



LONGITUDINAL SURVEYS OF AUSTRALIAN YOUTH

Bridging the gap: who takes a gap year and why?

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RESEARCH REPORT

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About the research

Bridging the gap: who takes a gap year and why?

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Taking a break between completing high school and entering university is common overseas, and is becoming more popular in Australia. There are many reasons why young people take a gap year. It may be to travel, to take a break, to study, or to work. Our definition of a 'gapper' is a young person who commenced university one to two years after completing Year 12.

While the concept of a gap year is related to the deferral of a university offer, it is different. Some gappers have deferred, others decide to enrol during their gap year, not beforehand. Similarly, some who defer a university offer subsequently do not take up a place and are thus not defined as gappers.

This report was prepared for the Department of Education, Employment and Workplace Relations in 2009 prior to the Australian Government's announcement of proposed changes to Youth Allowance as an initiative in the 2009–10 Budget and the subsequent reforms based on recommendations from the *Review of student income support reforms* (Dow 2011).

The research uses data from three cohorts of the Longitudinal Surveys of Australian Youth (LSAY) to throw light on the incidence of gap-taking, the characteristics of those taking a gap year, the activities undertaken in the gap years, and subsequent study and employment outcomes. The report also looks at whether there is any evidence that young people were taking a gap year in order to qualify for Youth Allowance payments.

Key messages

- The incidence of gap-taking has increased and it is estimated that around 20% of Australian students who complete high school will take a gap year.
- Gap-takers tend to be weaker academically, with lower-than-average tertiary entrance rank (TER) scores, lower than average Year 9 mathematics achievement, and less favourable attitudes to school. In addition to academic factors, young people from English speaking backgrounds and from regional locations are more likely to take a gap year. Students who do not receive Youth Allowance payments while at school (and thus who were from higher socioeconomic status families) are also more likely to take a gap year.
- The most common activities of Australian gap students are work (40%) and study or training (33%), with only 3% reporting travel as their main activity.
- It appears that relatively few took a gap year principally to qualify for Youth Allowance: four out of 69 who deferred a university place gave 'needing to qualify for Youth Allowance' as a reason for their deferral.
- The university completion rates of 'gappers' are a little lower than 'non-gappers'.

Tom Karmel

Managing Director, NCVER

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Executive summary

Definition

A ‘gap year’ is a period of time taken out of formal education or between completing a qualification and seeking work. In this report, we restrict our analysis to young people who delay university enrolment for one or two years after completing Year 12 at school. We do not consider those people who, having commenced a university course, take time out from their study.

The concept of a gap year is related to deferral but it is not the same. While some gap-takers have deferred a university offer, others may make the decision to enrol after working or travelling. The decision to enrol may be a result of their gap year experience. Also, some deferrers are not counted as gappers because they do not take up their deferred university place.

Gap-taking has become more common in recent years but little is known about the characteristics of those who take gap years or their reasons for doing so.

In the United Kingdom and Canada, gap-takers undertake a range of activities that can include work, volunteering or travel – and often combine these activities. Gaining a better understanding of the incidence of gap-taking in Australia, the characteristics of gappers, their reasons for gap-taking, and the activities that they undertake during their gap years are the main purposes of this report.

Gap-takers may benefit from the diversity of their gap year experiences. They may develop organisational skills and become more motivated to pursue their chosen courses and careers. If they do, they may be more successful in their courses and, if the diversity of their gap year experience is valued by prospective employers, they may gain employment advantages.

Approach

This report uses data on three cohorts of young people from the Longitudinal Surveys of Australian Youth (LSAY). We use cohorts of students in Year 9 at school in 1995 (the Y95 cohort), students in Year 9 at school in 1998 (the Y98 cohort) and students who were 15 years old and at school in 2003 (the Y03 cohort). Annual interview data to 2006 were used for the Y95 cohort, and up to and including 2007 for the Y98 and Y03 cohorts.¹

After an introduction that examines literature on gap-taking in Australia and overseas, the following questions were framed to provide detailed information on gap-taking and to structure the report.

- What is the incidence of gap-taking over the period from 1999 to the present and what are the characteristics of those who take gap years compared with those who do not?
- What reasons do young people give for taking gap years?

¹ Data from these cohorts are presented as summary descriptive statistics and, for the Y98 data, a logistic regression model was developed to explore the factors that influence gap-taking.

- What activities; for example, work, other study, travel, or volunteering, do young people undertake during a gap year?
- What is the influence of gap-taking on subsequent university course progress?
- What is the influence of gap-taking on labour market outcomes?

The incidence of gap-taking

The incidence of gap-taking has increased over recent years. Using LSAY data, we find that 10% of Y95 school completers, 16% of Y98 school completers and at least 16% of Y03 school completers took gaps of one or two years. The most recent figure is an interim estimate and is expected to increase as some gap-taking students from that cohort enter university in 2008 and 2009.

Characteristics of gap-takers

Gap-takers are likely to have lower-than-average tertiary entrance rank (TER) scores and lower-than-average Year 9 mathematics achievement. They are also more likely than non-gappers to have somewhat unfavourable attitudes towards schooling. Students who received Youth Allowance payments while at school (and who were from low-socioeconomic status families) were less likely to take a gap year than students who did not receive this allowance while at school. Students from regional locations were more likely than those from metropolitan locations to take a gap year. Gappers are also more likely to be from an English speaking home background.

Coming from a regional location appears to exert a stronger influence on gap-taking than being a low achiever or being in a sufficiently low socioeconomic status category to have received Youth Allowance while at school.

Overseas, gap-taking is found to be more common among young women and among those who attended private schools. We do not find a relationship between gender or school sector and gap-taking in Australia.

Reasons for deferring

Deferring after being offered a university place is much less common than taking a gap and applying for university entry during the gap. Approximately three-quarters of those individuals who defer university entry take up those courses.

The most common reasons for deferring are to 'take a break' or to work. Few of those who say they are 'taking a break' travel during the break. Some gappers who travel may be missed in the survey, so the estimate of numbers travelling may be low.

Intending to qualify for Youth Allowance is not a frequently stated reason for deferring, but wanting to work is a relatively common reason for doing so. Qualifying for Youth Allowance may, of course, be an incidental outcome of the decision to work.

Gap year activities

The most common activities of Australian gap year students are work (40%) and study or training (33%), while the activities of one-fifth of gappers are unknown. Only 3% of Australian gap year students report travel as their main activity. This is much lower than the incidence of travel reported for students in the United Kingdom.

Gap-taking and eligibility for Youth Allowance

Gap-taking leads to increased access to Youth Allowance payments among Y98 students. The probability of receiving Youth Allowance payments increases after taking a gap year. The likelihood of a high-socioeconomic status student gaining access to Youth Allowance payments improves relative to a low-socioeconomic status student, following a gap year. The LSAY data have allowed us to explore the possibility that working during a gap year and earning more than the relevant income threshold for independent status has enabled some gappers to qualify for the Youth Allowance scheme as independent students. In fact, 15% of gappers in this study earn more than \$18 500 in a gap year, based on eligibility criteria in 2007-08.

Across all cohorts, twice as many high-socioeconomic status as low-socioeconomic status students commence university courses. This greater proportion of the former attending university and the increase in the likelihood of qualifying for Youth Allowance after taking a gap year results in a greater number of high-socioeconomic status university students receiving Youth Allowance compared with low-socioeconomic status students.

Course progress following a gap year

We find no difference in course change or attrition between gappers and non-gappers in the Y98 cohort examined when they were aged around 23 years. Three per cent of both groups left their first course to do another, while approximately 8% dropped out of their courses.

The main difference between gappers and non-gappers is the proportions who have completed their first course. Seventy-one per cent of non-gappers have completed compared with 59% of gappers. Ten per cent of non-gappers and 20% of gappers are still studying.

Labour market outcomes for gap-takers

The labour market outcomes for members of the Y98 cohort at age 23 are examined.

At this age, non-gappers have higher earnings and work more hours per week than gappers. Non-gappers are also much more likely to work in professional and associate professional occupations, while gappers are more likely to be in the trades and advanced and intermediate clerical occupations.

About 90% of both gappers and non-gappers are employed, but 65% of non-gappers and just over half (53%) of gappers are employed on a full-time basis.

Non-gappers are more likely than gappers to earn more than \$40 000 per year.

Differences in employment status and earnings may have little to do with gap-taking behaviour. Instead, it seems likely that differences in individuals' characteristics and their associated

course choices influence employment status at 23 years of age. Course choices are related to the occupations that graduates intend to pursue; employment outcomes, including earnings, in turn are associated with those occupations. In short, there appears to be a chain of influences, beginning with achievement and other student characteristics and ending with employment status and earnings, and gap-taking may be an incidental event in this chain.

Introduction

Definition

A ‘gap year’ is a period of time, most often one year, taken out of formal education and training programs or work. A gap year usually occurs at a transition point; for example, between the completion of schooling and the commencement of a post-school study program. It may also occur during a course or between completing a qualification and commencing paid work.

This report is restricted to gap years taken between the completion of Year 12 at school and the commencement of a university degree course. We refer to the young people who take a gap year between Year 12 and university as ‘gappers’ and to those who move directly from school to university as ‘non-gappers’.

We include only those who have taken gaps of one or two years, but acknowledge that some people enrol at university many years after completing their schooling. We exclude the longer intermissions because entrants after these periods are likely to be admitted to university on bases other than Year 12 results.

Gap-taking is a growing practice in some other countries and appears to be increasing in Australia. We are interested in quantifying this practice in Australia and in understanding the characteristics of gappers and the influence of gap-taking on study programs and on transition to the labour market.

We use data from the Longitudinal Surveys of Australian Youth (LSAY) to find out which students take gap years, why they take a study gap, and whether taking a gap influences study and later labour market outcomes.

What does other research tell us about gap-taking?

The ‘gap year’ is a little-researched phenomenon, especially in Australia. We first look to overseas research, then contrast the Australian context with the situation described overseas, before reviewing Australian research on gap-taking.

Gap-taking experience overseas

Diverse definitions of gap years are used. For example, Jones (2004, p.22), reviewing the situation in the UK, defines the gap year as ‘a period of time between 3 and 24 months taken out of education or a work career’. For people aged between 16 and 25 years this includes breaks from schooling, university study or work, in addition to breaks between completing school and commencing a university course. Hango and de Broucker (2007), describing the Canadian situation, accept breaks in study by 18 to 20-year-olds between high school and college of as little as three months as ‘gaps’. The Canadian definition is sensible in that context, as there is a short break between one academic year and the next. Using this definition, all Australian university commencers would be gappers, because the break between completing secondary school and commencing university study is from early November to early March – a four-month break.

Hango and de Broucker (2007) find that fewer than 3% of young people take study breaks, even though they accept very short breaks as gap-taking. Their report, however, covers a very short time span for college or university commencers – between the ages of 18 and 20 years – so students who take longer gaps are not identified in their study as higher education commencers.

There are contextual differences between Australia and other countries. First, the labour market differs between Australia and other countries and this difference has two facets: the opportunity for part-time work while studying; and the tendency for young people to defer post-school study and take available work.

