Family  
 d. Scholarships  
 e. Learning for Life support  
 f. Other. Please tell us. \_\_\_\_\_  
 g. Don't know

**Q14 Do you expect you will be able to get into this course?**

- No  
 Yes  
 Don't know

**Q15 How much do you think the average salary is for a person in their first year of work who has this university degree?**

If you do not know, have a guess at what you think the salary might be. If you have no idea at all, then tick the box.

- \$ \_\_\_\_\_,000 per year  
 Don't know

**Q16 Below are a number of reasons people may give for not getting into a course of study**

**If you were not able to get into a university course of study, how important do you think each reason would be?**

Please tick one box on each row.

- |   | Not at all important     | Unimportant              | Important                | Very important           |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| a. I do not think I have enough ability to get into the course. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. It will require too much effort to get into the course.      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. There are not many places available in this course.          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. I do not know what subjects I need to enrol in this course.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Other. Please tell us. _____                                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**Q17 Do you plan to go to TAFE after you leave school?**

- No. If No, please go to Q22.  
 Yes  
 Don't know. If you answer Don't know, please go to Q22.

**Q18 If you think you may go to TAFE after leaving school, do you plan to...**

Please tick as many boxes as apply.

- a. go to TAFE for a Diploma  
 b. go to TAFE for a Certificate  
 c. do an apprenticeship  
 d. do a traineeship  
 e. do other non-university study  
 f. I don't know what I plan to do.

**Q19 Do you expect you will be able to get into this course?**

- No  
 Yes  
 Don't know

**Q20 How much do you think the average salary is for a person who has completed this TAFE course in their first year of work?**

If you do not know, have a guess at what you think the salary might be. If you have no idea at all, then tick the box.

- \$ \_\_\_\_\_,000 per year  
 Don't know

**Q21 Below are a number of reasons people may give for not getting into a course of study.**

**If you were not able to get into the course of study at TAFE you would most like, how important do you think each reason would be?**

Please tick one box on each row.

- |   |   |
|---|---|
|   | Not at all important<br>Unimportant<br>Important<br>Very important                                  |
| a. I do not think I have enough ability to get into the course. | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| b. It will require too much effort to get into the course.      | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| c. There are not many places available in this course.          | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| d. I do not know what subjects I need to enrol in this course.  | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| e. Other. Please tell us. _____                                 | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

**PART 3: WORK AND FUTURE JOBS**

**Q22 Do you currently have a part-time or casual job?**

Do not include jobs that you have only during school holidays, or do around the house for pocket money.

- No. If No, please go to Q 25.  
 Yes

**Q23 On average, how many hours a week do you work at this job?**

\_\_\_\_\_ Hours per week

**Q24 What are your reasons for working? I work because...**

I work because...

Please tick one box on each row.

- |   |   |
|---|---|
|   | Not at all important<br>Unimportant<br>Important<br>Very important                                  |
| a. it is the kind of work I want to do as a career.         | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| b. I enjoy the work.  | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| c. my family needs the money.                               | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| d. I like the sense of independence the job provides.       | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| e. it will help me get a job when I finish studying.        | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| f. it is in the family business and I am expected to help.  | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| g. I need money to help support myself while I'm at school. | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

**Q25 What job would you most like to do when you are 25 years old?**

If you do not know what you would like to do, write 'Don't know' and go to Q 27. If you do not plan to get a paid job, write 'Not going to work' and go to Q 30.

- a) Name of job: \_\_\_\_\_  
 b) What are the main tasks you would do in this job?  
 \_\_\_\_\_

Sometimes it is not possible for us to get the job we would like.

**Q26 Do you expect you will be able to get the job you would like?**

- Yes. If yes, please go to Q 28.  
 No

**Q27 What job do you expect to have when you are 25?**

If you do not know, just write 'Don't know'.

If you expect to be unemployed, just write 'Unemployed'.

