Completing university in a growing sector: Is equity an issue?

Daniel Edwards & Julie McMillan

August 2015

Australian Council *for* Educational Research

ACER

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Acknowledgements

The researchers would like to sincerely thank the National Centre for Student Equity in Higher Education, based at Curtin University. The NCSEHE provided the funding to make this research idea into a reality. Thanks in particular go to Sue Trinidad, John Phillimore, Louisa Bowman and Paul Koshy. Thanks also to the many more within NCSEHE who have worked tirelessly behind the scenes to support this project.

Thanks and acknowledgement also goes to the Commonwealth Department of Education and Training. The staff in the Higher Education area within the Department facilitated the development of analyses, the detailed building of cohort data and the requests to specifications of these data to fit the requirements of this project. In particular, thanks to Yew May Martin, Phil Aungles, Barbara Sidwell, Wayne Shippley and Ben McBrien.

+ Executive summary

Background

This report details the findings from a research project funded by the National Centre for Student Equity in Higher Education (NCSEHE) that explores new data tracking student cohorts through the higher education system – from commencement to completion.

In a time of rapid growth in the Australian higher education system, resulting in expanded opportunities for students from disadvantaged backgrounds, it is critical to understand which characteristics are linked to a lower likelihood of completion, in order to target retention policies for 'at-risk' groups at the national and institutional levels.

Approach

The report uses data from the Higher Education Student Collection, and a cohort-tracking approach developed by the Commonwealth Department of Education and Training. This administrative database has linked an individual student identifier – the Commonwealth Higher Education Student Support Number (CHESSN) – to the enrolment of each domestic bachelor student from 2005 onwards. The CHESSN enables research to track the pathways of students within and between courses and institutions.

The analyses focus on the completion outcomes of a student cohort that commenced in 2005 and was tracked for a period of nine years, up to 2013. The outcomes of this cohort are compared with other cohorts of students, tracked over a shorter period of time in order to validate findings. The analysis is supplemented by data about students' experience and engagement from the 2013 University Experience Survey.

National-level completion rates

Nearly three-quarters (73.6 per cent) of domestic bachelor students commencing in 2005 had completed a degree by 2013. Nationally, lower completion rates were evident for students with lower Australian Tertiary Admission Ranks (ATAR) (especially below 60), and those who commenced their enrolments as part-time students, external students, in the fields of Information Technology and Agriculture and Environmental Studies, and at the Regional Universities Network, as well as commencers aged 25 and over, and male students.

While ATAR is a predictor of the likelihood of completing university, only approximately 40 per cent of commencing students have an ATAR recorded in the cohort-tracking datasets. Because this measure only applies to a minority of students, retention policies might better focus on other factors.

Low-socioeconomic-status students

Approximately 69 per cent of students from low-SES backgrounds completed a degree, compared with 78 per cent of students from high-SES backgrounds. Low-SES students were more likely than other students to drop out within the first two years of study or to still be enrolled without completion nine years after commencement.

Non-metropolitan students

Students in metropolitan areas were more likely to complete a degree than those from regional areas and those from remote areas (approximately 75 per cent, 70 per cent and 60 per cent completion respectively).

Indigenous students

The differences between the outcomes of Indigenous and non-Indigenous students are substantial. Indigenous students had a completion rate of around 47 per cent (non-Indigenous students had a rate of 74 per cent). More than one in five Indigenous students in this cohort had dropped out of university before their second year and another quarter had dropped out at some other stage in the nine-year period.

The compounding effects of belonging to multiple at-risk groups

Many students belong to multiple equity groups (low-SES, non-metropolitan or Indigenous students). Students in equity groups are also more likely than average to have other demographic or enrolment characteristics that are associated with lower completion rates, such as studying part-time or externally, or having a low ATAR.

The influence of each individual variable on completion is exaggerated by the introduction of other variables. When analysed by SES, age and type of attendance, completion rates of students become lower the more of the 'at-risk' groups to which a student belongs. Similarly, when examined by region, age and type of attendance all three of these variables compound to influence the likelihood of completion.

The particular analyses in this report highlight this dimension of completion that has not previously been able to be tracked across such a large cohort of students. The analyses also demonstrate the potential for further exploration of higher education completion at an even finer level of detail to enhance understanding of factors impacting retention and outcomes.

Reasons for attrition

To explore whether students with a lower likelihood of completion are more likely to be disengaged with their university or have more negative experience than others, data from the 2013 University Experience Survey (UES) have been analysed. No meaningful differences were found between equity groups and other students across a range of UES scales relating to student engagement, access to resources and experience of quality of teaching.

There were, however, notable differences between equity groups and other students in the rates and reasons given for considering leaving university before graduation. The reasons noted more commonly by equity-group students than other students revolve around finance, family obligations and core issues relating to 'getting by', whereas the issues noted more commonly among advantaged students than equity-group students centre around issues of 'choice' and lifestyle. Of all the data from the UES analyses in this report, this finding is perhaps the most insightful for identifying the different pressures on university students. This analysis highlights the areas in which students from equity groups stand out from their peers when it comes to engagement and retention and offers areas of focus for institutions interested in increasing retention among particular groups.

Future research

The analyses of this report could be extended to allow for both a broader picture (tracking post-university outcomes for equity-group students) and for a finer grain (using data from small subgroups).

Further research could explore the graduate outcomes of specific groups of students with low completion rates, as identified in this report. The benefits of university completion for the general graduate population have been repeatedly demonstrated through the Graduate Destination Survey, the Graduate Pathways Survey and the Beyond Graduation Survey. Drawing on this range of data would highlight the difference that a university qualification can offer to disadvantaged students. Preliminary analysis carried out for this project suggests there are few differences in post-completion employment and salary outcomes between equity-group students and others. That is, for students from equity groups, disadvantage is erased by university completion.

Further work is also needed to facilitate more-detailed analyses of the data of smaller groups – such as Indigenous students, remote students and students who are affected by multiple compounding factors – without compromising accuracy or confidentiality. Future work must balance the sensitivities involved with the potential policy importance of building this knowledge.

Further research could inform targeted interventions to most effectively increase university completion rates.

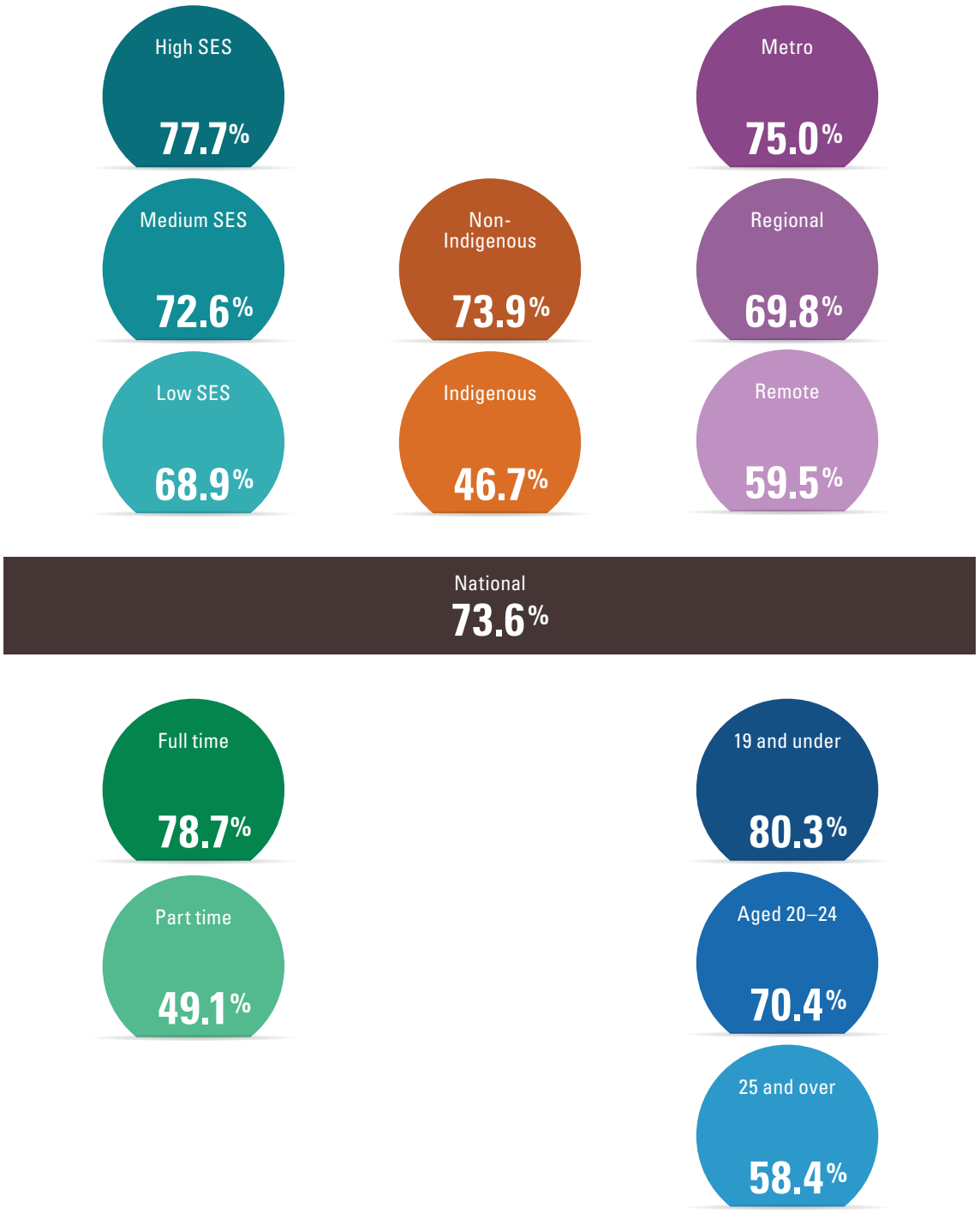


Figure 1: Completion rates, nine years after commencement, for selected characteristics, domestic bachelor students commencing in 2005

+ 1 Introduction

Access to university has always been an issue for students from disadvantaged backgrounds. In the recent context of an expanding higher education system in Australia, some accessibility issues have been alleviated. This context offers an opportunity to explore the pathways of disadvantaged students through university. In this expanded system, will disadvantaged students be more or less likely to complete university? Will demographic or enrolment characteristics influence the likelihood of these students to complete? This report details the findings from a research project funded by the National Centre for Student Equity in Higher Education (NCSEHE) that explores new data tracking student cohorts through the higher education system, alongside national engagement and experience survey data to investigate these questions.

This research is important because in an era of growth, it is critical to understand which groups of students or which characteristics might be linked to a higher likelihood of completion, and which groups or characteristics might not. Having this information can help in raising awareness of the different pathways taken through higher education, identifying issues that are closely linked to lower completion and developing policies to support retention of 'at-risk' groups. This study focuses on the national level, but is intended to supplement and provide context to analyses at the institutional level.

The focus on equity groups in this research exists because the graduate outcomes data have shown that for those equity-group students who do complete university, prospects of employment and salary are relatively similar to their more privileged classmates (Edwards & Coates, 2011). If barriers to university access are being reduced by widening enrolment policies, and graduate employment outcomes are not notably impacted by equity-group background, then the next issue to address is ensuring that progression through university is not compromised by socioeconomic status, region or Indigeneity. To do this, detailed baseline data is needed to better understand the university progression of these groups.

Therefore, the focus of this particular research is centred on four research questions:

1. Do higher education completion rates differ for different groups of students?
2. Are disadvantaged students less likely to complete university than others?
3. What are the most reliable variables for determining the likelihood of university completion?
4. If there are differences in completion between groups of students, do factors relating to student engagement, experience or satisfaction help to explain these differences?

The quantitative approach to this research provides new and detailed insight into these issues. The report begins with a basic overview of the context of enrolments in higher education and prior research at the national level in Australia into retention and completion at university. The report then outlines the approach taken in the analyses that follow.

The findings of this report are divided into three main sections:

- a national overview of university completions based on demographic and enrolment characteristics
- a detailed analysis of completions for three key equity groups – students from low-socioeconomic-status (SES) backgrounds, students residing in non-metropolitan areas and Indigenous students
- exploration of the responses of key equity-group students to a national survey on student experience and engagement.

The report concludes by re-examining the research questions posed above and providing suggestions for future research into completion of university in Australia.

+ 2 Background

2.1 National context

Over the past five years, Australian higher education enrolments have experienced a significant increase. This increase is attributable to the lifting of government-prescribed 'caps' on the number of government-subsidised students each university could enrol each year, hence allowing universities freedom to set their own enrolment limits. This 'demand-driven funding system' officially came into place for the 2012 academic year. However, the policy was announced in 2009 and with it, some leniency in the prescribed 'caps' – offering universities an opportunity to begin implementing plans for growth.

Charting the growth in enrolments from 2010 onwards has been covered substantially in a range of analyses, which show that growth in the system began immediately following the announcement of the upcoming policy – that is, before the caps were lifted (Edwards, 2013; Edwards & Van der Brugge, 2012a, 2012b; Kemp & Norton, 2014; Norton, 2013). By the official introduction of the demand-driven system, the higher education sector had grown by about one-fifth. A *Review of the Demand Driven Funding System*, released in late 2014, highlighted that:

> Commonwealth supported undergraduate places in public universities increased by 22 per cent between 2009 and 2013, from 444 000 to 541 000. All domestic bachelor places in public universities now receive Commonwealth support, and all such students pay a 'student contribution' (fee) set by universities up to a maximum determined by the government. (Kemp & Norton, 2014, p. 3)

In 2014 and 2015 the number of enrolments have steadied (DET, 2015b). However, the growth prior to this was significant and represents the largest growth in a five-year period since the 1980s (Edwards & Van der Brugge, 2012a).