Many Australian students work part-time while studying. This may reduce the need for them to take a gap and work to accrue funds in order to support their living expenses while studying. Jones (2004) notes that some UK students seek work for part of their gap year in order to fund the activities in the remainder of it, while other students take gap years in order to accumulate funds to support their later study. If work becomes less readily available, gap-taking may decline, especially among those seeking to fund travel or volunteering.

In Australia, there has been a long-term trend towards higher levels of university participation. Superimposed on this trend is a reduction in the demand associated with recent labour market buoyancy, as some young people choose to enter the workforce and defer post-school study. Gap-taking would be reduced directly as a consequence of any reduction in university demand. It could increase among those who do plan to enter university while work opportunities are available to build funding reserves. The research evidence on gap-taking is meagre and certainly inadequate for exploring relationships between labour market conditions and gap-taking behaviours.

The fee structure for higher education provides a second contextual difference between Australia and other countries. Income-contingent loans for higher education are available in Australia. In addition, Australian students may qualify for a means-tested Youth Allowance payment while they are full-time university students living with low-income parents or if they have established themselves as living independently in the 18 months after leaving school.² Supplementary tuition fees have been introduced for higher education in the UK³ and this may increase the likelihood of gap-taking for the purpose of building reserves in order to pay tuition and living expenses. The most recent information on gap-taking in the UK precedes the introduction of supplementary tuition fees there.

The Australian experience

Birch and Miller (2007) investigate the incidence of gap-taking among students who enrolled at the University of Western Australia between 2002 and 2004. They find that 6.3% of entrants had taken a gap of one year (and that fewer, 0.5%, had taken longer gaps). This rate of gap-taking is substantially lower than we find (16% for the Y03 cohort, see table 1). The University of Western Australia is a high-status institution and likely to attract a higher proportion of first-preference

² This criteria was in place at the time this report was prepared. However, since 2010, changes to student income support arrangements have occurred. More details can be found at www.deewr.gov.au/HigherEducation/Programs/YouthAllowance/Pages/RSISROverview.aspx.

³ Supplementary tuition fees were introduced in 2006–07 and it is too early to gather data on any effect of this change.

applicants compared with many other institutions. First-preference applicants are less likely than those offered lower preference places to defer their enrolment.

The Birch and Miller (2007) review of Australian research on gap-taking goes back to the 1970s. Some of these studies look at deferral within individual institutions or within single disciplines (see, for example, Stehlik 2008; Wright et al. 1996). A common finding is that students with lower tertiary entrance scores and those offered lower preference courses are more likely than others to defer (Linke, Barton & Cannon 1985). Students from non-metropolitan locations are also more likely than metropolitan students to take a gap year (Krause et al. 2005). Hillman (2005) makes a similar finding for students who take time out of a university course already commenced. Some definitions of gap-taking include mid-course intermissions. Krause et al. attribute the higher incidence of gap-taking among non-metropolitan students to their need to work in order to fund the anticipated accommodation costs associated with their courses.

From their modelling, Birch and Miller (2007) find that students from non-metropolitan locations, with English speaking backgrounds, with low tertiary entrance scores and low-preference offers are more likely than comparison groups to take a gap year. People with a disability were also more likely to take a gap year (Birch & Miller 2007, p.335).

Lane (2008) suggests that gap-taking in Australia is influenced by the availability of Youth Allowance payments and the Youth Allowance workforce independence criteria. Lane contends that, while the original purpose of the Youth Allowance scheme was to reduce a barrier to higher education participation among low-socioeconomic status young people, more students now qualify for the Youth Allowance through their independent status than through their means-tested family incomes. The suggestion is that students from affluent backgrounds establish their independent status during a gap year and use this status to qualify for Youth Allowance payments. Lane's assertions are plausible but warrant closer examination. He uses the postcodes of individuals to draw inferences about the socioeconomic status of Youth Allowance recipients. He suggests that more people from advantaged backgrounds than from low socioeconomic circumstances benefit from the scheme. He does not take into account the relative proportions of young people from various socioeconomic backgrounds who enter higher education. A more nuanced analysis is required using data in which individual socioeconomic status measures are available. We present analyses of LSAY data to contribute to debate on this topic.

How common is gap-taking?

In Australia, Lamb (2001) finds that, of the 43% of young people who completed tertiary education in the early 1990s, 9% were gappers and 45% were non-gappers who completed their studies and commenced full-time work. He reports that the balance (46%) of those in tertiary education had more complex pathways that included combinations of part-time study and work, with breaks from both. Birch and Miller (2007) report a 6% gap-taking rate between 2002 and 2004, but their study is restricted to one university.

The number of young people taking gap years in the UK has been growing. Indeed, a growth industry has developed to encourage young people to take a gap year and to support them in their chosen activities. The industry includes volunteer organisations and travel companies as well as brokers who organise gap year packages that include work, volunteering within the UK and abroad, and travel arrangements. Jones (2004) finds that over 30 000 secondary students

apply for a university course but then defer. He suggests this is an underestimate of total gap-taking, because, through interviews with gap year participants, he finds that many applied for university admission during, rather than before, their gap year. Heath (2005) agrees that about 30 000 students deferred university entry in the UK in 2004 but finds that a further 15 000 applied for a university course during their gap year, taking the total number of gappers to 45 000 or 11% of university entrants. Thus, in the UK, deferrals account for two-thirds of all gap-takers.

Lamb (2001), Jones (2004), Heath (2005) and Hillman (2005) use a different definition of gap-takers from that used in this report, while Birch and Miller (2007) use a similar one but restrict their analysis to one-year gappers. We define gappers as those who enter university following gaps of one or two years after completing Year 12. Lamb included more complex paths, while Jones focused on students who had applied for university places during their final school year and then deferred. Heath extended Jones's definition by accepting those who applied for university courses during their first year out of school. We consider these students to be one-year gappers. Hillman compared enrolled university students who took an intermission from their studies.

Who take gap years?

Jones (2004) finds that the 'typical' gap-taker is most likely to be a young woman with a private school education and from an affluent family. He finds that, while these characteristics remain common among gap-takers in the UK, the increasing frequency of gap-taking is associated with greater demographic diversity in the gap-taking group. He reports that students from minority groups and those from state schools are more likely now than in the past to take a gap year. In Canada, Hango and de Broucker (2007) find that females are more likely than males to take time out between school and higher education. They report that low-achieving students are more likely to take study gaps than higher achieving students. Students who undertake part-time work while at school are also more likely than those who do not work to take an intermission between school and post-school study.

In Australia, Birch and Miller (2007) report that, based on simple descriptive statistics, females are slightly more likely than males to take gap years, but when all influences are considered together, there is no significant relationship between gender and gap-taking. They do find that low-achieving students, students offered low-preference courses and students from English speaking home backgrounds are more likely than comparison groups to take gaps between completing school and commencing university.

Stehlik (2008) reports that approximately one-quarter of recent Year 12 completers from one South Australian private school took a gap year. He warns, however, that the school is not representative of all schools and students. Some of the reasons given by students for taking a gap year include undertaking voluntary church, community and youth work, and he argues that the strong religious ethos of the school is reflected in the reasons given for taking a gap year.

Gap-taking varies by discipline. Stehlik (2008) cites a survey undertaken in one faculty of the University of South Australia, which shows that education (7%) and social work (8%) courses have low proportions of gap-takers, while communication courses have a high percentage (18%). It

also indicates that 13.7% of all entrants had taken a gap year and that 16.6% were mature-age or transfer students, which suggests that 69% were direct Year 12 entrants.

What activities do gappers undertake?

In the UK, the most common gap year activities are study, travel, volunteering and work (Jones 2004; Heath 2005). Each of these activities may be undertaken for diverse reasons. Individuals may work in order to earn enough money to support later gap year activities, to provide for their proposed study, or to build a resumé in preparation for a planned career. Volunteering may occur within a local community in order to engage in civic activities or may occur in an overseas location, in which case travel and volunteering are combined.

What advantages accrue from the gap year experience?

Both public and private benefits accrue to gap-taking, depending on the activities pursued. Volunteering is a public good and contributes to civic engagement (UK Department for Education and Skills 2005 cited in Heath 2005). Private benefits from work and volunteering during a gap year include the development of the 'soft skills' of communication, interpersonal understanding, organisation and leadership. There is undoubtedly some public benefit from a greater stock of these desired generic employability skills, and their value is recognised by employers when recruiting higher education graduates. Thus gap-takers who work or volunteer gain a private benefit (Jones 2004). Other benefits from gap-taking include higher grades in courses through clearer career goals and greater self-discipline in study (Jones 2004; Stehlik 2008). McMillan (2005) finds that gappers are less likely than non-gappers to change courses, although they are equally likely to withdraw from their courses.

Does gap-taking influence later labour market outcomes?

As with other aspects of gap year research, the evidence on labour market outcomes is very limited. Jones (2004) finds that employers value the soft skills of graduates who had taken a gap year. He also notes that non-graduates who had similarly diverse experiences did not seem to gain the same recognition for them. In Canada, Hango and de Broucker (2007) report that all graduates – gappers and non-gappers – do quite well in gaining employment, with over 80% in employment. But Lamb (2001) finds that Australian gappers earned significantly less than non-gappers. Lamb's findings suggest that, despite employers' apparent high esteem of the gap year experience, gap-taking delays transition into the labour market. The observed lower earnings are consistent with gappers being at an earlier stage in their transitions than non-gappers.

People who take time out between high school and college but then drop out do have lower earnings than those who moved directly into the labour market (Hango & de Broucker 2007). This is not surprising, as the time spent in study that did not yield a qualification has reduced their labour market experience compared with those who moved into and remained in the labour market. This is consistent with the experiences of all non-completers of education and training qualifications (Curtis 2008).

Is gap-taking beneficial?

Taking a gap year can be beneficial. It seems that some students use the time out of study to refine their career plans and through work or volunteering develop generic skills (Jones 2004). When they do begin their courses, having clearer goals motivates them to study, and their generic skills enable them to organise their time effectively (McMillan 2005). But time away from study delays graduation and transition to the workforce. What is not clear from the available evidence is whether there is a net benefit to gap-taking and if so, for whom.

What do administrative data tell us about gap-taking in Australia?

We use higher education statistics provided by the Department of Education, Employment and Workplace Relations to estimate the recent incidence of gap-taking in Australia. The proportion of young people taking a gap of one year has been relatively stable, at about 9% of all university entrants over the period 2001 to 2004 (see table 1).⁴ Given that school leavers who have not completed a qualification higher than Year 12 constitute just less than 60% of all those commencing a domestic bachelor degree or below, one-year gappers make up about 16% of school leaver commencers over the period 2001 to 2004 (see table 2). This proportion has been stable over that period.

Table 1 Gap year status and commencer status of domestic students commencing bachelor degree programs and below,^a 2001–04, Australia (%)

Commencing status	Gap-taking status and basis for admission	Year of admission to degree course			
		2001	2002	2003	2004
School leaver commencers with no qualification other than Year 12 or equivalent ^b	Completed secondary schooling in the year prior to admission (non-gappers)	36	35	35	35
	Completed secondary schooling two years prior to admission (one-year gappers)	9	9	9	10
	Completed secondary schooling more than two years prior to admission or no information on year of completion	14	14	14	13
Other commencers		41	43	42	43
Total university admissions (%)		100	100	100	100
Total university admissions (N)		193 304	193 090	183 392	180 653

Source: Based on Students: selected higher education statistics, 2001–04, provided by Department of Education, Employment and Workplace Relations.