- a) Name of job: \_\_\_\_\_  
 b) What are the main tasks you would do in this job?  
 \_\_\_\_\_

**Q28 Below are a number of reasons people may give for not getting a job.**

**If you do not get the job you would most like, how important do you think each reason would be?**

Please tick one box on each row.

- |  |   |
|--|---|
|  | Not at all important<br>Unimportant<br>Important<br>Very important                                  |
| a. It is a job that members of the other sex usually do. | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| b. I do not think I have enough ability to get the job.  | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| c. It will require too much effort to get the job.       | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| d. It needs a lot of education.                          | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| e. There are not many of these jobs about.               | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| f. I do not know how to get this job.                    | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| g. Other. Please tell us. _____                          | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

**Q29 Thinking about the job you would like to have when you are 25, what level of education do you need for this job?**

Please tick only one box.

- a. Basic education up to Year 10  
 b. Completed Year 12 at school  
 c. Certificate or diploma level (TAFE), includes apprenticeship or traineeship qualifications  
 d. University degree  
 e. Other. Please tell us. \_\_\_\_\_  
 f. Don't know



**Q30 How strongly do you disagree or agree with the following statements about education and work?***Please tick one box on each row.*

- |   | Strongly disagree        | Disagree                 | Agree                    | Strongly agree           |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| a. The cost of university education is worth it for me.           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. My family can afford for me to study at university.            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. I can get a well-paid job without doing any university course. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. University education is too expensive for me.                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**Q31** In Australia, in 2000, the average salary for a person working with no further education after leaving school was \$37,500 per year.

**How much do you think the average salary was for a person with a university degree?**

*If you do not know, have a guess at what you think the salary might be. If you have no idea at all, then tick the box.*

- \$ \_\_\_\_\_,000 per year
- Don't know

Thank you, your help is very much appreciated.

## Appendix 2: Methodology

The study used a self-completed, post-delivered survey to collect the data for the study. Each questionnaire was customised so the name of the respondent appeared on the front cover. The name was required as some respondents came from the same household. As the data were to be merged with the 2004 data collection, it was important that each questionnaire was answered by the family of the named persons. Their name was removed from the cover upon receipt at ACER.

The questionnaires were posted during late September and early October 2005. There were two rounds of reminder letters. A total of 2,429 questionnaires were sent out to Year 11 and 12 *Learning for Life* students and 1,344 were returned.

The response rate for the Year 11 and 12 students was 55.3 per cent, which is satisfactory, although down considerably on the response rate from the previous study. A total of 56 (2.3 per cent) of the surveys were returned blank or unopened.

Administrative data held by The Smith Family were also merged with the survey data. This was undertaken to reduce the response burden required to complete the survey form. There were complex procedures developed so that the respondents' anonymity was preserved outside of The Smith Family. The researchers could not identify any respondents from any of the data that they used. Once the 2005 data had been cleaned, these were merged with the 2004 data collected as part of earlier studies conducted by The Smith Family. The merge was based upon the respondents' Smith Family identification numbers.

## Appendix 3: Vocational interests

The data providing a measure of vocational interests were obtained using the research form of the Australian Interest Measure (AIM).<sup>16</sup> This instrument measures the six types of vocational interest classified by Holland (1962; 1985; 1997). The six types of interest, as named by Holland, are:

- Realistic – having an interest in (skilled or unskilled) manual work
- Investigative – having an interest in work involving abstract thinking, especially of a scientific type
- Artistic – having an interest in work involving the performing, visual or literary arts
- Social – having an interest in working with people to help or develop them, for example as nurses or teachers
- Enterprising – having an interest in work involving the exercise of power or entrepreneurial activities
- Conventional – having an interest in the routine handling of data and information, such as clerical or other office work.

The acronym RIASEC is used in the literature when referring to these categories.

Everyone has a mix of interests, but most people have one type of interest which is dominant. In this study, it is the area of most interest that was used. This approach kept the data analysis efficient.