The growth in higher education enrolments has permeated right across the system, with increases (albeit of different scale) across all universities, all subject areas and all student groups. This includes increased numbers of students from under-represented groups, including low-SES, non-metropolitan and Indigenous students.

Table 1 utilises data from the *Review of the Demand Driven Funding System* to demonstrate the initial impact of growth in the system for the three equity groups of focus in this report. Each group experienced a large increase in enrolment numbers in the three years following the announcement of the policy. Based on these figures, low-SES enrolments increased 22.2 per cent, non-metro enrolments 16.3 per cent and Indigenous enrolments by 25.0 per cent between 2009 and 2012. This growth for these cohorts is significant in its own right. However, in the context of the whole sector, the actual progress of this growth in terms of increasing representation is relatively small. The last two columns of Table 1 show the change in overall share of enrolments by each of these equity groups. No major gains in overall share of the student population were made by students from these equity groups. Representation of low-SES students increased by less than one percentage point, and representation of the other two groups increased by only one-tenth of a percentage point each.

The large increase in overall numbers is an important reference point for this particular research project; however, in the context of growth across the sector, the increase in enrolments of students from equity groups has simply kept pace with the overall growth in enrolments.

In the context of a growing sector, and in particular growing numbers of students from disadvantaged backgrounds, what evidence about progression, completion and support needs can we identify that could be used to help these new, larger cohorts of students progress successfully through their university degrees? This project is designed to begin to understand the progression of these particular students in the context of the wider higher education system, with the aim of contributing an evidence base to an ongoing dialogue about support, retention and completion.

2.2 Australian research into higher education completions

While the cohort-based analysis of this project is distinctive in the Australian context, the project is informed by prior high-quality research into student retention and completions undertaken in Australia.

Using a Commonwealth administrative database which links an individual student identifier (Commonwealth Higher Education Student Support Number, or CHESSN) to the enrolment of each domestic bachelor student in Australia from 2005 onwards, the progression of students can now be tracked, allowing an analysis of completions among particular groups of students that has not previously been possible. This data has been used in a limited way in recent years, for example in the *Higher Education Base Funding Review* (Lomax-Smith, Watson, & Webster, 2011) and the *Review of the Demand Driven Funding System* (Kemp & Norton, 2014). However, the focus of these reviews has generally been overall completion rates or completion by ATAR, rather than the outcomes of particular under-represented groups of students.

Analysis of earlier cohorts of students, based on the Commonwealth data collected prior to the introduction of the CHESSN, measured outcomes within institutions and could not track students if they moved between institutions (Martin, MacLauchlan, & Karmel, 2001). A recent study of attrition and progression in Australian universities in the context of increased enrolments has utilised data which allows and controls for some mobility between institutions (Pitman, et al., 2015). This study revealed very useful findings in terms of exploring the link between growth in the system and changes to attrition; however, the data available for this study only tracks movement across one year of enrolment.

Other work on university attrition, retention and completions in Australia has relied on survey data, especially the Longitudinal Survey of Australian Youth (LSAY) (Marks, 2007; McMillan, 2005, 2011). While research based upon LSAY is able to track individuals over time and between institutions, these studies have been limited in their ability to estimate completion rates for students from small or under-represented groups and for mature-age students.

A further complication of previous research relates to the conceptualisation and measurement of SES. Socioeconomic status is a multidimensional concept and can be measured in a range of different ways. Administrative data such as the Higher Education Statistics Collection typically employs measures of the socioeconomic characteristics of the area in which a student resides, whereas some survey data such as LSAY more typically relies on a range of measures based upon the socioeconomic characteristics of the student or their family. Studies using different measures have sometimes reached different conclusions about the association between SES and completions, as illustrated below.

Of the previous research in Australia that has attempted to explore completion at the subgroup level, work by Marks (2007) using the Longitudinal Surveys of Australian Youth (LSAY) offers one of the most comprehensive examinations. The data analysed by Marks showed that overall, students' regional and socioeconomic characteristics had little influence on their likelihood of completing university: once low-SES students (measured by parental occupation) entered university, their background did not negatively affect their chances of completing a course after controlling for a range of other factors. Similarly, research by the Centre for the Study of Higher Education (CSHE) for Universities Australia examined a range of data and concluded that once at university, low-SES students (measured by postcode) had similar outcomes to medium- and high-SES students in terms of retention, success and completion, with the exception of low-SES remote and Indigenous students (CSHE, 2008).

More-nuanced analysis by Marks, however, did find some socioeconomic differences in completion when a different SES measure was used: students whose

Table 1: Domestic undergraduate enrolment numbers for equity groups in Australian higher education institutions

Equity group	Enrolment numbers		Change in enrolment (%)	Share of all enrolments (%)	
	2009	2012		2009	2012
Low SES	95 080	116 202	22.2	16.2	17.1
Non-metro	113 814	132 420	16.3	19.4	19.5
Indigenous	7551	9441	25.0	1.3	1.4

Source: Kemp & Norton (2014)

parents had not completed secondary school had the lowest expected completion rate (72 per cent); students whose parents had a trade or vocational qualification had higher expected completion rates (79 per cent); and students whose parents' highest qualification was Year 12 or a degree or diploma had the highest expected completion rates (87 per cent and 85 per cent). Similarly, McMillan (2005) found that parental education was related to attrition from higher education but that parental occupation was not related to attrition.

Studies have also identified a range of additional factors that are associated with retention and completions. For example, Marks found that non-completion of university courses is much more likely among academically weaker students and concluded that Year 12 results were the strongest correlate of expected course completion (using Equivalent National Tertiary Entrance Rank, now replaced by the Australian Tertiary Admission Rank). Similarly, more-recent analysis of the CHESSN data has also highlighted this correlation (Kemp & Norton, 2014).

Other factors that have been associated with higher likelihood of attrition and lower likelihood of completion include being male (Marks, 2007; Martin, et al., 2001); being older (Martin, et al., 2001); enrolment in generalist fields of education (Martin, et al., 2001; McMillan, 2005), studying part-time or externally (Martin, et al., 2001); entry into university as a non-school-leaver (Chesters & Watson, 2014) and undertaking long hours of paid work while studying (McMillan, 2005; Vickers, Lamb, & Hinkley, 2003).

+ 3 Approach

3.1 Cohort data

This report utilises national-level data from the Higher Education Student Collection, held by the Commonwealth Department of Education and Training. The cohort-tracking methodology applied to the collation of this data uses the Commonwealth Higher Education Student Support Number (CHESSN) to track individuals over a number of years. The CHESSN is a unique identification number allocated to higher education students in Australia who receive a Commonwealth-supported place or finance through the Higher Education Loan Program. This identification number remains 'attached' to the individual for life (it remains the same regardless of change in enrolment such as moving to a different university or a different course) enabling a comprehensive picture of the pathways followed by higher education students to be constructed. The methodology used to trace these pathways – developed by the Commonwealth Department – allowed for a complex and rich dataset to be created. In order to generate data that could be used effectively in a national study such as this, the Department identified four 'outcomes' on which they could categorise students in terms of their status at the end of the period of analysis:

- completed
- still enrolled
- never returned after first year
- dropped out sometime after first year.

The Department has produced two reports containing broad statistics relating to completion rates of undergraduates (DET, 2015a; DOE, 2014). These reports have provided a basis for the further examination of equity groups in this research project.

The population used in the analyses for the current report is domestic bachelor students. 'Completion' in this report refers to whether a student had completed an award course within the period of analysis. This completion may not necessarily be the same course or at the same institution that the student commenced in 2005. For example, a student who commenced a Bachelor of Arts in 2005, but changed course and completed a Bachelor of Commerce at a different university in 2010 would be counted as 'completed'. Similarly, the 'still enrolled' group in these analyses includes students who at the end of the period of examination had not completed their degree and were enrolled in an award course. This course may not be the same as the one they first commenced. The 'still enrolled' group does not include students who had completed their degree and subsequently enrolled in a further degree such as master's or PhD.

While most of the national-level, univariate analyses used in this report have been included in the Department's cohort completions reports (DET, 2015a; DOE, 2014), the researchers in this project requested specific cross-tabulations of the completions data to enable more specific analyses based around the equity groups of focus in this project. Most of the additional analyses allowed for bivariate exploration of student characteristics, and in some cases, multivariate cross-tabulations have been made available. There were some notable limitations in the specification of data for this project, relating mainly to issues of privacy and confidentiality. This meant, for example, that the exploration of Indigenous commencers was more restricted than for the other equity groups. The implications of this and suggestions for future research are discussed within the findings and conclusion of this report.

The majority of the analysis in the report is based on the tracking of the 2005 commencement cohort for a period of nine years up to 2013. Further analysis is also undertaken based on this and subsequent cohorts of commencers over a shorter period of time in order to assess whether there are notable differences in the progression of students in different cohorts and to ascertain whether the 2005 cohort results are able to be generalised across other commencement cohorts. As such, commencers in 2005, 2006, 2007 and 2008 have been tracked over a six-year period. Table 2 provides an overview of these cohorts.

Table 2: Domestic bachelor student cohorts used in these analyses

Cohort commencement year	Number of commencing students	Years tracked	
		Nine-year	Six-year
2005	165 905	2005–2013	2005–2010
2006	167 214	–	2006–2011
2007	170 485	–	2007–2012
2008	170 021	–	2008–2013

3.2 University Experience Survey data

The findings on completions have been supplemented by analyses of the University Experience Survey (UES). The UES has been conducted nationally since 2012, exploring issues of experience and engagement among university students (https://education.gov.au/university-experience-survey). Using the national UES data for 2013, the researchers were provided with additional contextual information about student respondents so as to be able to identify equity groups within the survey to match the equity groups that are used in the cohort completions analyses.

Additional analyses were also undertaken using data from the Course Experience Questionnaire (CEQ), which is part of the Australian Graduate Survey (AGS) and using data from the Australasian Survey of Student Engagement (AUSSE). Given the relative uniformity of results across these surveys, and the fact that the UES offered the most contemporary insight into currently enrolled students, the focus of the exploration relating to student experience in this report is on the UES.

3.3 Equity-group definitions

The definitions used for identifying students in the three equity groups of focus in this report are provided below. As alluded to earlier, previous research has used numerous definitions for equity categories, particularly socioeconomic status (SES), and any definition used has its limitations and controversies. Essentially, this project was limited in being able to specify group definitions by the fact that the cohort data relies heavily on the Commonwealth Department's baseline analyses of completions – which in itself is limited by what was collected through administrative student enrolment systems at the beginning of each cohort. Equivalent measures were utilised in the analysis of the UES data. Suggestions are made in the conclusion relating to future approaches to equity-group identification. However, for the purpose of this particular research project, the researchers believe the definitions used are adequate and reliable.

- **Low SES:** SES is allocated based on the postcode of permanent home residence of the student at commencement of their studies. The SES value is derived from the 2006 Socio-Economic Indexes for Areas' Index of Education and Occupation for postal areas, with postal areas in the bottom 25 per cent of the population aged 15 to 64 being classified as low SES.
- **Regional and remote:** are categories derived from the home residential location of students at commencement. In the broad analyses for the report, analyses are conducted separately for regional and for remote students. In the more detailed analyses, there was a need to collapse these two groups into one **non-metropolitan group** (referred to in the text as 'non-metro') so as to avoid issues of confidentiality and small cell sizes that would have prevented reporting within the remote group.
- **Indigenous:** includes all students identifying as Aboriginal and/or Torres Strait Islander.

All other demographic and enrolment characteristics attributed to students within this report are based on the situation of the student at the time of commencement of their degree.

+ 4 Completing university in Australia

4.1 Overall outcomes baseline

The tracking through the higher education system of domestic bachelor degree commencers using the CHESSN identifier breaks down each cohort into four distinct categories:

- those who had completed by the end of the time period under analysis
- those who were still enrolled by the end of the period of analysis
- those who had dropped out in first year or had not returned to university after first year
- those who had dropped out of study at some stage after first year.

The distribution of each of these categories for the nine-year cohort and for the six-year cohorts are described below and shown in Figure 2 and Figure 3. These figures offer a national benchmark for which to compare the equity-group analyses which follow.

The six-year cohort analyses are included here primarily to verify the validity of the nine-year cohort used as the main source of data in this report. Importantly, as shown in Figure 2 and Figure 3, the only notable change between the six-year and the nine-year data is in the proportion of completers in the population. There is notable consistency across different commencement cohorts in the six-year analyses which provides confidence that the 2005 cohort tracking over nine years offers results that would likely be replicated across the other cohorts (2006, 2007 and 2008).

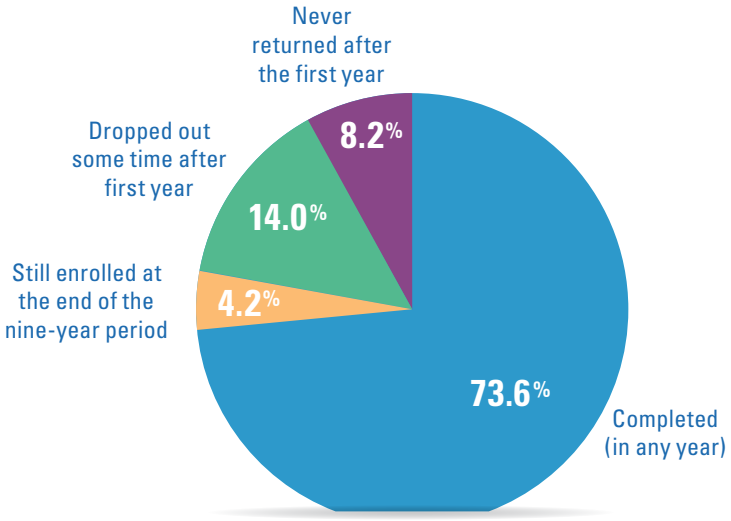
Analysis of student completion rates based on the CHESSN show that 73.6 per cent of domestic students who commenced a bachelor degree in 2005 had completed a degree by 2013 – nine years following completion. Exploring completion rates over a shorter time period – six years – the figures show that about two-thirds of all domestic commencers in bachelor degrees completed a degree within six years. Across the four different six-year cohorts explored in this report, there was little difference in the rate of completion, with the 66.9 per cent of the 2005 cohort having completed within six years, 66.8 per cent of the 2006 cohort, 66.6 per cent of the 2007 cohort and 67.0 per cent of the 2008 cohort.