Notes: (a) Includes bachelor's graduate entry, bachelor's honours, bachelor's pass, associate degree, advanced diploma (AQF), diploma (AQF), other award courses, enabling course and non-award course.

(b) School leaver commencers with no prior qualifications higher than Year 12 or equivalent.

The incidence of gap-taking varies by jurisdiction and institution type (see tables A2.1, A2.2 in appendix 2). This may reflect differing demand for places at various institutions and different

⁴ Due to changes in the higher education data system the data used in table 1 are not available for 2005 and following years. Similarly, 2001–04 data are not directly comparable with published data for earlier years due to changes in data collection in 2001.

institutional missions. Differences between jurisdictions may reflect the particular universities, and perhaps the modal age of school leavers, in those states and territories. For example, the Group of Eight universities admit half of their commencing undergraduate students directly from Year 12 compared with approximately one-third for other universities. The Group of Eight universities admit 12% each as one-year and multiple-year gappers. The ‘other than Year 12’ category comprises 27% of their admissions, compared with 43% for other universities (see table A2.1 in appendix 2).

Research questions and the report structure

This report is a response to a set of key research questions framed around identifying who the gap-takers are, what activities they undertake during the gap year and the longer-term outcomes of gap-taking. These questions underpin the report structure.

In chapter 2 (Gap-takers and their characteristics), we estimate the proportion of Year 12 completers who take a gap year before commencing university courses and compare the demographic characteristics of gappers and non-gappers. We present the results of a regression model that elicits the main characteristics that differentiate gappers and non-gappers.

Chapter 3 (Reasons for deferring) then explores the reasons young people give for deferring university entry. Reasons for deferral were sought through the interview questions asked of members of the Y03 cohort. Here we compare the relative frequencies of deferring and gap-taking.

The proportions of people who undertake various activities; in particular, travel, work and other study, during the gap year are described in chapter 4 (Main activity during the gap year).

In chapter 5 (Course progress and attrition), the influence of gap-taking status on students’ university course progress is presented. Students may be continuing their first course or may have completed it, withdrawn from it, or changed to another course.

The influence of gap-taking status on the labour market outcomes of Y98 cohort members is explored in chapter 6 (Labour market outcomes). We investigate the proportions of gappers and non-gappers who are employed on full- and part-time bases, their earnings, and their participation in study or training.

Finally, the results of these analyses are summarised in chapter 7 (Conclusions).

Data sources and methods

We use data from the Longitudinal Surveys of Australian Youth (LSAY). These data are taken from three student cohorts: those who were in Year 9 at school in 1995 (the Y95 cohort) or 1998 (the Y98 cohort); and those who were aged 15 years and attending school in 2003 (the Y03 cohort).

For these cohorts, nationally representative samples of schools are selected to ensure that all states and territories, geographic regions and school sectors are included. Students are then sampled within the selected schools. Details of the sampling processes, the achieved samples and sample attrition are available through the LSAY website <<http://www.lsay.edu.au>>.

Members of the Y95 cohort sample were interviewed annually for 12 years, from 1995 to 2006 inclusive, and all waves of data are used. We use the most recent available data files (2007) for the Y98 and Y03 cohorts.

Two methods are used in investigating gap-taking and the factors associated with it. Tabulations of gap status against a variety of demographic characteristics, including gender, family socioeconomic status, school sector, academic achievement, attitude towards school and Year 12 results, are presented for each of the cohorts studied. The results of regression modelling of gap year participation by individual characteristics are presented for the Y98 cohort.

Detailed information on the variables and methods used in the analyses are presented in appendix 1.

Gap-takers and their characteristics

In this analysis, gap-takers are young people who enter higher education after gaps of one or two years following completion of Year 12 (including those who defer entry to university). Non-gappers are young people who enter university in the year following school completion. Later year entrants are those who enter university after periods of three years or more after completing school. We do not classify these individuals as gappers because they may be admitted to a university course on bases other than their Year 12 results.

The incidence of gap-taking

The incidence of gap-taking has increased over the past decade. Gap-taking over the three LSAY cohorts is shown in table 2.⁵ Gap-taking has increased from 10% for the Y95 cohort to 16% for Y98 and to at least 17% for Y03.

Data for the Y03 cohort should be taken as interim estimates because we are only able to observe the cohort up to 2007. Most Y03 members completed secondary schooling in 2005 and 2006 but some were still at school in 2007. Most Y03 non-gappers commenced university in 2006 and 2007 but some could have entered after this time, for which estimates of late entrants are made. Thus, the data shown in the column labelled Y03 in table 2 underestimate the likely total proportions of gappers, especially two-year gappers and later entrants.

Table 2 Gap-taking among university entrants over three LSAY cohorts

Gap-taking status	Gap-taking by cohort (%)			
	Y95	Y98	Y03	Y03 – projected
No gap	85	78	83	75
1 year gap	7	12	16	16
2 year gap	3	4	1	4
Later entrants	5	5	na	5
Total commencements (%)	100	100	100	100
Total commencements (N)	3535	3370	3361	3400
Total gappers (%)	10	16	16	20
Total gappers (N)	366	549	542	680

Notes: Data are for students who complete Year 12. Some students who do not complete Year 12 also enter university after gaps that may include VET study. The proportion of university commencers taking more than two-year gaps is limited by the span of the data collections. For Y03, the data provide limited information on two-year gappers.

If we assume that the proportions of later entrants and two-year gappers are stable at 5% and 4% respectively, the final proportion of Y03 non-gappers will decline to about 75% (Y03: projected in table 2). Slight growth is apparent in two-year gap-taking between the Y95 and Y98 cohorts. If this growth were to continue, it is likely that two-year gap-taking in Y03 would be a little higher than is shown in table 2.

⁵ Throughout the report, all data are based on weighted frequencies.

The characteristics of university entrants (gappers) are shown in table 3 (individual and home background characteristics) and table 4 (school-related characteristics) for the three cohorts. In these tables, the current incidence of gap-taking for the Y03 cohort is used. It is almost certain that, for the Y03 cohort, the numbers of gap-takers, especially two-year and long-term gappers, will increase.

Gappers differ from non-gappers on two demographic variables:

- Students from regional or rural locations are more likely to take a gap year than metropolitan students.
- Students from homes where English is the dominant language are more likely to be gap-takers than students from non-English speaking households.

There has been a trend increase in the incidence of gap-taking across the three cohorts. However, the relationships between gap-taking and other characteristics (for example, gender and socioeconomic status) are weak and/or inconsistent across the cohorts. For the Y95 cohort, low and low-to-medium socioeconomic individuals are more likely to be gap-takers, but in the Y98 and Y03 cohorts, the effect is not apparent. The socioeconomic status measure used in Y95 and Y98 was based on the ANU3 occupational scale, while for Y03 the International Socioeconomic Index (ISEI) was used (see appendix 1 for more detail on socioeconomic status).

Differences between gappers and non-gappers are quite marked on some school-related variables, in particular, tertiary entrance scores, Year 9 academic achievement and attitude towards school.

- Students with low tertiary entrance scores are much more likely to take a gap year than those with high scores.
- Low-achieving students (at Year 9) are more likely to take a gap year than high-achieving individuals.
- Students (Y95 and Y98 cohorts) with less favourable attitudes towards school are more likely to take a gap year than those with more favourable attitudes.

Gappers differ little from non-gappers on school sector.

Some of the variables related to gap-taking may be correlated. It is useful to separate the effects of these variables through multivariate analyses in order to see which of them exerts a net influence on gap-taking.

Table 3 Gap-taking status by individual demographic characteristics (%)

Characteristics	All gappers (one- and two-years)		
	Y95	Y98	Y03
Gender			
Female	10	17	17
Male	11	16	16
Unknown	-	-	-
Location			
Metro	9	14	14
Regional	13	21	24
Rural	13*	18*	36*
Unknown	-	-	-
Socioeconomic status			
Low SES quartile	11	16	18
Low-medium SES quartile	14	18	14
Medium-high SES quartile	9	19	15
High SES quartile	9	15	17
Unknown SES	-	11	-
Parental education			
Did not complete secondary school	12	13	17
Completed secondary school	10	18	17
Technical qualification	8	19	14
University qualification	10	16	13
Unknown parental education	11*	18*	-
Language background			
Non-English speaking	6	10	10
English speaking	11	17	17
Unknown language background	-	20*	-
Total gappers (%)	10	16	16
Total gappers (N)	366	549	542

Notes: - indicates that there were no or too few cases to generate an estimate.

*indicates that number of cases is low and that standard errors are likely to be high.

Table 4 Gap-taking status by school-related characteristics (%)

Characteristics	All gappers (one- and two-years)		
	Y95	Y98	Y03
Academic achievement			
Low achievement quartile	14	20	17
Low–medium achievement quartile	13	19	16
Medium–high achievement quartile	10	18	16
High achievement quartile	9	14	16
Unknown achievement status	-	-	-
TER			
Low TER quartile	21	26	26
Low–medium TER quartile	13	18	17
Medium–high TER quartile	7	14	13
High TER quartile	4	11	12
Unknown TER	16	31	21
Satisfaction with school life			
Low satisfaction quartile	17	20	16
Low–medium satisfaction quartile	11	18	16
Medium–high satisfaction quartile	11	17	15
High satisfaction quartile	7	13	18
Unknown school satisfaction	-	-	-
Youth Allowance (YA) at school			
Never received YA	10	17	17
Received YA in at least one year	11	14	14
Unknown YA status	-	-	-
School sector			
Government	11	17	15
Catholic	11	15	16
Independent	9	17	18
Unknown	-	-	-
Total gappers (%)	10	16	16
Total gappers (N)	366	549	542

Notes: - indicates that there were no or too few cases to generate an estimate.

* indicates that number of cases is low and that standard errors are likely to be high.

An explanatory model of gap-taking

Description of model

A multivariate logistic regression model was developed for the Y98 cohort using gap-taking status as the dependent variable. The model explains 5% of the variance in gap-taking. This suggests that there are unobserved influences that may interact with observed variables, which means that the model findings should be interpreted as being indicative rather than conclusive. Socioeconomic status, parental education and living in a rural location, which from the tabulations shown above appear to influence gap-taking, are not included in the regression model as they were found not to be significant. However, there are strong associations between many of the variables (correlations are provided in appendix 2). There is a strong relationship between socioeconomic status and receipt of Youth Allowance while at school, and Youth Allowance has displaced socioeconomic status in the model. The influence of parental education, which is also related to the occupation-based measure of socioeconomic status, has

also been explained by a number of variables, including the Youth Allowance and achievement variables. Similarly, rural locations tend to have low-socioeconomic status rankings, and this variable may have been displaced by the Youth Allowance at school and achievement variables. The relatively low numbers of individual gap-takers from rural locations may also contribute to the non-significance of this variable in the modelling.