The interest data were collected in 2004 and merged with the 2005 data. With the passage of time, there may have been some degradation in their accuracy, but this approach spared respondents considerable response burden.

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## Appendix 4: Direct, indirect and total effects of all variables in the path analysis

**Table 13** Direct and total effects – self-perceived ability

Self-perceived ability	Direct effect	Total effect
Gender	.065 <sup>ns</sup>	.065
Realistic type vocational interests	-0.159	-0.159
Investigative type vocational interests	.294	.294

*ns* Not statistically significant

**Table 14** Direct, indirect and total effects – family expecting the respondent to go to university

Family expects the respondent to go to university	Direct effect	Indirect effect	Total effect
Gender	.013 <sup>ns</sup>	.013 <sup>ns</sup>	.025 <sup>ns</sup>
Realistic type vocational interests	-0.231	-0.032	-0.263
Investigative type vocational interests	.378	.059	.436
Self-perceived ability	.199	–	.199

*ns* Not statistically significant

**Table 15** Direct, indirect and total effects – the extent of agreement with the statement: *The cost of university education is worth it for me*

The cost of university education is worth it for me	Direct effect	Indirect effect	Total effect
Gender	-0.093	.015 <sup>ns</sup>	-0.077 <sup>ns</sup>
Realistic type vocational interests	-0.064 <sup>ns</sup>	-0.107	-0.171
Investigative type vocational interests	.110	.180	.290
Self-perceived ability	.098	.069	.167
Family expects the respondent to go to university	.347	–	.347

*ns* Not statistically significant

**Table 16** Direct, indirect and total effects – the highest level of education planned

The highest level of education planned	Direct effect	Indirect effect	Total effect
Gender	-0.089	-0.002 <sup>ns</sup>	.091
Realistic type vocational interests	-0.070	-0.190	-0.260
Investigative type vocational interests	.057 <sup>ns</sup>	.320	.377
Self-perceived ability	.118	.140	.258
Family expects the respondent to go to university	.470	.096	.565
Agreement that: <i>The cost of university education is worth it for me</i>	.277	–	.277

*ns* Not statistically significant

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## Endnotes

- i It was Adam Smith (1723–1790) who originally proposed that education could be viewed as 'human capital' (Woodhall, 1997, p. 219).
- ii Becker's view has been attacked from a variety of angles, the most powerful being the argument that it is not skill but credentials that education provides. Credentials, it is argued, make those individuals with the most ability more visible for employers. This critique raises the question of just how important skill – that which education is purportedly developing in individuals – is in the world of work (Woodhall, 1997, p. 218 and following).
- iii **TABLE EN1 Count of Learning for Life students showing match between 2004 and 2005 in planned educational and occupational levels**

		2004 Difference between education level needed for preferred job & planned educational level			
		Less education than needed	Education matched job level	More education than needed	Total
2005 Difference between education level needed for preferred job & planned educational level	Less education than needed	42	80	65	187
	Education matched job level	41	206	42	289
	More education than needed	50	36	14	100
	Total	133	322	121	576

- iv The analysis used in this investigation is based upon a procedure called regression analysis. According to Kerlinger and Pedhazur (1973, p. 3), regression is a method for investigating 'the collective and separate contribution of two or more independent variables ... to the variance of a dependent variable'. It is essentially an elaboration of correlational studies using the product moment coefficient of correlation ( $r$ ). This coefficient, Kerlinger and Pedhazur (1973, pp. 11 – 12) argue, is an 'index' of the strength and direction of relations between 'sets of ordered pairs'. The regression procedure provides not only information about the strength and direction of the relation, but also the coefficient of determination ( $r$ -squared, written as  $R^2$ ). This coefficient tells what proportion of the variance observed in a dependent variable is accounted for by the independent variable(s) entered into the regression equation.