Among each of the cohorts examined in this report, there were still a number of students who remained in study six or nine years after commencing study. After nine years, 4.2 per cent of the 2005 commencement cohort was still enrolled. After six years, more than 10 per cent of each commencement cohort explored remained enrolled, with 10.9 per cent of those who commenced in 2005, 11.0 of the 2006 commencers, 11.5 per cent of the 2007 commencers and 11.2 per cent of the 2008 commencement cohort fitting in this group.

Of the remaining students in each of these cohorts, a small minority dropped out in or at the end of first year and didn't come back to higher education study within the timeframe analysed. For the nine-year cohort, this accounted for 8.2 per cent of commencers in 2005. In the six-year cohort analyses, the representation in this group of commencers in 2005 was 9.1 per cent, in 2006 it was 8.8 per cent, in 2007 it was 8.6 per cent and in 2008 it was 7.9 per cent. In addition, the analyses of cohorts identifies students in each group who dropped out at some stage after first year. In total, this situation was linked to 14.0 per cent of the nine-year cohort. For the six-year groups, it represented 12.9 (2005), 13.4 (2006 and 2007) and 13.8 (2008) per cent of commencers.

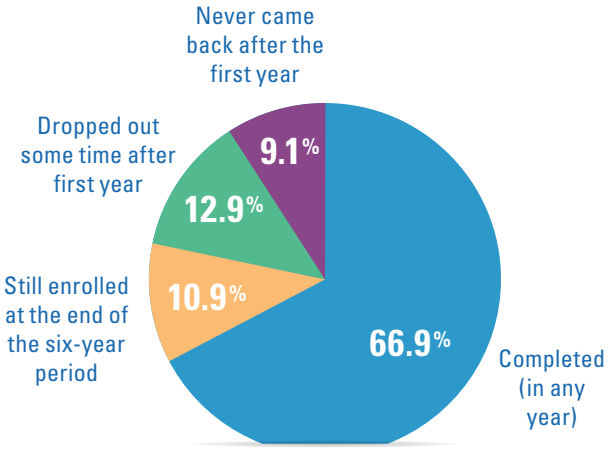
4.2 Completion rates by enrolment and demographic characteristics

As suggested in the context and exploration of literature for this project, the overall national figures highlighted above hide a number of nuanced levels of detail that reveal a different 'story' of completion rates. The data shown in this section focus specifically on student characteristics, exploring the different enrolment outcomes for commencers in the nine-year and six-year cohorts. Data available for this report enables exploration of enrolment characteristics, such as enrolment type, mode of attendance, basis of admission, ATAR, field of education and university grouping. In addition, gender and age are examined here at the national level. The focus is on the percentage of each cohort which had completed university within the period of analysis. The results show that some of these characteristics are related to lower completion levels. These will be further explored in relation to the equity-group analyses and discussions that follow.

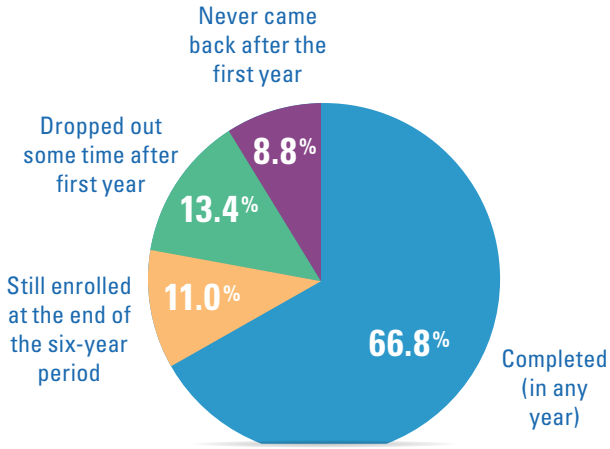


Nine-year cohort: 2005–2013

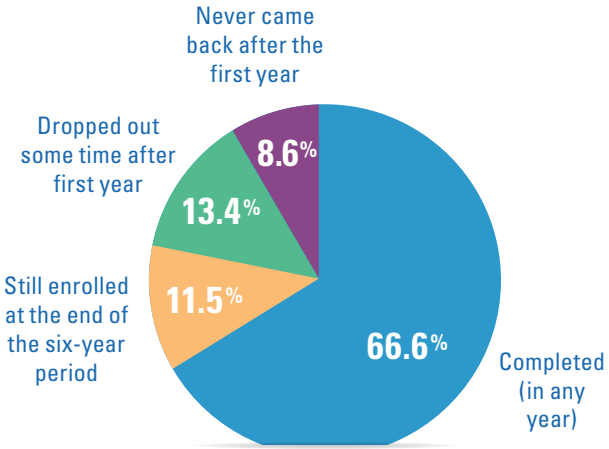
Figure 2: Enrolment outcomes, nine years after commencement, for domestic bachelor students commencing in 2005



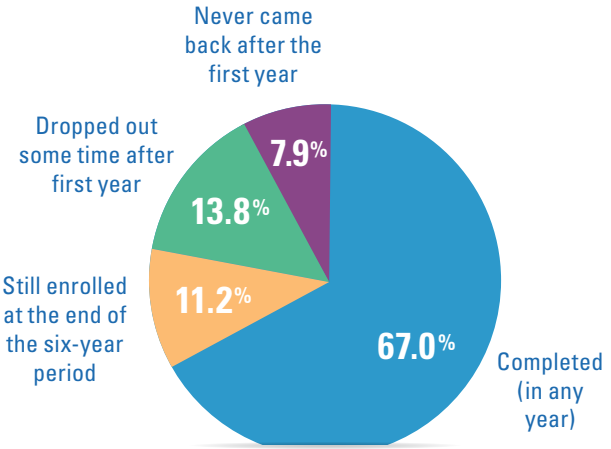
Six-year cohort: 2005–2010



Six-year cohort: 2006–2011



Six-year cohort: 2007–2012



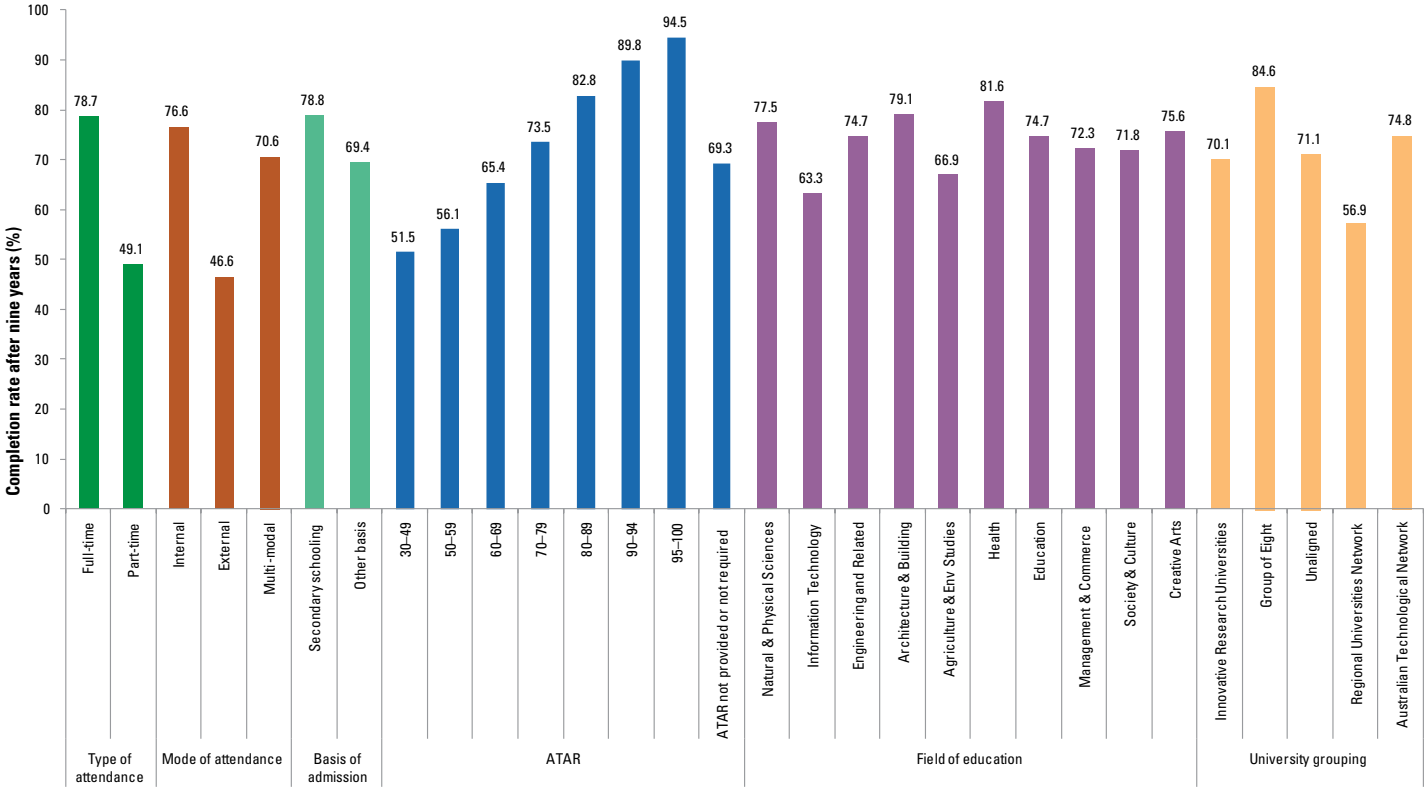
Six-year cohort: 2008–2013

Figure 3: Enrolment outcomes, six years after commencement, for domestic bachelor students commencing in 2005, 2006, 2007 and 2008

The figures below show the different completion rates for key enrolment characteristics nine years after commencement (Figure 4) and six years after commencement (with four cohorts Figure 5). The charts offer a basic insight into the variation in completions across enrolment characteristics. Consistent in all cohorts examined here is the lower completion rates of students who commenced their enrolments as part-time students[1], external enrolments (that is off-campus, distance, and/or online modes of study) and lower ATAR scores (especially below 60). These findings confirm analyses exploring this previously (Kemp & Norton, 2014; Lomax-Smith, et al., 2011), and this current analysis consolidates these patterns by examining numerous cohorts. Across fields of education, Information Technology showed the lowest completion rates by a notable margin, followed by Agriculture and Environmental Studies. Completion rates also differed across university groupings, with students from the Regional Universities Network having the lowest completion rate.

An important finding that has previously not been highlighted in relation to one of these predictors of completion is the extent to which ATAR is applicable as an indicator across the domestic undergraduate population. The data compiled for this report show that only a minority of commencing students have an ATAR recorded. In the cohort analysis, only students commencing on the basis of school completion who have an ATAR are included. Within this context, the ATAR analyses (and the wider consideration of completions prediction) need to be used with care. For the 2005 commencement cohort (the cohort on which the nine-year analysis is based), only 37.2 per cent of all commencers have an ATAR. Among the 2006 commencers the figure is 38.4 per cent, in the 2007 cohort it is 40.5 per cent and in 2008 only 39.0 per cent of commencers had an ATAR. So, while ATAR appears to be a predictor of likely completion of university, this measure only applies to a minority of students. This means that discussion and debate relating to retention, attrition and completions needs to focus more on other factors that help to identify student characteristics that increase the likelihood of non-completion.

National-level data on completions by gender and age also highlight some differences in outcomes for students. As highlighted in Figure 6 in relation to the nine-year cohort and Figure 7 for the six-year cohorts, females have higher completion rates than males, and students who commence when aged 19 or younger are more likely than their older classmates to have completed within six or nine years.



Note: Some of the groups and categories displayed above are based on relatively small commencement cohorts, and thus the significance on the results based only on the small group should not be overstated. Specifically, the ATAR band 30–49 relates to only 381 students and the 50–59 band to 1808 students out of a total 165 905 commencers in 2005.

Figure 4: Completion rates, nine years after commencement, by selected enrolment characteristics, for domestic bachelor students commencing in 2005

[1] This variable was expected to be low for the six-year cohorts, but was also substantially lower than full-time enrolments within the nine-year cohort.

