



THE UNIVERSITY OF  
**NEWCASTLE**  
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# **CHOOSING UNIVERSITY: THE IMPACT OF SCHOOLS AND SCHOOLING**

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**TEACHERS  
& TEACHING**  
RESEARCH PROGRAM

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## List of Abbreviations

ABS	Australian Bureau of Statistics
ARC	Australian Research Council
ATAR	Australian Tertiary Admissions Rank
HE	Higher education
ICSEA	Index of Community Socio-Educational Advantage
NAPLAN	National Assessment Program – Literacy and Numeracy
NCSEHE	National Centre for Student Equity in Higher Education
SEIFA	Socio-Economic Indexes for Areas
SES	Socioeconomic status
TAC	Tertiary Admissions Centre
TER	Tertiary Education Rank
TAFE	Technical and Further Education
UAC	University Admissions Centre
VET	Vocational Education and Training

# Executive Summary

## Project aims

This project, *Choosing University*, sought to identify factors associated with schools and schooling that impact on students' aspirations to attend university. The schools identified for the study were NSW government secondary schools with low levels of socioeconomic advantage (average ICSEA<sup>1</sup> 911). Students targeted for the study were primarily from low socioeconomic status backgrounds.

Taking account of SES, Aboriginality, location, and sex, the *Choosing University* project examined:

- Patterns identifiable in the complex relationships between student background and their aspirations for university; and
- The extent to which and ways in which schools support students' aspirations for university.

The aim was to better understand barriers and enabling conditions over which schools have some control in order to provide insight into possible ways of improving the higher education participation and success of low SES and other marginalised students.

Data used in this study are drawn from 15 NSW government schools and take the form of: (1) surveys of secondary school students; (2) interviews with students from these schools identified as 'university aspirants', 'non-university aspirants', or 'undecided'; (3) interviews with some of their parents, teachers, principals, and school-based careers advisers; and (4) interviews with current university students who had attended the same schools for their secondary studies.

## Findings

Major findings of this project were:

### On choosing university

1. From our sample of 832 students in 15 disadvantaged secondary schools, a substantial proportion, just over 40%, of the participating students intend to go to university although only 32% plan to go in the year immediately after school.
2. A further 21% of participating students were unsure of their educational intentions, while the remainder planned to complete their formal education at school or TAFE.
3. When examining their independent effect on intention to go to university, sex, SES, and prior achievement were all significantly related:
  - a. A greater relative proportion of the female students in our sample indicated an intention to attend university than did male students.
  - b. A greater relative proportion of high SES students in our sample indicated an intention to attend university than did low SES students.

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<sup>1</sup> ICSEA is the Index of Community Socio-Educational Advantage created by the Australian Curriculum, Assessment and Reporting Authority (ACARA), which enables meaningful comparisons of NAPLAN test achievement by students in schools across Australia. See <http://www.myschool.edu.au/AboutUs/Glossary/glossaryLink> for more details.

- c. A greater relative proportion of students with high prior achievement indicated an intention to attend university than did students with low prior achievement.
4. When considered concurrently in relation to the impact on the intention to go to university, through regression analysis, sex and prior achievement were significant:
  - a. Female students in this sample were 1.56 times more likely to indicate an intention to go to university than male students.
  - b. Students in the top two prior achievement quartiles were more than three times as likely to indicate an intention to go to university than students in the lower two quartiles.
5. While the schools in this project were all below the national median level of social and economic advantage, participating students were from all four SES quartiles, although not in equal proportions. Although an independent effect was found for SES and nearly 70% of participating students perceived there to be financial barriers to attending university, SES was not significant when considered through the regression analysis, indicating the intersection of SES with other factors. Our results highlight the importance of: designing initiatives to support the participation and success of students from low SES backgrounds without 'essentialising' SES (that is, treating the category 'low SES' as homogeneous); and, taking account of sex and prior achievement and how these variables intersect to shape students' desires for higher education or otherwise.
6. The intention to go to university was related to students' perceptions of travel as a potential barrier, with university aspirants more likely to identify such barriers, possibly signalling their firmer intent to pursue a higher education pathway.
7. University aspirants were more likely to seek information about career and study options from a broad range of sources than non-university aspirants. They were more likely to speak to family and friends, use the internet, attend careers expos, and receive information from educational institutions.
8. In all analyses, Aboriginality and school location (metropolitan/provincial) were not found to be related to educational intention, despite the greater perception of travel barriers among students in provincial schools.

### **On the impact of schools and schooling**

9. A significant difference was found between participation rates for university aspirants and non-university aspirants in school-based careers activities, with university aspirants reporting higher levels of participation in university open days and careers expos, and more commonly searching online about careers and having received printed information about career and study options.
10. The regression analyses revealed that students in two of the participating schools were significantly more likely to aspire to university and significantly less likely to be undecided, signalling that variation between individual schools can matter for students' educational intentions. For one of these schools, close proximity to a university allowed students to integrate experiences on the university campus with their schooling. For the other, a purpose-built learning space for senior students designed to mimic the independent learning expected at university and TAFE, gave students a clearer sense of learning expectations in higher education. These features of the two schools may help to explain the greater proportion of university aspirants amongst their students.
11. All schools provided a wide range of subject options and pathways for their senior students and the general ethos in each school was supportive of student aspirations. However, interviews with students revealed some differences in student perceptions of school supports. While strong structural supports were in place in all schools, the student-teacher relationship appeared to be crucial in students' experience of and engagement in their schooling.



12. Given the strong relationship of academic achievement with students' intention to attend university, regardless of student SES, school efforts to improve student achievement are imperative for schools wishing to increase the participation of their students in higher education. These efforts could include improving the quality of teaching, offering flexible subject options, and enhancing student–teacher relationships. While schools are already working on these kinds of supports for students, their impact appears to be uneven among university aspirants, non-university aspirants, and students who are still deciding on their educational plans.

# 1. Introduction

Despite government policy and the concerted efforts of schools and universities, students from low socioeconomic status backgrounds (SES) remain under-represented in universities. This study builds on and contributes to efforts to understand the aspirations of these students for higher education. Although many studies have examined the relationship between student background and higher education participation and others have explored barriers to and enablers of the transition from school to university (e.g., Bowles, Fisher, McPhail, Rosenstreich, & Dobson, 2014; Gorard et al., 2007) no previous study has analysed the impact of schools and schooling on students' intention to pursue university education with the range of data and forms of analysis presented here. Drawing on (1) surveys of the secondary students and (2) interviews with current and past students of particular schools as well as some of their parents, teachers, careers advisers, and principals, this study provides unique insight into the impact of schools on students' interest in attending or not attending university.

The study analyses the impact of schools and schooling on the aspirations for university education of more than 800 Year 11 students in relatively 'disadvantaged' NSW government schools, investigating such factors as school ethos, teachers and teaching, subject availability, and careers-focused activities. The reflections of 25 students from the same schools, currently enrolled in university degrees, enables additional retrospective insights to be compared with the views of those students who are still at school. Case studies of diverse schools, in terms of location and student profile, enable rich contextual accounts to illustrate findings from the quantitative analyses.

The aim of the study was to provide a comprehensive account of factors linked with aspirations over which schools might have some control, in order to provide schools with guidance on actions or specific interventions they might implement to improve the higher education participation and success of students from low SES schools and communities.

## 2 Literature Review

Previous studies have made significant contributions to the body of knowledge relating to the transition from secondary school to tertiary education in Australia and elsewhere (Gale & Parker, 2013; Kantanis, 2000; Sellar & Storan, 2013; Urquhart & Pooley, 2007). While much of this research focusses on strategies to increase the retention rates of first-year undergraduate university students and the pivotal role of the first-year experience in attrition (Krause et al., 2005; McKenzie & Schweitzer, 2001), a significant proportion of the literature also focusses on matters pertaining to students who are yet to enter higher education and are still in secondary school. Studies of higher education choice, in terms of field of study and institution, the impact of student characteristics and their individual backgrounds, and the role of families and peers in the transition to university from secondary schooling have all been undertaken.

This literature shows that whilst the intention to continue to higher education often takes shape well before the final years of secondary school (James, 2000; Khoo & Ainly, 2005), the decision to attend university depends on a large range of factors, including the personal experiences of young people, their perceptions of education and careers, individual and family histories (Foskett & Helmsley-Brown, 2001), student attitudes towards school, and achievement in both literacy and numeracy (Khoo & Ainly, 2005). In a report examining the participation of people from low socioeconomic backgrounds and Aboriginal people in higher education, James (2008) advises that there are various reasons why individuals choose pathways *other* than higher education, with these including low academic achievement in high school, reservation and lack of aspiration towards university study, and the absence of encouragement from peers and family. The concept of capital is a key theme in the literature, and it has been suggested that individuals from higher socioeconomic backgrounds possess greater access to social, cultural, and economic resources compared with those from more disadvantaged backgrounds, thus allowing these 'elite' groups to more frequently experiment with, and articulate, their aspirations (Sellar, Gale, & Parker, 2011). In a recent article, Whitty (2015) further argues that success in educational institutions is dependent "not just on 'what you know', but also on 'knowing the ropes' and sometimes, even today, on 'who you know'" (p. 41).

The decision to pursue higher education, and the transition from school to post-secondary study, has frequently been discussed in terms of 'navigational capacity'. In exploring the aspirations of students from 14 government schools in Central Queensland, Gale et al. (2013) found that whilst a large proportion of students identified a desire to have a university degree in the future, the navigational capacity of students, from their current location in the education system to higher education, was limited. In particular, many students who aspired to obtain a university degree did not know what course they wanted to study or which university they wanted to attend; others did not identify or realise that in order to pursue their career aspirations they would need to undertake a university degree that required them to relocate to another area. From these findings, Gale et al. (2013) argue that many students have reduced access to map knowledge – 'knowledge from above' – which would allow them to make decisions, recognise pathways, and construct alternative routes at strategic points to achieve their goals.

Similarly, Kenway and Hickey-Moody (2011) demonstrate how everyday knowledge informs the aspirations of young males, identifying that boys who have 'aerial vision' are able to successfully navigate the maps and geography of the education system, can plot the best possible routes to achievement, and have a family whose social class ensures they can adopt tactics that help them succeed. It is argued that these boys have the greatest means to aspire to university, however it is also highlighted that the nature of the school curriculum favours the strategies of this group. This concept is further investigated in a small study by Bok (2010) who uses the analogy "it's like making them do a play without a script" (p. 175) to propose that families from lower socioeconomic backgrounds are often less familiar with higher education pathways and education institutions, particularly if these institutions are located at a geographical distance, and if students must actively seek out information about higher education outside of their family and community.

In a number of studies, Ball and Vincent's (1998) concept of 'hot and cold knowledge' has been explored in relation to aspirations for higher education. Students from higher socioeconomic backgrounds, in

comparison to those from lower socioeconomic backgrounds, frequently have access to 'hot knowledge' acquired through the grapevine from family, friends, and school-based networks (Ball & Vincent, 1998), which increases their familiarity with pathways to higher education, including the application and admissions process, and with higher education itself. Whilst students from lower socioeconomic backgrounds are less likely to have access to this knowledge, they are also less likely to have the resources available to decode 'cold knowledge' – formal knowledge available from university prospectuses and websites, for example – which further impacts on their navigational capacity.

Several studies have highlighted the complex decision-making process that students, and most often their families, must undertake in choosing post-secondary options. In particular, James (2000, p. 2) identifies a "potentially bewildering array of university and course options", with an expanded range of tertiary options and post-secondary institutions marketing themselves and their courses to potential students. Research focusing on the first-year experience of university students in Australia has also identified a feeling of unpreparedness for the choices associated with higher education. A large study by McInnis and James (1995), which explored the experiences of over 4,000 first-year undergraduate students from seven institutions, illustrated that one in three students felt, in hindsight, that they were not ready to choose a degree in their final year of high school. Comparably, in a study involving more than 2,000 first-year university students from nine Australian institutions, one in two students did not feel prepared to choose a university course on the completion of secondary schooling (James, Krause, & Jennings, 2010).

## **2.1 Challenges for students from disadvantaged backgrounds and rural/remote areas**

These challenges are often exacerbated for students from relatively disadvantaged backgrounds, and for students from rural and remote areas. James (2008) highlights a number of interrelated factors behind the persistent under-representation of students from lower socioeconomic backgrounds in higher education, including lower levels of achievement at high school, lower school completion rates, and 'alternative' post-school aspirations for work or vocational pathways. These individuals also often have lower perceptions about what is possible and attainable, which have been linked to a number of external barriers such as cost and distance as well as their individual socioeconomic circumstances and community context (James et al., 1999). Moreover, a recent Australian study found that students from financially disadvantaged families who transition from secondary school to university often have little or no experience with the university environment. This was especially the case for those students who were first in their family to complete Year 12 (Bryce & Anderson, 2008).

For students from rural and regional areas of Australia the choice to attend university is influenced by a myriad of factors. Students in these areas often look for study options in which they feel comfortable and where they "fit in", thus excluding themselves from other potential study options and locations (Crozier, Reay, Clayton, Colliander, & Grinstead, 2008). Rural students are also said to face competing pressures of either staying in their communities close to the support of friends and family or leaving in order to access education opportunities that might not otherwise be available (Christie, 2009).

Other influences on whether rural students choose to attend university include limited choice of university courses due to financial considerations, a lack of information regarding course options at university (Bryce & Anderson, 2008), and the uneven distribution of university campuses in rural and regional Australia (Charles Sturt University, 2009). Geographical location has been highlighted as having a considerable impact on preferences for post-secondary education; James (2000) found that student preference for TAFE or work increased as their distance from a major urban centre and university also increased.

The unique challenges for rural students have been summarised as the "three way intersection" of family SES background, characteristics of the rural context in which students live, and the physical distance from campus (James, 2001). Others have primarily explained the differences between rural and metropolitan students with the difference in socioeconomic status (Curtis, Drummond, Halsey, & Lawson, 2012). In general, students from high SES backgrounds have been found more likely to aspire to attend university

while students from low SES backgrounds are more likely to aspire to attend TAFE (Bryce & Anderson, 2008; Gale, 2010; Hillman, 2005).

## 2.2 The significant influence of peers and families

Another set of factors influencing the choice to attend university is the influence of friends, peers, and families, including parents/carers and siblings. The evidence surrounding these influences is less clear cut than that for SES or location. For example, while some researchers have argued that the educational intentions of students are directly influenced by peers (Bland, 2002), others suggest that the discussion of higher education options between friends and peers is fairly limited (Brooks, 2003a). Recent research findings from the Longitudinal Studies of Australian Youth (LSAY) indicate that students with friends who plan to undertake higher education are nearly four times more likely to attend university (Gemici, Bednarz, Karmel, & Lim, 2014).

The influence of parents and families on the choice to attend university is key for many young students (James et al., 2010). Two major studies have highlighted that parents and families are both the primary source of information for students in forming and pursuing their aspirations for higher education, as well as the most important source of advice for students in assisting them to think about, and plan, their futures (James, 2000; Gale et al., 2013). The report by James (2000), which analysed survey data ( $n = 7,023$ ) from a targeted sample (Year 10–12 students, urban/rural/isolated, lower/medium/higher socioeconomic background) drawn from three States (New South Wales, Victoria, and Western Australia), also found no statistically significant difference in socioeconomic background or location of students who identified their parents/carers as their most important source of advice. Further, in using parental education level to measure SES, James (2000) concluded that the level of parental education is the single most important factor regarding students' attitudes towards not only the importance of post-secondary options, but also the attainability of these aspirations.

Parents are vital in the conceptualisation and understanding of higher education options (Brooks, 2003b), a finding that has been linked with parental levels of educational attainment (Bowden & Doughney, 2012). Whilst parents in families that have little understanding or experience with either completion of Year 12 studies or university are willing to provide the support needed for effective transition into university, it has been suggested that this lack of knowledge and experience can result in support that is often ineffectual (Bryce & Anderson, 2008). Nonetheless, recent LSAY data show that the children of parents who want them to attend university are four times more likely to complete Year 12 and eleven times more likely to plan to attend university compared with those whose parents expect them to choose a non-university pathway (Gemici et al., 2014). Interestingly, in a UK-based study by Fuller (2014), high-aspiring girls from a state secondary school classed as being in an area of high social deprivation identified their parents' lack of higher education experience as not limiting their aspirations, but as a motivating factor and source of encouragement: "My parents encouraged me... 'cause they didn't go on themselves. So they want me to go to university and get a good job" (p. 141). In examining the influence of family, Smith (2011) further illustrates how exposure to siblings with experience in higher education, even when parents lack experience themselves, can initiate a 'narrative thread' in which discussions about higher education and higher education pathways can influence how students view themselves and from which the decision to pursue university is perceived as being more 'normal'.

## 2.3 The role of schools and schooling

Despite the substantial body of knowledge available on the transition from secondary school to university both internationally and within Australia, there is little evidence of the specific effects of schools and teachers on the transition process. Abbott-Chapman (2011) argues that the transition to university could be "facilitated by schools and universities working together to ensure the best possible learning outcomes for each student" (p. 67). However, how schools and universities could – or should – work together in supporting this transition to university is not well understood.

A recent report from LSAY (Gemici, Lim, & Karmel, 2013) indicated that while the researchers were able to isolate the impact of the school from the characteristics of the students in the transition from school to university, and able to statistically measure an impact for certain 'idiosyncratic' or school ethos factors, such factors could not be explained using the LSAY data. Further highlighting the need for more explanatory research, Gale and Parker (2013) concluded that research in this field "needs to foreground students' lived realities and to broaden its theoretical and empirical base if students' capabilities to navigate change are to be fully understood and resourced" (Abstract). Together, these analyses signal a need to build on current knowledge in this area to address both structural aspects of schools and less tangible qualities, such as 'school ethos', as they shape and are shaped by students' lived experiences.

## 2.4 School ethos

Studies of the impact of schools on student aspirations for university entrance have tended to highlight structural factors like school sector and demographics rather than tease out the complexity of students' experience (e.g., Gale et al., 2013; Lamb, 2001; Marks, Underwood, Rothman, & Brown, 2011) or the importance of the role of the teacher in student academic performance (Hattie, 2003). Thomson (2000) suggests that each school is characterised by a distinct variety of factors that combine to influence the impact that schools have on students' transition to university. Some such factors relate to student experiences that are less measurable. Thomson has classified this group of factors as a school's 'thisness'. Although perhaps not the most elegant of terms, it does serve to provide a label for the specific place-related influences that affect the operation and performance of a school and aligns with the term 'school ethos'.

In one UK study, Reay, David, and Ball (2001) concluded that schools have a profound effect on whether students will attend university. In their examination of similar kinds of students from both public and private schools, institutional habitus was seen as one of the active influences at play, in overlap with family, friends, and type of institution. Reay et al. (2001) concluded that "'a school effect'... is an intervening variable, providing a 'semi-autonomous' means by which class, raced and gendered processes are played out in the lives of students and their HE choices" (p. 35). They found that the culture (habitus) of private schools inherently supports the pathway to university, while public schools do not. Institutional habitus was also theorised to have a direct impact on the quality and quantity of career education. Similarly, a more recent UK study by Foskett, Dyke, and Maringe (2008) identified academic ethos as being highly influential, concluding that generally high SES schools viewed themselves as developing students for university careers, while low SES schools tend to maintain a commitment to vocational pathways.