Scaled versions of variables are used in the analysis where possible. In this model students' tertiary entrance scores, which are classified into quartiles for the tabulations shown above, are measured on a scale that potentially ranges from zero to 100. Other variables for which scaled variables are used include socioeconomic status, attitude towards school and achievement, for which separate reading⁶ and mathematics scores are used. Year 9 mathematics is measured on a scale from zero to 20. Parents' education categories are converted to years of education. Other variables, including gender, home location, home language background and school sector are used as categorical variables. Initially, all variables are entered into the model and are removed one at a time, using backward elimination of the least significant one.

It is common to report the results of these analyses in terms of the relative likelihood of a person of a given characteristic (for example, non-English speaking background compared with English speaking background) of being a gap-taker. If gap-taking was an equally likely outcome for members of both groups, the odds ratio would be one (the odds might be written as 1:1). If the outcome is very unlikely for the target group relative to the comparison group, the odds ratio is less than one. If the outcome is more likely for members of the target group compared with the reference group, the odds are greater than 1. The odds ratios are compared more easily than the regression parameters (also shown in table 5) estimated in the model. In this model, the odds ratios for tertiary entrance score, Year 9 mathematics score and attitude towards school indicate the change in the likelihood of gap-taking per unit change in the variable. For example, an increase in tertiary entrance score of one unit results in a 2% reduction in the odds of gap-taking (odds ratio = 0.98). The standard deviations for tertiary entrance score, Year 9 mathematics score and attitude towards school are 14.15, 4.10 and 9.79 respectively.

What influences gap-taking?

Academic achievement (tertiary entrance and Year 9 mathematics scores) and the related attitude towards school variable appear to influence gap-taking. Low-achieving students (students with low tertiary entrance and low Year 9 mathematics scores), as well as those with less favourable attitudes towards school, are more likely than others to take a gap year. High-achieving students with a tertiary entrance around 14 points higher than average are 28% less likely than average achievers to take gap years. The results of the model are summarised in table 5.

Students from regional locations are over 30% more likely than metropolitan students to take a gap year. Students who do not receive Youth Allowance while at school are more likely to take a gap year than those who do receive this allowance. Students from English speaking home backgrounds are more likely than those from non-English speaking backgrounds to take a gap year.

⁶ The reading variable was removed from the analysis because of colinearity with mathematics score.

Coming from a regional location appears to exert a stronger influence on gap-taking than being a low achiever or being in a sufficiently low socioeconomic status category to have received Youth Allowance while at school. In relative terms, a high-achieving individual from a regional location who has a tertiary entrance score of at least 14 points above average has about the same likelihood of gap-taking as a metropolitan student with an average tertiary entrance score. The effect of being in a sufficiently low socioeconomic status category to have received Youth Allowance while at school is similar in size to the effect of academic achievement.

The effect of coming from a non-English speaking home background is very strong: it reduces the likelihood of gap-taking by almost one-half. The finding that youth from non-English speaking home backgrounds are less likely to take a gap year is interesting in the context of much previous research. In Australia, these young people have more favourable education outcomes than youth from English speaking homes (Cresswell 2004). Marjoribanks (2005) attributes this to interactions among language background, gender, socioeconomic status and aspiration.

Table 5 Variables predicting gap-taking among university entrants, Y98 cohort

Variable	Regression coefficient	Odds ratio	Significance (p)
TER score	-0.021	0.980	<0.001
Attitude towards school	-0.017	0.983	0.004
Year 9 maths score	-0.034	0.967	0.018
Non-English speaking home language (relative to English speaking)	-0.560	0.549	0.012
Regional (relative to metropolitan location)	0.283	1.327	0.025
Received Youth Allowance at school (relative to those who did not)	-0.291	0.748	0.030
Intercept	-0.932		0.060

Note: $R^2 = 0.052$. This is very low, with 5% of variance explained. This suggests that there are unobserved influences, that they may interact with observed variables, and that caution should be exercised in interpreting the model.

Evidence for gap-taking in order to qualify for Youth Allowance payments

Lane (2008) claims that young people from affluent backgrounds are able to access Youth Allowance and that the scheme is now serving these individuals more than those in disadvantaged circumstances. We use LSAY data to test his claims. We coded students as being recipients of Youth Allowance if they indicated they had received it in any year of their sojourn at university. We tabulate gap-taking status and socioeconomic status category against receipt of Youth Allowance payments while at university. The results are presented in table 6 (Y95 cohort) and table 7 (Y98 cohort).

Receipt of Youth Allowance payments is more common among gap-takers than non-gappers, with 54% of Y95 and 63% of Y98 gappers reporting receiving the payment, compared with 41% (Y95) and 44% (Y98) of non-gappers.

Low-socioeconomic status individuals are more likely to receive Youth Allowance as a dependent because their parents are more likely to have income and assets low enough to satisfy the

parental means test.⁷ However, the likelihood of receiving Youth Allowance payments changes after taking a gap year. For example, for the Y95 cohort, the odds of a high socioeconomic status, compared with a low socioeconomic status, non-gapper receiving a Youth Allowance payment is 0.62; that is, relative to low-socioeconomic status individuals, high-socioeconomic status non-gappers are much less likely to receive Youth Allowance. The corresponding odds ratio for gappers is 0.79; that is, relative to low-socioeconomic status individuals, high-socioeconomic status gappers remain less likely to qualify for Youth Allowance, but the difference between the low and high groups has narrowed. Thus, the likelihood of a high-socioeconomic status student gaining access to Youth Allowance payments, while still lower, improves relative to a low-socioeconomic status student, following a gap year.

Table 6 Receipt of Youth Allowance by socioeconomic status quartile and gap year status, Y95 students

Gap status and SES	Youth Allowance			Likelihood of receiving YA (relative to low-SES)
	Not received (%)	Received (%)	Total	
Non-gappers				
SES quartile				
Low	49	51	100	1.00
Low-medium	54	46	100	0.91
Medium-high	60	40	100	0.79
High	68	32	100	0.62
Unknown	46	54	100	1.05
Total	59	41	100	
Gappers				
SES quartile				
Low	41	59	100	1.00
Low-medium	41	59	100	0.99
Medium-high	49	51	100	0.85
High	53	47	100	0.79
Unknown	32	68	100	1.16
Total	46	54	100	

Note: The percentages of those reported as receiving Youth Allowance are based on the number of cases whose Youth Allowance status was known (93%).

We find Lane's (2008) claim that a greater number of high-socioeconomic status individuals receive Youth Allowance payments is misleading. He does not draw attention to the relative proportions of low- and high-socioeconomic status university commencers and this distorts his evaluation.

We find that 32% of high-socioeconomic status non-gappers in Y95 and Y98 have qualified for the Youth Allowance payment. They may have qualified by working while studying at university or may qualify due to their personal or family circumstances. The assessment of individuals' socioeconomic status was made when they were in Year 9 at school. Between then and commencing university, the circumstances of some could have changed to make them eligible.

⁷ This criteria was in place at the time this report was prepared. However, since 2010, changes to student income support arrangements have occurred. More details can be found at <www.deewr.gov.au/HigherEducation/Programs/YouthAllowance/Pages/RSISROverview.aspx>.

Table 7 Receipt of Youth Allowance by socioeconomic status quartile and gap year status, Y98 students

Gap status and SES	Youth Allowance			Likelihood of receiving YA (relative to low-SES)
	Not received (%)	Received (%)	Total	
Non-gappers				
SES quartile				
Low	48	52	100	1.00
Low-medium	48	52	100	1.00
Medium-high	55	45	100	0.86
High	68	32	100	0.60
Unknown	38	62	100	1.18
Total	56	44	100	
Gappers				
SES quartile				
Low	28	72	100	1.00
Low-medium	37	63	100	0.88
Medium-high	35	65	100	0.90
High	44	56	100	0.78
Unknown	37	63	100	n/e
Total	37	63	100	

Note: n/e indicates there were too few cases to estimate the odds ratio reliably.

More high-socioeconomic status students than low-socioeconomic status students study at university: 32% of the cohort are high-socioeconomic status individuals compared with 15% who are low-socioeconomic status students. The greater proportion of high-socioeconomic status students attending university and the increase in the likelihood of qualifying for Youth Allowance after taking a gap year results in a greater number of high-socioeconomic status university students receiving Youth Allowance compared with low-socioeconomic status students.

We note, as have many other observers, the under-representation of low-socioeconomic status individuals at university (James 2002; James et al. 2004). This difficult issue continues to receive the attention of policy-makers and universities, many of whom have introduced a variety of schemes to encourage low-socioeconomic status students to enrol.

Table 8 Proportion of university entrants by socioeconomic status, Y98 students

SES quartile	Gappers %	Non-gappers %	Total %
High	29	32	32
Medium-high	30	26	26
Low-medium	22	21	21
Low	15	16	15
Unknown	4	6	6
Total	100	100	100
Total (N)	549	2636	3185

Summary

- The incidence of gap-taking is increasing: it was 10% for the Y95 cohort, 16% for Y98 and is projected to be about 20% for Y03.
- Low-achieving students, in mathematics at school and in end of Year 12 assessments, are more likely to take a gap year than higher achievers.
- Students with relatively unfavourable attitudes towards school are more likely to take a gap year than those with more favourable dispositions.
- Students who received Youth Allowance payments while at school (and who were from low-socioeconomic status families) were less likely to take a gap year than students who did not receive this allowance while at school.
- Students from regional locations were more likely than those from metropolitan locations to take a gap year.
- Students from non-English speaking backgrounds were less likely than those from English speaking home backgrounds to be gap-takers.
- Coming from a regional location appears to exert a stronger influence on gap-taking than being a low achiever or being in a sufficiently low socioeconomic status category to have received Youth Allowance while at school.
- The likelihood of receiving Youth Allowance payments changes after taking a gap year. The likelihood of a high-socioeconomic status student gaining access to Youth Allowance payments improves relative to a low-socioeconomic status student, following a gap year.
- The greater proportion of high-socioeconomic status students attending university and the increase in the likelihood of qualifying for Youth Allowance after taking a gap year results in a greater number of high-socioeconomic status university students receiving Youth Allowance compared with low-socioeconomic status students.

Reasons for deferring

Deferral differs from gap-taking. Gap-taking describes the situation of a student entering university one or two years after completing secondary schooling. Deferral occurs when an individual applies for a university place, receives an offer, but defers entry to their chosen course. Gap-takers may have deferred an offer, but they may also delay application for university until after they have taken a gap. Some students who defer do not enter university and so do not become gappers.

In this section, we examine the frequency of deferral, compare it with the frequency of gap-taking, and tabulate the reasons students give for deferring entry to their courses. Information on reasons for students deferring university offers is available for members of the Y03 cohort for 2006 and 2007.

The tables in this section show weighted frequency counts, not percentages. This is because the absolute frequencies of reasons for deferral are rather low, which limits how results can be generalised. (In previous sections, tables showed weighted percentages.)

Gap-takers and deferrals

Fewer individuals accept an offer but defer entry than those who apply for university after taking a gap year. In 2005 and 2006, 515 students took gaps of one year between completing school and entering university (see table 9). Over the same period one-quarter of that number (144 individuals) deferred university offers. The proportion of students who apply for university after taking a gap in Australia is substantially higher than Heath (2005) estimates for the UK.