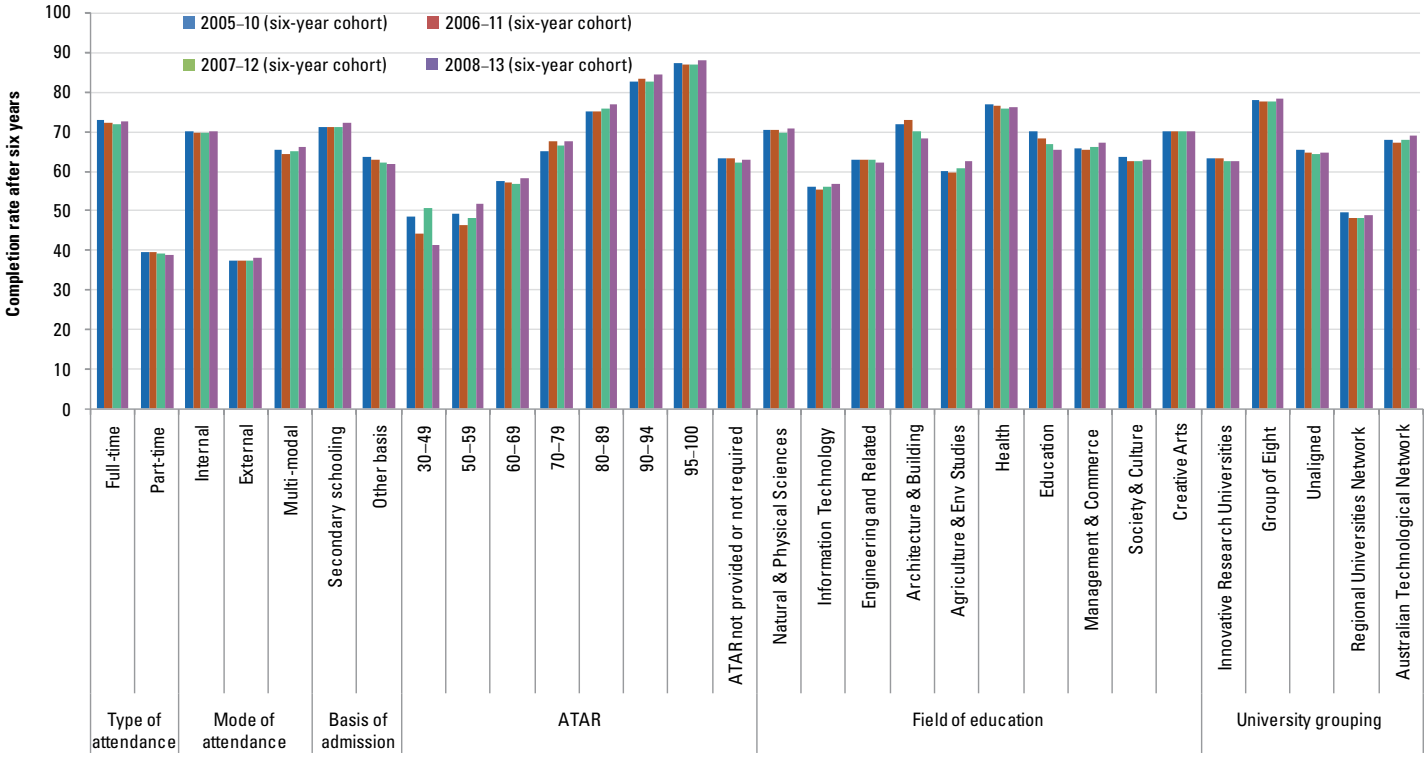


Figure 5: Completion rates, six years after commencement, by selected enrolment characteristics, for domestic bachelor students commencing in 2005, 2006, 2007 and 2008

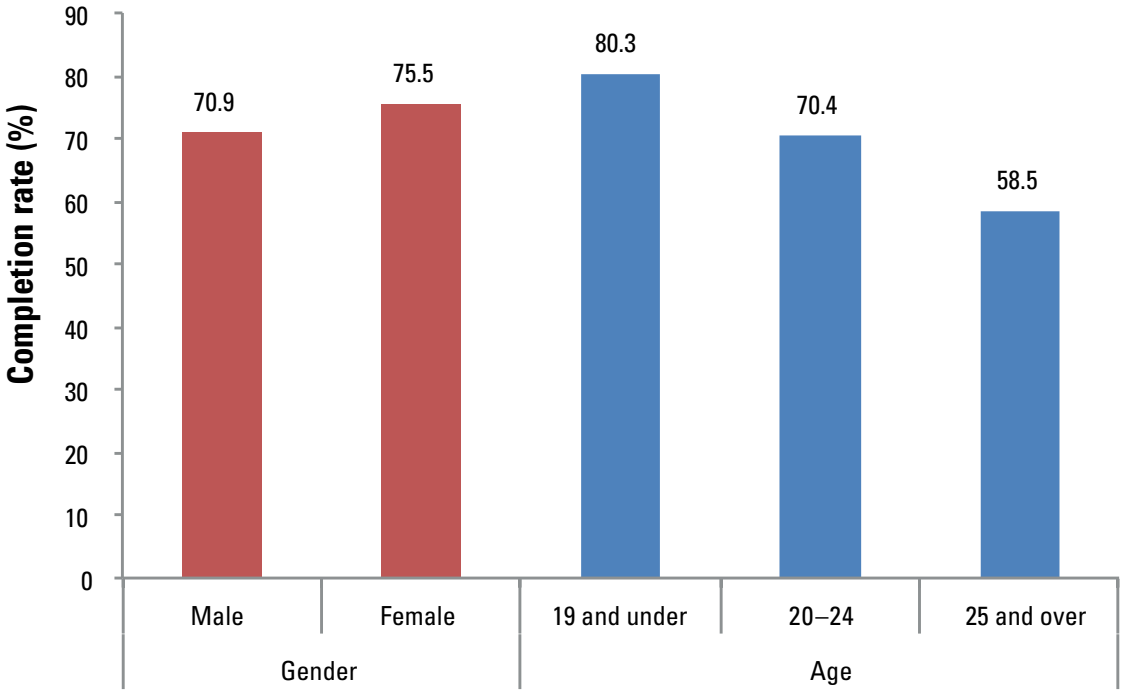


Figure 6: Completion rates, nine years after commencement, by gender and age, for domestic bachelor students commencing in 2005

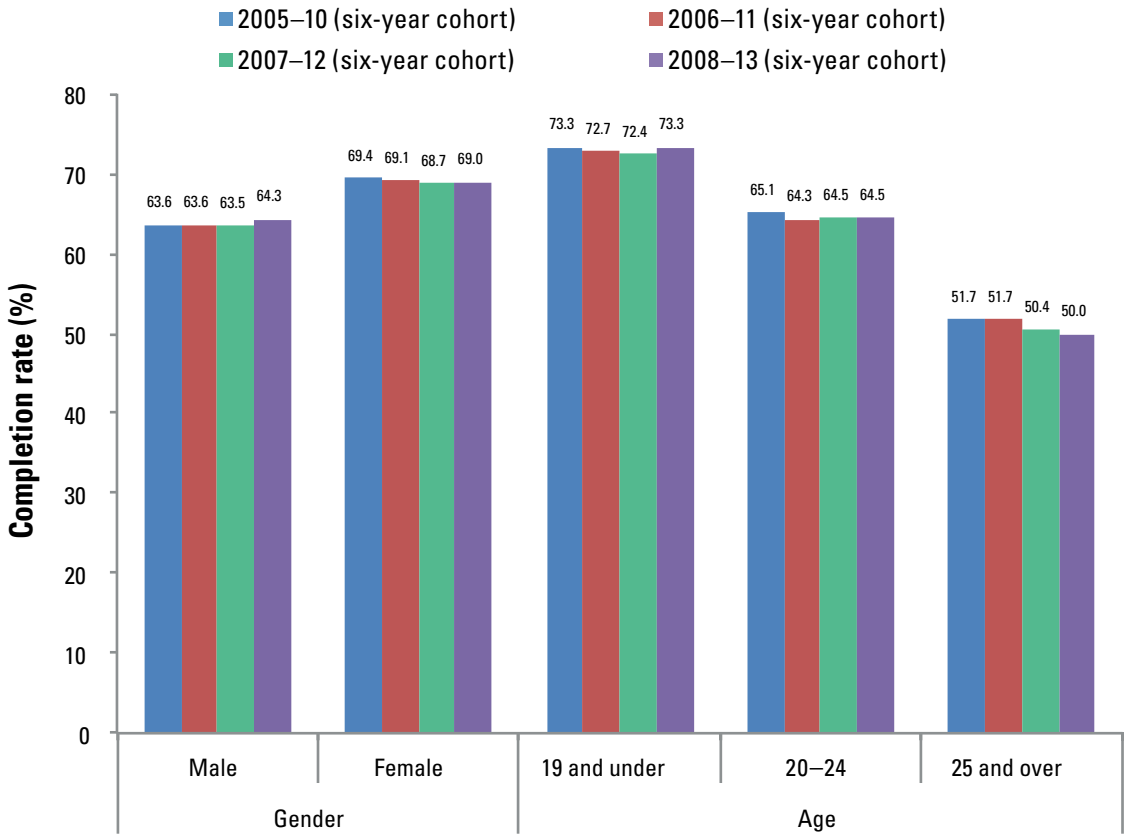


Figure 7: Completion rates, six years after commencement, by gender and age, for domestic bachelor students commencing in 2005, 2006, 2007 and 2008

+ 5 Completion among equity groups

The figures in the section above have provided a national perspective on the completions of domestic bachelor students over nine- and six-year periods. The data has also shown some notable variations in completion rates of students by specific enrolment and demographic characteristics. The following sections of this report explore the completion rates of three key equity groups within higher education – students from low-SES backgrounds (5.1); Students from regional and remote areas (5.2); and Indigenous students (5.3). Recognising that these categories are far from mutually exclusive, the final section of this analysis explores the overlap of equity-group membership and its impact on completion numbers.

To provide context for the analyses below, Table 3 provides the number of commencing students in each of the cohorts under examination by membership within the core equity groups explored. The table provides the actual numbers of commencers, the share of each group within the cohort and the change in number and share of commencers over the time period explored here. Between 2005 and 2008, there was growth in the number of low-SES, Indigenous and regional students, but a decline in the number of remote students. The share of each of these groups within cohorts did not change substantially over the period examined.

Table 3: Domestic bachelor degree commencements by year and selected equity groups – total students included in cohort analyses

Variable	Group	Number of commencers				Percentage of all commencers^				Percentage point change in number (2005–08)	Percentage point change in share (2005–08)
		2005	2006	2007	2008	2005	2006	2007	2008		
SES	Low	27248	27546	28486	28632	16.7	16.7	16.9	17.1	5.1	0.4
	Medium	78725	79853	82648	83164	48.2	48.4	49.0	49.6	5.6	1.3
	High	57227	57468	57437	56033	35.1	34.9	34.1	33.4	–2.1	–1.7
Location	Metropolitan	129550	131391	134166	133487	79.0	79.4	79.3	79.2	3.0	0.2
	Regional	32590	32409	33374	33256	19.9	19.6	19.7	19.7	2.0	–0.1
	Remote	1794	1760	1734	1727	1.1	1.1	1.0	1.0	–3.7	–0.1
Indigenous	Indigenous	1975	2002	2147	2356	1.2	1.2	1.3	1.4	19.3	0.2
	Non-Indigenous	158973	160709	167345	166919	98.8	98.8	98.7	98.6	5.0	–0.2
TOTAL		165905	167214	170485	170021					2.5	

** Due to missing, unavailable or other groupings, the sum of each variable group does not necessarily equal the total commencement number for each year.*

^ Percentage is based on share within the groupings listed.

5.1 Socioeconomic status

Outcomes for students commencing in 2005 and tracked through to 2013 are shown by SES group in Figure 8. The data reveal a notable difference in completion rates between the commencers from high-SES backgrounds and those from low-SES backgrounds. Nine years following commencement of their degree, just over two-thirds (68.9 per cent) of students from low-SES backgrounds had completed their degree compared with more than three-quarters (77.7 per cent) of those from high-SES backgrounds. While low-SES students were slightly more likely than other students to remain enrolled at the end of the nine-year period, they were also more likely than other students to have dropped out during their first year or to have dropped out later in their degree having made it through first year.

Across the four cohorts tracked for six years, the completion rates by SES group are relatively consistent, suggesting that there is not substantial change over time in terms of improvement of outcomes. The completion figures by SES are shown in Figure 9.

Importantly, data made available for this project allow for the monitoring of completion rates by SES *within* some specific enrolment and demographic characteristics. The analyses below help to further explore the different way in which factors influence the likelihood of course completions. The data collated for this project allow for exploration by type of enrolment, age, basis of admission, university group and ATAR.

As highlighted in Figure 4 and Figure 5 and in prior research (Martin, et al., 2001), the link between part-time study and lower completion rates is notable in the national figures. The data explored in this report suggest that while type of enrolment is a powerful predictor of completion, SES remains influential in predicting completion within enrolment type groups.

When completion rates are examined by type of enrolment, the data suggest that SES still has an influence on a student's likelihood of completion. This is illustrated in Figure 10, which shows that there are notable differences in completion within the part-time and the full-time student groups when examined by SES background. Among full-time students, low-SES student completion rates are 7.7 percentage points below those for high SES. When figures for part-time students are examined, low-SES students remain less likely to complete than those from high-SES backgrounds, with a 6.6 percentage point lower completion rate. The data for the nine-year cohort is the focus here; the four six-year cohorts show similar trends.

Figure 11 helps illustrate the additional impact that low SES has on the completion rate of students from the 2005 cohort nine years after commencement. It shows that while the average part-time student had a completion rate of 49.1 per cent, the influence of low SES reduced this likelihood to 45.6 per cent. A similar decrease in completion from the national average was shown for low-SES students who were studying full-time. The figure also shows the difference from the average within the low-SES group for the type of enrolment: while the raw average completion for low-SES students is 68.9 per cent, this completion rate is even lower for the low-SES students enrolled part-time (45.6 per cent) but is higher for the low-SES students enrolled full-time (74.5 per cent).

The detailed completion figures show a similar pattern across the SES groupings by age. As the national figures have shown, commencers aged over 25 years are less likely to complete than their younger classmates. When age is cross-tabulated with SES, the pattern of lower completion by age and lower completion for low-SES students continues (Figure 12). As shown in Figure 13, the influence of age on completion is strong within the low-SES group, highlighting the dual function these characteristics have in reducing the likelihood of completion.