While there have been many attempts to target more disadvantaged schools and students in initiatives designed to increase participation in university, it is increasingly evident that there is little understanding of effective practices, especially since it is not possible to apply a "one-size-fits-all" approach. Tranter's (2005) case study of three of the most disadvantaged schools in South Australia examined the impact of the USANET scheme, a University of South Australia intervention that aims to improve access to higher education for students from low socioeconomic and rural/isolated backgrounds. Tranter concluded that such schemes generally only catered for students who were already interested in going to university, and had an understanding of what university is. According to Tranter (2005), schemes like USANET are ineffectual for those in the most disadvantaged schools for whom university often remains a foreign concept. Grounded in Bourdieu's theory of habitus, Tranter explains, "the schools have a pervading culture of academic non-achievement and the attempts of the universities to counter this through a variety of special entry schemes appear to have had little influence on student aspirations" (p. 3).

## 2.5 Subject choice and curriculum availability

In a detailed series of LSAY studies of how subject choice affects the transition to post-school education, Fullarton and Ainley (2000) found a correlation between student subject choices in the senior secondary years and access to higher education. Students from higher SES backgrounds, from private schools, and from non-English speaking backgrounds, were more likely to choose subjects that would lead them to higher

education. Conversely, those from disadvantaged backgrounds tended to participate in courses that would lead to VET or employment that did not require further education or training.

Subject choice is limited by what is made available to students by schools. Reay et al. (2001) explain how, in the UK, private schools tend to offer subjects that lead students to traditional (more elite) universities, while schools in the public sector offer subjects that are more compatible with the newer (less prestigious) universities.

## 2.6 Career advice

There is little research concerning the effects of career advice on secondary school students and their post-secondary decisions. However, the impact and influence of careers advisers has been identified in a number of reports. James (2000) found that students from low socioeconomic backgrounds showed more reliance on the views and advice of careers advisers in comparison with students from higher socioeconomic backgrounds. In a rare study on the topic, Rothman and Hillman (2008) used LSAY data to produce an in-depth analysis of school students' experiences with career advice and how useful they consider it to be. Overall, they found that young people perceive careers advice and activities to be useful, and the more experience they have in a variety of activities, the more useful they perceive it to be. Lower achieving students and those who were unsure if they would complete Year 12 were more positive than other groups about their experiences with career advice (Rothman & Hillman, 2008). In a study that specifically examined the aspirations of high achieving students and their capacity to aspire to medical school, Southgate, Kelly, and Symonds (2015) highlight how careers advisers from poorer geographical areas felt constrained in their ability to help all students at their school when they often needed to assist and intervene in other urgent matters; for example, securing paid work for students leaving school early or for students attempting to escape an abusive home background.

## 2.7 Teachers and teaching

Tranter (2005) argues that teachers are critical in supporting students on pathways to universities. In interviews with students and teachers she found that they both recognised the importance of positive student-teacher relationships in influencing student aspirations and attitudes to school. According to Tranter, one of the persistent problems for disadvantaged schools is the difficulty of staffing them with highly skilled teachers who are willing to stay long term. Staff mobility is a major issue: "the schools, and the students, have to manage with a constant stream of reluctant transferees and contract staff, many of whom are ill equipped to cope" (Tranter, 2005, p. 9).

As a consequence of a high turnover of teaching staff in such schools, it is difficult to establish the kind of sustained supportive relationships that students need. Abbott-Chapman and Easthope (1998) suggest that this support goes beyond simply providing special services, resources, and personnel, and "depends on the ways in which we enable students to become full members of the learning community" (p. 103). This goal requires positive student interactions outside as well as inside the classroom in ways that assist acculturation and strengthen social capital and learner identity (Crozier et al., 2008). It also highlights the role of teachers in informing, encouraging, and facilitating learners rather than simply directing them.

Tranter (2005) explains that in many disadvantaged communities, "teachers are amongst the only people that the school students are likely to meet who have any experience of higher education, hence the role of teachers in encouraging, or discouraging, students to aspire to university is crucial" (p. 9). Bowden and Doughney (2012) also found that students are more likely to aspire to attend university if they are encouraged by their teachers.

The *Choosing University* study has taken up the challenge of exploring the impact of schools and schooling on students' educational intentions using a range of data sources and analyses. Through this work we contribute to the literature on the ways in which school-specific social relations and practices might explain

how ostensibly 'like schools' can have quite different impacts and how schools and schooling work differently for different groups of students.



## 3. Approach

### 3.1 Research design

The *Choosing University* study was designed to provide a detailed analysis of factors impacting on the intentions of students in Year 11 to attend university or not, with a particular emphasis on the impact of schools and schooling. Students in Year 11 were chosen as the focus of this study because it is a point in schooling when intentions for post-school destinations typically solidify.

The students were drawn from 15 low SES schools. All schools had an ICSEA value < 1000, which is the national median score, indicating relatively high levels of social disadvantage. For the purposes of this report the schools were ranked in order from the lowest ICSEA to the highest ICSEA and assigned an ID number from 1 to 15, with 1 representing the school with the lowest ICSEA of 852 and 15 representing the school with the highest ICSEA level of 969. The mean ICSEA for all 15 schools was 911. Table 1 displays additional demographic information about the participating schools. The table also reports the number of survey responses from each school. For school-level statistical analyses, schools with fewer than 25 student surveys were excluded (Schools 1, 2, 3, 7, and 13).

**Table 1. School demographic information and survey responses by school.**

School ID	% Aboriginal students*	% 2013 VET enrolments*	No. of survey responses
1	30	35	0
2	20	50	3
3	20	35	0
4 **	20	30	44
5 **	20	40	73
6 **	5	90	176
7	15	55	0
8	10	35	83
9	10	25	29
10 **	10	15	106
11	10	45	29
12	10	30	105
13	15	0	7
14	5	10	120
15	10	25	57

*Note.* Schools are listed in ascending order of ICSEA (minimum = 852, maximum = 969, mean = 911).

\* Percentage value rounded to nearest multiple of 5 to preserve the anonymity of participating schools.

\*\* Denotes case study school.

The surveys were completed as part of a larger project on the educational and career aspirations of students in the middle years of schooling, the *Aspirations Longitudinal Study*<sup>2</sup>. This project provided key demographic information about the students in our sample and about their educational intentions after leaving school. These data were used to generate a broad overview of factors related to students' educational intentions, building a platform for the more detailed exploration of educational intentions undertaken through analysis of the qualitative data that were collected as part of *Choosing University*.

Figure 1 outlines the study design, demonstrating the relationship of the study to the larger *Aspirations Longitudinal Study*. As illustrated, the *Choosing University* study focusses specifically on the impact of schools, supplementing survey and other student background data with interviews with students in Year 11, their principals, careers advisers, and some teachers and parents from the selected schools (see Table 2). The semi-structured student interviews were designed to generate insights into the complexity of the students' school experiences and their deliberations in considering pathways into higher education. Questions addressed included: What are their concerns? What factors are most important in making decisions about further education? What role has their school played? Interviews with low SES graduates of the same secondary schools, who are currently enrolled in university courses, were also conducted (see Table 3) and detailed case studies of four schools were undertaken (Schools 4, 5, 6, and 10).

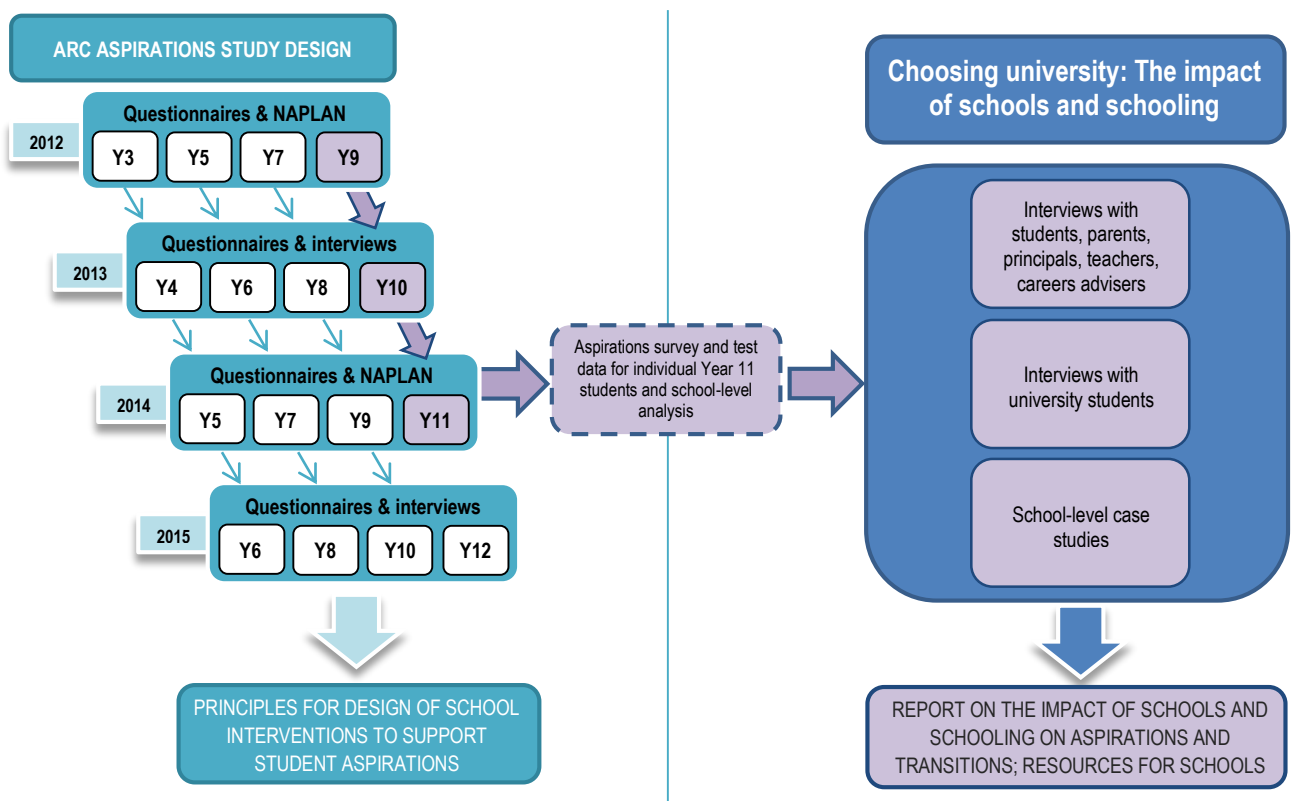


Figure 1. The project design and relationship to the larger study of aspirations.

<sup>2</sup> The full title of the study is *Educational and Career Aspirations in the Middle Years of Schooling: Understanding Complexity for Increased Equity*. The study is an Australian Research Council Linkage project (LP120100013) jointly funded by the Australian Research Council and the NSW Department of Education and Communities. See Gore, Holmes, Smith, Southgate, and Albright (2015) for an early publication from this project.

**Table 2. Total interview data.**

Data sources	No. of interviews completed
Principal interviews	15
Year 11 student interviews	62
Parents of Year 11 students	18
Year 11 teachers	31
High school careers advisers	13
University students from UON	25

**Table 3. University students by school.**

School	No. of university students
School 1	1
School 3	1
School 5	3
School 6	6
School 9	2
School 10	1
School 15	5
Other secondary schools	6
Total	25

University students from low SES backgrounds who had attended one of the participating schools were included in the study design in order to gain retrospective insights on the impact of their schools and schooling in helping them, or otherwise, to aspire for university entry and make a successful transition. The semi-structured interviews conducted with these students focussed on whether their high school concerns turned out to be real, what the transition to university had been like for them, what role, if any, they think their schools played in helping them to achieve their university entrance goals and transitions, and what, in hindsight, they wish had been in place. The SES classification for the university students was calculated using Australian Bureau of Statistics data, taken from the 2011 Census of Population and Housing which provides information on a broad range of social and economic aspects of the Australian population. Socio-Economic Indexes for Areas (SEIFA) was the summary measure used. Statistical Area Level One was used within this classification, which is the smallest geographical area of output for the census, providing the most accurate summary of SES for the area.

## 3.2 Measures used in quantitative analyses

In addition to linking all students with the school attended, a number of individual student variables were used in the analysis, as well as a measure of perceived barriers to university education. These measures are outlined below.

### 3.2.1 Socioeconomic status (SES)

Individual student SES was calculated using data sourced from NSW DEC school enrolment forms. Parental level of education was represented by an ordinal variable coded 1 (Year 9 or equivalent or below), 2 (Year 10 or equivalent), 3 (Year 11 or equivalent), 4 (Year 12 or equivalent), 5 (Certificate I to IV including trade certificate), 6 (Advanced diploma/Diploma), or 7 (Bachelor degree or above). Parental occupation was represented by an ordinal variable coded 1 (not in paid work in last 12 months), 2 (machine operators, hospitality staff, assistants, labourers, and related workers), 3 (tradesmen/women, clerks and skilled office, sales, and service staff), 4 (other business managers, arts/media/sportspersons, and associate professionals), or 5 (senior management in large business organisation, government administration and defence, and qualified professionals). These categories are consistent with the data standards for student background characteristics prescribed for nationally consistent reporting by schools, school systems, test administration authorities, and assessment contractors (Australian Curriculum, Assessment and Reporting Authority [ACARA], 2012).

The approach taken was to combine these variables into an equally weighted composite score consistent with the approach of Marjoribanks (2003) and Khattab (2005). It is important to note that these are not mandated fields on student enrolment forms and there is a relatively high incidence of missing data which in some cases rendered it impossible to calculate an SES measure. To minimise data loss, the decision was taken to base student SES on the highest educational level and the highest occupational status in each family. Full data for the NSW government sector was used as a normative backdrop to separate SES scores into quartiles for later analysis.

The distribution of the survey respondents in each school (where there were sufficient numbers) across the SES quartiles is illustrated in Figure 2 below, and shows that all but one school (School 4) had less than 20% of survey respondents in the highest SES quartile. One school (School 9) had more than 50% of respondents in the lowest SES quartile. The correlation between school ICSEA and the average SES of the survey respondents is 0.5. Note that in the larger *Aspirations Longitudinal Study* the correlation was 0.9. The lower correlation in this study is likely to be a function of the relatively low student numbers. Nevertheless, the positive correlation between school ICSEA and student SES suggests that the sample is representative of students in these schools.

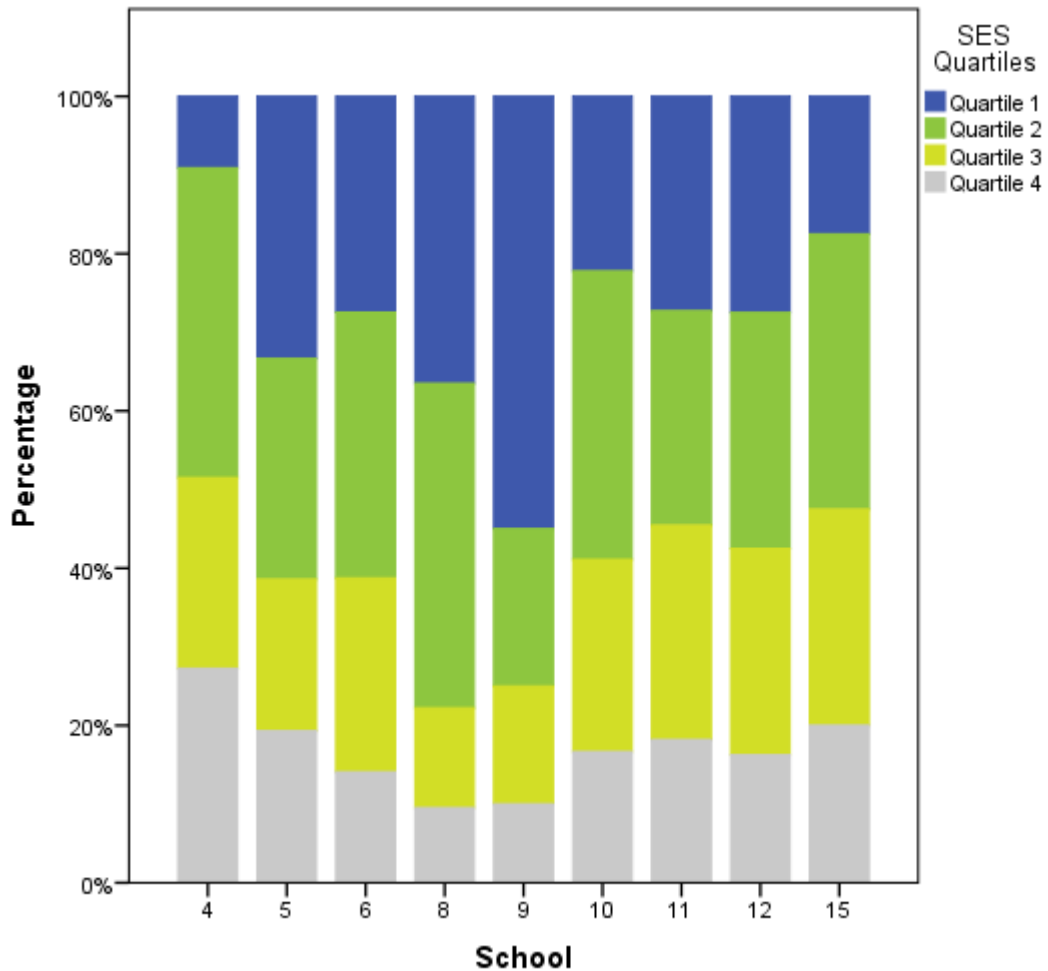


Figure 2. SES quartile distribution by school.

### 3.2.2 Prior achievement

To enable a comparable measure of prior achievement, students' individual NAPLAN results from Year 9 were accessed. These are the final set of NAPLAN results available in all secondary schools. Attainment in NAPLAN was taken as the equally weighted composite of individual student Reading and Numeracy scores. Full data for the NSW government sector was used as a normative backdrop to separate student NAPLAN scores into quartiles. The distribution of the survey respondents in each school (where there were sufficient numbers) across the prior achievement quartiles is illustrated in Figure 3, and shows the amount of variation among the schools.