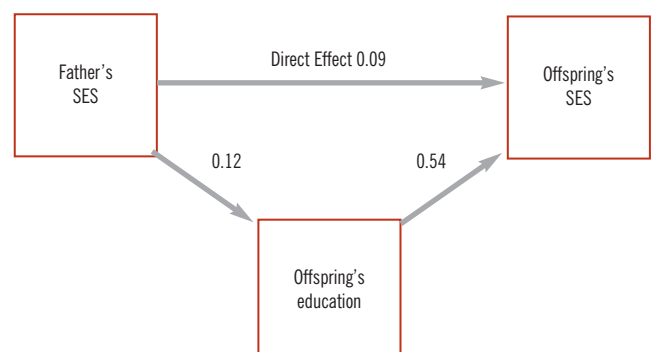
Path analysis is a technique which systematises the use of regression analysis especially for application to complex theoretical relations. It permits the relative importance of each of the dependent variables to be identified (Kerlinger & Pedhazur, 1973, p. 98). This contribution is described as the 'effect' of an independent variable (X) on the dependent variable (Y).

There may be gross and net effects. A gross effect is the effect of X on Y 'regardless' of other variables (Elsworth, Day, Hurworth, & Andrews, 1982, p. 18). A net effect is that contribution of X which cannot be explained by any other independent variables in the model (Elsworth et al., 1982, p. 19). Thus if there are two X's in a model, and if they are correlated, then they will share some of the effect on Y. The net effect is that part which is not correlated. The primary concern in this study was with identifying the net effect of the independent variables. The net effect can be understood as the contribution made by a variable, 'other things being equal' (Elsworth et al., 1982, p. 21). In this way, the unique contribution, and hence the likely importance of a variable can be described.

In the models used here, the independent variables are ordered into a causal sequence such that some independent variables intervene between the background variables and the dependent variable. These intervening variables may 'carry' some of the effect of the background variables, and they may also make a unique contribution to the effect on the dependent variable. Path analysis allows for the separation of these effects into direct and indirect effects.

Figure EN1 shows a simple, path model. An examination of this figure shows that there is a path running between *Father's socioeconomic status (SES)* and the *Offspring's SES*. This path depicts the direct effect of *Father's SES*. The two paths running from *Father's SES* to *Offspring's education* to *Offspring's SES* depicts the indirect effect of *Father's SES* on *Offspring's SES*. The sum of the direct and indirect effects of a variable is its total effect.

**Figure EN1 Hypothetical path model showing direct and indirect effects**





In the results reported for The Smith Family study, the strength of an effect is indicated by using the standardised beta coefficient. This coefficient nearly always has a value ranging from -1 to +1. The strength of this coefficient can be interpreted in much the same way as the product moment coefficient of correlation. Its values can be interpreted in the following ways:

- -1 to -0.6 or 0.6 to 1 is defined as a very strong effect
- -0.4 to -0.6 or 0.4 to 0.6 is defined as a strong effect
- -0.2 to -0.4 or 0.2 to 0.4 is defined as a moderate effect
- -0.2 to 0 or 0 to 0.2 is defined as a weak effect.

The use of the standardised beta coefficient means that the relative contribution of each variable in the model can be calculated. (For example in Figure EN1, the path between *Offspring's education* and the *Offspring's SES* is six times as strong (0.54) as the path between *Father's SES* and *Offspring's SES* (0.09).) This form of information greatly assists in the interpretation of the results.

To calculate the indirect effect of a variable, the values of each path making up the indirect effect are multiplied together. Thus, using the model shown in Figure EN1, the direct effect of *Father's SES* is a weak 0.09. The direct effect of *Father's SES* on *Offspring's education* is weak at 0.12, and the direct effect of *Offspring's education* on *Offspring's SES* is a strong 0.54. The indirect effect of *Father's SES* is 0.12 multiplied by 0.54 = 0.06 which would be interpreted as a weak effect. The total effect of *Father's SES* using these data equals 0.09 + 0.06 = 0.15, which is a weak effect.

v The variables selected for the analysis were as follows:

- Gender was included for its perceived importance from a policy perspective. The fact that it may contribute no identifiable effect is also important for policy.
- Vocational interests have been shown to be of importance in shaping the educational and occupational plans of these young people. For this analysis, Realistic interests – having an interest in working with the hands upon objects – were used as they have previously been shown to be associated with educational plans and work at the

Trades level and hence not requiring a university degree. Investigative interests – having an interest in working with ideas – were included because of their known strong effect on plans to attend university (Beavis et al., 2005a; A. Beavis, D. Curtis, & N. Curtis, 2005b; Beavis, Murphy, Bryce, & Corrigan, 2004). Interests were measured in the 2004 survey using the research form of the *Australian Interest Measure* (Naylor, 1997). Other interest types were examined, and while they had some effects, they added considerable complexity without substantially changing the conclusions drawn from the study. Therefore, they were not included in the analysis.

- Ability, here measured as self-perceived ability, was included because previous research has shown it is an important predictor of educational and occupational plans (Beavis et al., 2005a; Beavis et al., 2005b). The measure was taken from Question 1 of the 2005 survey.
- Family expectations were obtained by asking the respondents whether their family expected them to go to university. The inclusion of this variable reflected the interests of The Smith Family in enabling choice and opportunity through education. The measure was taken from Question 7 of the 2005 survey.
- The perceived relative costs and benefits of a university education was obtained by asking respondents the extent to which they agreed with the statement: *The cost of university education is worth it for me*. This issue of perceived cost reflects the policy concerns of The Smith Family. It arises, in part, from recent research in Canada by Usher (2005) whose work suggests students over-estimate the cost of university education and under-estimate the benefits. The measure was taken from Question 30a of the 2005 survey of *Learning for Life* families.
- The highest level of education achieved is known to be strongly associated with the level of socioeconomic status attained (Blau & Duncan, 1967; L. Broom & Jones, 1969; Leonard Broom & Jones, 1976; Leonard Broom, Jones, McDonnell, & Duncan-Jones, 1978; Leonard Broom, Jones, McDonnell, & Williams, 1980; Daniel, 1983; Featherman, 1981; Ganzeboom, Treiman, & Ultee, 1991; Goldthorpe & Llewellyn, 1977; R. M. Hauser & Featherman, 1977; Robert M. Hauser & Warren, 1997; Jones, 1989; Jones & McMillan, 2001; Gary N. Marks & Jones, 1991; G. N. Marks, Western, & Western, 1989; Sewell & Hauser, 1993; Sorokin, 1927; Williams, Clancy, Batten, & Girling-Butcher, 1980). For this

reason this variable was included. It was constructed from information taken from Questions 6, 9, 10, 17 and 18 of the 2005 questionnaire.