As with the age and enrolment type analyses above, exploration of completion by basis of admission also shows that SES can be an influencing factor across different admissions pathways. In Figure 14 the completion rates of each SES group for two broad admission categories – secondary education and 'other basis' – are shown. The 'other basis' category includes entry as mature-age candidates, special entry provisions that do not involve final-year school outcomes, entry based on a vocational education and training qualification or prior higher education qualification, or entry on the basis of a professional qualification. The figure shows that the pattern of increasing rates by SES is maintained within both these groups. It is interesting to note here that the completion figures for the low-SES group who enter from secondary school are higher than the high-SES group entering on an 'other basis' – a similar pattern is prevalent in the type of enrolment and age group analysis above.

Figure 15 examines completions rates by socioeconomic status within the broad university groupings in Australia. For context to this analysis, the SES profiles of the four groups of universities (plus an unaligned 'group') are provided in Table 4. This table shows the relative share of low-SES students within these groupings, alongside the share of all commencers in the sector. The data show that some university groupings have over-representative shares of low-SES students; for example, the Regional

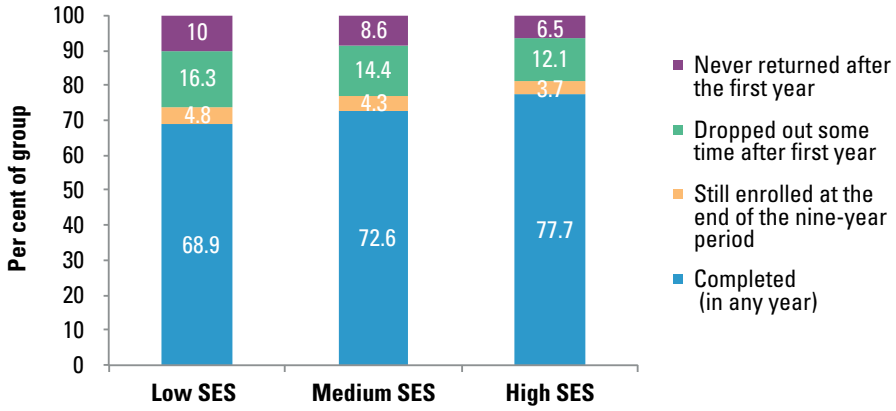


Figure 8: Enrolment outcomes, nine years after commencement, by SES, for domestic bachelor students commencing in 2005

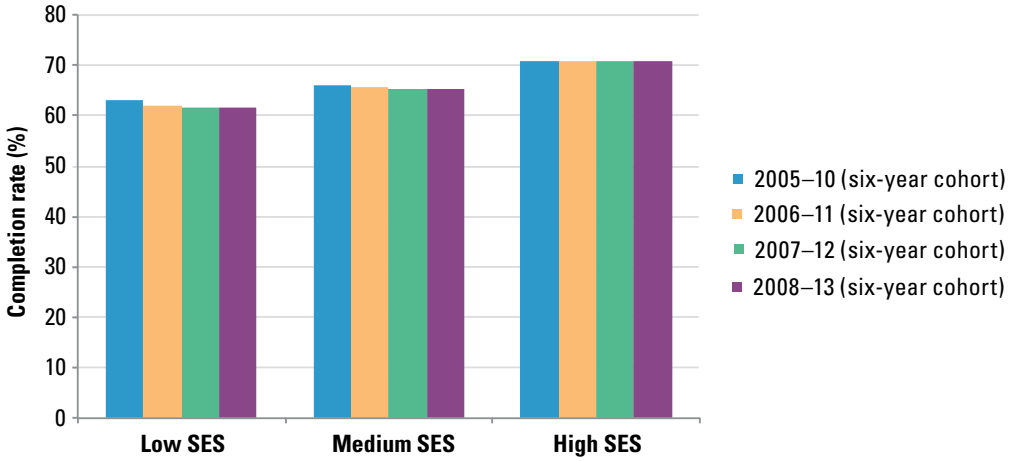


Figure 9: Completion rates, six years after commencement, by SES, for domestic bachelor students commencing in 2005, 2006, 2007 and 2008

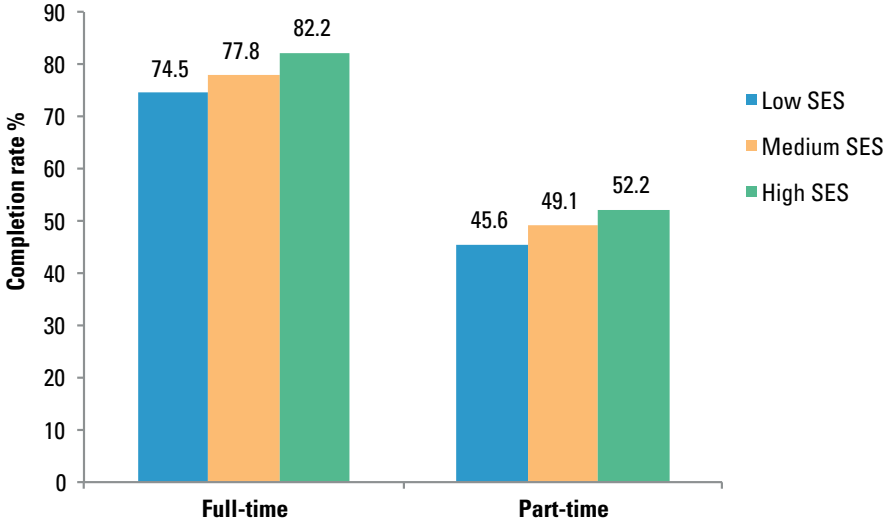


Figure 10: Completion rates, nine years after commencement, by SES and enrolment type, for domestic bachelor students commencing in 2005

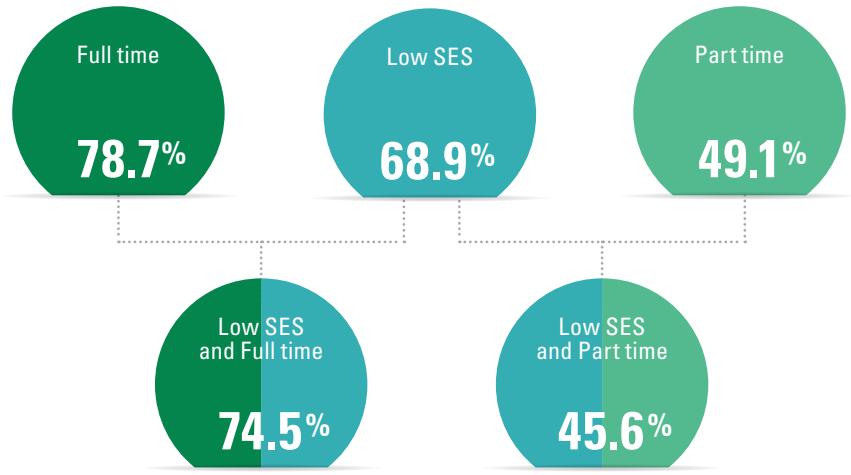


Figure 11: Completion rates, nine years after commencement, for low-SES students and by enrolment type, for domestic bachelor students commencing in 2005

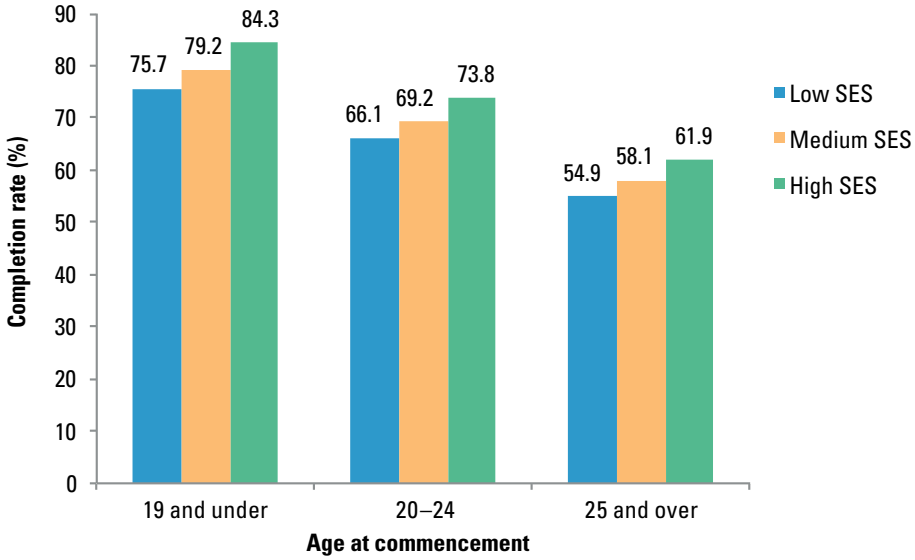


Figure 12: Completion rates, nine years after commencement, by SES and age, for domestic bachelor students commencing in 2005

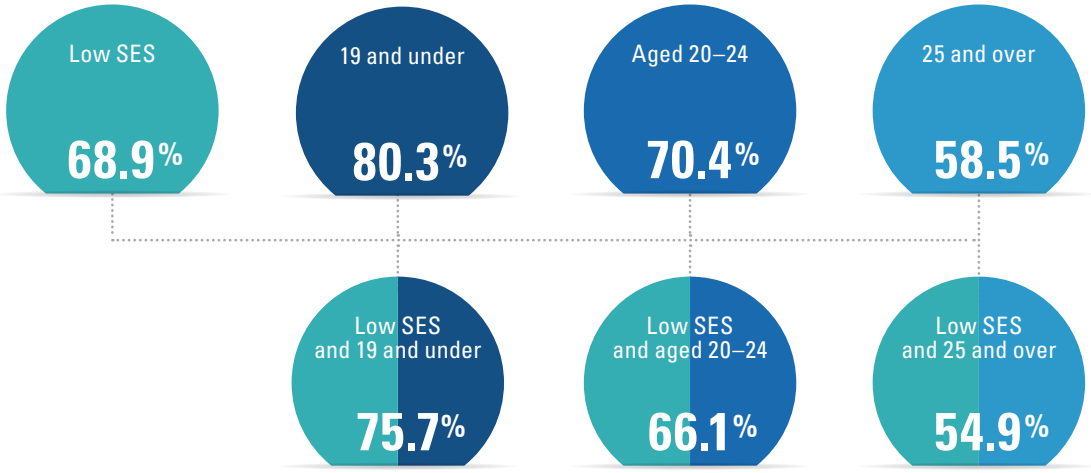


Figure 13: Completion rates, nine years after commencement, for low-SES students and by age, for domestic bachelor students commencing in 2005

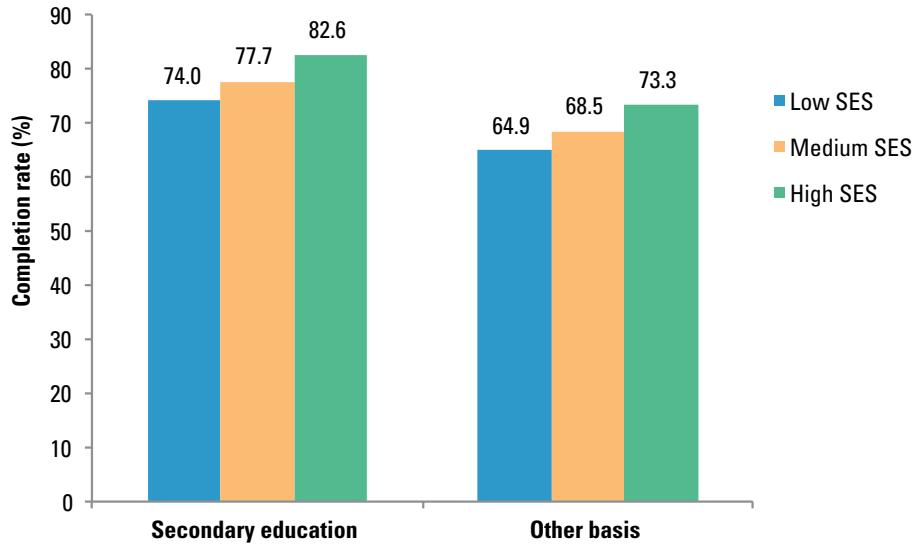


Figure 14: Completion rates, nine years after commencement, by SES and basis of admission, for domestic bachelor students commencing in 2005

Universities Network, which represented 9.9 per cent of total commencers in the 2005 cohort, accounted for 16.7 per cent of all low-SES commencers. Other groupings have an under-representation in this category, such as the Group of Eight. The relative ratio of high-SES to low-SES students is also shown in the table, showing that the Innovative Research Universities collectively enrol about as many high-SES students as low-SES students, the Regional Universities Network enrols less than one high-SES student for each low-SES student, and the Group of Eight universities have five high-SES commencers for each low-SES commencer. Despite having less than half the total enrolments of the Group of Eight, the Regional Universities Network still had a larger number of commencers with low-SES backgrounds in the cohort of focus in this report. This context is important for exploring the data which follows in Figure 15.

A number of patterns are evident in Figure 15. Overall, figures show that despite SES, there are higher completion levels recorded for the Group of Eight than for the other university groupings. On the other hand, the Regional Universities Network have a lower completion levels recorded than other institutional groups.

Within the individual groupings, there are interesting patterns of difference in completion rates by SES. While there is little difference in completion by SES among the figures for the Innovative Research Universities (a difference of 2 percentage points between high- and low-SES commencers), the gap within other university groupings, such as the Australian Technological Network (6.4 percentage points) and the Group of Eight (5 percentage points) is notably wider. Interestingly, within the Regional Universities Network, students from low-SES backgrounds recorded higher completion rates than high-SES commencers.

ATAR was shown in the earlier analyses to be an indicator for predicting likelihood of completion when explored as a single variable. Combining the ATAR analysis with SES and other factors is important in further understanding the way in which prior achievement (as measured here by ATAR) relates to completion rates independent of other potential influences. One significant caveat to this analysis, and as detailed in the previous section, is that only around 40 per cent of commencers in these cohort analyses have an ATAR; for the 2005 cohort the ATAR analysis applies to only 37.2 per cent of the cohort, in the 2006–2008 cohorts, no more than 40.5 per cent of commencers have an ATAR attached to their records. Further context in this regard is provided in Figure 16, which not only highlights the significant size of the 'no ATAR' group, but also shows the relative insignificance of the lower ATAR bands. ATARs within the 30–49 and 50–59 group collectively account for 1.3 per cent of all commencers in 2005.