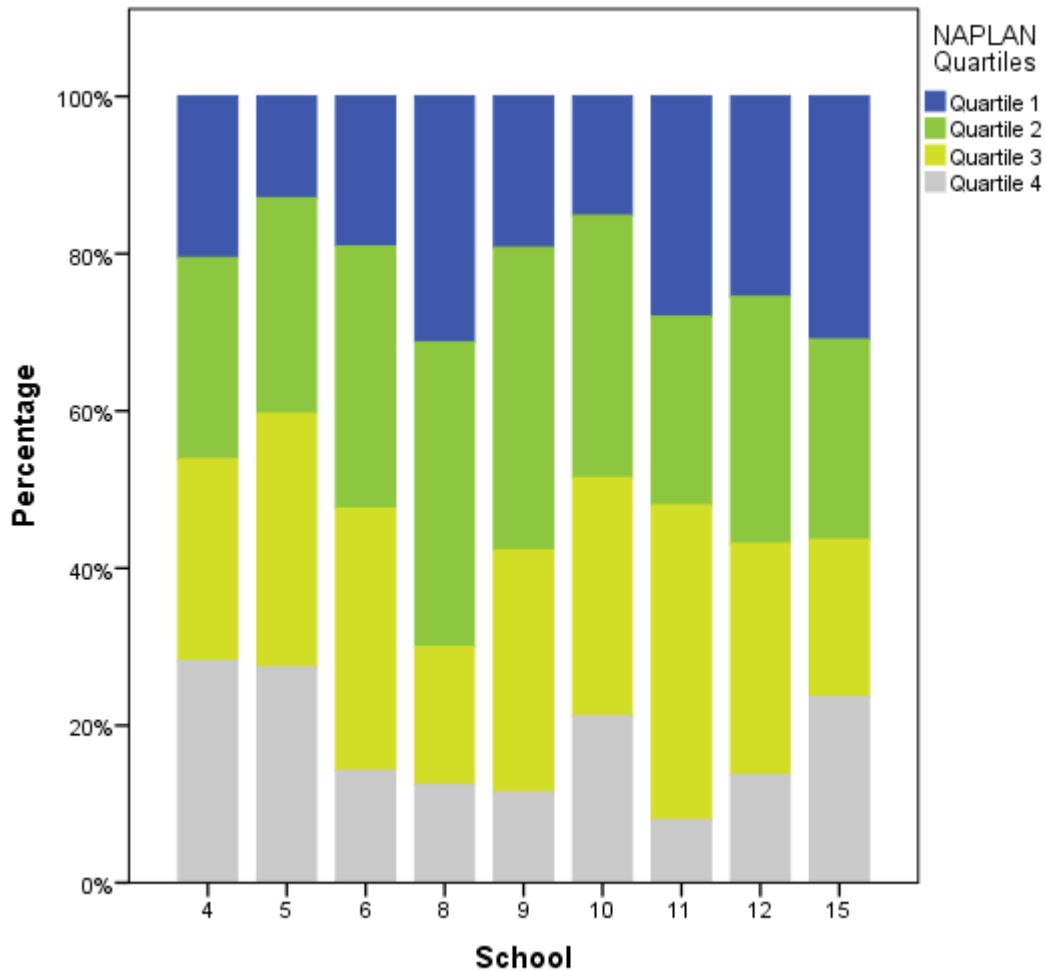


Figure 3. NAPLAN quartile distribution by school.

### 3.2.3 Location

For each school in the sample we used the classification of 'metropolitan' or 'provincial' as stated on the Australian government MySchool website (<http://www.myschool.edu.au/>; ACARA, 2015). No schools in our sample were classed as 'remote' or 'very remote', based on ACARA's classification.

### 3.2.4 Sex

The sex of the school students was determined from the NSW DEC school enrolment forms.

### 3.2.4 Aboriginality

The Aboriginal and Torres Strait Islander status of each student was determined from the NSW DEC enrolment forms.

### 3.2.5 Barriers to university study

Within the survey, students were asked to respond to items in reference to both travel and financial barriers that might impact, from their perspective, on their capacity to undertake university study. For our analysis students were categorised into two groups: those who perceived no barriers; and those who recognised one or more barriers in either travel or financial areas.

### 3.3 Data analysis

The quantitative analyses conducted for this study use the survey responses of **832 Year 11 students** from 12 of the 15 participating schools (three schools provided no surveys). Chi-square or *t*-test analyses were conducted to determine independent effects and multivariate regressions were then undertaken to examine the relative impact of the variables.

The qualitative analyses involved the transcription and thematic analysis of the 164 semi-structured interviews using NVivo software (QSR International, 2014). Each participant was given a pseudonym to preserve their anonymity. A combination of inductive and deductive coding was used as interviews were read and re-read to identify themes. 'Nodes' were assigned to each of these themes. Each of the semi-structured interview questions was also assigned a node to enable cross comparison of answers between individuals and schools.

## 4. Results

### 4.1 Educational intentions: whole sample

In the survey, the students were asked about their educational intentions for the future: Did they intend to finish school and if so were they planning to attend TAFE or University? Table 4 indicates that: 40.2% of students were planning to go to university to complete at least a Bachelor degree (24.6%) or a Master's or Doctorate (15.6%); 19.4% were intending to go to TAFE to complete a Certificate or Diploma; and 17.3% were intending to finish their education after Year 11 (4.1%) or Year 12 (13.2%). A sizable proportion of the cohort (20.4%) did not yet know what level of education they planned to complete.

**Table 4. Highest level of education planned.**

Highest level of education planned	<i>n</i>	%
Year 11	34	4.1
Year 12	110	13.2
Certificate or Diploma from TAFE or other provider	161	19.4
Bachelor degree from university	205	24.6
Master's or Doctorate from university	130	15.6
Don't know yet	170	20.4
Total	810	97.4
Missing	22	2.6
Total	832	100.0

Table 5 displays how students' educational intentions varied in relation to students' sex, Aboriginality, prior achievement, SES, and location. For this table, the educational intentions of students were grouped more broadly than that displayed in Table 4, using only three groupings to indicate if students: (1) intended to finish their education at school level or go to TAFE – 'non-university aspirants'; (2) planned to go to university, – 'university aspirants'; or (3) did not know what they were going to do – 'undecided'.



**Table 5. Educational intention by sex, Aboriginality, prior achievement, SES, and location.**

	Highest education level planned								
	Non-university aspirants			University aspirants			Undecided		
	<i>n</i>	Column	Row	<i>n</i>	Column	Row	<i>n</i>	Column	Row
<b>Sex</b>									
Male	159	55.6%	43.2%	130	40.1%	35.3%	79	48.2%	21.5%
Female	127	44.4%	31.3%	194	59.9%	47.8%	85	51.8%	20.9%
<b>Aboriginality</b>									
Aboriginal*	17	6.0%	37.8%	17	5.3%	37.8%	11	7.0%	24.4%
Non-Aboriginal	267	94.0%	37.3%	301	94.7%	42.1%	147	93.0%	20.6%
<b>NAPLAN</b>									
Quartile 1	106	38.1%	62.7%	30	9.4%	17.8%	33	20.9%	19.5%
Quartile 2	97	34.9%	41.1%	80	25.0%	33.9%	59	37.3%	25.0%
Quartile 3	57	20.5%	26.1%	124	38.8%	56.9%	37	23.4%	17.0%
Quartile 4	18	6.5%	13.5%	86	26.9%	64.7%	29	18.4%	21.8%
<b>SES</b>									
Quartile 1	88	37.6%	51.5%	47	17.5%	27.5%	36	28.6%	21.1%
Quartile 2	78	33.3%	35.9%	90	33.5%	41.5%	49	38.9%	22.6%
Quartile 3	47	20.1%	32.9%	73	27.1%	51.0%	23	18.3%	16.1%
Quartile 4	21	9.0%	21.4%	59	21.9%	60.2%	18	14.3%	18.4%
<b>Location</b>									
Metropolitan	134	44.2%	37.6%	140	41.9%	39.3%	82	48.2%	23.0%
Provincial	169	55.8%	37.5%	194	58.1%	43.0%	88	51.8%	19.5%

Note. \* Includes all students who identified as Aboriginal, Torres Strait Islander, or both.

## 4.2 Educational intentions by school

Figure 4 and Table 6 display the distribution of student educational intentions across the participating schools (those with sufficient numbers). Two schools (4 and 10) have a disproportionate number of university aspirants and a correspondingly lower number of undecided students. On this basis these two schools were included among the schools selected for case study.

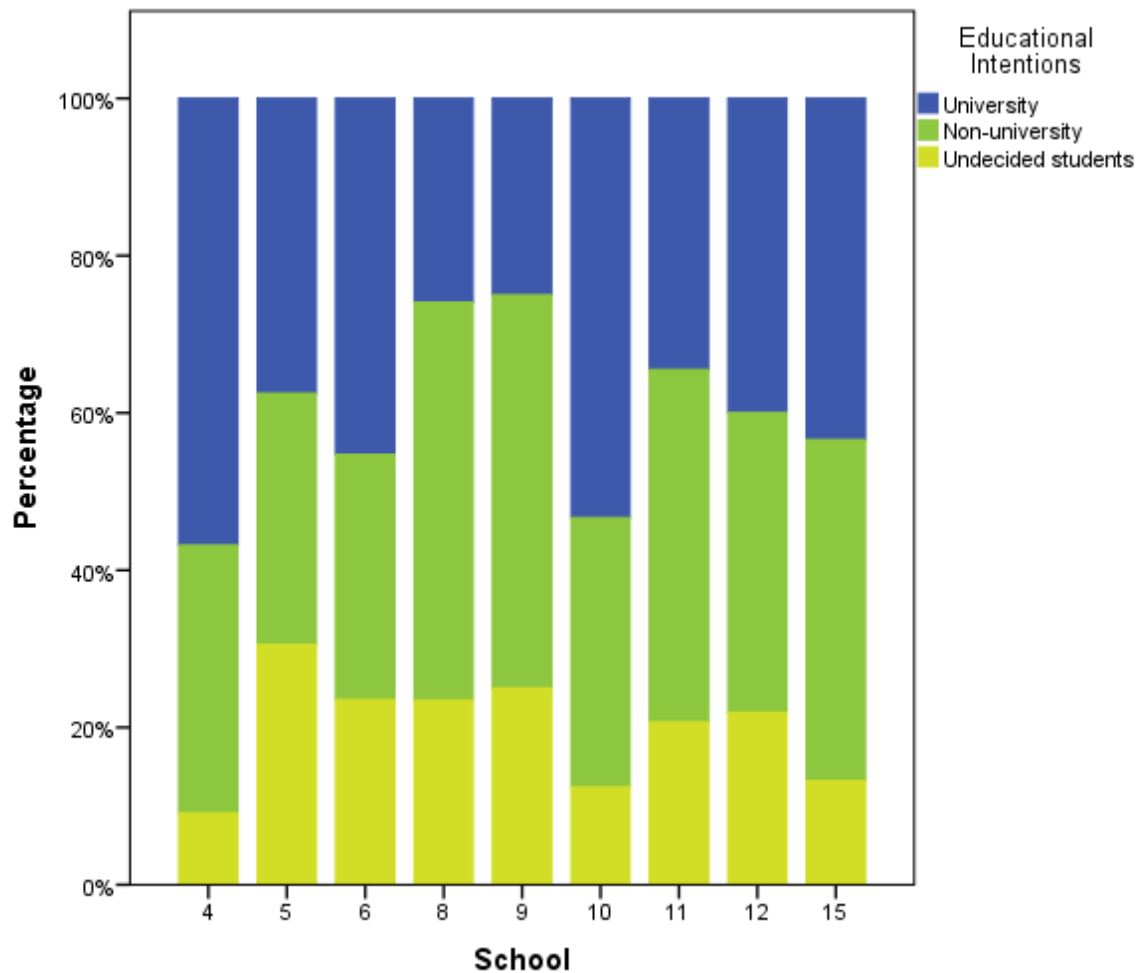


Figure 4. Educational intentions of students by school.

**Table 6. Educational intentions by school.**

		Educational intention			Total
		Non-university	University	Undecided	
School 4	Count	15	25	4	44
	Expected count	16.6	18.3	9.1	44.0
	% within school	34.1%	56.8%	9.1%	100.0%
School 5	Count	23	27	22	72
	Expected count	27.1	30.0	14.9	72.0
	% within school	31.9%	37.5%	30.6%	100.0%
School 6	Count	53	77	40	170
	Expected count	64.0	70.8	35.3	170.0
	% within school	31.2%	45.3%	23.5%	100.0%
School 8	Count	41	21	19	81
	Expected count	30.5	33.7	16.8	81.0
	% within school	50.6%	25.9%	23.5%	100.0%
School 9	Count	12	6	6	24
	Expected count	9.0	10.0	5.0	24.0
	% within school	50.0%	25.0%	25.0%	100.0%
School 10	Count	36	56	13	105
	Expected count	39.5	43.7	21.8	105.0
	% within school	34.3%	53.3%	12.4%	100.0%
School 11	Count	13	10	6	29
	Expected count	10.9	12.1	6.0	29.0
	% within school	44.8%	34.5%	20.7%	100.0%
School 12	Count	40	42	23	105
	Expected count	39.5	43.7	21.8	105.0
	% within school	38.1%	40.0%	21.9%	100.0%
School 14	Count	45	46	26	117
	Expected count	44.0	48.7	24.3	117.0
	% within school	38.5%	39.3%	22.2%	100.0%
School 15	Count	23	23	7	53
	Expected count	19.9	22.1	11.0	53.0
	% within school	43.4%	43.4%	13.2%	100.0%
Total	Count	301	333	166	800
	Expected count	301.0	333.0	166.0	800
	% within school	37.6%	41.6%	20.8%	100.0%

Note. There were 22 missing values.

### 4.3 Educational intentions and demographic profile of student sample

To determine if there were any significant differences in educational intentions across the demographic categories, chi-squared tests were conducted for each of the variables.

#### 4.3.1 Sex

Significant differences were found between males and females in relation to post-school educational intentions:  $\chi^2(2, N = 774) = 14.6, p = .001$ . While there were no differences in the proportions of males and females who did not know what their educational intentions were, there were more females than expected (based on the proportions of males and females in our sample) who expressed an interest in university, while the reverse was found with more males than expected choosing to finish their education with school or to go to TAFE. This is shown in Figure 5 below.

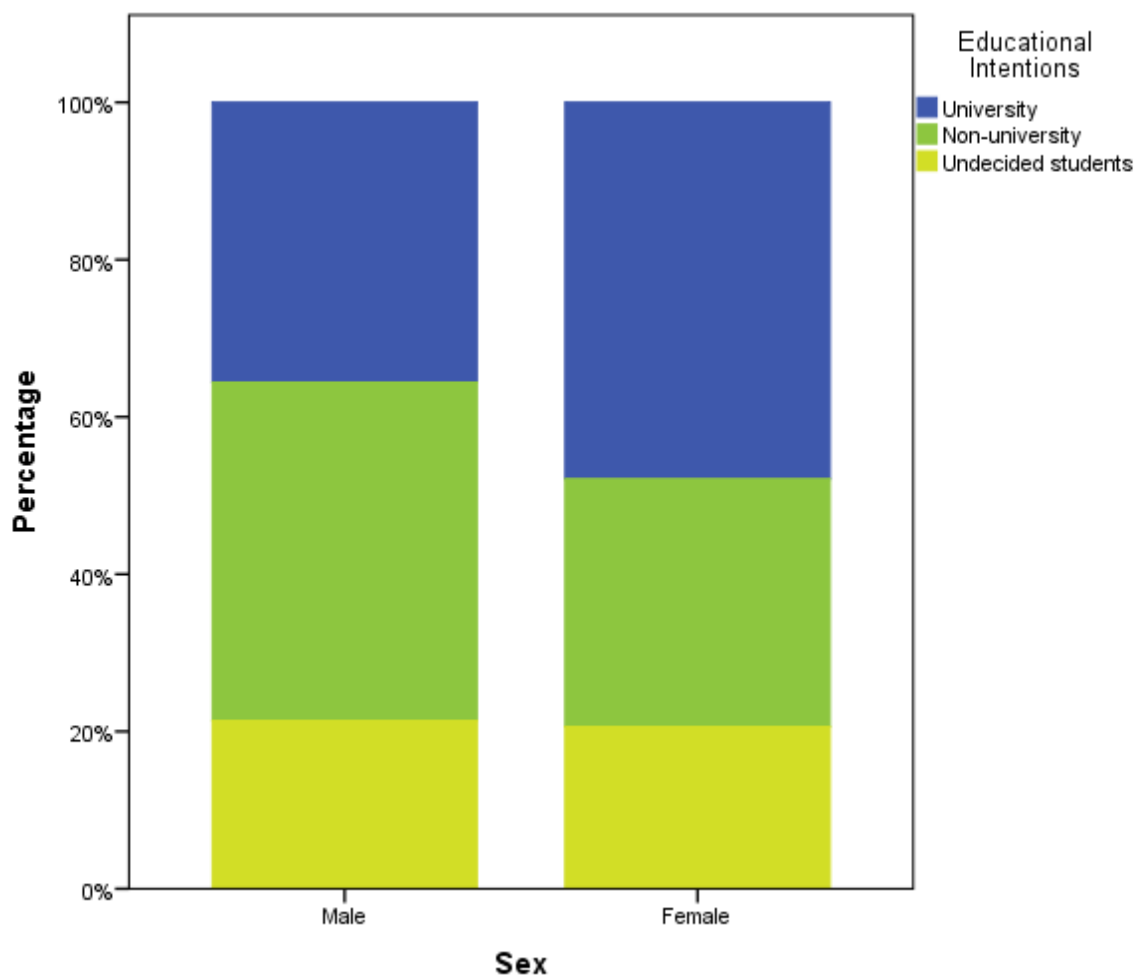


Figure 5. Educational intentions of students by sex.

### 4.3.2 Aboriginality

No differences were found in relation to educational intentions between Aboriginal students and non-Aboriginal students, although it should be noted that the total number of Aboriginal students in the survey sample was relatively small (5.9%) but larger than for the general population (3%; Australian Bureau of Statistics [ABS], 2013).

### 4.3.3 Prior achievement

Prior achievement, measured in quartiles with a composite reading and numeracy NAPLAN score based on Year 9 data, was also considered in relation to students' educational intentions. A significant difference was found:  $\chi^2(6, N = 756) = 116.7, p < .001$ , indicating that a greater proportion of students in the upper two quartiles for prior achievement were found to choose a university pathway, in comparison with students in the lower two quartiles who were disproportionately more likely to choose school or TAFE.

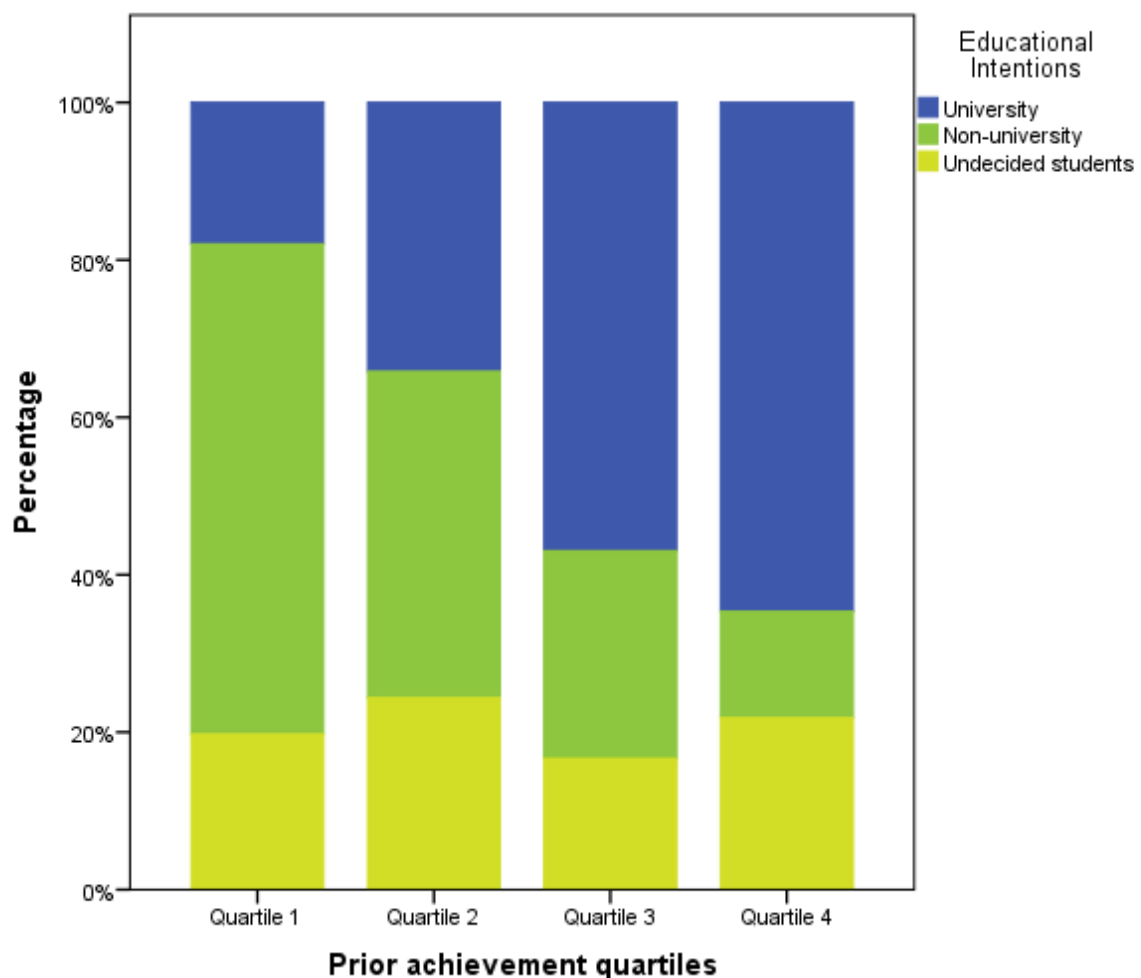


Figure 6. Educational intentions of students by prior achievement quartiles.