In table 9 we report the numbers of university entrants, deferrals and gap-takers for each calendar year from 2004 to 2007. University entrants include all people who began university for the first time in that year and include direct entrants and one- and two-year gappers. The number of gappers shown in a year includes some, but not all, deferrals. Some individuals who defer entry do not take up that offer and are therefore not classed as gappers.⁸

Table 9 Gap-taking and deferrals, Y03 cohort

	Calendar year				Total
	2004	2005	2006	2007	
Entrants	8	673	2083	596	3360
1-year gappers		120	396	na*	516
2-year gappers			25		25
Deferrals	2	81	63	7	153

Notes: * The lack of one-year gappers in 2007 is a result of the definition of gappers. Individuals will only be classed as 2007 gappers if they completed school in 2005 (two-year gappers) or 2006 (one-year gappers) and enter university in 2008. We have no 2008 data.

Totals may vary from totals in earlier tables due to rounding.

⁸ Refer to data sources and methods in the introduction for definitions of one- and two-year gappers.

Deferrals and university commencement

Individuals who are offered a place in a university course may defer entry for one year. Those who enrol in that course after deferring meet the definition of gap-takers used in this study. That is, they are a subset of all gap-takers. Some students who defer do not subsequently enrol. They are not gap-takers because they do not enrol in a university course.

Approximately three-quarters of those individuals who defer university entry take up those courses. It is common practice for universities to allow applicants to defer entry for one year. We have information on university entry to 2007 so it is feasible to examine the enrolment of deferrals up to 2006. One hundred and forty-six students had deferred university offers up to 2006 (and a further seven in 2007; see table 9). We now examine their enrolments. Of the 146 applicants who deferred up to 2006, six had left the survey before their university entrance status could be established (see table 10). Of the remaining 140, three-quarters (106) had enrolled at university. However, 542 people were identified as gap-takers (see table 2). Thus, those who defer and subsequently enrol (106) make up less than 20% of the total number of gappers over the period 2004 to 2007. Clearly, many gappers do not apply for a place at university while at school, but do so during their gap year.

Table 10 University entrance status of deferrals, Y03 cohort

	University enrolment status			Total
	Never commenced university	Commenced university course	Unknown university entry status	
Ever deferred study (to 2006)	35	106	6	147

Note: The number of cases (147) here differs from the 146 cases to 2006 shown in table 9 due to rounding of weighted estimates.

Why do people defer university entry?

The most common reasons for deferring are to take a break and to work. We have information on the reasons for deferral for those people who deferred in 2006 and 2007. Of the individuals who deferred course offers in 2006 and 2007, the most common reason is 'to have a break, holiday or travel' (30 individuals, see table 11). A preference for work is a common reason, one given by 15 individuals. A diversity of 'other' unclassified reasons was relatively common. Other suggested reasons, including wanting to qualify for Youth Allowance, were offered by very few students.

Very few Y98 cohort members (3%) report travel as their main gap year activity (see next section). The higher proportion of deferring Y03 students nominating a break, holiday or travel suggests two possibilities: taking a break involves a range of activities other than travel; or that deferred, and perhaps planned, breaks involve activities different from those undertaken by gappers. The low incidence of travel may occur because Y03 cohort members may miss an interview in one year but rejoin the survey in the next year. It is possible that those who travel may miss an interview because of their travel. Few individuals miss interviews and rejoin the survey, so this is at best a partial explanation for the low incidence of travel among Australian students compared with the proportions of UK gappers who travel.

We find that about 15% more gappers qualified for Youth Allowance following a gap year, during which they worked. By comparison, very few students who defer entry cite the need to qualify for this scheme as a reason for deferring, but about 20% of those deferring cite a desire to work as their reason for deferring. Even if qualifying for Youth Allowance is not an intention, it is a by-product of their decision to work.

Table 11 Reasons for deferring course entry, Y03 cohort, 2006 and 2007 respondents

Reason for deferring enrolment	University enrolment status		Total
	Never commenced university	Commenced university course	
Taking a break, holiday or travelling	11	19	30
Unwilling to leave home	0	0	0
Need to qualify for Youth Allowance	1	3	4
Reconsidering options	2	1	3
Did not want to incur HECS debt	0	0	0
Could not afford fees or living costs	0	3	3
Prefer to work	6	9	15
Prefer to study at TAFE	0	0	0
Other	5	9	14
Total	25	44	69*

Notes: * This is a small sub-group of the cohort because the question was only asked of deferrers and not those who were taking a gap year in the more general sense.

Data shown are weighted counts, not percentages. Totals are rounded.

There are no differences in the reasons for deferring between those who did enrol subsequently and those who did not take up the place offered. Reasons are available only for students who defer in 2006 and 2007. Those who deferred in 2007 have not had an opportunity to take their deferred places.

Summary

- Deferring is much less common than gap-taking.
- Up to 2007, approximately three-quarters of the Y03 cohort who had deferred course entry proceeded to enrol after a one-year deferral.
- The most common reasons given for deferring were to take a break, holiday or travel, and to work.
- It appears that relatively few took a gap year principally to qualify for Youth Allowance: four out of 69 who deferred a university place gave 'needing to qualify for Youth Allowance' as a reason for their deferral, and about 15% of 'gappers' earned enough in their gap year to qualify for Youth Allowance.

Main activity during the gap year

The activities undertaken by gap year students were investigated for the Y98 cohort. Of the 549 gappers in the Y98 cohort, 526 took their gap year in 2002. The activities of the 11 gappers in 2001 were unknown and the 12 in 2003 were either studying or working, but they are too few to support reliable inferences, so we focus on the 526 gappers in 2002. Their main activities are summarised in table 12. The main activities of Y98 gappers in 2002 were work (40%) and study (32%).

Table 12 Main activity during 2002 gap year for Y98 cohort members

Main activity	Weighted frequency	
	Count	Percentage
Studying full-time	167	32
Working	212	40
Looking for work	10	2
Other	51	10
Unknown	86	16
Total	526	100

Note: 'Unknown' includes people who said their main activity was work, but for whom no information was available on their work, e.g. earnings.

Forty per cent of gappers work during their gap year. Of those who work, 38% (or 15% of all 2002 gap-takers) earn more than \$18 500⁹. Earnings of the 212 Y98 gappers who were working during their gap year are summarised in table 13. These data may explain the increase in the proportions of young people who qualify for the Youth Allowance after taking a gap year. For Y98, 15% earned more than \$18 500¹⁰ and there is a similar (19%) increase in the number of gappers who qualified for Youth Allowance, compared with those who received it without taking a gap year (see table 7).

Table 13 Earnings of Y98 gappers who worked during their 2002 gap year

Earnings	Weighted frequency		
	Count	Percentage (of those working)	Percentage (of all gappers)
Less than \$18 500	129	61	24
\$18 500 or more	81	38	15
Unknown	2	1	0
Total	212	100	40

Note: Due to the income threshold being based on 2007-08 eligibility criteria, figures in this table may be under-estimated.

Very few young people reported travelling during a gap year. However, in the Y98 surveys, if a student missed an interview, they were removed from the sample. It is likely, therefore, that

^{9,10} This was the income threshold needed to qualify as an independent student in 2007-08 rather than in 2002 (the year in which the gap was taken). The threshold in 2002 was lower (\$15 444), meaning that the number of students who took a gap year and were eligible for the Youth Allowance may be higher than is estimated here.

the extent of travel is underestimated in the data. One-third of the 51 Y98 gappers who were not studying full-time or working nominated travel as a significant gap year activity, but this group makes up only 3% of all gappers (see table 14). Relatively few gap-takers undertake activities other than work or study, although the activities of about one-fifth of gappers are unknown. This stands in contrast to the situation described by Jones (2004) in the UK, where these activities are more common than we find in Australia. This is perhaps because travel to other countries from the UK is inexpensive and because many organisations promote and arrange travel and volunteer activities.

Table 14 Activities of Y98 gappers who were not working, looking for work or studying full-time during their 2002 gap year

Activity	Weighted frequency		
	Count	Percentage (of those not studying or working)	Percentage (2002 gappers)
Study/training	5	10	1
Home duties/looking after children	3	5	1
Travel or holiday	15	30	3
Ill/unable to work	<1	1	0
Other	10	20	2
Unknown	18	34	3
Total	51	100	10

Summary

- Work and study are the most common activities during a gap year.
- Of those who worked, 38% (or 15% of all gappers¹¹) earned enough to qualify for Youth Allowance payments.
- Very few students (3%) nominated travel as their dominant activity during a gap year.

¹¹ See note for table 13.

Course progress and attrition

Research from the United Kingdom (Jones 2004) and Australia (McMillan 2005) suggests that gappers are better organised and more motivated than non-gappers and that this results in fewer gappers dropping out of or changing courses. Using Y98 cohort data, we investigate the persistence and progress that gappers reveal in their courses compared with non-gappers.

Student intention and enrolment

Students' intentions exert a very strong influence on school completion and university commencement (Khoo & Ainley 2005). This is borne out in the university enrolment status of Y98 students (table 15). Over 70% of those who intended to go to university did enrol, and, of those who enrolled, over 80% did so immediately after leaving school: 15% did so after taking a gap and 4% commenced after a longer break.

Of those students who intended to pursue apprenticeships or TAFE (technical and further education) courses, most did not enter university. One-quarter did commence university, and of those, one-third did so after a gap year or a longer break.

Approximately two-fifths of students who intended to find employment upon leaving school did commence a university course. Most (72%) of those who did enrol did so immediately after leaving school: one-quarter took a gap year and 4% were later entrants.

Table 15 University commencement, including gap status, by post-school intention for Y98 students

Post-school intentions	University commencement status (%)			Total (%)	Total (N)	
	Commenced university		Did not enrol			
	<i>Non-gapper</i>	<i>Gapper</i>				<i>Later entrant</i>
University course	57	11	3	29	100	3810
Apprenticeship	15	4	3	78	100	357
TAFE course	17	5	4	74	100	755
Other (work)	30	10	2	59	100	262
Unknown	19	7	2	72	100	1005
Total	43	9	3	46	100	6189

Note: The 'unknown' category includes students who did not respond to the question, those who were not sure what they wanted to do and those who gave multiple responses.

Most young people fulfil their post-school intentions: the majority who plan to go to university do enrol, and most who plan other activities do not commence university. Of those who initially do not plan to enter university, a substantial minority do enrol, and in this group gap-taking is more common than among intending university students. For these young people, the gap year may be a time in which they reflect on their aspirations and opportunities, and align their goals and actions.

Course persistence

There is little difference between gappers and non-gappers in their persistence (completion or continuation) in their first university courses. Similar proportions of gappers and non-gappers (7% and 8% respectively) either withdrew from or failed their first course and 3% of both gappers and non-gappers changed to an alternative program (see table 16).

The main difference between gappers and non-gappers lies in their course-completion status. About 80% of both groups have completed or are continuing with their first courses, but 71% of non-gappers have completed and 10% are continuing with their courses, whereas 59% of gappers have completed and 21% are continuing their studies. The lower completion and higher continuation rates of gappers are consistent with the delayed start to their programs.