For those with an ATAR, the analysis in Figure 17 shows that SES appears to explain less variation in completion rates when ATAR is controlled for. This finding is in contrast to most of the other variables explored in the above analyses and important albeit for the relatively small group of students to which it applies. While some variation in completion by SES is apparent in the bands below 60, as discussed above, the population in these groups is very small. Among the bands where there are sufficient numbers of students for thorough analysis, the variation in completion rates between SES groups is minimal. For example, when examined alone there is an 8.8 percentage point difference in completion rates between low- and high-SES student groups, but for students with ATARs between 60 and 69, and between 70 and 79, the difference between these SES groups is only 2.3 percentage points. In the higher ATAR bands, the differences are even smaller.

This finding highlights the influence of prior achievement on completion and progression through university. However, the fact is that this finding is limited to a minority of the commencement cohort, and as such should not be over-inflated in terms of importance – among the 'no ATAR' majority, the differences by SES remain large.

Table 4: Distribution of low-SES students by university group, for domestic bachelor students commencing in 2005

University group	Share of all low-SES commencers (%)	Share of all commencers (%)	Number of high-SES commencers for each low-SES commencer	Total number of commencers
Innovative Research Universities	20.9	17.6	1.0	29 264
Group of Eight	15.9	25.2	5.1	41 856
Unaligned	30.4	29.2	1.9	48 521
Regional Universities Network	16.7	9.9	0.4	16 355
Australian Technological Network	16.0	18.0	2.7	29 909

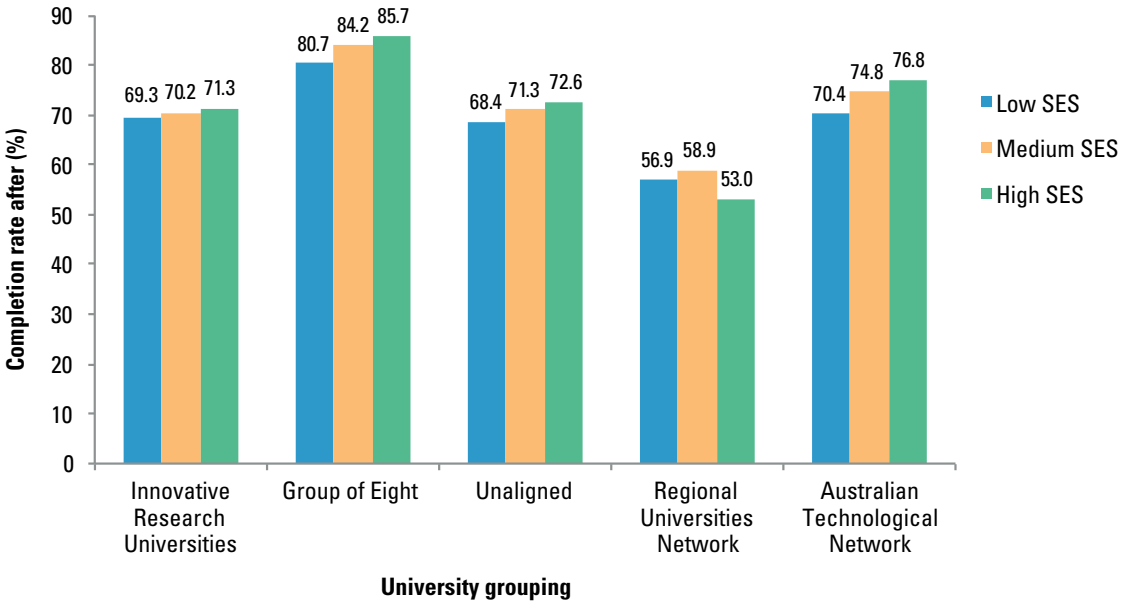


Figure 15: Completion rates, nine years after commencement, by SES and university grouping, for domestic bachelor students commencing in 2005

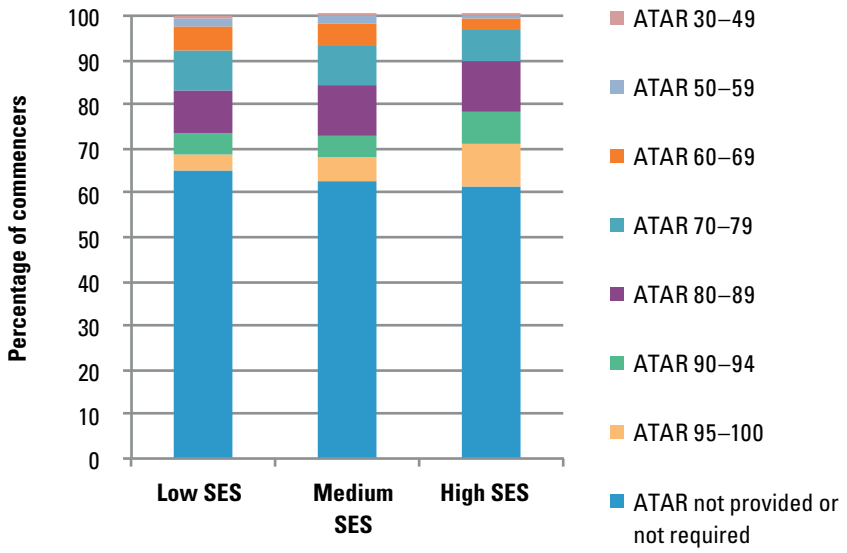


Figure 16: Share of commencers by ATAR status and SES, for domestic bachelor students commencing in 2005

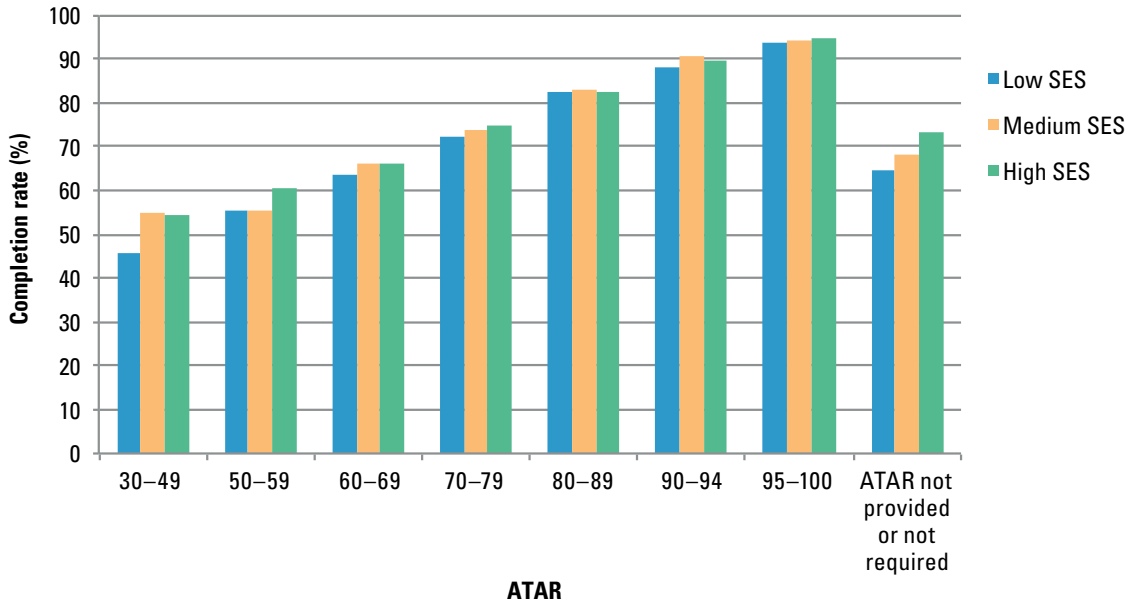


Figure 17: Completion rates, nine years after commencement, by SES and ATAR, for domestic bachelor students commencing in 2005

5.2 Residential location

Outcomes nine years after completion for domestic university commencers in 2005 are displayed by residential location in Figure 18. Among the 2005 commencers, those residing in metropolitan areas were more likely to have completed their degree within nine years (75.0 per cent), than those from regional areas (69.8 per cent). Students residing in remote areas were substantially less likely to have completed their degree than those from regional or metropolitan areas, with 59.5 per cent of this group having completed their degree nine years after commencement. Students in the remote group were more likely than other groups to have dropped out before second year (14.8 per cent) or to have dropped out at some other stage within the nine-year period (19.9 per cent). The outcomes for the regional student group mirrors those reported above for the low-SES group.

As is the case for other analyses in this report, the association between completion rates and residential location was consistent across the four six-year cohorts (Figure 19).

Further exploration of outcomes by residential location is undertaken below using variables available for this project. In these additional analyses, the regional and the remote group have been combined (referred to in the analysis below as 'non-metro'). While this limits some of the detail of these analyses (given that as the figures above show these are very different groups), it has been done so as to ensure that the size of the groups under analysis are large enough to allow for meaningful data to be derived. For reference, 69.3 per cent of non-metro students in the 2005 cohort had a completed their degree within the nine-year timeframe of analysis.

As shown in Figure 20, for both the metro and non-metro groups of students those studying part-time were less likely to have completed when compared to their equivalent full-time class mates. In addition to this, the rates for non-metro students are consistently lower than for the metro group in both types of enrolment. These figures suggest that both these factors, independent of each other, have an effect on completion. The result being that membership of both non-metro and part-time groups results in even lower likelihood of completion than belonging to just one or other of these groups. Figure 21 further illustrates this point, providing insight into these completion figures relative to the full cohort for the non-metro group.

Analysis of completion by residential location and age, and residential location and basis of admission reveal similar patterns to those seen above. Residential location has an impact on completion rates for students in each of the groupings within the age and admission variables explored here, suggesting that location further compounds the impact of age and admission type on completion rates (Figure 22 and Figure 23).

The analysis of completion rates by metro and non-metro students by ATAR shows that there is little difference in outcomes by regional location once this measure of prior achievement is applied. As noted earlier, only 37 per cent of the 2005 commencement cohort have an ATAR recorded, thus reducing the overall impact of this particular exploration of the data. But nonetheless, the figures clearly indicate that for those with an ATAR, the ATAR is a much more powerful predictor than the residential location of students when exploring completion.

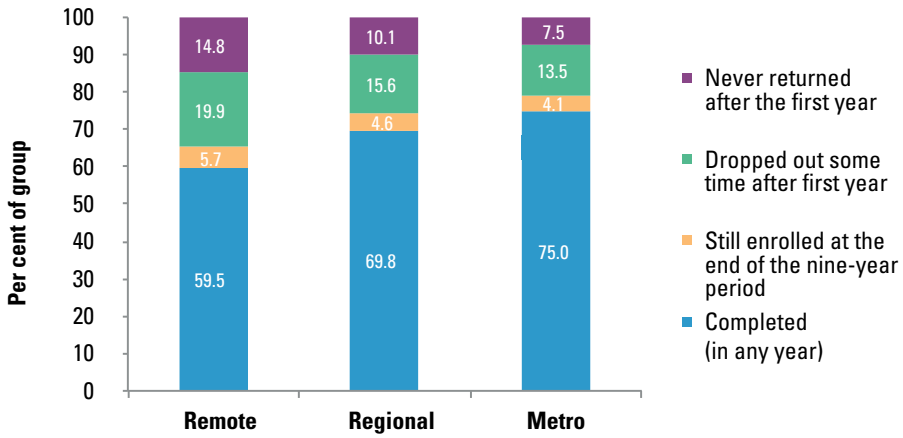


Figure 18: Enrolment outcomes, nine years after commencement, by residential location, for domestic bachelor students commencing in 2005

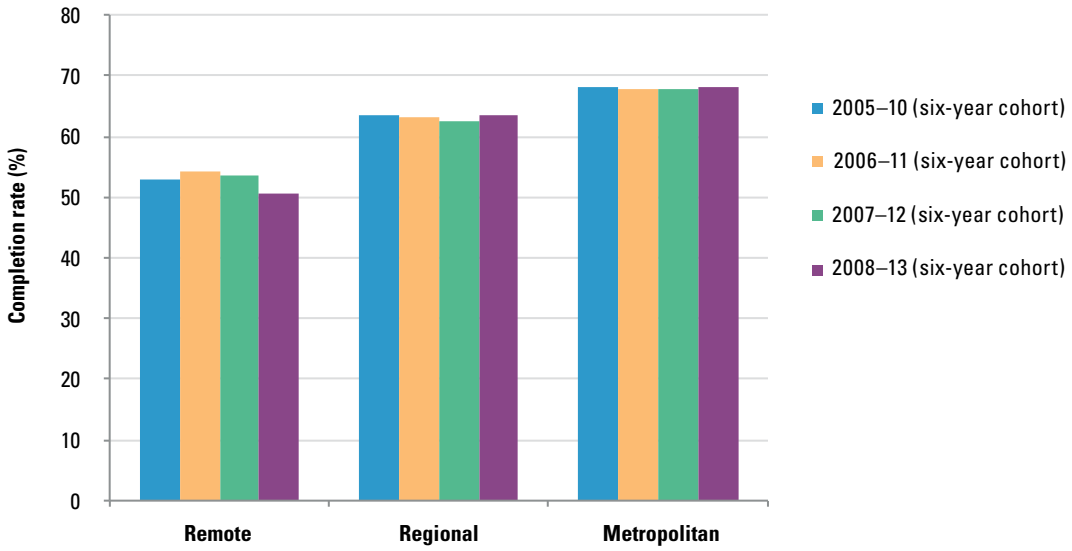


Figure 19: Completion rates, six years after commencement, by residential location, for domestic bachelor students commencing in 2005, 2006, 2007 and 2008