Figure 6 displays the variation in the proportion of university aspirants across the prior achievement quartiles. As prior achievement increases, the proportion of university aspirants increases from less than 20% for those in the lowest achievement quartile to over 60% for those in the highest achievement quartile.

#### 4.3.4 Socioeconomic status

Students' socioeconomic status was also found to be significantly related to educational intention:  $\chi^2(6, N = 629) = 37.4, p < .001$ . Students in higher SES quartiles were significantly more likely to choose university as an educational goal in comparison to their more disadvantaged peers, as seen below in Figure 7.

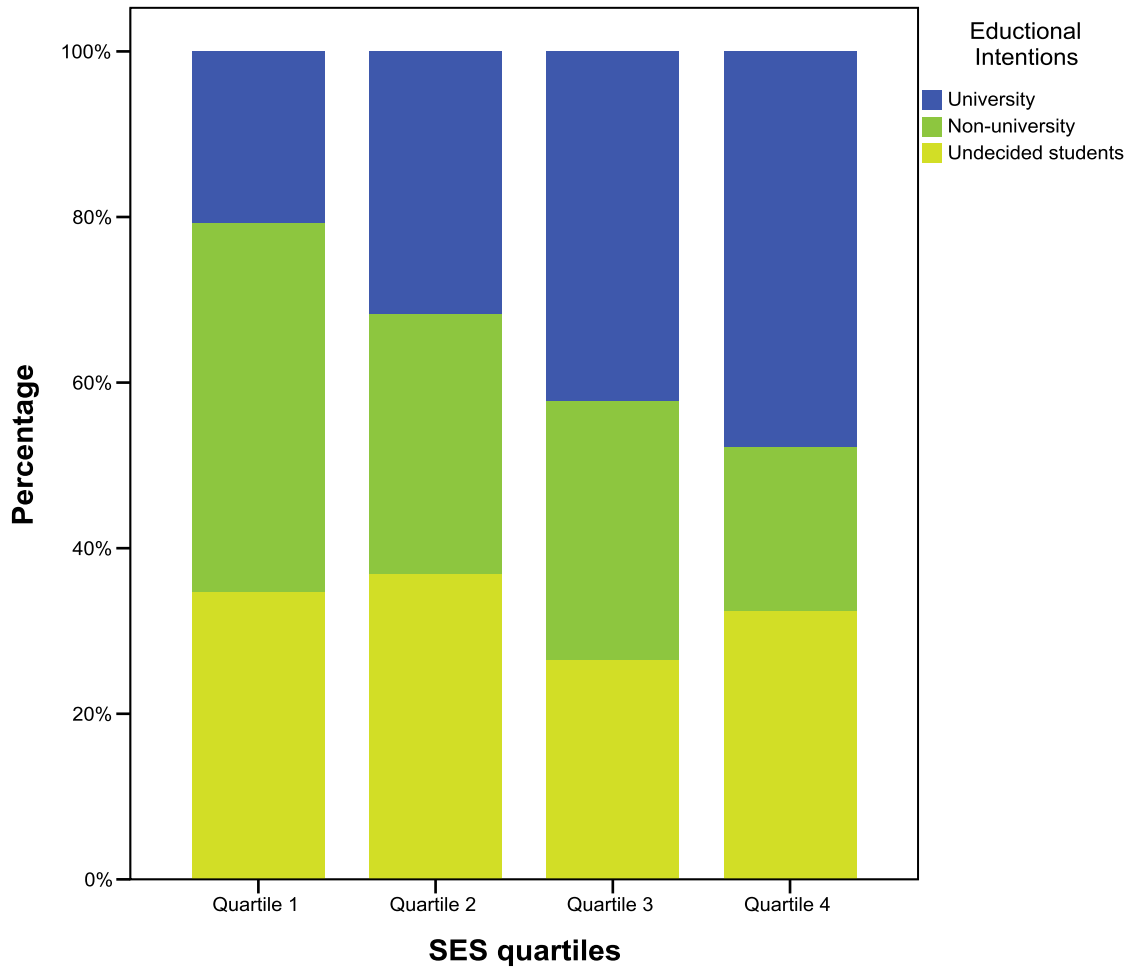


Figure 7. Educational intentions of students by SES quartiles.

#### 4.3.5 Location

Participating schools were classified as either metropolitan or provincial and students were classified accordingly depending on the school they attended. No significant differences were found in the educational intentions of students using this classification of school location.

Therefore, based on survey data and when examining the demographic variables independently of each other, we found that students are more likely to have an intention to go to university if they are female and have a relatively high SES and high prior achievement. Students' location and Aboriginality, in this sample, did not appear to be related to post-school educational intentions.

## 4.4 Educational intentions and perceived barriers to university study

In the survey students were asked a number of questions related to their perceptions of barriers that they might face when planning to attend university. The items were classified as being related to either the financial burden associated with university study or the travel barriers that might result depending on students' proximity to a university.

### 4.4.1 Travel barriers

Across the whole sample, 36.3% of students identified one or more travel barriers as a concern for them in accessing their higher education aspirations (items related to: the availability and affordability of public transport to access higher education; whether they would have to move away from home; and whether they assessed the travel for higher education as being excessive). Travel was perceived as more of a barrier by females than males,  $\chi^2(1, N = 793) = 11.1, p = .001$ . Students with higher prior achievement were also more likely to identify travel as a barrier to university education than students with lower prior achievement,  $\chi^2(3, N = 775) = 23.0, p < .001$ , perhaps related to their firmer intention to pursue their university aspiration. This pattern was repeated with low SES students in the sample who were found to be less likely to perceive travel as a barrier to higher education than their high SES peers,  $\chi^2(3, N = 645) = 15.4, p = .001$ . The proportion of students perceiving travel as a barrier also varied by school as displayed in Figure 8.

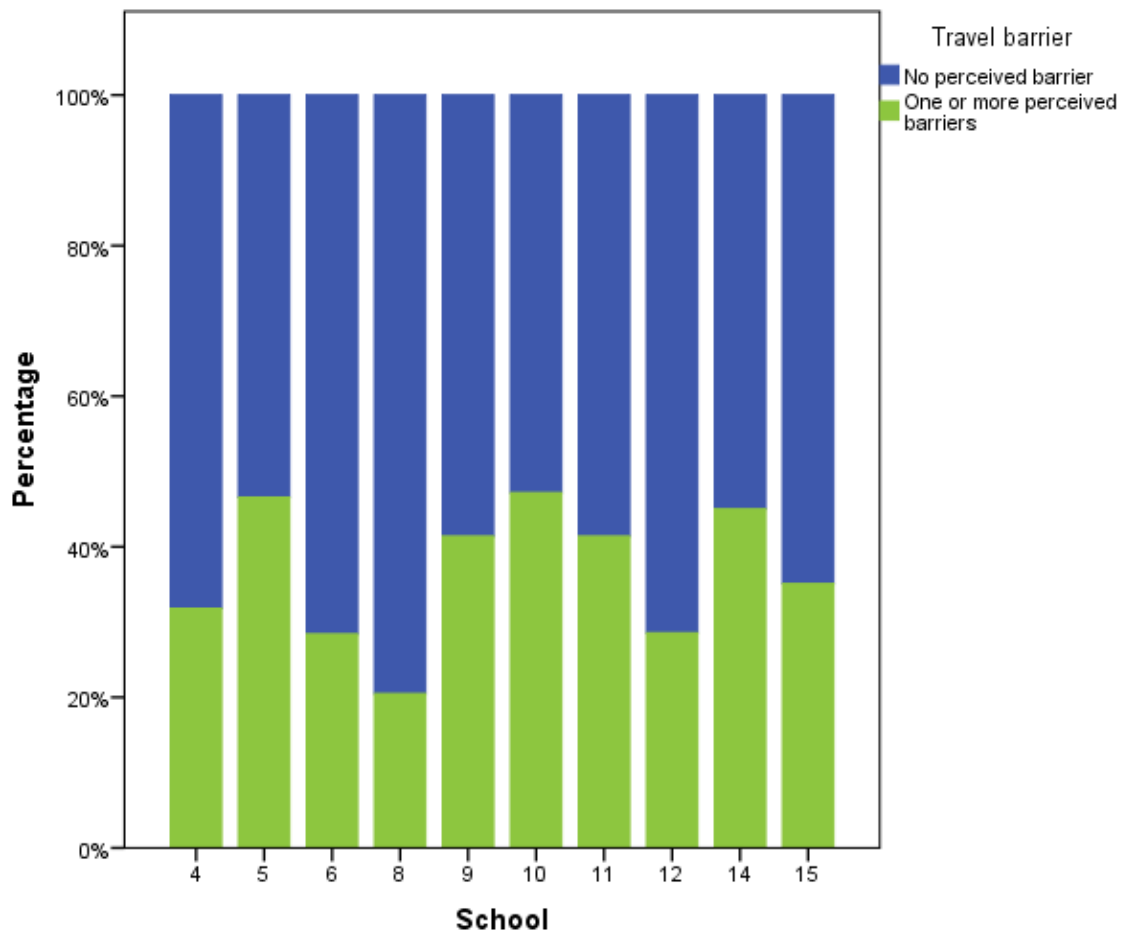
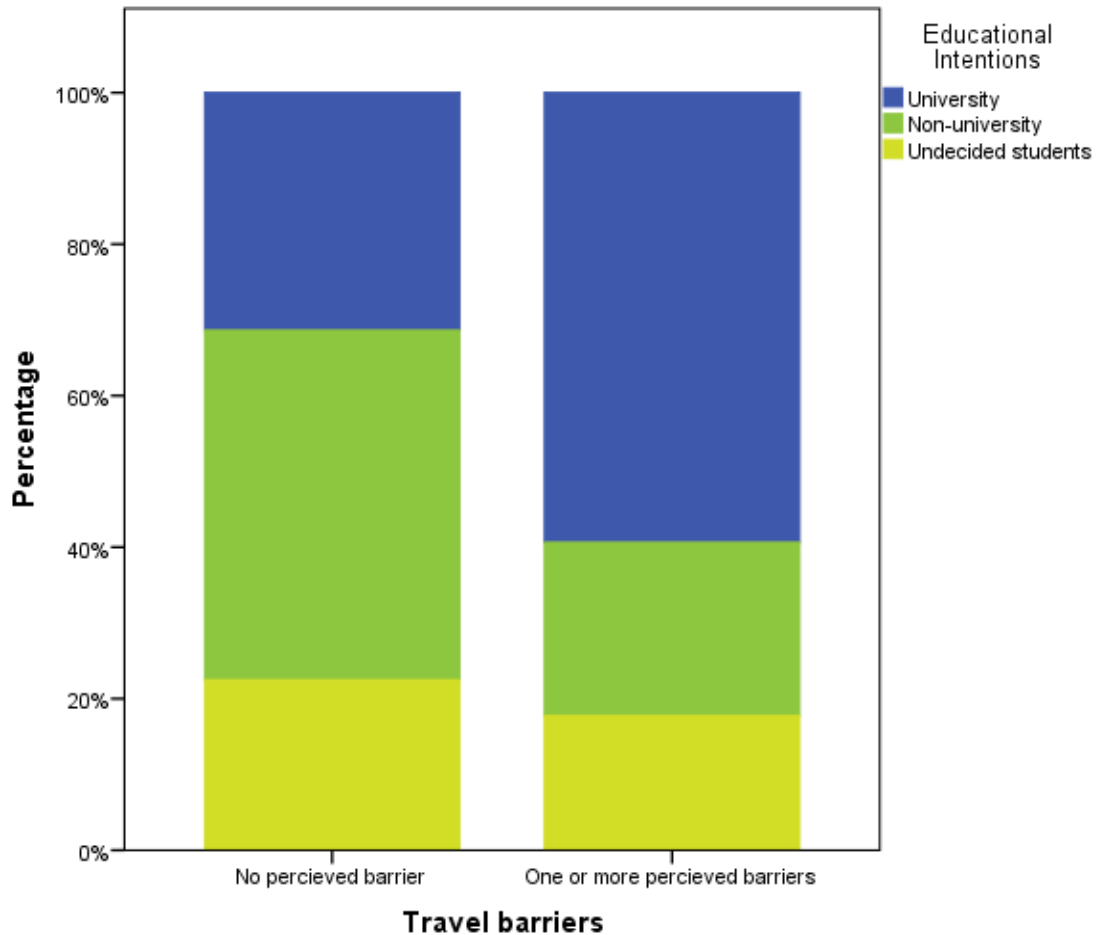


Figure 8. Perceived travel barriers by school.



**Figure 9. Educational intentions of students by identified travel barriers.**

Figure 9 displays the variation in the proportion of students by educational intention in relation to travel as a perceived barrier to university participation. A higher proportion of the students who identified one or more travel barriers were aspiring to attend university.

A significant difference was found between student perceptions of travel barriers depending on whether they attended a metropolitan or provincial school,  $\chi^2(1, N = 829) = 23.8, p < .001$ , with provincial students more likely to express concern about the travel required when attending university. No difference was found between Aboriginal and non-Aboriginal students with regard to their perceptions of travel barriers for tertiary education.

#### **4.4.2 Financial barriers**

Overall, 69.7% of the sample did identify one or more financial barriers that might impact on their ability to access higher education (items related to: the financial pressure that would be placed on families, the desire to start a career straight away instead of studying; and the need to start earning money when school ends). However, while some particular sub-groups of students did consider that travel was a barrier for them in relation to attaining higher education (females, higher achieving, higher SES, and provincial students), no such statistically significant differences were noted in relation to financial barriers.



## 4.5 Intention to choose university: which factors are most influential?

The analysis above indicates that SES, prior achievement, and sex are all associated with the educational intention to attend university, and that these factors are also related to the perception of travel as a barrier to university. Some of these factors – for example, SES and prior achievement – are also highly correlated with each other. In order to determine which of these factors are most strongly related to the intention to go to university, we conducted a multivariate analysis including SES, prior achievement, sex, location, Aboriginality, travel and financial barriers, and individual school factors.

### 4.5.1 Multivariate analysis

Multivariate effects were assessed through multinomial logistic regression using SPSS (IBM SPSS Statistics, Version 22). A model fitting approach was followed to arrive at a final fitted model containing only variables found to be significant. Variables omitted from the final fitted model on the basis of their not being statistically significant are noted in the discussion of results to assist interpretation. This is the approach to model fitting adopted by Gore, Holmes, Smith, Southgate, and Albright (2015) in previous studies.

For this analysis, two very small school samples were omitted providing a total sample of 822 students. Of the 822 students, 333 university aspirants (42%) stated that they intended to study at university. Another 301 non-university aspirants (38%) stated that they intended to complete their education at school or study at TAFE. The remaining 166 undecided students (21%) responded that they did not know what level of education they intended to complete. Another 72 cases included missing responses. Table 7 presents the numbers and percentage of cases included in the processing of the final fitted model.

The fitted multinomial regression model showed a significant relationship,  $p < .01$ , between educational intentions and the independent variables compared with the full model. The fit statistics for the default model against the full model, and the significance of the relationship associated with each independent variable, are reported in Table 8. Prior achievement, school attended, having the perception that travel was a barrier in terms of their educational intentions, and being female were significant in accounting for the educational intentions of students,  $p < .05$ .

**Table 7. Number and percentage of cases, final fitted model\*.**

Variables	<i>n</i>	%
Educational intention		
Undecided students**	155	21
Non-university aspirants	276	37
University aspirants	319	43
NAPLAN quartile		
Quartile 1**	167	22
Quartile 2	234	31
Quartile 3	216	29
Quartile 4	133	18
School		
School 4	39	5
School 5	62	8
School 6	163	22
School 8	78	10
School 9	22	3
School 10	98	13
School 11	25	3
School 12	102	14
School 14**	110	15
School 15	51	7
Travel barriers		
None**	470	63
One or more	280	37
Sex		
Male**	358	48
Female	392	52

*Note.* \* Number of cases and percentages in this table relate to the final fitted model after accounting for missing data. \*\* Reference category.

**Table 8. Educational intention, default model against full model and effects for reduced model.**

	Model fitting criteria	Likelihood ratio tests		
	-2 log likelihood of reduced model	Chi square	df	Sig.
Likelihood ratio tests				
Full model intercept only	798.94			
Final model	594.06	204.87	2	.00
Effects – reduced model				
Intercept	594.06*	0.00	0	
NAPLAN	698.81	104.75	6	.00
School	623.88	29.82	18	.04
Travel barrier	630.45	36.69	2	.00
Sex	608.92	14.86	2	.01

Note. \* This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.

Table 9 presents the relative odds ratios for university aspirants and non-university aspirants (those indicating the intention to finish their education after school or to undertake TAFE studies) compared in turn with the odds of those students who indicated they were undecided about their post-school intentions (the reference category).

**Table 9. Educational intention, parameter estimates.**

Parameter estimates	Educational intention <sup>a</sup>					
	School or TAFE			University		
	Sig.	OR	Effect <sup>c</sup>	Sig.	OR	Effect <sup>c</sup>
<b>Intercept</b>	.000			.017		
<b>Prior achievement</b>						
Quartile 1		b				
Quartile 2	.022	0.54	Moderate	.161		
Quartile 3	.031	0.52	Moderate	.000		Strong
Quartile 4	.000	0.19	Strong	.001		Strong
<b>School</b>						
School 4	.206	2.43		.018	5.00	Strong
School 5	.405	0.70		.257	0.63	
School 6	.365	0.73		.387	1.34	
School 8	.895	1.05		.749	0.87	
School 9	.825	1.14		.310	0.52	
School 10	.212	1.17		.028	2.52	Moderate
School 11	.457	1.62		.540	1.50	
School 12	.985	1.01		.522	1.28	
School 14		b			b	
School 15	.327	1.66		.160	2.07	
<b>Travel barriers</b>						
No travel barriers		b			b	
Travel barrier	.064	0.65		.001	2.12	Moderate
<b>Sex</b>						
Male		b			b	
Female	.180	0.76		.001	1.56	Moderate

Note. <sup>a</sup> The reference category is "Don't know". <sup>b</sup> This parameter is set to zero as it is the omitted category. <sup>c</sup> Description of effect size from Monson (1990). OR = odds ratio.