- The socioeconomic status of the preferred occupation at age 25 was coded to the four-digit level of the Australian Standard Classification of Occupations (Australian Bureau of Statistics, 1996), and transformed to the ANU4 scale of socioeconomic status (Jones & McMillan, 2001). This provided a measure of socioeconomic status on a scale from 0 to 100. The higher the score, the higher is the socioeconomic status of the occupation. The data were taken from Question 25 of the 2005 questionnaire. This variable formed the dependent, or outcome, variable in the analysis.
- vi  $R^2 = 0.403$ .
- vii The full set of Visual Arts and Music courses is: 'Fine' arts, graphic arts and design, ceramics, woodcraft, textile design, interior decoration and design, computer art, design courses, and conservatorium music courses.
- viii The full set of Humanities and Social Sciences courses is: 'Arts' courses, humanities, social science, psychology, behavioural science, general studies, pastoral studies courses, and communication arts (performing arts, theatre technology, production, media studies, photography, journalism, professional writing, public relations and print technology courses).
- ix The full set of Applied Social Science courses is: social work, social welfare, youth studies, justice studies (including police studies), local government courses, childcare, teaching, nursing, health promotion and public health, disability studies, Auslan courses, occupational health and safety, safety science, consumer and home science courses, community service courses, sport and recreation.
- x The full set of Business, Law courses is: Law and combination course with law (excluding science-law), commerce, economics, business, accounting, administration, management, personnel management, industrial relations, international trade, banking, finance, commercial law courses, business language courses, and library and information studies.
- xi The full set of Professional Science courses is: building and design courses including architecture, drafting, building engineering, town and regional planning, building surveying, surveying and cartography, building inspection, property and furniture courses, engineering and computing courses, and all medicine, dentistry, optometry, science-law, osteopathy and chiropractic courses, human biology, biotechnology, medical laboratory science courses, agriculture, horticulture, forestry, resource management, wool and fibre science and technology courses, environmental science and engineering, and food science and technology courses.
- xii This classification was first empirically derived using the full set of applications to the then Victorian University Admissions Centre for the years 1979–80, 1981–82 and 1983–84 (Elsworth, Harvey-Beavis, Gilding, & Briant, 1986, n.d.) and replicated in 1998 using the full set of applications to university admission centres in Queensland, South Australia and Victoria in 1994 (Harvey-Beavis & Elsworth, 1998). The replication revealed very similar patterns in the data, suggesting the typology provided a stable framework for classifying patterns of demand for university courses.
- xiii Figure 4 is an error bar chart. It depicts the mean or average likelihood of families expecting *Learning for Life* students to attend university (where a score of 1 denotes there is no expectation and a score of 2 denotes every family in the group expects the student to go to university). The mean is represented by the small circle seen in the middle of each vertical line in the graph. For example, the mean score for the group defined as *Not doing as well as most at school* is around 1.3. Extending each side of the mean are vertical lines. These represent the 95% confidence intervals around the mean. Roughly this means that we can be 95 per cent certain that the true mean lies somewhere along this line. In the case of those *Not doing as well as most* this interval ranges from a little below 1.2 to a little above 1.4. In other words, the population (real) mean for this sub-group of students – as opposed to the mean obtained from the sample available to this study – lies somewhere along this line. The confidence limits give a systematic method for identifying important differences. Where these lines do not overlap on the graph, there is a statistically significant difference between the means. For example, in Figure 4, the mean expectation of the families with a *Learning for Life* student in the *Not doing as well as most* group is significantly different statistically from the mean expectation of families with a student in the *About the same as most* group. This difference, because it is statistically significant, is likely to be real (that is, found in the population).
- xiv The highest level of education planned was not included in these analyses as it was felt that it would be confounded with the dependent variable.

xv Adjusted  $R^2$ .

xvi The original impetus for this question arose from the work of Usher (2005) who suggested that in Canada the cost of university was over-estimated, especially by disadvantaged families. The direct cost of university education in Australia is very hard to calculate because of the variation in government fees and charges according to the course being studied. It was judged impractical to therefore explore the cost of university, and hence the shift to a focus in this research, on the (monetary) benefits of a university education.

xvii The Group of Eight is (self-described) as representing Australia's leading universities. Its members are the vice-chancellors of: The University of Adelaide, The Australian National University, The University of Melbourne, Monash University, The University of New South Wales, The University of Queensland, The University of Sydney and The University of Western Australia.

xviii The effect size is moderate, Cohen's  $d = 0.53$ .

xix These findings are consistent with those reported by Harvey-Beavis and Elsworth (1998) except for those with Artistic interests and Enterprising interests. That students with Artistic interests are not applying for Artistic type courses at university may reflect the difficulty in accessing these courses – entry is very competitive. (Ability and interest are two different domains, and these students may be recognising that interest without ability in the arts may not be a reasonable basis for a career.) Enterprising students planning a course in Business or Law, while inconsistent with the findings for Harvey-Beavis and Elsworth, is consistent with the types of work associated with qualifications in this area. Indeed, the original Harvey-Beavis and Elsworth finding was something of an anomaly, and the finding here, from The Smith Family survey data, is more plausible.

xx Cohen's  $d = 0.17$ .









*everyone's family*