Table 16 Students' status in their first higher education course, Y98 cohort

Course status	Non-gapper	Gapper
Still studying first uni course	10	21
Completed first uni course	71	59
Withdrew/failed from first uni course	8	7
Changed to another course	3	3
Unknown	9	10
Total (%)	100	100
Total (N)	1720	393

We do not find the differences in course outcomes that previous researchers have attributed to gap-taking. We find no difference in course attrition or change between gappers and non-gappers, and the difference that we find in completion status is consistent with their delayed course commencement. It should be noted, however, that gap-takers are academically weaker students and higher non-completion might be expected among this group.

Summary

- By age 23, almost three-quarters of students have fulfilled their intentions to go to university. A substantial minority of students whose post-school plans did not include higher education do enrol at university. Among this group, gap-taking is more common than it is among intending university entrants.
- Non-gappers are more likely than gappers to have completed their courses, but more gappers are continuing their study (which is consistent with having commenced later).
- Gappers and non-gappers have an equally low likelihood of dropping out of study or changing course, with very few dropping out (7–8%) or changing courses (3%) to this point.

Labour market outcomes

Jones (2004) suggests that employers value the diverse experiences of graduates who have worked or volunteered during a gap year. If this is borne out in Australia, gappers should reveal an employment advantage, as many of them work (40%) or study (32%) during their gap year.

In this section we compare the labour market outcomes and involvement in study of Y98 gappers and non-gappers. We use data from the most recent available wave of the survey (2007), at which time the modal age of the cohort is 23 years. We find that continued participation in study is related to labour market success, so we turn to this before examining labour market activity.

Participation in study

Progress along a transition trajectory may explain the full-time employment differences between gappers and non-gappers (see table 18). If so, a corresponding difference between these groups is expected in their study status (full- or part-time).¹²

At around age 23, two-thirds of the cohort are no longer involved in any form of study, there being no difference between gappers and non-gappers on this indicator. Of those who are studying, gappers are more likely than non-gappers to be involved in full-time study (see table 17). This finding is consistent with a thesis of progress along a common transition trajectory.

Table 17 Study status in 2007 by gap-taking status

Study status	Gap-taking status (%)	
	Gapper	Non-gapper
Studying full-time	25	20
Studying part-time	11	13
Unknown	0	0
Not applicable/not studying	65	66
Total (%)	100	100
Total (N)	393	1720

We would like to know whether continuing involvement in study explains the lower participation in full-time employment of gap-takers. We show the proportions of gappers and non-gappers in the various combinations of work and study status. We group both into full-time, part-time and not involved in work or study, which yields nine possible combinations (see table 18).

For gappers and non-gappers who are both working and studying, more gappers are in full-time study and part-time work (a difference of five percentage points), while more non-gappers are in full-time work and part-time study (a difference of four percentage points). That is, non-gappers show greater progress than gappers in their transitions from study into work.

¹² The numbers of cohort members studying is different from those shown in the previous section. There has been some sample attrition and we now consider any study, not just participation in or completion of the first course, which was the focus of the previous sections.

The greatest difference between gappers and non-gappers is the proportion of those no longer studying who are working full-time (45% and 53% respectively). That is, non-gappers, having completed or left study, reveal more successful transitions into the labour market than do gappers.

A final point to emerge from a consideration of the data shown in table 18 is the extent of engagement of Y98 cohort members. Non-gappers are more likely to be fully engaged. We define full engagement as working full-time, studying full-time or both working and studying part-time; part-time engagement is either working part-time or studying part-time. Very few individuals are not engaged; that is, neither working nor studying. By summing the proportions of gappers and non-gappers in these combinations of activity, we find that 86% of non-gappers are fully engaged, 10% are partly engaged and 4% are not engaged. For gappers the corresponding proportions are 79%, 16% and 5%.

Table 18 Study status by gap-taking and employment status for Y98 current students in 2007

	Study status (%)			Total
	Studying full-time	Studying part-time	No study/unknown	
Non-gappers				
Employed full-time	3	9	53	65
Employed part-time	11	4	9	25
No employment/unknown	6	1	4	10
Total (%)	20	13	67	100
Total (N)	351	225	1144	1720
Gappers				
Employed full-time	3	5	45	53
Employed part-time	16	5	15	36
No employment/unknown	5	1	5	11
Total (%)	25	11	65	100
Total (N)	97	42	255	393

Employment and earnings

The key difference between gappers and non-gappers is whether they are employed on a full- or part-time basis (see table 19). About nine out of ten individuals – gappers or not – are employed, but more non-gappers (65%) than gappers (53%) are employed on a full-time basis. The proportions of gappers and non-gappers who are unemployed or not in the labour force are small and very similar.

A second apparent difference between gappers and non-gappers is in the proportions who are in professional occupations: 46% of non-gappers compared with 30% of gappers. While this difference could be ascribed to their gap-taking status, it is more likely to reflect differences in the characteristics of gappers and non-gappers. High-achieving students (on both tertiary entrance scores and a Year 9 mathematics test) are less likely than others to take a gap year. The relatively high proportion of professionals among non-gappers may be related to their achievement and subsequent course and career choices rather than to their gap-taking status.

Table 19 Labour force status and occupation by gap-taking status

	Gapper	Non-gapper
Labour force status		
Employed full-time	53	65
Employed part-time	36	25
Unemployed – seeking full-time employment	2	2
Unemployed – seeking part-time employment	1	0
Not in the labour force	5	6
Unknown	2	1
Total (%)	100	100
Occupation (ASCO 1-digit)		
Managers and administrators	7	5
Professionals	30	46
Associate professionals	6	7
Tradespersons and related workers	13	8
Advanced clerical and service workers	14	12
Intermediate clerical, sales and service workers	11	9
Intermediate production and transport workers	2	1
Elementary clerical, sales and service workers	5	2
Labourers and related workers	1	1
Unknown or not classifiable	0	0
Not employed	11	10
Total (%)	100	100
Total (N)	393	1720

The earnings of gappers and non-gappers reflect their working hours and occupational levels (table 20), noting also that most members of both groups are still at an early stage in their working lives. More gappers than non-gappers work fewer than 30 hours per week and have earnings below \$40 000, while more non-gappers than gappers work more than 30 hours and earn more than \$40 000.

Hours worked and earnings suggest that gappers have a less ‘mature’ employment profile. Marks (2006) shows that many of the young people who do not go to university follow a trajectory of initial part-time and casual employment and that over time most move into full-time employment. The higher proportion of gappers who are still studying and who are working part-time suggests that they are at an early stage in their transition to work.

Non-gappers differ from gappers on early secondary and Year 12 achievement and on attitude towards school. It seems likely that these characteristics are related to the courses they take at university and to the occupations they enter after graduation. It is also possible that these characteristics directly influence their employment outcomes, as high achievement may signal high potential to prospective employers.

Table 20 Annual earnings and weekly hours worked by gap-taking status

	Gapper	Non-gapper
Annual salary		
Less than \$10 000	10	7
\$10 000–\$19 999	12	8
\$20 000–\$29 999	11	9
\$30 000–\$39 999	25	21
\$40 000–\$49 999	18	24
\$50 000–\$59 999	8	12
\$60 000–\$69 999	2	4
\$70 000–\$79 999	1	1
\$80 000–\$99 999	1	1
\$100 000 and more	1	0
Unknown or not employed	12	12
Total (%)	100	100
Usual hours worked per week		
10 or less	11	9
11–15	7	3
16–20	8	5
21–25	4	3
26–30	5	3
31–35	5	7
36–40	37	43
41–45	6	8
46–50	4	6
More than 50	2	3
Unknown or not employed	11	10
Total (%)	100	100
Total (N)	393	1720

Predictive model of labour market outcomes

Taking a gap year does influence the transition to full-time engagement. Non-gappers are more likely than gappers to be in full-time employment, but gappers are more likely to be continuing their studies. This is consistent with a delayed labour market transition.

Model description

The Y98 cohort, at age 23 years in 2007, remains in transition and gappers are at an earlier stage than non-gappers in this transition. One-third of cohort members are studying on at least a part-time basis. In order to find factors that predict labour market transition, we have a choice between employment and engagement as criterion variables. Full-time engagement has the advantage as an indicator of success because it treats those who are continuing their studies as being on a successful transition trajectory. However, it is limited because study status variables cannot be used as predictors when study status contributes to engagement – the criterion. Full-time employment is a conventional indicator of success. If all individuals are included in the analysis, those who are studying full-time and have limited employment opportunities are considered to be unsuccessful. The solution adopted is to use employment as the criterion but

to remove from the analysis those young people who are full-time students. This removes one-quarter of gappers and one-fifth of non-gappers from the analysis.

We use full-time employment as the mark of a successful transition. Alternatives are part-time employment and not being employed. The criterion variable thus has three potential levels (full-time, part-time and no employment). Very few individuals are not employed and a model that uses these three possible outcomes will not yield stable estimates. A dichotomous outcome, full-time employment or other, is used.

The initial model included gender, socioeconomic status, years of parental education, mathematics¹³ achievement, tertiary entrance score and first university course status (completed, still studying, failed, withdrawn or changed). Variables that were non-significant were removed one at a time as the model was refined. Gap status was excluded during model refinement so that it did not interact with other variables. On completion of the refinement, it was added to create a second sub-model (model B in table 21). Any interactions between it and other variables are indicated by changes in their parameters when it is added. Failed, withdrew or changed first course were grouped together because of low numbers in the model refinement, and course completion was used as the reference category.

Table 21 Factors influencing a successful labour market transition

Variables	Model A (without gap status)			Model B (with gap status)		
	Regression parameter	Odds ratio	Significance (p)	Regression parameter	Odds ratio	Significance (p)
Satisfaction with school	0.017	1.017	0.015	0.015	1.015	0.023
Still studying first university course	-1.525	0.218	<0.001	-1.395	0.248	<0.001
Failed, withdrew or changed first university course	-0.409	0.664	0.048	-0.491	0.612	0.012
Gapper	-	-	-	-0.592	0.553	<0.001
Intercept	2.211		<0.001	2.211		<0.001

The model has low predictive power (model B has an R^2 value of 0.07). The intercept term is positive and quite large compared with the regression parameters of significant variables, indicating that most Y98 participants do make successful transitions. Clearly, some factors that contribute to this success are not captured in this model. The table of bivariate correlations (shown in appendix 2) provides us with information that assists in interpreting the model results. The relationship between gender (male) and father's occupation-based socioeconomic status and mother's years of education ($r = 0.08$ and 0.07 respectively) may suggest some bias in those young men who do go to university. We know that young males whose fathers are in trades and labouring occupations are more likely than others to enter trades and are therefore under-represented in university commencers (Curtis 2008).

The positive correlations among reading and mathematics achievement scores, quality of school life and tertiary entrance score are as expected. These variables are all negatively correlated

¹³ Reading achievement at Year 9 was excluded because of its colinearity with Year 9 mathematics achievement.

with gap-taking. Of this set of variables, only satisfaction with school (for which quality of school life is a proxy) was retained in the model of labour market success (see table 21).