It is well known that the results obtained through logistic regression are notoriously difficult to interpret and frequently misunderstood (Osborne, 2006). One approach to assist interpretation is to include a common language description of the odds ratios as an indicator of effect size. Following the advice of (Robinson & Levin, 1997), here we use Monson's (1990)<sup>3</sup> common language description of effect sizes for odds ratios to indicate the substantive importance of each statistically significant parameter.

<sup>3</sup> Monson's convention is to describe odds ratios in the following ways: OR = 0.9 to 1.2 indicate no association; OR = 0.7 to 0.9 or 1.2 to 1.5 indicate weak association; OR = 0.4 to 0.7 or 1.5 to 3.0 indicate moderate association; OR = 0.1 to 0.4 or 3.0 to 10.0 indicate strong association; OR < 0.1 or > 10.0 indicate infinite association.

### *University aspirants*

The relative odds of highest achievement quartile students choosing university ( $OR = 3.17$ ) indicate a strong positive association between being in achievement quartile 4 and choosing university compared with the odds of being undecided for students in the highest achievement quartile. The odds ratio of choosing university increase for students in achievement quartile 3 ( $OR = 3.86$ ) indicating an even stronger positive association between students being in achievement quartile 3 and choosing university. The non-significant result for students in achievement quartile 2 indicates that the relative odds of choosing university are statistically equivalent for students in achievement quartiles 1 and 2.

The students who indicated they perceived travel as a barrier had moderately higher relative odds ( $OR = 2.12$ ) for choosing university compared with those who did not perceive travel as a barrier. This is consistent with the idea that students in these predominantly provincial schools would be more inclined to recognise travel as a barrier once their intention to go to university had firmed compared with undecided students who are understandably often more ambivalent about their travel needs.

The relative odds for female students are moderately higher ( $OR = 1.56$ ) for choosing university compared with male students.

The school attended was significant in the fitted model for university aspirants. This effect related to two individual school effects where the relative odds of choosing university were stronger. Attending School 4 had a stronger association with choosing university ( $OR = 5.00$ ) and attending School 10 had a moderately high association with choosing university compared with the reference school ( $OR = 2.52$ ). None of the other schools returned statistically significant effects with respect to choosing university compared with the reference school. School 14 was chosen as the reference school because it had a substantial number of responses from students ( $N = 110$ ) and the distribution of students across the three categories of educational intentions closely matched the overall percentages for the schools included in the multinomial regression analysis (having 39.3% university aspirants, 38.5% non-university aspirants, and 22.2% undecided students).

### *Non-university aspirants*

The one variable with significant effects in the final fitted model for non-university aspirants was prior achievement assessed in terms of NAPLAN quartiles which was negatively associated with non-university intentions. Higher achieving students were increasing less likely to nominate a non-university intention ( $ORs$  of .54, .52 and .19 for prior achievement quartiles 4, 3, and 2, respectively, compared with students in quartile 1).

### *Variables not in the final fitted model*

Variables were selected for entry into the model in a backward stepwise fashion after inspection of model parameters to detect possible issues with multi-collinearity.

On the first run with all variables, the financial barriers variable was found not to be statistically significant and was subsequently removed. On the second run, SES was found not to be statistically significant and was subsequently removed. On the third run, prior achievement, school attended, the perception of travel barriers, and sex were found to be statistically significant.

Schools 2 and 13 with very small numbers of survey responses were omitted from this analysis on the basis that their inclusion could affect the numerical stability of the regression analysis. Schools 1, 3, and 7 did not have any survey responses, participating only in interviews.

#### 4.5.2 Adequacy of the model

**Table 10. Classification table for final fitted model.**

Observed	Predicted			% correct
	Non-university	University	Undecided	
Non-university	192	81	3	69.6%
University	75	243	1	76.2%
Undecided	74	78	3	1.9%
Overall percentage	45.5%	53.6%	0.9%	58.4%

Table 10 presents the number of cases correctly classified by the fully fitted model (an indicator of the predictive success of the model). The model correctly predicts the educational intentions of 70% of non-university aspirants and 76% of university aspirants. It is noteworthy that the model misclassifies almost all of the undecided students into either non-university or university pathways (just over 48% of the misclassified cases). It could be argued that this lack of predictive validity amongst this group has to do with the very essence of being unclear, indecisive, doubtful, or ambivalent about their own futures, with the inevitable consequence of the model being less able to systematically predict who falls in the undecided category.

An additional test of the adequacy of the model is to assess the difference between the overall percentages of outcomes correctly predicted with this being over 25% higher than the chance accuracy criterion (Garson, 2014). In this case 58% of cases are successfully predicted by the model (bottom right-hand corner of the classification table) which compares favourably with the chance accuracy criterion of 46%.

#### 4.6 Student perceptions of others' opinions about their post-school destination

As part of the survey, students were asked to indicate what they intended to do in the year immediately after leaving school. They were asked to select from the following options: go to university; go to TAFE/VET college; start an apprenticeship or traineeship; look for work; take a gap year; or, I don't know. Based on the same options, they were also asked to indicate what they thought that their parents/caregivers wanted them to do, what they thought that most of their friends would do, and what they thought that their teachers thought they should do. Their responses are reported in Table 11.

Approximately 32% of the students in our sample report that they are planning to go immediately on to university, with another 11% planning to go to TAFE, 15% planning to start an apprenticeship or traineeship, almost 10% planning to look for immediate work, 22% planning to take a gap year, and 9% of students stating that they have not made up their minds. In relation to this first question (what do you plan to do?) significant differences were found between males and females ( $\chi^2(5, N = 773) = 44.3, p < .001$ ) with 36.7% of females indicating that they intended to go to university in comparison with 27.2% of males. Significant differences were also noted in response to this question between students in different quartiles for prior achievement ( $\chi^2(15, N = 755) = 101.9, p < .001$ ) and for student SES ( $\chi^2(15, N = 628) = 34.7, p = .003$ ): 51.1% of students in the highest quartile for prior achievement were intending to go to university in comparison with 16.1% of students in the lowest achievement quartile. The differences were less stark in relation to student SES, with 39.2% of students in the highest SES quartile indicating that they intended to go to university in comparison with 25.7% of the lowest SES quartile students. No significant effects were found for this question in terms of student location or Aboriginality.

**Table 11. Immediate post-school destinations: student perceptions.**

Student perceptions	Post-school destinations											
	Go to university		Go to TAFE/VET		Apprenticeship / traineeship		Look for work		Take a gap year		I don't know	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
What I want to do ( <i>n</i> = 806)	255	31.6	96	11.9	123	15.3	79	9.8	178	22.1	75	9.3
What my parents want me to do ( <i>n</i> = 794)	287	36.1	80	10.1	96	12.1	74	9.3	53	6.7	204	25.7
What most of my friends plan to do ( <i>n</i> = 792)	183	23.1	90	11.4	69	8.7	69	8.7	151	19.1	230	29.0
What my teachers think I should do ( <i>n</i> = 768)	260	33.1	57	7.3	45	5.7	26	3.3	33	4.2	365	46.4

Just over a third of students (36.5%) in the sample indicated that they thought that their parents wanted them to go to university. Significantly more females (42.0%) than males (30.4%) thought that their parents wanted them to go to university, with more males (17.8%) than females (6.7%) expressing that their parents wanted them to start an apprenticeship or traineeship ( $\chi^2(5, N = 761) = 45.2, p < .001$ ). Differences were also found between the highest and lowest achievement quartiles in relation to students' perceptions that their parents wanted them to get an apprenticeship or traineeship immediately after finishing school. Only 3% of students in the highest achievement quartile responded that they thought that their parents expected them to take this option in comparison to 23.8% of students in the lowest achievement quartile. Remarkably, 25.9% of students reported that they don't know what their parents want them to do post-school, 28.6% don't know what their friends want to do, and 46.3% of students don't know what their teachers think they should do. These statistics point to the potential for more or different conversations between students and significant others in their lives about their future options.

## 4.7 Career activities in school

This report is predominantly concerned with understanding the school factors that influence students' choice to go to university or not. However, when students make the decision to go to university they are typically also considering their career options post-university, therefore, the careers activities that schools conduct are potentially influential for students as they consider their futures. As part of the survey, students were asked about careers activities that they had participated in during the last two or three years at school. Their responses are detailed in Table 12.

**Table 12. Participation in career activities through school.**

Career activities undertaken through school	Percentage of non-university aspirants	Percentage of university aspirants
Identify careers that match your interests, abilities or values	71.3%	76.3%
Talk one-on-one with a teacher about careers	55.5%	62.4%
Receive handouts or written material about career and study options*	74.2%	84.7%
Search online for career options*	60.1%	73.1%
Attend a careers expo that included tertiary providers, businesses or industries*	56.8%	65.7%
Attend a university presentation or open day*	21.8%	49.5%
Attend a TAFE open day or TAFE information session	31.3%	26.7%
Attend a presentation by an employer or industry representative at school or in a workplace	37.0%	30.9%
Prepare a career action plan or pathway plan	44.4%	46.5%
Undertake a volunteer experience or work placement	54.2%	49.8%

Note. \* Significant result on chi-squared test,  $p < .05$ .

The students were asked in the survey if they had participated in various careers activities during the past two to three years. Table 12 displays the participation rates for university aspirants and non-university aspirants. Statistically significant differences were found in the participation rates between these two groups for four of the activities. Specifically, we found that university aspirants were more likely to: have received written materials about career and study options; searched online for career options; have attended a careers expo; and have attended a university presentation or open day.



The students were asked to rate how frequently they accessed various sources for information about study or work. The mean responses of university aspirants and non-university aspirants are displayed in Table 13, with a higher score representing more frequent access to this source. For four of the six sources, a statistically significant difference was found between these two groups of students. University aspirants were more likely to access: family and friends; the internet; educational institutions like university or TAFE; and careers expos.

**Table 13. Student sources of information about study or work.**

Information sources about study or work	Non-university aspirants	University aspirants
Family and friends*	2.95	3.10
Government or community organisations like Centrelink and Mission Australia	1.74	1.68
TV, radio and newspapers	2.43	2.42
Internet*	2.93	3.28
Educational institutions like TAFE or university*	2.21	2.63
Career expos*	2.10	2.43

Note. \* Significant result on chi-squared test,  $p < 0.05$ . Mean score on a scale of 1 to 4 (1 = never, 2 = rarely, 3 = sometimes, 4 = frequently).

The results in Tables 12 and 13 indicate that university aspirants appear to have greater access to information about work and study through a variety of sources, and that they are more likely to have participated in school-based careers activities. It could be that students who have an aspiration to attend university are generally more active in seeking out information from a variety of sources in order to fulfil that goal, or it could be that school students are being offered differential access to careers activities depending on their likely post-school destination. These issues will be examined more closely in the case studies which follow this quantitative analysis.

## 4.8 Quantitative data summary

The survey data extracted for this report provides valuable context within which to situate the qualitative analyses that follow. The data examined were taken from a sample of 15 schools within the *Aspirations Longitudinal Study*, all of which were rated as below the national median level for social and economic advantage. Despite all schools being below the median, within each school there were individual students across the four SES quartiles.

The quantitative data analysis revealed the following:

1. Just over 40% of the students in our sample were planning to complete a university degree at some point in their future, however, only 32% were planning to go to university immediately after finishing school.
2. Females were more likely than males to aspire to university, as were students with high prior achievement and those with high socioeconomic status. Aboriginality and location were found to be unrelated to plans for university study.
3. 69.7% of students identified at least one financial barrier that might impact on their plans for university study and 36.3% of students identified travel as a potential barrier. Travel was identified as a barrier

more often by females, high achieving, and low SES students. The perception of travel as a barrier varied across schools, from a low of 20% of students to more than 45% of students in some schools.

4. When sex, SES, prior achievement, Aboriginality, location, barriers (financial and travel), and school ID were considered concurrently in relation to their impact on the decision to go to university, we found only sex, prior achievement, travel barriers, and school ID to be significant. In other words, SES, Aboriginality, location, and financial barriers were unrelated to university aspiration when considered in conjunction with these other variables. The strongest effect was noted for prior achievement, with those students in the top two achievement quartile for Year 9 NAPLAN more than three times more likely to choose university in comparison to students who were still undecided. For two schools in the sample (4 and 10) students were significantly more likely to choose university, as were girls more generally than boys, and those who had identified travel barriers in comparison to those who identified no travel barriers.
5. The results revealed a disparity between students' aspirations for education and their knowledge of what others might expect them to do post-school: 25.7% of students reported that they didn't know what their parents wanted them to do when they finished school, and 46.4% of students reported that they didn't know what their teachers thought they should do.
6. Schools make considerable efforts to facilitate a variety of careers activities for students. With regard to many of these activities for the schools in our sample, students who were university aspirants reported higher participation rates than non-university aspirants' participation rates for certain activities.
7. The results indicated that students in the sample who were university aspirants were more likely to have sought information about study and work from several sources.

## **5. Case Studies**

In order to understand the impact of schools and schooling on the intention to attend university, semi-structured interviews were conducted with students, parents, teachers, careers advisers, principals, and university students at 15 low SES schools in metropolitan and provincial regions of NSW. As a result of the rich data obtained from these interviews, four schools were selected for review as case study schools: School 6, School 5, School 4, and School 10. School 6 is a senior secondary school catering only to Year 11 and 12 students located in a metropolitan region. School 5 is a large provincial high school, catering to students from Year 7 to 12 with a relatively high Aboriginal population. The regression analysis found that Schools 4 and 10 had a greater proportion of university aspirants than other schools in this study and were included on this basis. School 4 is a large provincial comprehensive high school. School 10 is a small high school located in a provincial area. Each case study begins with a brief school overview. This information was retrieved and adapted from the MySchool website. A summary of all four case studies is provided at the end of this section of the report.

The four school case studies focus on the key areas identified in the interviews which may have the greatest impact on the intention of students to attend university or not. These areas include school ethos, teachers and teaching (including the support provided by teachers to students and the teacher student relationship), subject selection and the curriculum, the role of schools in supporting or preparing students for university, and careers interventions, initiatives, and activities facilitated by the school.

## 5.1 Case study 1: School 6

School 6 is a senior campus, which caters to Year 11 and 12 students. The school has more than 750 enrolments. Aboriginal students account for 6% of the student population, and students with a Language Background other than English (LBOTE) account for a further 6%. More than 50% of the students are from low SES households and 2% are from high SES households (representing top and bottom SES quartiles). School 6 offers a large range of subject choices and pathways to the Higher School Certificate (HSC) including academic, vocational, and trade training. The college has a Learning Support Unit and specialist classes for Emotionally Disturbed students (MySchool; ACARA, 2015).

### 5.1.1 School ethos

At this school you've got the ability to be anything that you want to be and pursue any pathway that you want to pursue. (Principal, School 6)

We do have a lot of learning support but we do try and set them up to be independent and resilient. (Principal, School 6)

The school ethos at School 6 is complex. As described by the Principal in the quote above, the school considers itself as being able to offer students the support to be 'anything they want to be' within the confines of the school's structure and rules.

Overall, current and former students describe the school as a 'good school':

The school is good and the teaching is really good ... yeah, it's a good school and I feel comfortable telling someone to come here. (Gary, student, non-university aspirant)

As a senior secondary college catering specifically for Year 11 and 12 students, there appears to be a strong focus on HSC and ATAR outcomes:

Then you come to this school and everything is emphasised on your rank and where you come in and how well you're doing and how you're going compared to other students, and stuff like that. (Ilse, university aspirant)

Year 11 students reported that they felt pressure from the school to succeed in the HSC and achieve a high ATAR and that some students dropped out when they turned 17 years of age because they were 'burnt out'. Former students like Becky, now a university student, also acknowledge this view:

They always emphasise ATAR, ATAR, ATAR and it's like, your life isn't over when you get your ATAR. You can pursue different options. (Becky, former School 6 student, university student)

Teachers from School 6 also spoke about the pressure placed on students at senior secondary colleges to gain an ATAR and go to university:

I think there's pressure. Information that 'we must go to uni; uni's the answer,' so therefore 'I will go.' But then, 'I don't go purely because I didn't get in.' (Brienne, Teacher)

### 5.1.2 Teachers and teaching

I've actually always thought teachers are more in it for the kids that are smart and they see potential in them, because they know they can do better, so they try and teach them to do better. I've felt like the teachers are more active with students that are [smarter]. (Gary, non-university aspirant)

The view that extra support is provided to students who are “really good and get high marks” was expressed by all students from School 6 who took part in interviews. Both students and teachers alike did however describe how student support teams, a school counsellor, and after-school services were available to those who were behind in their work or felt the need to undertake additional study. One day each week, teachers volunteered their time to provide after-school support to such students:

We have like this thing on Tuesdays, and all the teachers just come into the library and it's really good, and it's usually really, really busy. But all the teachers after – like it's after school on Tuesdays, come in here and you get to like, go up to a teacher and ask for help all the time. In free periods for Year 12s, there's teachers around to help. Like, I think they have a pretty good, like support services kind of thing, like we're always told where the teachers are to go to. We've got counsellors and like, just different teachers that are only here for ... study skills, organization tips, all that kind of thing. (Illse, university aspirant)

A former School 6 student and current university student reiterates the support provided by this school:

They have like, student services which I utilised heaps through Year 12. So they do like, [help you] write your essays and things like that. There's a male and a female and they both teach different subjects and you can just go to them and they'll like, help you through your essays, like if you don't know how to do an assignment they'll practically like, draft it out for you. (Hope, former School 6 student, university student)

It is important to note however that this support was mitigated by student motivation to receive support. This connects with the ethos of the school, which endeavours to assist students in developing independence and resilience, as described in the next quote by a former School 6 student:

Well, a lot of it was done like on your own sort of terms, like they'd say to me, 'Like just do it yourselves, if you don't do it no one's chasing it up.' They kind of were a lot like that, so basically if you weren't trying then they were like, 'Well, we're not going to – like just get out of the class.' So the kids that were there had like full attention ... And then, they offered heaps of like after-school stuff if you were willing to stay back and we did a thing ... like an afternoon tutoring thing for those kids in like the top 10 sort of thing, which was good. (Hope, former School 6 student, university student)

Teachers like to show respect and I like to show respect to other people too, so I show my respect to teachers if they show respect back. (Athena, undecided)

Former School 6 students also reported that the student–teacher relationship was a vital part of their success in a subject, with one former student identifying the relationship he had with his maths teacher as the reason he is studying at university to become a maths teacher himself:

I had a teacher named [Miss Jones] and I can literally tell you the class I was in. I said to myself I wanted to be a maths teacher in one of my classes and ever since that I've wanted that, and then just having different teachers like I did in Year 11 and 12 just made me want it more. (Aidan, former School 6 student, university student)

Another student, enrolled in a combined business/commerce degree at university, described how she dropped a subject at the end of Year 11 because of the relationship she had with the teacher delivering that course:

I'm sorry but I could not stand my Society and Culture teacher so I ended up chopping it because you have to do what's called a PIP. PIP is a Personal Independent Proposal if I remember correctly. Back then, it was a 4,000-word assignment ... She wouldn't allow us to do [it in] the first year because she thought – she was just, I don't know, a really off-topic teacher, never about the work. She just wasn't my cup of tea. (Becky, former School 6 student, university student)

Teachers from School 6 also report a “friendly yet professional relationship” with students (Ayra, Teacher).