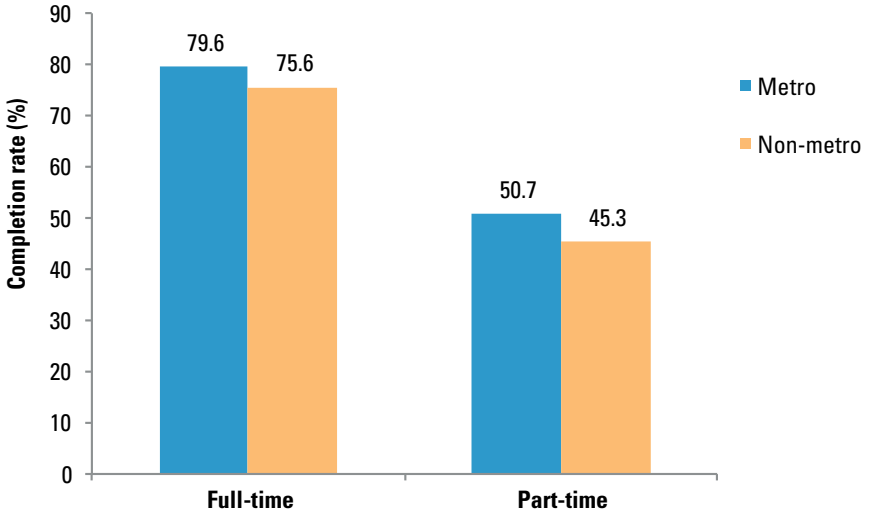


Figure 20: Completion rates, nine years after commencement, by residential location and type of enrolment, for domestic bachelor students commencing in 2005

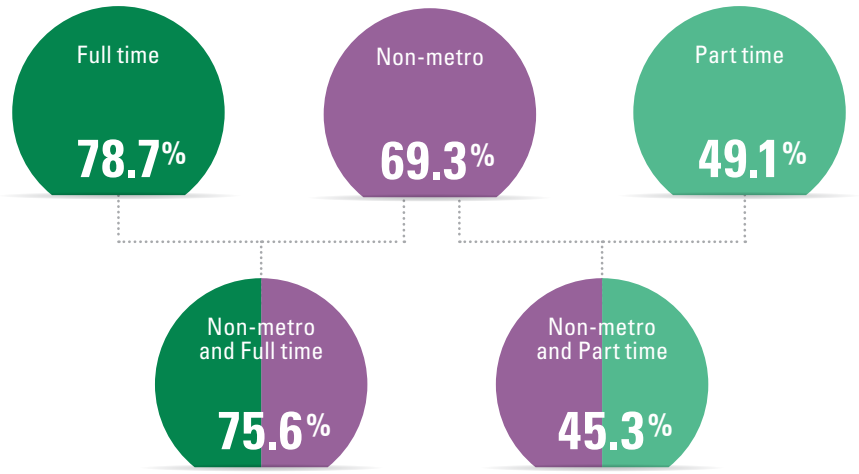


Figure 21: Completion rates, nine years after commencement, for non-metro students and by enrolment type, for domestic bachelor students commencing in 2005

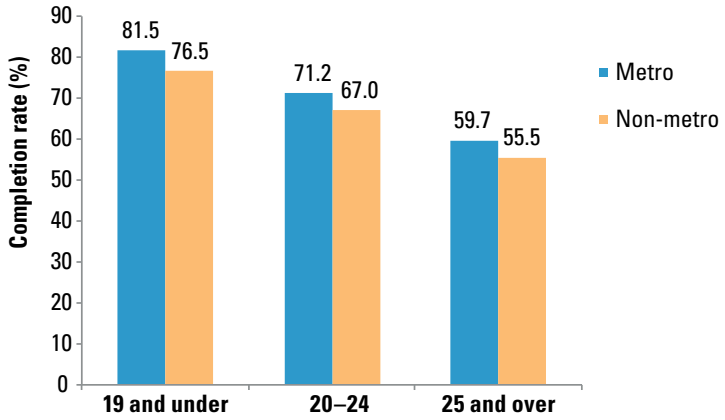


Figure 22: Completion rates, nine years after commencement, by residential location and age, for domestic bachelor students commencing in 2005

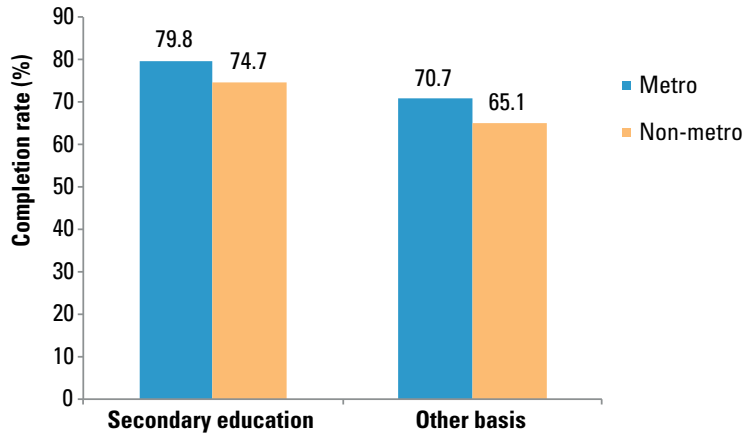


Figure 23: Completion rates, nine years after commencement, by residential location and basis of admission, for domestic bachelor students commencing in 2005

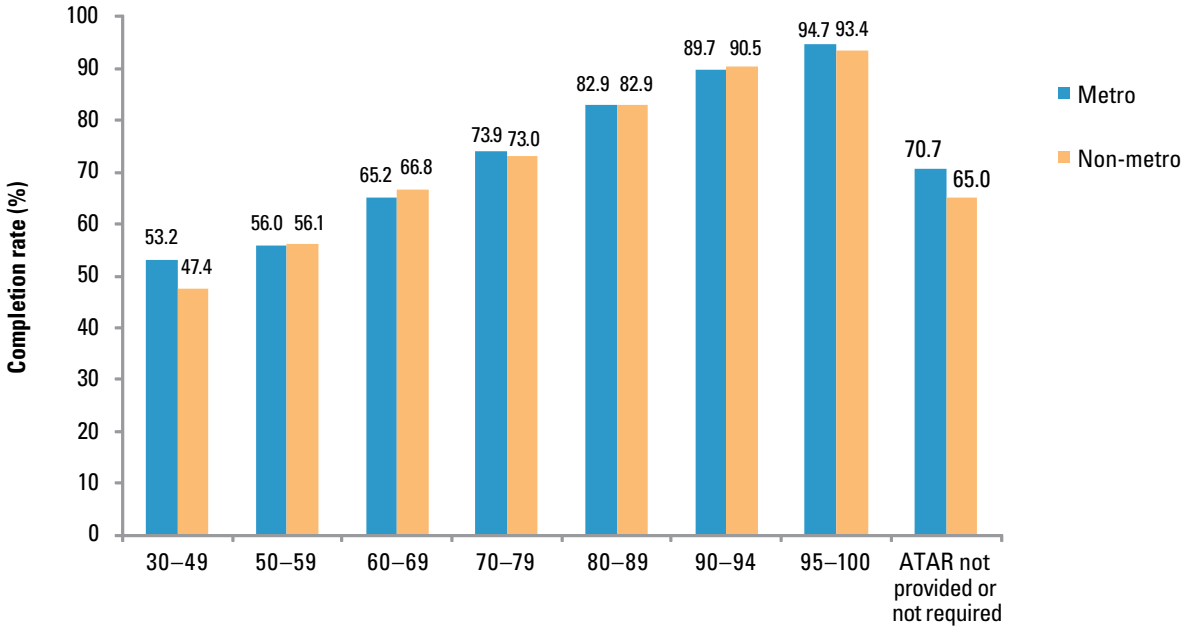


Figure 24: Completion rates, nine years after commencement, by residential location and ATAR, for domestic bachelor students commencing in 2005

5.3 Indigeneity

Indigenous students are significantly under-represented in the higher education population. Previous analyses examining census data from 2011 has shown that Aboriginal and Torres Strait Islander peoples made up 1.1 per cent of the higher education student population despite accounting for 2.5 per cent of the whole population (Edwards & Van der Brugge, 2012a). The data in Figure 25 show that the completion rate of Indigenous students nine years after commencement in 2005 was below 50 per cent (46.7 per cent). More than one in five Indigenous students in this cohort had dropped out of university before their second year and another quarter had dropped out at some other stage in the nine-year period. The differences between the outcomes of Indigenous and non-Indigenous students are substantial. Analysis of the outcomes of the 2005, 2006, 2007 and 2008 cohorts six years after commencement highlights the consistency of these patterns across cohorts (Figure 26).

The completion figures recorded for Indigenous students are substantially lower than for any other group examined in this report. Further analysis by different characteristics of the population has not been possible due to the small numbers of Indigenous students and concerns relating to the accuracy of the data and potential issues relating to confidentiality. As with many areas exploring issues of equity and opportunity for Indigenous people, this limitation of the data unfortunately reduces the ability of such information to provide a potentially important indicator of the need to strengthen support for this under-represented group. Substantially more research is needed in this particular area of analysis in future. This could be aided by recognition of the data complexities and sensitivities involved in exploring this smaller group in detail, and some agreements that allow for more detailed analyses without necessarily compromising these sensitivities.

Exploring the characteristics of Indigenous students highlights potential influences related to enrolment or other demographic information. Indigenous students are more likely to be older, part-time, regional or remote, and low SES, all variables associated with lower completion rates. Further, unpublished analysis by the Department of Education has found that when controlling for these characteristics, Indigeneity was still a strong factor in predicting higher levels of course attrition among undergraduate students.

Some further exploration and analysis relating to this group of students is shown in the following section, using data from student surveys.

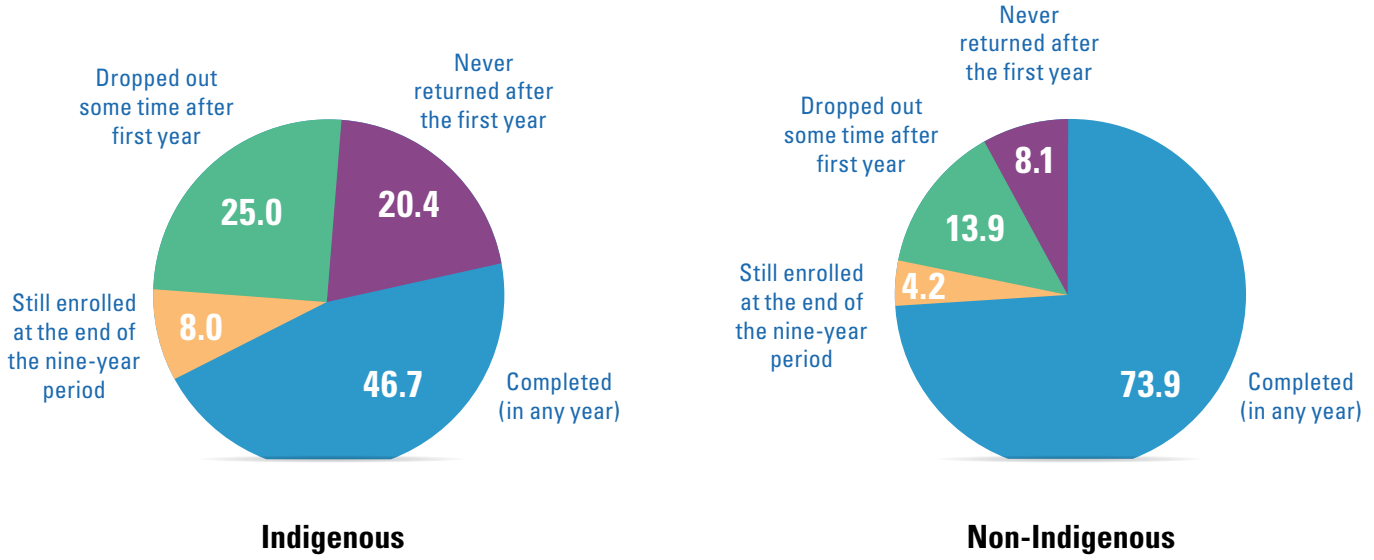


Figure 25: Enrolment outcomes, nine years after commencement, by Indigenous status, for domestic bachelor students commencing in 2005

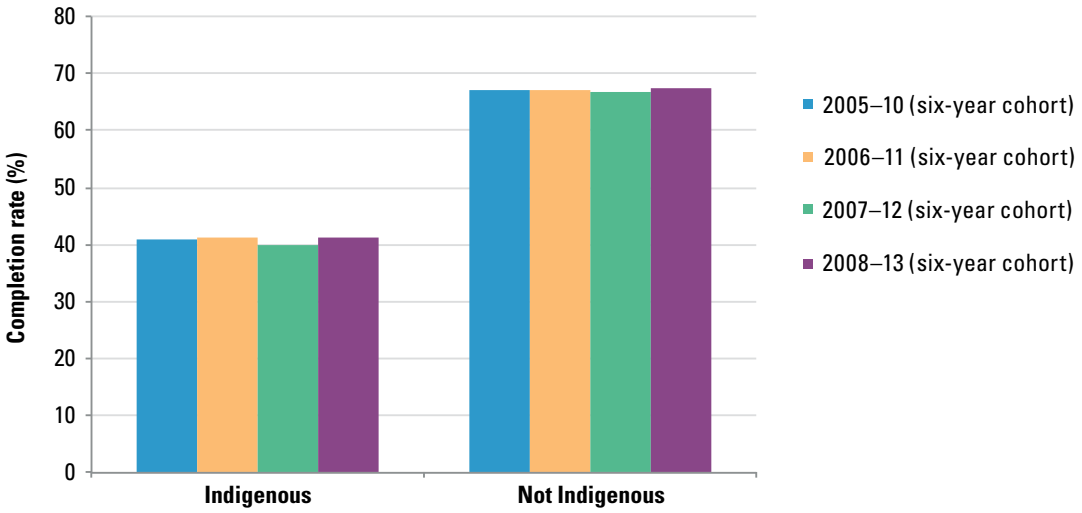


Figure 26: Completion rates, six years after commencement, by Indigenous status, for domestic bachelor students commencing in 2005, 2006, 2007 and 2008

5.4 The compounding effect of belonging to more than one 'at-risk' group

Understanding the relationships between membership of equity groups and other demographic and enrolment characteristics is important in developing a more nuanced picture of undergraduate completions in Australia. The analyses above, which are based on cross-tabulations of some equity groups with enrolment and demographic information, help to highlight the relationship between completion rates and student characteristics. In many cases noted above, there is a compounding impact on completion rates when multiple variables are examined. For example, age on its own is a useful predictor of potential completion, with the older age bracket of commencers (25 and over) less likely to complete than their classmates aged 19 and younger. When completion rates by age are explored within equity groups (such as low-SES or non-metro students), the completion data shows that not only does the age 'factor' in completion rates continue to predict completion within the equity groups, the completion rates are also impacted negatively by the equity-group membership (see Figure 12 and Figure 22). So, the higher risk of non-completion associated with being an older commencing student is further compounded by being low SES or from a regional location.