What factors are associated with a successful labour market transition?

Only four variables contribute significantly to a prediction of a successful labour market transition. Given that achievement in Year 9 has been demonstrated to be a good predictor of later labour market outcomes in many previous LSAY research reports (see, for example, Curtis 2008 or Marks 2006), it was surprising that neither of the achievement variables (Year 9 mathematics or university entrance score) contributed to a prediction of labour market success. It may be noted that satisfaction with school is strongly correlated with achievement at school, so in the model developed here, satisfaction with school may account for much of the variance ascribed to achievement in other studies.

Gap-taking predicts a lower likelihood of making a successful transition, with gappers having lower odds (0.55) of making a successful transition compared with non-gappers. Having a favourable attitude towards school has a persistent influence and is a predictor of initial labour market success. Course completion is associated with success, as those who are continuing with their initial study have lower odds of being in full-time employment. Those who failed their first course or changed to another also have poorer transitions.

Continuation of study with the first university course commenced is significantly related to gap-taking. The addition of gap-taking to the initial model weakens the influence attributable to still studying a first university course, indicating that part of the penalty of being a gap-taker is attributable to their continuing study. Gap-taking slightly strengthens the influence of first course attrition, indicating that gappers who do withdraw, fail or change from their course suffer a greater penalty than non-gappers for that choice. This is not surprising, as an individual who took a gap year (or two) is expected to be a year (or two) behind non-gappers in their progression through their course.

While gap-taking is associated with a lower likelihood of making a successful labour market transition, this association may reflect the characteristics of students who take a gap year. These characteristics are likely to influence the types of courses that students take and the employment opportunities that they experience.

Summary

- At around age 23, gappers and non-gappers are equally likely to be employed (80%), but non-gappers are more likely than gappers to be in full-time employment (65% compared with 53%).
- At this stage in their lives, non-gappers are more likely than gappers to be employed in professional and semi-professional occupations and more likely to be earning over \$40 000 per year.
- Gappers are more likely than non-gappers to be studying full-time, reflecting their later commencement of studies, but their study status does not fully explain their lower participation in full-time work.

- While gap-taking is associated with a lower likelihood of making a successful labour market transition by age 23, this association may reflect the characteristics of students who take a gap year. These characteristics are likely to influence the types of courses that students take and the employment opportunities that they experience.

Conclusion

Little was known about the incidence of gap-taking in Australia, about the individuals who chose to take time out between completing school and commencing university, or about their course and labour market outcomes. The studies that have been done have been limited to particular institutions or disciplines.

In this report we have examined the incidence of gap-taking and its change over the past decade, the characteristics of gap-takers, their reasons for gap-taking and the activities that they undertake during a gap year. We have compared gappers' and non-gappers' course persistence and completion and their labour market outcomes at age 23 years.¹⁴

We defined gap-takers as those young people who, having completed Year 12 at school, entered university after one or two years. We note that some young people enter university for many years after completion of secondary schooling. For example, some Y95 cohort members enrolled at university for the first time ten years after leaving school. We did not consider these longer delays in university enrolment as gap years, as it is likely that after such extended periods out of school individuals will have accumulated a variety of experiences and skills that may qualify them for university entrance and that they will not rely on their Year 12 results to gain admission to higher education.

The incidence of gap-taking has increased over recent years from 10% for Y95 school completers, to 16% for the Y98 cohort, and to at least 16% for Y03 school completers. We note the interim status of our findings for the Y03 cohort, as some school completers are very likely to enter university during 2008 and 2009, and add to the number of gap-takers identified among Y03 cohort members. We estimate that about 20% of Y03 cohort members will be gappers.

Gap-takers are likely to have lower-than-average tertiary entrance scores and lower-than-average Year 9 mathematics achievement. They are also more likely than non-gappers to have somewhat unfavourable attitudes towards schooling. Students who received Youth Allowance payments while at school (and who were from low-socioeconomic status families) were less likely to take a gap than students who did not receive this allowance while at school. Students from regional locations were more likely than those from metropolitan locations to take a gap year. Gappers are also more likely to be from an English speaking home background.

Coming from a regional location appears to exert a stronger influence on gap-taking than being a low achiever or being in a sufficiently low socioeconomic status category to have received Youth Allowance while at school.

The odds of receiving Youth Allowance payments change after taking a gap year. Following a gap year the likelihood of a high-socioeconomic status student gaining access to Youth Allowance payments improves relative to a low-socioeconomic status student. The LSAY data have allowed us to explore the possibility that working during a gap year and earning more than the relevant income threshold for independent status has enabled some gappers to qualify for the Youth

¹⁴ The findings of outcomes at this age are not indicative of outcomes which could be expected once both groups have completed their transitions from study into the labour market.

Allowance scheme as independent students. The greater proportion of high-socioeconomic status students attending university and the increase in the likelihood of qualifying for Youth Allowance after taking a gap year results in a greater number of high-socioeconomic status university students receiving Youth Allowance compared with low-socioeconomic status students.

Deferring is different from gap-taking: students may defer university entry after a place has been offered, whereas many gap-takers do not apply for a position until after they have taken time out from study. Deferring is much less common than gap-taking. About three-quarters of students who defer course entry enrol at university after their deferral.

The most common reasons for deferring are to take a break, holiday or travel, and to work. Few students defer with a specific intention to work in order to qualify for Youth Allowance payments, but we find that about 15% of gap-takers do qualify for Youth Allowance through their gap year work¹⁵.

During their gap year, most young people undertake a limited range of activities. Work is the most common activity reported during a gap year, with 40% of respondents reporting this as their main gap year pursuit. A further one-third of respondents reported doing some form of non-university study or training during this year. In contrast to the situation described in the UK, very few Australian gappers (3%) report travel as their main activity.

We should not be blinded by the spotlight on gap-taking and attribute outcomes to it that may have other origins. The course and labour market outcomes experienced by gappers may have more to do with other characteristics of gap-takers than with the act of gap-taking or the activities undertaken during the gap year.

In contrast to other research, we find no difference between the rates of course attrition or change between gappers and non-gappers. At age 23 most of these students have favourable university outcomes, with 88% of gappers and non-gappers either having completed or still continuing their courses. The key difference is that more non-gappers have completed their courses and more gappers are still studying.

Gap-takers do experience a delayed labour market transition compared with non-gappers. More gap-takers are still enrolled in their first university course, more of them are doing it on a full-time basis and fewer gappers are working full-time. The full-time study status of gappers does not fully explain their less favourable employment status.

At this point in their lives, non-gappers have a higher incidence of full-time work, are more likely to be employed in professional and associate professional occupations, and have higher earnings than gap-takers.

An unanswered question is whether gap-taking is a productive practice, and for whom. We observe differences in the characteristics and outcomes of gappers and non-gappers. The different outcomes seem more likely to arise because of other characteristics of the young people who choose to take a gap year or not rather than the gap year itself or the activities undertaken during that year. The gap year delays transition but it is not the key determinant of success in that transition.

¹⁵ See note for table 13.

Should potential gappers therefore be encouraged to continue with study immediately after completing their secondary schooling? This question does not have a simple answer. It is possible that those young people with lower levels of academic achievement and poorer attitudes to school and who are more likely to take a gap year do benefit from the gap that they take. More detailed modelling – perhaps involving path analysis – would be required to test this hypothesis, taking into account differences in the characteristics of gappers and non-gappers.

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Appendix 1: variables and methods

Variables

Some variables used in the report, such as socioeconomic status, require explanation, while others, such as gender, do not require elaboration.

For some categorical variables (for example, socioeconomic status and parental education) there is an ‘unknown’ category. Many respondents did not know their parents’ educational attainment or did not complete these questions. The socioeconomic status categories are based on parental occupations. Parents’ occupations may be unknown because students chose not to complete these questions or because their parents were not employed when the original questionnaire was administered. It is possible that many young people in the unknown socioeconomic status category are from low-socioeconomic status families.

Parental education was classified as less than having completed secondary schooling, completion of secondary education, a post-school technical or trade qualification, or a higher education qualification. In the tabulations, mother’s education was used, but where it was not available father’s education was substituted. In modelling, parental education was converted into years of education using Organisation for Economic Co-operation and Development (OECD 2005) practice.

Academic achievement in tabulations was based on a combined literacy and numeracy score, from which achievement quartiles were computed. In the modelling, separate scaled literacy and numeracy scores were used. As reported, colinearity between literacy and numeracy scores was detected and the literacy score was dropped from these analyses.

Socioeconomic status

Socioeconomic status was measured using the ANU3 scale for the Y95 and Y98 cohorts. For the Y03 cohort, two measures are readily available: one measure is based on the International Socioeconomic Index (ISEI) and, like the ANU3 scale, it is based on occupational categories. In this report, the occupation-based indices were taken from father’s occupation. If this was missing, the socioeconomic status index based on mother’s occupation was substituted.

In Y03, an alternative index, the economic, social and cultural status (ESCS) index is available. This variable is used in many cross-country Programme for International Student Assessment (PISA) analyses and, in such studies, it works well. Within Australia, the index does not discriminate as well as occupation-based indices because many of the home possessions, such as television sets and washing machines, used in the index are common to the majority of Australian dwellings. The economic, social and cultural status index is described as:

The PISA 2003 index of economic, social and cultural status (ESCS) is derived from three variables related to family background: the index of highest level of parental education in number of years of education according to the ISCED classification (PARED), the index of highest parental occupation status (HISEI) and the index of home possessions (HOMEPOS). Missing values for these three variables are imputed and then

transformed to an international metric with OECD averages of 0 and OECD standard deviations of 1. These OECD-standardised variables were used for a principal component analysis in order to obtain ESCS scores applying an OECD population weight giving each OECD country a weight of 1000. The PISA index of economic, social and cultural status (ESCS) is computed for PISA 2003 and also re-computed for the PISA 2000 data, but items and the wording of items are slightly different between PISA 2000 and PISA 2003. Further details concerning ESCS are found in PISA 2003 Technical Report (OECD, forthcoming). (OECD 2005, p.382)

The ANU3 index scales occupations listed in the Australian Standard Classification of Occupations (ASCO), while the index of highest parental occupation is based on the International Standard Code for Occupations (ISCO). Values on the ANU3 scale range from zero to 100, while the International Socioeconomic Index scale is from 16 to 90. Many occupations are ranked similarly on the two scales but some differences exist between the relative levels of particular occupations in the ANU3 and the International Socioeconomic Index scales. For this reason, socioeconomic status quartiles based on the two indices are not identical.

The decision to use the index of highest parental occupation rather than economic, social and cultural status in the current study was motivated by two considerations. The first is that an occupation-based index was available for the Y95 and Y98 cohorts, so it was sensible to use an occupation-based index for Y03. Second, the economic, social and cultural status index, in addition to its use of home possessions that do not discriminate well within Australia, uses parental education. We were interested in examining the effects of parental education separate from an occupation-based socioeconomic status index. Clearly, education and occupation are linked, as entry into many occupations requires specific levels of education. The association between these two variables can be separated somewhat by using father's occupation and mother's education. There are both practical and theoretical reasons for this choice. Father's occupation (or income) is often used as an effective predictor of outcomes. Mother's education is regarded as significant in children's outcomes, as mothers often spend more time with children in an informal educative role.