### 5.1.3 Subject selection and curriculum

As it is a specialist school there's lots of subjects, it's like one of the biggest range of subjects to choose from, so they say, in New South Wales. (Gary, non-university aspirant)

The subject choice ... is extensive compared to other schools, you know, with 50 [different choices]. (Principal, School 6)

As Gary states above, Year 11 students from School 6 and former students who are now attending university, spoke about the vast range of options available with regard to subject choices. Despite the array of choices on offer, one student mentioned that she had missed out on her preferred school subject due to a lack of understanding regarding the way subjects were chosen when she came to the secondary college:

I really wanted to do Legal Studies, but I didn't get it because there's like a preference system and I don't think I realised when I put it down the bottom in my preferences. So I didn't get – like I think I got PE instead of Legal Studies. So I was pretty disappointed about that at the start, because going into the school I wanted to do Law. (Illse, university aspirant)

The school offers a variety of pathways including TVET, HSC, and ATAR, and subjects that support learning across these pathways. For example, Athena, a Year 11 student who was undecided about university chose TVET courses as a part of her HSC. Her subject selection included Photography, Entertainment, English (standard), Visual Arts, and Contemporary Craft. In contrast, Illse, a Year 11 student who is planning to attend university chose more traditional academic subjects that both interested her and would ensure she received an ATAR:

I have advanced English, General Maths, Business Studies, Geography, PDHPE, and in Year 11 I did Society and Culture, but I dropped it this year. (Illse, university aspirant)

### 5.1.4 Preparation for university

There's a lot of support and there's a lot of extension learning for students wanting to go to university. So there's support systems in place but it depends what they're after and what they need. (Principal, School 6)

Current students from School 6 described various ways in which the school could assist with their transition to university. This included academic, social, and emotional preparation. Academic preparation often took the form of note taking, class engagement, or tutors if students needed extra assistance. One former School 6 student did however indicate that the school did not prepare her to write academically:

Whereas if ... you just started – I wouldn't know how to APA reference, I wouldn't know how to cite properly. (Becky, former School 6 student, university student)

On preparing for the social skills needed at university, students from School 6 felt that this had more to do with a student's own ability and less with what the school is able to provide:

Like socially .... It's kind of your own ability not [the] school's ability. (Illse, university aspirant)

Former students also felt that schooling had not prepared them socially for university as "it's a totally different kind of experience [and] environment". (Aiden, former School 6 student, university student)

A former student at School 6 suggested that it was more about attending high school that prepared students emotionally for university:

So emotionally, high school does get you ready and whatever you go through, like heartbreak in high school and stuff, you learn to deal with it so when you move on, it's just, 'Oh, I've been through it.' In high school, everything is blown up ten times worse than what it really is. (Becky, former School 6 student, university student)

The careers adviser from School 6 described a more practical approach to preparing students for university:

I've already been into our high-end class who are university bound, and I went in with all the last year's UAC guides and I showed them how to use that. Gave them some strategies for sorting through the course guide to look for appropriate courses, and then I will go back in the next stage with those students. Plus, I often run lunchtime workshops for all students that are tailored towards their needs. So there will be one for students who are university bound, and I will go through how to choose a university course, what the application process looks like. (Careers adviser, School 6)

The Principal of School 6 also described practical activities that the school offers in order to assist in students' preparation for university:

I think there's huge potential there ... they've got an early preparation for university course that you can do through that and I do see that would be something that would benefit students going from doing more sourcing and critiquing different articles and journals to help them reference and getting that more so in a preparation for uni. (Principal, School 6)

### **5.1.5 Interventions, initiatives, and activities**

The career-related activities – work experience helps where they can do it, it certainly is a clear guideline of what they like and what they don't like. I find getting guest speakers in and explaining to them what employers are looking for as their first real reality check that there's not jobs sitting out there on trees waiting for them to just go and take what they like. I do like the one-on-one activities with students, I think that makes a real impact on them. However, with my numbers it is hard to achieve but I do like that. When we have the universities come and explain their courses, and ... our biggest impact is when we bring in role models, or people who are doing what it is that they're explaining about. (Careers adviser, School 6)

Students, former students, teachers, and the school principal described a number of different career interventions, initiatives, and activities in use at School 6. These included activities held inside and outside the school. In-school activities and interventions included student interviews with the school's careers adviser to assist in identifying pathways to university, a special in-school program, guest speakers and student role models, and the use of Facebook as a communication tool:

I found the Facebook page that we set up probably the best way to get the volume of information out to students in a really quick way .... When I put something on there I get instant responses, so the Facebook page is probably the best. (Careers adviser, School 6)

School 6 also runs specific programs to support university entrance, as explained by the Principal who was new to the school:

Basically they ... [take] their top students that want to go to uni and ... they have a [special program] class in Year 11 and ... in Year 12 where they're asked basically in their own free time to go together to do specialist workshops. They also group together for English from what I can gather, but ... I certainly think there could be more depth to that program. (Principal, School 6)

Other career-related activities that are facilitated by the school included excursions to university open days and careers expos held at local sporting grounds:

I've looked like around – I've been to uni a few times just through tours and stuff through the school; I've been to Macquarie. Like just my dad's just taken me up to Bathurst to have a look around the uni and stuff like that, and my mother – when I was like looking at uni, I went to a few of the open days; I went to the Newcastle one, stuff like that. (Ilse, university aspirant)

Despite the number of activities and interventions within the school, one student described how the programs on offer and the school careers adviser were unable to assist her with her pathway:

She [the careers adviser] had like consultation hours and you could go [to] her but you kind of had to know what you wanted to do otherwise going to her was pointless. So I went to her a few times and I had no idea what I wanted to do so she couldn't really help me. (Hope, former School 6 student, university student)



## 5.2 Case study 2: School 5

School 5 is a comprehensive high school catering to students from Years 7 to 12. The school has more than 800 enrolments. Aboriginal students account for 20% of the student population, and students with a Language Background other than English (LBOTE) account for a further 3%. More than 50% of the students at School 5 are from low SES households, with high SES households accounting for 5% of enrolments. School 5 offers the most extensive range of subject choices to students within its region including traditional, non-traditional, and vocational courses. The school has a Learning Support Unit and a Trade Training Centre (MySchool; ACARA, 2015).

### 5.2.1 School ethos

We've got potentially all the subjects that they could possibly want to cover if they're coming in new and they haven't made any choices, so we've got a full range of curriculum ... if you do work hard, the staff are capable of getting the absolute highest result of any school in the area. (Principal, School 5)

School 5 positions itself in a similar way to School 6 where the focus appears to be on offering a large range of subjects that cater for as many students as possible. Key aspects of the ethos of School 5 are the school's focus on the hard work required of students to succeed and on the role of school staff in achieving those results. A former School 5 student and current university student reiterated this school's focus on results:

There's a big hype about the HSC, like it's the pinnacle of your life or something. Coming to university I realised the HSC wasn't life or death because ... there's other ways to get into university. (Elenora, university student)

School 5 appears to suffer from a poor reputation in the community – a notion which is rejected by students at the school:

Some people think that it's pretty scary because of the fights and stuff but it's actually like ... [a] good school and nice people. (Julia, university aspirant)

I suppose our reputation isn't that good of a school ... but our reputation is worse than what it actually is. So, like our school isn't that bad, but people think it is. (William, university aspirant)

Although students reject the poor reputation of the school, one parent described how the location of the school in a low SES community had caused concern:

Because our town, our area is a low SES area and there's a hell of a lot of risk factors .... So just because of the type of students they are, they were very distracting and if you don't land in the top [classes] I wouldn't go. (Marina, parent of School 5 student, former School 5 student)

### 5.2.2 Teachers and teaching

Yeah, the teachers, if you ask for help, the teachers, they are there for you and if you want, you can get a little bit of extra support. You can just go and ask and they will be willing to help you, which is really good. (Cooper, university aspirant)

I think sometimes they say, like, you can stay behind and get some extra help. (Julia, university aspirant)

Support for students at School 5 appears to differ from that offered at School 6. At this school the support appears to be less formal and is provided when students ask for additional help if and when it is required, in contrast with the more formal after-school support offered by School 6 once every week. The Principal of School 5 describes the extra support that teachers also provide to students on an ad-hoc basis:

What they do is they spend a lot of time outside their classroom hours, so they might work with kids at lunchtime, after school, before school. There's quite a lot of lessons and so on that run in addition to the standard classroom timetable. I see a lot of time where the teachers are communicating with the kids regularly through email, SMS, whatever it might be, even ringing them up and speaking to them and working with them, beyond the classroom. (Principal, School 5)

School 5 does provide the type of support services that are available in many high schools including Learning and Support Teachers, Year Advisers, and the Norta Norta program which offers tutoring for Aboriginal and Torres Strait Islander students. Parents of School 5 students viewed this type of support as expected and a part of any public school:

He could expect the same sort of service you get from any public school ... As they're public schools he would have access to a counsellor, et cetera, et cetera ... It's fairly generic. (Tobias, parent of School 5 student)

The student-teacher relationship is a key component in the provision of support to students by teachers at School 5. One student explained how this relationship was pivotal to how much effort he was prepared to put in to his classes:

If I can relate to them and they treat me right I'll do the best I can for them, but a lot of them don't know how to do that. They're just like, 'you've got to do the work and that's that.' (Patrick, non-university aspirant)

A parent of a student from School 5 was also able to describe how the relationship between her child and his teachers had an effect not only on learning outcomes:

I do know that there's a couple of career advisers at school. [Jeffrey] in particular hates one because she won't listen to a single thing he says. I don't know whether that comes back to the respect for others or not, or whether it's just the teacher not saying, 'well, I don't think you can do it so therefore you can't', or what. But I do remember at the start of the year she was going, 'well no, you can't do that, you're not capable'. (Rain, parent of School 5 student)

### **5.2.3 Preparation for university**

They give you all the plans and actions to do to take it further and it's your choice whether or not you put that into action. (Angus, non-university aspirant)

When asked how their school prepared students for further education, academically, socially, or emotionally, the responses of School 5 students were not too different from those given by participants from School 6. While the quote above is demonstrative of the school ethos of hard work leading to results, the following statement from a senior student shows how accessing specific programs provided by the school is preparing him academically for further education:

Well, the traineeships and all of that, that's given me pretty much all of the background information that I'll need to go to university for the [medical] courses and that, because you have to do a Bachelor of Science. That's why I chose the sciences at school, so that will give me that further background knowledge so it will put me ahead. (Cooper, university aspirant)

Socially, School 5 used strategies to help improve the social skills of their students. This included placing students into class groups with others outside of their immediate friendship group. It is important to note that the school is located in a diverse region where racially-based and other conflicts can occur. A teacher from School 5 describes how the school manages this:

Yeah, it's hard in this region because there are certain cultures that are fighting between each other and it's not really related to school, it's related to family purposes. The teachers know about it but they try to calm it down and talk about it, but the way your classes are set up is so that certain families aren't in [the] one class. (Theodore, Teacher, School 5)

Emotionally, students reported dealing with stress in different ways. While some students reported feeling stressed and being short-tempered particularly around exam time, others provided a different view:

Well, I haven't really faced many traumas in here at school. Exams would probably [be] the one thing that the stress level, that most of my friends go through when they have exams. I tend not to think about it, like the stress side, I just do the study and then think I'm going to go all right, but most of my friends, they'll stress out and then I've got to try and be there for them because they're melting down. (Cooper, university aspirant)

A key concern faced by many students transitioning into university from secondary school is the prospect of leaving their community, their homes, and their families. This is a difficult task to manage and one with which schools may not be able to assist:

I don't think a school can actually prepare you emotionally for moving. So moving away from home was probably a big challenge. Lucky I made friends quickly otherwise I probably would have been screwed. (Elenora, former School 5 student, university student)

#### **5.2.4 Subject selection and curriculum**

[School 5] is a large comprehensive high school, which sits in the middle of a very socio-economically disadvantaged area. Because it is a large high school, it is able to provide a wide range of subjects and alternatives to the normal curriculum. It also provides a wide range of opportunities to all those students. (Careers adviser, School 5)

We made the conscious decision to expand and have the broadest possible curriculum, so we might not go to two classes in some areas where the demand is strong so [that] we can support a class or a subject running that's a bit more diverse to give those kids their choices. And it really comes down to the combination of those subjects and, if anything, the only problem we tend to have is when we line our subjects up and we've got some student with an unusual combination of subjects and they can't fit that into their line. (Principal, School 5)

The offering of a large range of subject choices to students in Years 11 and 12 is evident at both School 6 and School 5, with the key distinction between the two schools resulting from a vast difference in student numbers. School 5 is forced to modify courses offered to students to ensure a diverse range of subjects is available to cater to the needs of different students, as explained above by the school principal.

A key concern for both students and staff at School 5 is the ability for students to fit their subject choices on a certain line of the timetable. This tension appears to be managed within the school relatively well as a Year 11 student from School 5 explained:

All of my lines matched up perfectly, which worked really well for me. (Cooper, university aspirant)

A former School 5 student, currently studying at university, echoed this viewpoint:

I chose Drama, Art, ITP which is a computer subject, Advanced English, and Hospitality ... I've always been interested in creative arts and just everything creative. I had the best subject selection there was to pick really. (Elenora, former School 5 student, university student)

The school also offers a number of different pathways including VET in which students are able to complete TAFE courses and gain recognised qualifications by the end of their secondary schooling. For example, Patrick, a Year 11 student described the subjects he had chosen:

Primary Industry, doing my Cert II in that. I'm doing the Cert II in Construction, Cert II in Automotive, Standard English, and General Maths. (Patrick, non-university aspirant)

School 5 students are also able to study some subjects externally. These subjects are completed through distance education at a different high school:

There are subjects if we don't offer you can do that through some [other] high schools .... It has an external – like university where you can study some subjects externally. That is offered as well in high school. We don't offer external subjects but we can go through [the other high schools] and do a subject through them. (Ellenie, Teacher, School 5)

Offering a broad curriculum also comes with issues surrounding program delivery. For example, a parent reported the practical (or logistical) difficulties in relation to her son's subject choices:

Yeah, and for a while there it looked like, because School 5 doesn't have the facilities to teach that course [Food Technology] – even though they've got it on offer – he was actually going to have to go to TAFE one afternoon a week. But he has to go to work and it conflicts and now they're going to change the timetables and he won't be able to go at all. So they're offering a subject, and yet they don't have the facilities to back it up... like they can do the theoretical side of it, but they don't have the practical side, facilities to back it up. So he has to – would have to go to another school, which I had to get in to see if he could go to the local Catholic school. They wouldn't have a bar of it... We're coming unstuck because there's nowhere for him to go. (Rain, parent of School 5 student)

### **5.2.5 Initiatives, interventions, and activities**

There's certainly careers expos and things like that, where the students are encouraged to attend those and look at the options that the universities are presenting at those sort of expos. We do have visits from [a] range of providers at universities, etc., information days, and we encourage those, and we encourage the kids to go to them. (Principal, School 5)

As was described by those interviewees connected with School 6, students at School 5 had a number of interventions and careers activities available to them conducted both inside and outside of the school grounds. Inside the school, this included visits by the Defence Force, guest speakers, Norta Norta tutoring for Aboriginal and Torres Strait Islander students, interviews with careers advisers, traineeships, and scholarships:

The Principal came up to me and asked me that he'd like to nominate me for a scholarship, so there's plenty of opportunities here. (Cooper, university aspirant)

The careers adviser is also seen as someone who could provide information regarding universities, scholarships, or traineeships. One student described the role of his school's careers adviser:

We have our careers adviser who helps a lot with what we want to do when we finish school. So like there's a lot of things out there. (William, non-university aspirant)

Similar to School 6, this school provides a number of activities outside of the school to support student learning and their transition out of secondary education. This includes visits to careers expos and university visits. A former School 5 student, currently studying teaching at university remembers activities that were provided by the school and led by individual teachers:

The teachers of creative arts used to run a drama-arts camp. So you would go to Sydney for the week, you'd go watch 'On Stage', and 'On Stage' is where the best performers of the HSC go for Drama. So if they've got a stage event they'd probably likely be nominated for performing on stage. We'd also go [to] art museums and do live drawings. So that inspired me as well. My art teacher, he was great. (Elenora, former School 5 student, university student)

### 5.3 Case study 3: School 10

School 10 is a comprehensive high school catering to students from Year 7 to 12. The school has more than 900 enrolments. Aboriginal students account for 10% of the student population, and students with a Language Background other than English (LBOTE) account for a further 3%. More than 50% of the students at School 10 are from low SES households, with high SES households accounting for 7% of enrolments. School 10 offers an extensive curriculum featuring a large and diverse choice of subjects, a vocational education program and a support unit catering for students with disabilities. A semi-selective school, it is also part of the Schools in Partnership (SiP) program targeted at improving outcomes in schools with significant Aboriginal student numbers (MySchool; ACARA, 2015).