Methods

Logistic regression

Logistic regression is used to develop the explanatory model of gap-taking that was presented in chapter 2 of this report. It is the label applied to a set of very flexible regression methods. The outcome of interest is dichotomous in the more common application of logistic regression. An example question might be 'What factors are related to gap-taking?' In this case the outcome variable is gap-taking status and it has two levels: either the student takes a gap year or does not. One level is the reference (not taking a gap year) and the other is the target outcome.

The method is particularly flexible, as explanatory variables in the model may be continuous, dichotomous, ordered discrete, or unordered categorical. Few assumptions are made about the distributional properties of the explanatory variables. The method involves finding the optimum linear combination of predictor variables to estimate the log of the odds ratio of one outcome (taking a gap year) over the alternative (not taking a gap year).

The regression parameters estimated are the log of the odds of the influence of each explanatory variable on the outcome variable. When predictor variables are continuous, the parameter indicates the effect of a unit change in the predictor on the odds of achieving the target outcome rather than the reference outcome. When explanatory variables are dichotomous (for example, sex) one level, female, is set as a reference predictor and the alternative, male, becomes the predictor category. The parameter estimate is the log of the odds of a male completing Year 12 compared with a female. The exponent of the parameter gives the odds ratio.

Tabachnick and Fidell (2007, pp.437–505) provide an extensive treatment of logistic regression.

The Rasch measurement model

The Rasch model is used in the PISA survey to generate estimates of student achievement in mathematics and reading, and to generate scores on sets of related items such as students' attitude towards school. It is used in the present study to convert the ordinal responses to the 'quality of school life' items for the Y95 and Y98 surveys to interval scaled scores.

The model has advantages in large datasets where some responses are missing. If raw scores are used and some individuals have missed items, the case either has to be removed or assumptions made about an appropriate value. By modelling item difficulties, the Rasch method is able to provide unbiased estimates of individuals' scores on the trait of interest.

The Rasch model is used to convert the ordinal responses to test or items in an attitude survey to interval continuous scores on a measurement scale. It makes certain demands of the data being analysed. It assumes that a single coherent construct underlies the set of items that are used as prompts to elicit responses. If this assumption is not met, this failure will be apparent in a set of fit indices produced in the analysis.

The Rasch model (Rasch 1960, 1980) posits a logistic response function relating the difficulty of a prompt and the ability of the respondent to the probability of their producing a particular response. The basic dichotomous model was extended to model multiple responses to items, as are used in attitude surveys like job satisfaction in the rating scale model (Andrich 1978) and then to the partial credit formulation (Masters 1982).

Instead of modelling a single difficulty parameter for each item, each item has a series of parameters, one for each step in the ordered set of responses. The quality of school life instrument makes statements such as 'The work we do is interesting'; to this respondents were asked to endorse one of 'strongly agree', 'agree', 'disagree' or 'strongly disagree'. Because there are four response options, there are three thresholds between them. The probability of endorsing a particular response to an item depends on the strength of a person's perception of schools as providing a quality experience and the difficulty of endorsing a particular step (that is, agree rather than disagree) within the set of possible responses.

The observed proportions of responses from each person to each item are used in an iterative process in the Rasch equations to estimate the parameters for each person and each item. Provided the items conform to the requirements of the model, verified through a set of fit

statistics, the item and person parameters lie on an interval measurement scale. The person estimates can then be used in subsequent statistical modelling that assume a continuous interval scale.

Bond and Fox (2001) provide an accessible treatment of the Rasch measurement model.

Appendix 2: supplementary tables

This appendix contains tables with more detail than those presented in the body of the report.

Higher education statistics

Table A2.1 Gap year status and commencer status of domestic students commencing bachelor degree programs and below^a in 2004, by jurisdiction

Jurisdiction	Gap year and commencement status				Total
	School leavers with no other qualifications ^b			Others	
	No gap	1 year gap	2 or more years gap or unknown year of completion		
New South Wales	32	9	12	47	100
Victoria	42	10	15	33	100
Queensland	32	10	12	46	100
Western Australia	33	12	14	42	100
South Australia	39	10	9	42	100
Tasmania	27	11	20	42	100
Northern Territory	9	4	17	71	100
Australian Capital Territory	33	14	15	38	100
Multi-state	33	10	13	43	100
Total Australia (%)	35	10	13	43	100
Total Australia (N)	62 423	17 654	23 546	77 030	180 653

Source: Based on Students: selected higher education statistics, 2001–04, provided by Department of Education, Employment and Workplace Relations.

Notes: (a) Includes bachelor's graduate entry, bachelor's honours, bachelor's pass, associate degree, advanced diploma (AQF), diploma (AQF), other award courses, enabling course and non-award course.

(b) School leaver commencers with no prior qualifications higher than Year 12 or equivalent.

Table A2.2 Gap year status and commencer status of domestic students commencing bachelor degree programs and below^a in 2004, Group of Eight universities

Institution	Gap year and commencement status				Total
	School leavers with no other qualifications ^b			Others	
	No gap	1 year gap	2 or more years gap or unknown year of completion		
			Basis non-Year 12		
University of New South Wales	47	12	15	26	100
University of Sydney	50	11	12	27	100
University of Melbourne	61	10	9	20	100
Monash University	46	10	13	32	100
University of Queensland	45	14	9	32	100
University of Western Australia	57	18	13	12	100
University of Adelaide	53	13	9	24	100
Australian National University	41	14	15	29	100
All Go8 universities (%)	50	12	12	27	100
All Go8 universities (N)	22 037	5 354	5 112	11 770	44 273

Source: Based on Students: selected higher education statistics, 2001–04 provided by Department of Education, Employment and Workplace Relations.

Notes: (a) Includes bachelor's graduate entry, bachelor's honours, bachelor's pass, associate degree, advanced diploma (AQF), diploma (AQF), other award courses, enabling course and non-award course.

(b) School leaver commencers with no prior qualifications higher than Year 12 or equivalent.

Correlations among variables used in modelling gap-taking

Table A2.3 Correlations between variables entered in the exploration of gap-taking

	Male	SES: father's occupation	Years of education mother	Maths score	Reading score	Location			NESB	School sector			QSL	TER
						Metro.	Regional	Rural		Gov't	Catholic	Independent		
SES: Father's occupation	0.063													
Years of education: Mother	0.056	0.273												
Maths score	0.173	0.193	0.135											
Read score	<i>-0.023</i>	0.198	0.167	0.442										
Metro.	0.051	0.133	<i>0.022</i>	0.038	<i>0.025</i>									
Regional	-0.051	-0.075	<i>0.013</i>	<i>-0.017</i>	<i>-0.011</i>									
Rural	<i>-0.013</i>	-0.091	<i>-0.041</i>	<i>-0.030</i>	<i>-0.020</i>									
NESB	<i>-0.033</i>	0.128	0.083	0.057	0.146	-0.167	0.106	0.102						
Government	-0.120	-0.178	-0.094	<i>-0.021</i>	-0.067	-0.214	0.138	0.129	-0.089					
Catholic	<i>0.034</i>	<i>0.007</i>	<i>-0.025</i>	-0.075	<i>-0.039</i>	0.122	-0.101	-0.051	<i>0.014</i>					
Independent	0.106	0.201	0.137	0.104	0.120	0.121	-0.054	-0.098	0.090					
QSL	<i>0.032</i>	<i>0.013</i>	0.057	0.056	0.070	<i>-0.022</i>	<i>0.027</i>	<i>0.000</i>	<i>-0.022</i>	-0.062	<i>0.027</i>	0.045		
TER	<i>-0.013</i>	0.228	0.165	0.389	0.338	0.198	-0.171	-0.076	<i>-0.031</i>	-0.108	<i>-0.013</i>	0.141	0.152	
YA school	-0.050	-0.251	-0.155	-0.089	-0.119	-0.091	0.031	0.082	-0.136	0.147	<i>-0.042</i>	-0.129	<i>0.019</i>	-0.120

Notes: Correlation coefficients: Bold, $p < 0.01$; normal text, $0.01 < p < 0.05$; italicised text, $p > 0.05$ (non-significant); all variables originally entered into the model of gap-taking, including those that were subsequently eliminated from the model, are shown in the table; values on the table diagonal (correlations of variables with themselves) and for exclusive categories (location and school sector) have been removed.

The variables, for which bivariate correlations are shown in table A2.3, have complex relationships and the model summarised in table 5 and discussed in the text adjacent to it separates the unique contributions of each variable. In doing so, some of the complexities in the relationships have been suppressed.

Caution should be exercised in interpreting bivariate correlations. An example is provided by the correlations between school sector and achievement variables. In isolation, one might be tempted to conclude that students in independent schools have higher mathematics scores than other students and that this is attributable to those schools. The schools may indeed be quite effective but we should note also the correlations between parental socioeconomic status and educational attainment and student achievement and that high parental socioeconomic status is associated with attendance at independent schools. Several competing causal explanations could be posited but they cannot be evaluated using correlations, such as those shown in table A2.3.

Table A2.4 Correlations between variables entered in the exploration of labour market outcomes

	Male	SES: father's occupat'n	Years of education Mother	Maths score	Reading score	QSL	TER	Gap- taker	Still studying first course	Failed, withdrew or changed first course
SES: Father's occupation	0.077									
Years of education: Mother	0.068	0.271								
Maths score	0.170	0.186	0.124							
Read score	<i>-0.015</i>	0.181	0.185	0.414						
QSL	<i>0.032</i>	<i>-0.016</i>	0.059	0.059	0.069					
TER	<i>-0.026</i>	0.204	0.154	0.378	0.331	0.145				
Gap-taker	<i>-0.021</i>	<i>-0.030</i>	<i>0.004</i>	-0.116	<i>-0.062</i>	<i>-0.066</i>	-0.152			
Still studying first course	0.088	<i>-0.004</i>	<i>0.020</i>	<i>0.043</i>	<i>-0.005</i>	<i>-0.035</i>	<i>-0.053</i>	0.107		
Failed, withdrew or changed first course	0.071	<i>-0.046</i>	<i>-0.064</i>	<i>-0.056</i>	<i>-0.036</i>	<i>-0.027</i>	-0.153	<i>0.015</i>	-0.083	
Part-time study	<i>0.042</i>	<i>0.004</i>	<i>0.013</i>	<i>0.041</i>	0.074	<i>0.005</i>	<i>-0.002</i>	<i>-0.011</i>	0.541	<i>0.005</i>

Notes: Correlation coefficients: Bold, $p < 0.01$; normal text, $0.01 < p < 0.05$; italicised text, $p > 0.05$ (non-significant); all variables originally entered into the model of labour market success, including those that were subsequently eliminated from the model, are shown in the table; for clarity, values on the table diagonal (correlations of variables with themselves) have been removed.

The caveats noted above in relation to interpreting bivariate correlations in table A2.3 apply equally to those in table A2.4. Some of the expected correlations noted in relation to table A2.3 are also apparent in table A2.4.



Longitudinal
Surveys of
Australian Youth



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