#### 5.3.1 School ethos

Just make sure you've got your priorities right. Don't go outside and party all the time. Don't [just] hang out with friends. Don't blow off schoolwork. Put schoolwork in the top three priorities. Make sure you've always got that clear headspace of what you want. (Ferdinand, university aspirant)

As indicated by Ferdinand, an ethos of reward for hard work was apparent amongst both teachers and students. Teachers spoke of having high expectations of their students and the Principal agreed that "there's a perception that we're results driven". As perceived by a current student, this was reflected in the reputation of the school:

There's a high standard here if you work hard, put the hours in. (Othello, university aspirant)

Another student however alluded to the pressure experienced in trying to keep up with expectations of academic achievement:

They're very pushy. They definitely push us to do lots of homework at school but to be honest it never happens. I'm always forced to do Chemistry homework like my teacher always gets up me but I don't know, it's just like it's very hard. Subjects like Chemistry. I find whenever I sit down to do homework it's almost like I need the Chemistry teacher right next to me just to go through it. (Antonio, undecided)

The focus of School 10 on academic achievement is clear; the careers adviser described this school's emphasis on educational outcomes:

We're having a number of meetings at the moment to try and see or implement strategies to get the best out of our students at the top end in basically HSC results, push those kids to get – the more academic kids to get the highest results possible. And I use the example all the time, we had a lady here teaching Legal Studies a couple of years ago and one of the students went to her in tears saying, 'Miss, I just don't think I can get a Band six for you,' and it's all about that individual student's motivation. She wanted to work for the teacher and I thought that was brilliant. Well, she did get a Band 6 and a few others in that class did. So that teacher, whatever she was doing, she had the kids wanting to work for her. (Careers adviser, School 10)

What may also distinguish School 10 from other schools is the explicit references of staff to their belief in the importance of, and their commitment to, preparing students for life after school, be that further education or future employment:

I guess my philosophy is that we try and turn the kids out of here with not just a HSC but a broad range of skills and qualifications that are going to make them more employable or more competitive in the job market. (Careers adviser, School 10)

### 5.3.2 Teachers and teaching

[Mr Smith] is always available to talk to you if [you're] having educational issues. We have a counsellor or if something else is going on .... There's a support – you can find support throughout the school. (Ferdinand, university aspirant)

As with Schools 5 and 6, this school offers a variety of measures to support its students. Students from all three schools were aware of the support available, even if they had not accessed this support themselves, as is evidenced in the quote above. In a departure from the way in which students in Schools 5 and 6 were supported, one teacher, conscious of the location of School 10 in a rural area, described a particular focus on broadening students' understanding of the world and providing them with a perspective beyond the classroom:

I think it's a way of anchoring what they are doing now, however irrelevant they think it might be, to something beyond the classroom ... I'm big on trying to give them context. I constantly talk about my travels around the world, what I've seen, try to engage them with what they've seen, what their aspirations might be. So, yeah, being in a regional town, there's sort of this sense of isolation. So, just trying to place them in a context to say, you know, 'what do you want to do next?' Not in the broad, 'what do you want to be when you grow up?' [way], but 'where do you see this going one year after school?' (Austin, Teacher, School 10)

A former School 10 student expressed a similar view:

There's actually really amazing teachers who you want to put in the effort [for]. All they want to do is just put you in the best place for life. (Sapphira, former School 10 student, university student)

As in the previous case studies, the relationship between students and teachers were integral to a teacher's capacity to broaden students' horizons and to connect with and encourage them as is evidenced in the following interview excerpt:

You also have to have that open relationship where you can really get them to think about things outside of the box and I guess worldwide. You know, taking their thinking outside of themselves and thinking of it in a worldwide context. I think those sorts of things and that sort of thinking really encourages kids ... I think if you have a good relationship you are able to do that. (Brooklyn, Teacher, School 10)

### 5.3.3 Subject selection and curriculum

School 10 aligns well with both School 5 and School 6 in terms of its focus on offering a large range of subjects for students attending the school. It was suggested that the size and breadth of courses offered encourages students from other schools to enrol at School 10:

We know [students] do [have enough choice of subjects] because they come from some of the other schools from Year 10 into Year 11 and 12. They will come from other schools because we offer a wider range of choice here. Because we're a bigger school with a larger number of kids, we can offer greater lines and greater opportunities for kids. (Brooklyn, Teacher, School 10)

As a rural school however it seems that it may not be possible to accommodate every student's subject preferences:

I guess I'd love to do Information Technology. I was really fascinated with that as a kid but unfortunately the school wasn't able to provide that to me. (Antonio, undecided)

Unlike Schools 5 and 6, which offer HSC, ATAR, and VET pathways, School 10 eschews more traditional pathways to further education and employment, and instead operates using what the Principal describes as a 'blended model' designed to deliver options for students who arguably expect more flexibility and choice:

We don't have traditional sort of – like an ATAR pathway or a non-ATAR or a VET, it's very blended, our model. Because we're so close to [the] TAFE here and the kids can walk over to TAFE in five to ten minutes, we're actually able to have a lot of operating together and so we have a lot of blended kids that might do a TAFE subject but still be children that wish to go to university. Whereas, I think traditionally, when I say traditionally, when the new school-leaving age changed, there were schools and this school included that tried to put kids into fixed pathways, like you're a non-ATAR kid and you're an ATAR kid, you're a school-based apprenticeship. Whereas we have a whole range of really blended models there. I wouldn't say we've got any clear pathway and that sounds bad but it's more about flexibility and choice and I think that reflects a reality now. There's so many different pathways to work, if you think of work or vocation as an end goal, there's so many different pathways there anyway that's probably just what we're reflecting. (Principal, School 10)

#### 5.3.4 Preparation for university

The notion of preparing students for university academically, socially, and emotionally was discussed during interviews. A former student currently attending university reflected on how hard it is as a school student to imagine or contemplate life beyond school:

There is life outside of high school. People just don't seem to understand that. I didn't understand that. The idea of being outside of a school is kind of insane. (Sapphira, former student, university student)

Teachers felt that School 10 prepares students well academically, but questions remain as to how effectively schools can prepare students for the social and emotional adventure of university:

So we do try to let kids know the impact of their decision making I guess. But how do you prepare them for uni? Truly, how do you really prepare kids for the freedom and not having to answer parents? (Brooklyn, Teacher, School 10)

One student who plans to go to university gave the impression that he and his peers were coping with the range of challenges that invariably arise in high school:

We all seem to have – like if there's an issue with a class we all seem to work it out together because we're all interested in it. So we've all had a pretty good experience through Year 11 and 12. Yes, things get stressful and whatever but that's just school. But nothing too major, it's all been pretty clear. (Ferdinand, university aspirant)

Ever seeking practical ways to tackle these issues, teachers felt strongly about the need to prepare students for further education by encouraging them to be more self-reliant in relation to learning:

The way I look at it is it's about independent learning and not having to be pushed. (Principal, School 10)

Students appeared to be taking this on board at School 10. One student, thinking seriously about going to university after a gap year, highlighted skills as an important factor influencing his future plans, specifically emphasising independence in relation to learning:



I would say that skills, because you have to have the skills to be able to do stuff, to be able to cook your own food, look after yourself, but also have the ability to be able to learn independently. (Othello, university aspirant)

Once more reflecting the stance of preparing students for real life, the Principal undertook a strengths-based approach to the issue of teachers managing diverse skill levels within classes:

We have a select stream that we're being assessed completely independently and ranked and everything, reported on independently to the rest of the cohort and I said, 'why are we doing that?' These children need to be competitive, they need to see where they stand compared to their cohort and their cohort [needs] to see where they compare, compared to them and the HSC isn't segregated, life isn't segregated and so I made them do that ... 'I don't want you to dumb their task down'; they wanted to dumb their task down ... I said, 'no, their task is a high quality task and it's set at a high level, you don't dumb it down, you scaffold it to allow lower ability kids to access it at different levels,' and that's where we've been struggling. (Principal, School 10)

Positive feedback from former students revealed how their efforts had indeed prepared students for university specifically, and life more generally:

I had one girl, she was overseas for two years and now she's back at uni – I often say to them, as corny as it sounds, I say, 'Did we prepare you for life?' and every time they say, 'Yeah, you did. You prepared me for uni.' So I've had that sort of said to me and it always makes me feel good and feel like we must be doing something, even if I don't know exactly what it is specifically, we are doing something because they are saying, 'We can cope.' (Brooklyn, Teacher, School 10)

A key program singled out in terms of preparation for university, as highlighted by the Principal, aims to encourage students in junior years to think about going to university in the future:

[The program] is about achievement, reaching for the stars, and it is about aspiration and that's exactly what it's targeting and the idea is to encourage or – children that are capable of going onto higher education and aspire to and go to higher education. It's probably more about education, removing barriers, making awareness, breaking down perceptions, false perceptions of what things are and also false stereotypes. (Principal, School 10)

This particular program also has a website for Year 12 students where they can access online tutorials:

The other thing that [the program] did for the Year 12 kids was they had like a website where you could get online tutorials into subjects. So if kids were doing a task or they were doing some writing, they could say, 'I'm having a bit of trouble with this. Can you give me a hand?' [The teachers] didn't give [away] the answers, but they said, 'Maybe this is the structure of the essay you should look at. Maybe you should look at using this type of language.' And they offered that support across a whole range of subjects. (Brooklyn, Teacher, School 10)

### **5.3.5 Interventions, initiatives, and activities**

A stand-out example of how School 10 put their 'real world' ethos into action involves the 'School Learning Space'. This initiative aims to foster students' skills and experience, in particular coping skills, time management, and personal responsibility. Space within the library has been allocated and an environment created similar to either a TAFE or university library, allowing students to 'experiment' with a less-structured approach to study:

We've set up an initiative called [the School Learning Space] ... which is a place for them ... that's staffed. We've got resources up there for them, computers, tables, areas set up. The idea is to get them up there and working and using their time constructively and we have staff there to support

them ... really just trying to get them to use that downtime productively. I see that as a big change from school to uni; they have such a structured environment at school and up until senior school, every period of the day is filled. They hit senior school and when you have all of these different pathways, students have more time free and if you allow them just to roam and do what they want and don't try to get them into the habit of using their time constructively, which is time management, that I think when they go to a more open environment in adult education – I'll say TAFE as well as uni – they can't cope with it ... So, we've put a lot into developing their coping, their time management, their social side of things, given them some responsibility but provide them an environment that I would say is similar to a TAFE or university library. (Principal, School 10)

At School 10 there is a case management/caseload approach to careers guidance in that every child is interviewed by the careers adviser and receives targeted and/or tailored information and counsel. The careers teacher has set up a careers website, and utilises the School Learning Space to access many students to provide them with careers advice in a more flexible and empowering environment:

I'm really trying to push this careers website because of the way kids are these days and all that. I need to step up to the mark and come into the new era I guess but – and it's basically set up in a way that it covers everything. So upcoming events and things like that where you might think one of our kids wouldn't go to that well it's on there anyway just in case a kid's in Sydney for the holidays or something like that and they can access these sort of things. (Careers adviser, School 10)

In a similar vein, a former student spoke of a foundational school experience for her which involved an inspirational teacher and an initiative where students met for an Extension class before regular school classes began. Interestingly, she remarks how this reminded her of her current university classes:

That's why I'm sort of thankful for the teacher for that class. I told everyone that I knew in the year below me to do Extension History ... 'Do Extension History anyway because you will love it; it will change the way you look at life' ... For two of the extension classes they had this thing called Super Monday... So we used to start at 8:30 and we always used to have breakfast. Someone would bring in breakfast. It was the best and it was so nice and that was really nice as well being in these smaller classes. You build friendships with people that you never even talked to and that was really nice ... because it's a really interesting model where all these people are just really interested in this one thing and you're all just sort of bouncing off each other. I guess it's what Honours is like now as well. I find that really similar, but no food. (Sapphira, former School 10 student, university student)

School 10 undertook a number of additional internal and external activities in order to prepare students for university, including organising careers expos and visits to universities for open days. The careers teacher predominantly organised and coordinated these activities, as well as Defence Force days and work placement opportunities. For students undecided about university, the range of careers activities opened up a number of possibilities and alternate career pathways.

I guess it was – like, I did have the idea of going to the Defence Force before. I really did consider it because I used to do Navy Cadets and that gave me a very thorough experience of what I'd like to be in the Defence Force. But I just think the Defence day it's definitely – I think it did help my choosing because it's just really thorough. They give you a very thorough rundown of what you do and that stuff. (Antonio, university aspirant)

Students with aspirations to attend university especially appreciated the university open days.

Yes, we've had the opportunity to go to a few open days at Southern Cross University and then [the University of New England] that [our careers teacher] organised ... Well that had an effect on my preference towards UNE because that was the latest open day that we attended ... It was just a really great environment. I just enjoyed being there. The weather's freezing but besides that it's just a really good place to be. I felt comfortable. (Ferdinand, university aspirant)

These experiences helped students who were still undecided as to a university pathway to differentiate between merely choosing a university versus choosing the most suitable course for them that was available.

I did a [university] day down in [town] that we went to. It wasn't sort of about the uni, like it was but it wasn't. It was sort of about a lot of courses and stuff like that too. I was sort of more interested in the course than the uni itself ... Yeah, it sort of laid a platform for what I have to do and stuff like that. (Othello, university aspirant)

## 5.4 Case study 4: School 4

School 4 is a comprehensive high school catering to students from Year 7 to 12. The school has more than 350 enrolments. Aboriginal students account for 20% of the student population, and students with a Language Background other than English (LBOTE) account for a further 5%. More than 55% of the students at School 4 are from low SES households, with high SES households accounting for 6% of enrolments. School 4 promotes a culture of learning within the school and, as a result of its strong links with the local university, has access to the university's facilities for teaching and learning (MySchool; ACARA, 2015).

### 5.4.1 School ethos

So I think that's the big thing here, is to recognise when they come to School 4 there's a lot more freedom of choice and action. (Principal, School 4)

I think we're doing all we can in terms of career and study, so we're giving them choices. I think the best way to prepare them for the post school study is to get in really early and create a strong culture of learning generally. Like to make them value education. Because without that, it's hard for them to actually see the relevance. (Lena, Teacher)

Just as the school ethos of Schools 6, 5, and 10 stems from the provision of choice within the curriculum, the school ethos of School 4 also centres on student choice with a focus on providing students with options for post-school destinations. Additionally, there is an emphasis on hard work and achievement:

It's what you put in is what you get out. So if you don't put anything in, don't expect to get too much out, and you know like it's like these kids who say I want to go and do this course and that course or whatever. That's okay, but it just doesn't magically appear, you have to make the effort to get the old 95 [ATAR] if you want it. (Principal, School 4)

Whilst both School 6 and School 5 are balanced in their views surrounding university or VET as post-school destinations, School 4 is focussed largely on university. Despite this, some teachers at the school do provide students with information about alternative pathways and options other than tertiary education:

I mean, as I say, teachers as a general rule are very pro-uni and encourage kids to go to university. But as I say, you've got those VET teachers who will also say, 'yes, if you want to go to uni, go to uni, but here are some other options.' Often with the kids who are doing VET too, that is a career pathway. (Principal, School 4)

At the time of this study, the Principal at the school had recently commenced in the position. This new posting effected change and a shift in the school's ethos, and the difference was noted by students as well as the community in general:

You can tell because of [Mr Jones] it's coming up [the school reputation] but the fact that our other principals didn't really care too much about it, there's still the old reputation continuing, which is not good but the fact that we've got [Mr Jones], people out in the community ... when they see you [they say], like, 'How's the new Principal going?' and you tell them he's going great ... He's really passionate, it's good, like that's what – I was talking to a student out there and she was saying, 'oh they're making an emphasis on the uniform and stuff,' and I was like, 'well, that's how people see us and you say that we've got a bad reputation, well that's how we're seen out in public.' (Iris, Year 11, university aspirant)

### 5.4.2 Teachers and teaching

Student learning is supported at School 4 in a variety of ways. Informally, this includes teacher encouragement and supporting participation in class:

Encouragement and just participating in everything, like they encourage us and participate, which is like – class discussions, you learn so much more and you bounce off each other, which is good. (Iris, university aspirant)

More formal in-school programs include a homework centre which focusses on supporting academic learning and an academic support program:

Got a homework centre runs now, since I've got here, which started up last year for kids, Year 11s and 12s and 10s. So they can get that actual support, and that's every day. No sorry, two times a week we run that. Then next year – so we've got the Aspirations excursion program. We've got the homework centre now for the kids, academic kids, any kid really can access it, but to boost academics ... The other thing is, I had my ... former deputy principal, he comes in and he does an academic support program for the kids. So about – you know timetabling, setting goals, planning for those goals, and working for that, and what's going to happen next year is we're going to split the kids, and that's the reality of it. We've got disengaged kids and you know the latest research says half the kids at Year 12 are probably disengaged. Not that they're bad kids, they just don't know what the hell, why they're doing it. (Principal, School 4)

Other forms of student support include small class sizes, free tuition, engaged and engaging teachers, and additional support from teachers during lunch hours as well as after school. A parent of a School 4 student explains:

The teachers want to teach them, and you've got small classes, and you're getting one-on-one. They offer free tuition for them, you don't have to pay any tuition. They can come at lunch times in here and the teachers give up their lunch time to teach them, like give them extra help. After school they can stay 'til 5 o'clock and use the library, the teachers are here. Like [Dan Smith], he's the Principal, and he's actually a maths and science teacher, he was before he was Principal, and Emily had one to one in the library here with him. Costs you nothing. Yeah, so fantastic, yeah absolutely fantastic. So you can't complain. (Evie, parent of School 4 student)

In addition, students describe planning days for the HSC and informal support offered by class teachers:

Yeah, we occasionally have like a day – like a period every so often that we go and we do planning for HSC, so we make our own plans and stuff. They give us all of this information on what to do and how to do it. And we also have a teacher that, if we're struggling with a subject we can go to them and they'll help us, so yeah. (Demetrius, undecided)

Emphasis is also placed on the importance of the student–teacher relationship at School 4. This includes building rapport with students:

Yeah and that's about rapport building with students. That is – I think in this role a critical part is rapport building. If you shut that door and they can see in here but you're not accessible or they knock and you go, 'no, I'm busy...' (Careers adviser, School 4)

### 5.4.3 Subject selection and curriculum

I guess the other thing too that's different about our school, we're part of a college, and so one of the things about this school is that kids can actually go to other schools to do subjects. So that we actually interact between three schools. (Principal, School 4)

In line with Schools 5, 6, and 10, School 4 endeavours to offer a range to subjects to its students, however the way in which these subjects are offered differ between the schools. As a large school, School 6 has the capacity to offer a full range of subjects within its own school, while Schools 5 and 10 offer external study options for those subjects that are not available at their school. This school uses a different model to offer subjects to its students. As part of a college, which includes other high schools in the region, students at School 4 are able to attend these schools to complete subjects that may not be available at their campus. In addition to this, students can also choose to take VET and TVET courses at TAFE:

We have VET courses offered through TAFE, they run on a Thursday. So they have to actually apply directly to TAFE for those courses. But there's – they have a selection. So they have a TVET course selection guide there, so that's just Wednesday, kids can apply for those and do that. So that, and that's a separate process obviously where you have to apply through VET and with their application, so there's a million and one courses there for that. Then we have our courses here, on our timetable. So students can have a look here and actually see what courses we're running here at school. Then we also have the option of students doing courses through the other schools, so we have listed here the three schools and what subjects they can actually choose. (Principal, School 4)

A parent of a School 4 student explains how the college system is providing children with opportunities that they may not have otherwise had:

But the way it is now with the combined high schools, if you want to do say, French, and it's not offered here, you can go to one of the other schools and do it on the Wednesday. So you've still got that opportunity. It's not actually at this school but you still go to the other one ... Yeah it's a good set up, up here. Yeah, so say you want to do cooking, two of the schools might specialise in cooking for the HSC, so it mightn't be this one. So you go to do that up at the other school sort of thing, and for the first couple of years it was a bit more difficult, because they didn't have transport – and your kids can't drive at that age sort of thing. Some of them are getting their licenses now. But now – I don't know if it's now or it's early next year, they're going to have a bus that will move the kids from one school to the next and stuff. So they might just get their local bus to the other school, and then just the bus will pick them up and get them to the next school, their main school. (Evie, parent of School 4 student)

Another departure from other case study schools is the way in which subjects are delivered at School 4. This School chooses to offer courses along less traditional pathways. This includes VET, HSC, and ATAR pathways with the alignment of pathways to broad subject groups:

Yeah we've got VET pathways, we've got kids who want academic and you know, science. We try and align our subjects so we give like a humanities pathway, a science pathway, that sort of thing, a VET pathway. So yeah, there's a huge array, as you can see ... There's literally 50, 60 courses. (Principal, School 4)

Overall, students from School 4 did not report having difficulty with their subject choices or ensuring they were on the correct line:

Mine are actually really good, they were all on good lines. (Iris, Year 11, University aspirant)

Other students were able to take additional courses in Year 11 that were of interest to them:

Yeah, I've probably got too many. I've got 14 units ... I have a few because I'm doing one TAFE course. So I'm doing Metals and Engineering, Design and Technology, Industrial Technology, Physics, General II Math, and Standard English, and then I'm doing a Design and Fundamentals course at the TAFE. (Demetrius, University aspirant)

#### 5.4.4 Preparation for university

Oh, a little bit worried because I don't really know what it's like [university]. I don't really have anyone to talk to about what it's like, so it will be kind of new but the teachers are helping me a lot with all that ... They try to prepare us as much as they can. (Demetrius, undecided)

As the above interview excerpt demonstrates, students are worried about their transition to university however they also understand that the teachers and the school are doing their best to support and prepare them in this transition. In particular, the Principal of School 4 describes his role in preparing students for life beyond secondary education:

I've got – what's the word – my job as a principal is to get as many kids into university. I'm a pro-VET type of principal, and I support VET a lot, so I don't judge people. 'Oh well, you didn't get to uni'; I mean, bloody hell, plumbers are earning more than me. (Principal, School 4)

Preparation for university by School 4 occurs in three key areas – academically, socially and emotionally. Academically, the focus at School 4 is on changing the way teachers teach and moving towards project-based, inquiry learning:

The issues that I've sort of directed to staff is that you can't teach the same way you taught 20 years ago, because a lot of the staff here have been here a minimum 20 years ... there are good teachers here, but and some of the pedagogy they use works well because they've got the clientele. So you'll find that a Year 11 and 12, they have a much better relationship with those kids. But at Year 7 to 10 it can be very problematic, because you can't just do bloody chalk-and-talk anymore to these kids who are using mobile phones and all that sort of stuff to find information ... One of the big things we're working on is actually changing the way we teach. So for a start, there's recognition now by teachers that they're not engaging with kids. So we're moving to project-based, inquiry learning. (Principal, School 4)

Exposure to higher education occurs early on (from Year 7 onwards) at School 4 because there is a university in close proximity to the school and students are able to access the university's facilities, such as the library:

They've had a fair few uni days here, in the last few years actually ... Because we've got the uni really close ... it's great, because they're always going to the uni. Like she's done that many trips up to the uni, to use their library and their facilities and stuff like that. So like she knows her way around a fair bit, because they've had so much time up there. So it's convenient for them sort of thing. So yeah, it's great being so close and having a uni here. So it's not going to be scary the day they do go to uni, because they know it. (Evie, parent of School 4 student)

In addition, an option rarely available to those students who live in metropolitan areas is the opportunity for students from School 4 to apply for and gain early entry into University, with a recommendation from their school principal:

Then as a regional area, our senior students, they've got options of early entry to uni, which was never available to me in the city. I know they can, you know, actually get into uni before their HSC results have come through. (Lena, Teacher)

Students see the academic preparation for university in a more simplistic way:

Just the choice and the assessment tasks and assignments basically. (Iris, university aspirant)

Socially, students from School 4 are well supported to be independent thinkers who have a voice:

They encourage you to have a voice basically. So, if you don't speak up, they will be like, 'what do you think, what do you think about this Iris?' They'll encourage you to speak up and have your opinion, which is good because that's what you really need, if you want to be heard. (Iris, university aspirant)

The Principal of School 4 identified resilience as a key concern for not only the students at his school, but also students of this generation. Mental health concerns and the need to build resilience prior to entering Years 11 and 12 was a priority:

I think one of the areas though that they're having bigger issues that I notice is the mental health, and I don't know whether – I just don't see people as resilient today as I did probably [in] my generation ... so for us, a lot of it is now looking at how do we build resilience in kids from 7 to 10, because you can't do it at Year 11 and 12 – It's too late. Because we're in the middle of living in – you know, the change, we're going from really a kid to an adult, [it] is happening at Year 11 and 12. (Principal, School 4)

Students identified dealing with stress in Years 11 and 12 as a vital issue, but remarked how this also assisted them in their preparation for university:

Emotionally, it's probably prepared me the most emotionally, like just dealing with like school stress and stuff like, more resilient to it, I guess. In uni or whatever else you do after school, you've sort of been there already, so you know what it's going to be like. (Hattie, university aspirant)

Other students described how particular subjects were also able to support their emotional development:

Just honesty, basically ... being able to like multitask and then, also, like decision making and the whole conflict – basically, how do you deal with this problem? And they do prepare you, like that CAFS class – that's really good, that shows you steps to conflict management. (Iris, university aspirant)

#### **5.4.5 Interventions, initiatives, and activities**

Like other case study schools, School 4 offers a number of interventions, initiatives, and activities to support student learning. These school-facilitated activities occurred inside and outside of the school. Internal school-based activities include transition-to-university programs run by the careers adviser:

I do a little bit of work with another teacher here on study routines and the transition into university, TAFE, and work. They're not all cut out for uni so I try and do a session on 'if you want to go to uni, here's what we need to look at', 'TAFE, here's what we need to look at,' 'work, here's what we need to look at.' (Careers adviser, School 4)

The careers adviser at School 4 is also proactive in providing information on the transition from secondary school to post-school destinations. This support includes tracking down students in the playground in order to provide them with careers advice:

So, I have information, I go right, I know where they are and I get it to them. I make a point of 10, 11, 12 – of being in their face a fair bit. They need to know. We've got a small school so it's not too hard and you get to know them personally and you get to know things about them. (Careers adviser, School 4)



As with School 6, this school used social media to disseminate information from the Careers adviser:

Facebook at the moment. Yeah. I was having this discussion with other careers advisers yesterday, a couple who don't use Facebook and I say, for me – and I sat at home Sunday afternoon, I had to send some info out to them or chase up for an excursion note to come in and I said, 'those students going on this excursion, please get that note in, and by the way, good luck with your exams,' and within 15 seconds of it being sent, I had a 'Like' straightaway [from] one of the students. (Careers adviser, School 4)

School 4 also offers a number of external activities facilitated by the school. The Principal describes how he is using an innovative program to broaden the horizons of the students at School 4:

One of the programs I've introduced last year, and we've had it happen this year ... it's to try and get the kids early at Year 10 and 11, particularly Year 10 – and we've actually partnered up with [a selective school] in Sydney, and what I wanted to do was the kids live in a fishbowl here, so what I did was, I actually subsidised – the kids could go, we paid quite a fair bit for the cost of the excursion. But we targeted kids who are potential high academic kids, and we took those kids to Sydney. We took them to [the selective school] and we took them to a couple of other schools to see the competition, and it was a real eye-opener [for them]. (Principal, School 4)

The school also coordinates TAFE programs, school-based apprenticeships and traineeships, guest speakers, university visits to a variety of universities (in Sydney, Armidale, and Brisbane), careers expos, and educational challenges:

Sport and we have like open days to go to [university] that opens people's minds a bit. And we also have the Science and Engineering Challenge which gets people interested in science and stuff like that. (Demetrius, undecided)

## 5.5 Summary of case studies

The four case study schools were similar in many ways. All schools are located in low SES communities and have more than 50% of their students in the bottom SES quartile and less than 10% in the top SES quartile. While other school factors such as location, Aboriginality, and LBOTE varied, the ethos of the case study schools was remarkably similar. These schools all focussed on achievement through hard work and appeared to be driven by results. This could represent an overarching alignment with a national system of education in which senior secondary schooling functions as the 'pointy end' of schooling. School ethos, in this context, is fairly consistent across schools, and especially schools like those in this study that cater for large numbers of students from low SES backgrounds.

Teachers and teaching play a pivotal role in the ability of students to do well in class. This role included formal and informal means of support for students and elements of the student–teacher relationship. Students were able to access a variety of support measures that were in place at all schools and displayed an understanding of what to do to seek support if required – although some students believed that more support was available for 'smart' students. The student–teacher relationship was important in providing encouragement and motivation for students with positive relationships leading to better outcomes for students. This was similar for all case study schools.

Participants from the four case study schools also were keen to demonstrate the depth and breadth of subjects available to Year 11 and 12 students, and whilst the way in which these subjects were offered differed quite markedly between schools the number of subjects offered by all schools was between 50 and 60. A combination of pathways was offered by the schools to Year 11 and 12 students, including ATAR, HSC, and VET.

Formal preparation for university differed among case study schools. While some schools offered planned programs to assist with university preparation, the effectiveness of social and emotional preparation for further education is not clear.

All schools offered a wide variety of interventions, initiatives, and activities to students, often through their careers adviser as preparation for pathways beyond school. These included university visits, careers expos, careers adviser interviews, excursions, and school-based programs to prepare students for either university or for other pathways after school.

## 6. Discussion

This project has drawn on survey, demographic, and interview data to investigate the impact of schools and schooling on the educational intentions of Year 11 students in 15 relatively disadvantaged secondary schools in NSW.

### 6.1 The intention to pursue university studies

Around 40% of the students surveyed intend to go to university, with more than 15% of those students already thinking about postgraduate studies as a longer term goal. These numbers signal a strong interest in university education among these Year 11 students, despite their relatively disadvantaged school and community circumstances and their personal circumstances (up to 78% in some schools from the lower two SES quartiles). In 2014, 18.9% of all Tertiary Admissions Centre applications were made by those from low SES areas compared with 49.3% from medium SES and 30.2% from high SES areas (Australian Government Department of Education, 2014). If our sample is reasonably representative of students in relatively disadvantaged schools, this would suggest some slippage between Year 11 intentions and applying for entry – potentially highlighting the challenges of navigating the systems and processes of university transition. Additionally, it may be that students want to and intend to go to university, but then start to doubt their capacity to achieve the desired entry score as they get closer to sitting the HSC and make alternative plans. In any case, the intention to attend university among the students in our sample was strong.

While 40% of students in our sample plan to go to university, only 32% indicated that they intend to commence university studies immediately after completing school, with many planning to work or take a gap year first. Gemici et al. (2014) have provided a useful summary of drivers associated with the decision to go straight from school to university.

The principal drivers of young people's plans to attend university in the first year after leaving school are parental expectations and peers' plans. The next most influential set of predictors consists of academic performance, gender, attitudes toward school and teacher-student relations. Students whose parents do not expect them to go to university, whose friends do not expect to attend university and who are academic low achievers have a probability of only 0.04 of planning to attend university in the year immediately after leaving school. (Gemici et al., 2014, p. 18)

The difference between intentions and immediate post-school plans might also be attributed to the increasing incidence of students taking a gap year, with around 20% of Australian students who complete high school now taking this pathway (Curtis et al., 2012); 22% of students in our sample stated their desire to have a gap year. Curtis et al. (2012) found that 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. They also found young people from English speaking backgrounds and from regional locations to be more likely to take a gap year, as were students from higher SES families.

While the primary focus in this study was on the intention to choose university, the substantial number of undecided students (around 20%) signals an important focus for policy. These students may be in great need of extra support to build their confidence and assist them to make decisions about their futures.

### 6.2 Differences among student groups

In our analyses, a number of variables were associated with the intention to choose university. There was a significant difference between males and females with girls 1.56 times more likely to signal a plan to pursue university studies. While university enrolments were once dominated by males, since 1987 the trend has

been for greater proportions of female students (Norton & Cherastidtham, 2014). This trend has been linked with a number of social changes, including “the overall social position of women has improved; entry into occupations dominated by women (teaching and nursing) now requires higher education qualifications; girls outperform boys at school; and young men have better-paying vocational education options than young women” (Norton & Cherastidtham, 2014, p. 27). The large numbers of low SES students in our sample likely contributed to the difference found between males and females given the association of lower SES backgrounds with the intention to go to TAFE or pursue other VET options, particularly for males (Bryce & Anderson, 2008; Gale, 2010; Hillman, 2005).

Not surprisingly given the requirements for university entry, high prior achievement, as measured by students’ most recent NAPLAN results, was also significant in the intention to choose university. We found that students in the top two quartiles were more than three times more likely to signal an intention to study at university. Given that the ATAR achieved by school leavers is the major hurdle to university (and specific course) entry, the confidence of these students in their capacity to make it to university would be boosted by their success in school. Indeed, of all the variables in our analysis, prior achievement was most strongly associated with the intention to go to university. It may be the case that many of the undecided students are waiting to see if they can perform well enough in Year 11 and Year 12 before developing firm plans for their futures. It follows that supporting educational achievement is a clear priority if greater numbers of students, especially those from low SES backgrounds, are to keep open the option of choosing university.

While the schools in this project were all below the national median (of 1000) in the level of social and economic advantage, participating students represented the full SES range (coming from all four SES quartiles, although not in equal proportions). This enabled us to test the relationship between SES and intention to choose university. A significant independent effect was found but dropped out in the regression analysis, with prior achievement, school attended, perceived travel barriers, and sex the only significant relationships in the statistical model. In interpreting this finding, we acknowledge the intersection of SES with achievement and the cumulative effects of SES on educational outcomes (Gore et al., 2015).

More than 70% of students in our sample identified financial barriers to university study, although there were no significant differences between the three groups of students – university aspirants, non-university aspirants, and students who were still undecided. The SES of students and ICSEA of schools have been major policy drivers and a key determinant of where to direct additional resources and target university outreach activities (Naylor, Baik, & James, 2013). Our results highlight the importance of: designing initiatives to support the participation and success of students from low SES backgrounds without ‘essentialising’ SES (that is, treating the category ‘low SES’ as homogeneous); and, taking account of sex and prior achievement and how these variables intersect to shape students’ desires for higher education or otherwise.

In terms of other demographic factors, while schools in our sample ranged from 6 to 31% of enrolled students identifying as Aboriginal, Aboriginality was not significantly linked with educational intentions. Also, we found no significant differences for educational intentions based on whether students attended metropolitan and provincial schools despite the much greater level of concern about travel conveyed by students from the provincial schools.

### **6.3 The impact of schools and schooling**

As reported in the regression analysis, the school attended did produce some significant effects – with two schools significantly different from the others in terms of proportion of university aspirants. School 4, with an ICSEA of around 900 and hence in the least advantaged 20% of all schools in Australia, and School 10, with an ICSEA of less than 950, both had more than 50% of their students planning to attend university and less than 13% undecided. There are no simple explanations for these differences, as is apparent given the similarity among the quite diverse schools represented by the case studies. School 4’s close proximity to a university and the somewhat ‘normalised’ experience of being on the university campus, using library and other facilities, might have helped these students to decide on university, particularly given that travel to attend university may have been less of an issue for these students compared with students in some other

schools in our study. School visits to universities are a now-common feature of secondary schooling (although less so for students in provincial areas), but the experience while on the university campus for students of School 4 appears to have been qualitatively different, integrated with their daily educational lives. Individualised post-school destination planning, driven by the careers adviser, might also have been a factor in the stronger intention to choose university at School 4, although this kind of support was common across all case study schools, with around 60% of students reporting one-on-one career counselling.

School 10's higher proportion of university aspirants and fewer undecided students is less easily interpreted. As a semi-selective high school the academic orientation of the school might be strong, but this was a consistent finding across the case studies with all students and teachers reporting a strong focus on achievement. Indeed, in all of the case studies, there was a strong emphasis on ATAR and the HSC. At the same time, each of the schools also acknowledged and appeared to nurture the pursuit of alternative educational futures (including enabling programs, TVET, and preparation for employment). In general, the schools appeared committed to the development of the 'whole student'. As one example, the principal of School 10 emphasised that the school tries not to place students on an ATAR or non-ATAR path, instead encouraging them to keep options open with more blended pathways to school completion.

High expectations for all learners were communicated within the schools, although some students reported that teachers spent more energy on those students who were more academically engaged and high achieving. Some subtle differences were evident in the interview data with university aspirants reporting that their teachers conveyed a strong belief in their capacity to do good work and achieve good marks while non-university aspirants were more likely to report that their teachers expected them simply to be in class and to complete work. Catering for all students, including those who do not really want to be at school, is an ongoing challenge for teachers. A former student, for instance, reported that "the teacher had made a pact with the students who weren't interested in being there – she wouldn't make them do any work, providing they didn't disrupt the learning of others". This 'unwritten contract' between teachers and students has been described by others (Haberman, 1994) and may be an increasingly common feature of upper secondary schooling with the increased school leaving age. Teachers' energies are drawn to those students who are interested in learning, whether high achieving or not, but the consequences for school culture in such environments may be dire.

Subtle differences in school practices and special initiatives may also impact on the way in which schooling impacts on the educational intentions of students. School 4, for instance, had embraced progressive teaching approaches to engage students in their learning – getting away from the 'chalk-and-talk' approach – and School 10 was actively preparing students for the social aspects of university (and TAFE) with its senior learning space and focus on developing students' capacity for taking responsibility for the productive use of their time in order to support their own learning.

Subject availability was reported by some students to be a factor in supporting or hindering their interest in university education, with some cases of students 'giving up' when their chosen option was not available. In each of the case study schools, a wide range of subjects was available, if not on campus then through arrangements with other schools. Despite this smorgasbord of options (as many as 50 or 60 choices in some schools), some students reported difficulties in pursuing a relevant suite of courses. Logistical challenges appeared at times to thwart commitments to broad provision.

All of the schools provided diverse and plentiful activities designed to engage students in thinking about their educational and career plans. University aspirants more often than non-university aspirants reported that they had received written materials about career and study options; searched online for career options; attended a careers expo; and attended a university presentation or open day. In interviews, many students reported that these and other initiatives such as visits from universities and the defence forces were useful, particularly if they had a sense of where they were heading. For some of the undecided students, however, it is unclear how helpful such activities are in helping to clarify their plans. As poignantly stated by one student, sitting with the careers adviser on numerous occasions did not help when she just didn't know what she wanted to do.

Throughout all of the case studies, the importance of the teacher–student relationship was pivotal from the student perspective. Where the relationship between teacher and students is positive, students report working harder in those subjects. On the contrary, where the relationship is negative students report not feeling motivated and may even drop a subject, with potentially profound consequences for their post-school pursuits.

These findings highlight how important it is for teachers to foster genuine caring relationships with students, as was commonly reported to be the case across the schools. High expectations and encouragement were also cited as important with teachers playing a significant role in students' experience of school. While many teachers were clearly knowledgeable about post-school destinations, one way to provide strong support for all senior secondary students would be to ensure that their teachers are well-informed about pathways into university and other post-school options. This is the case especially when the informal conversations among teachers and students may be as important to some students as the formal careers activities. Providing school teachers with more information was also indicated in the responses of a number of former graduates of the participating schools who declared that too much was made in school of the need for an ATAR and that strong messages should be conveyed that encourage students to keep trying for a university place through enabling programs and other mechanisms if their first attempt is unsuccessful.

Students do rely on their teachers for advice and encouragement, including through informal classroom and outside classrooms conversations. More than 46% of students reported that they did not know what their teachers think they should do after they leave school. And more than 25% did not know what their parents expected them to do. While there are no simple solutions to supporting students' planning for their futures, with more than 20% of Year 11 students in our sample undecided about whether they will choose university, TAFE, or to finish their formal education when they leave school, these statistics point to the potential for more and different kinds of conversations to occur among and between teachers, students, and parents.

Ultimately this study points to the primacy of academic achievement in the intention to attend university. Our data highlight the teacher–student relationship as a key mediator of students' interest and engagement in the subjects undertaken during the senior years of schooling which is likely to have a bearing on academic performance and post-school options. In this light, any policy directives designed to increase participation in higher education should take into account the centrality of the teacher in affecting students' educational goals. At the same time, the intention to choose university is impacted by a range of factors outside of the control of schools, including sex, perceived travel barriers, and access to information from a range of sources, including family and friends. While schools provide many opportunities for students to obtain knowledge about a wide range of post-school options, including university study, there appears to be a case for trying to ensure fuller participation in such activities. Despite the best efforts of schools, this study highlights that current school initiatives are differentially taken up by university aspirants, non-university aspirants, and students who are still deciding on their educational plans. These differences among students signal the importance of continuing to explore new initiatives and new ways of engaging students, and their parents/carers and teachers, in informed and meaningful conversations about their futures.

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