Many students who belong to equity groups also have other characteristics (be they demographic or enrolment) associated with lower completion rates. These relationships between the key equity groups and the other predictors of lower completion are summarised in Table 5. A square is included in the relevant cell where students in each equity group have a greater propensity than the national average to fit into a category with a cross-referenced characteristic. This diagram illustrates the potential influence of multiple predictors on the completion rates of disadvantaged students.

Based on the data used to build Table 5, from 2008 and 2012 commencers, specific examples relating to this 'multiple group membership' include the fact that 22 per cent of all low-SES commencers are part-time, compared with only 14 per cent of high-SES commencers; 44 per cent of Indigenous students are aged 25 or above at commencement (compared with 19 per cent in the general population) and regional student commencers are twice as likely as their metro classmates to be from a low-SES background.

Table 5: Equity-group membership and relationship with other characteristics

Variables related to lower completion	Equity groups			
	Low SES	Remote	Regional	Indigenous
Studying part-time	■	■	■	■
Studying off campus	■	■	■	■
Low ATAR (<60)	■	●	■	■
Aged 25 or over	■	■	■	■
Low SES		■	■	■
Remote	■			■
Regional	■			■
Indigenous	■	■	■	

Note: boxes indicate members of equity group are in addition more likely than national average to have the 'low completion' characteristic, circles mean that the group is not more likely than the national average to have this characteristic.

Source: DOE, Higher Education Student Collection 2008 and 2012

To further explore the multiple effects, some data which allows multiple layers of analysis is shown below. While limited in the number and variety of variables included, these figures help to show the potential that such analyses can offer in developing a more nuanced understanding of the progression of students through Australian higher education.

The first analysis in this section explores SES and residential location to provide a view of completion rates of students who belong to both low-SES and non-metro equity groups (Figure 27). Examination of completion rates by SES and location shows a slightly different pattern to many of the variables that have been explored above. For the low-SES students, being from a regional or metro location does not appear to have a substantial impact on likelihood of completion. The difference in completion rates between metro and non-metro low-SES students is not large, at 2.4 percentage points. However, for the high-SES students, residential location appears to have more of an impact on likelihood of completion. The difference in completion rates between metro and non-metro high-SES students (5.7 percentage points) is notably larger than among the low-SES students and closer to the kind of gap seen in other variables when analysed by SES.

While this smaller difference for the low-SES group by residential location is interesting, there is still a compounding impact when location is considered. The data in Figure 27 help to illustrate that while the gap between metro and non-metro low-SES students is not particularly large, the average completion rates for students from either residential location decreases when low SES is introduced to the calculation.

The examples below show the patterns apparent for students by SES and region against the age and type of attendance variables. While the exploration of these analyses becomes increasingly complex, the detail that this information provides is substantially more nuanced than the initial analyses by single characteristics and provides insight into the way in which the completions data can help identify different outcomes across very specific groups of students.

Figure 29 shows the compounding effect of region, age and type of attendance on the completion rates of students nine years after commencing their degrees. Across these three variables, the completion rates of students become lower the more of the 'at-risk' groups to which a student belongs. As the columns in the graph show, when analysed by these variables, the lowest completion rate among the 2005 cohort were commencers living in a non-metropolitan area, aged 25 and above, and studying part-time (43.9 per cent).

In Figure 30, SES is included with age and type of attendance to explore completion rates. Again, all three of these variables compound to influence the likelihood of completion. The commencers who are from low-SES backgrounds, older, and studying part-time are the group with the lowest completion rates based

on these three variables (42.6 per cent). Importantly, the figure also shows that the influence of each individual variable on completion is maintained and 'exaggerated' by the introduction of other variables. The most obvious example of this within the graph is in the pattern of SES seen through the height of the columns. The likelihood of completion consistently goes up as SES increases for each of the individual age and enrolment type groupings of columns. For example, commencers aged over 25, studying part-time and from a low-socioeconomic background have a completion rate half the size of those commencers aged 19 and under, studying full-time and coming from a high-socioeconomic area.

The completions rate analyses for this report conclude with the inclusion of two 'overview' diagrams that further illustrate the way in which completion rates change based on the membership of individual and multiple 'groups' examined here (Figures 31 and 32).

There is certainly interest in pushing these analyses further and across different groups. However, current limitations on data in relation to sensitivities around small numbers of commencers and potential identification of students make this task difficult at present. As discussed earlier with particular reference to the Indigenous population, further work needs to be considered, to develop analysis and explore detailed data in a way which balances the sensitivities involved with the potential policy importance of building this knowledge. The Department of Education and Training has been pivotal in developing the analyses used above, and there seems to be a willingness to continue to explore ways to utilise this important data for improvement.

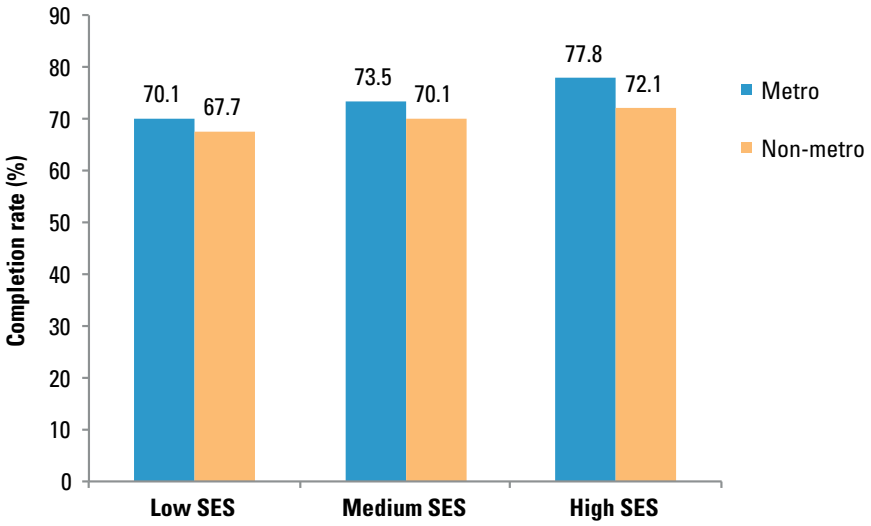


Figure 27: Completion rates, nine years after commencement, by residential location and SES, for domestic bachelor students commencing in 2005

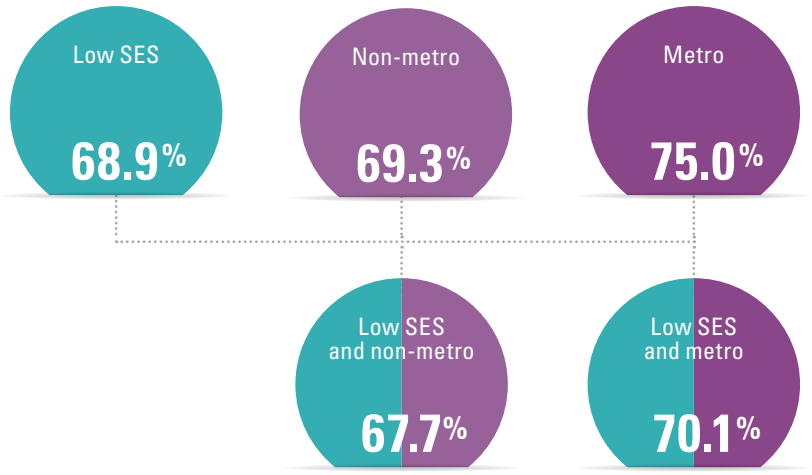


Figure 28: Completion rates, nine years after commencement, by residential location for low-SES students, for domestic bachelor students commencing in 2005

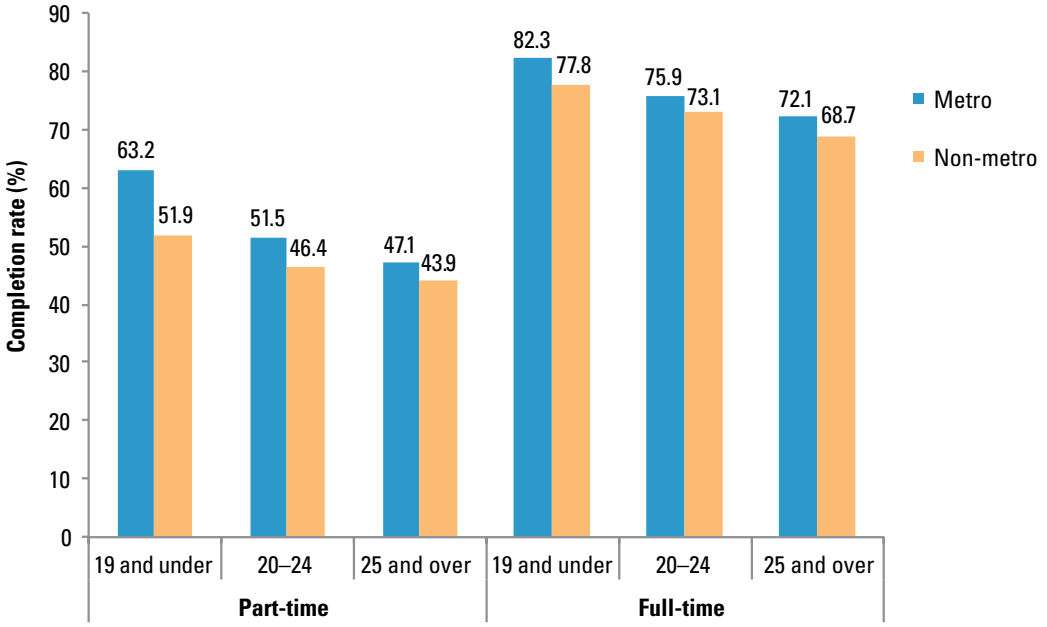


Figure 29: Completion rates, nine years after commencement, by residential location, age and type of attendance, for domestic bachelor students commencing in 2005

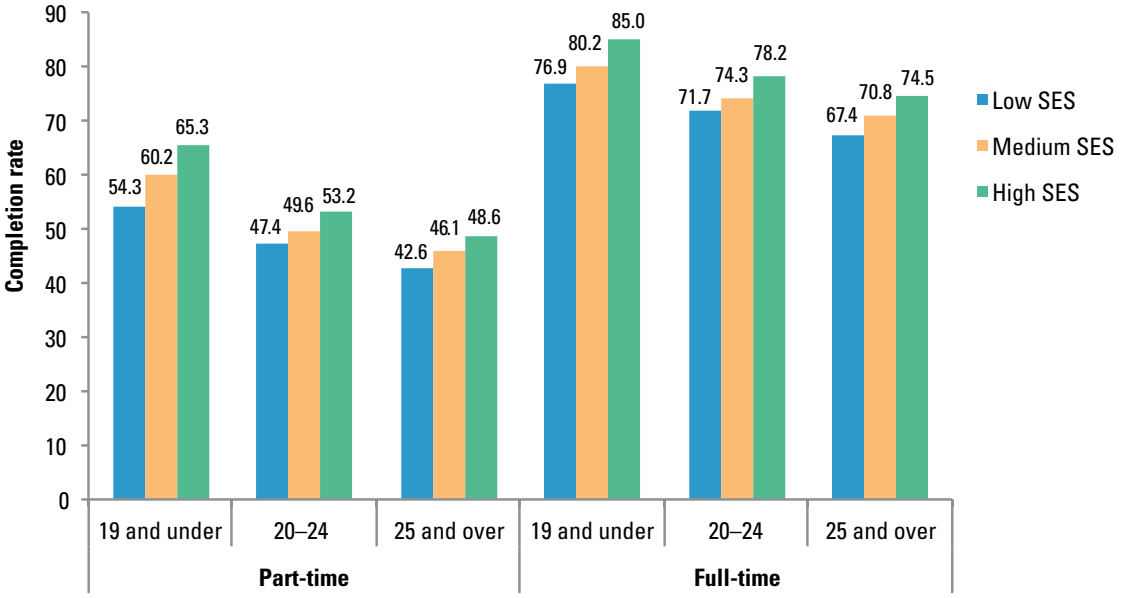


Figure 30: Completion rates, nine years after commencement, by SES, age and type of attendance, for domestic bachelor students commencing in 2005

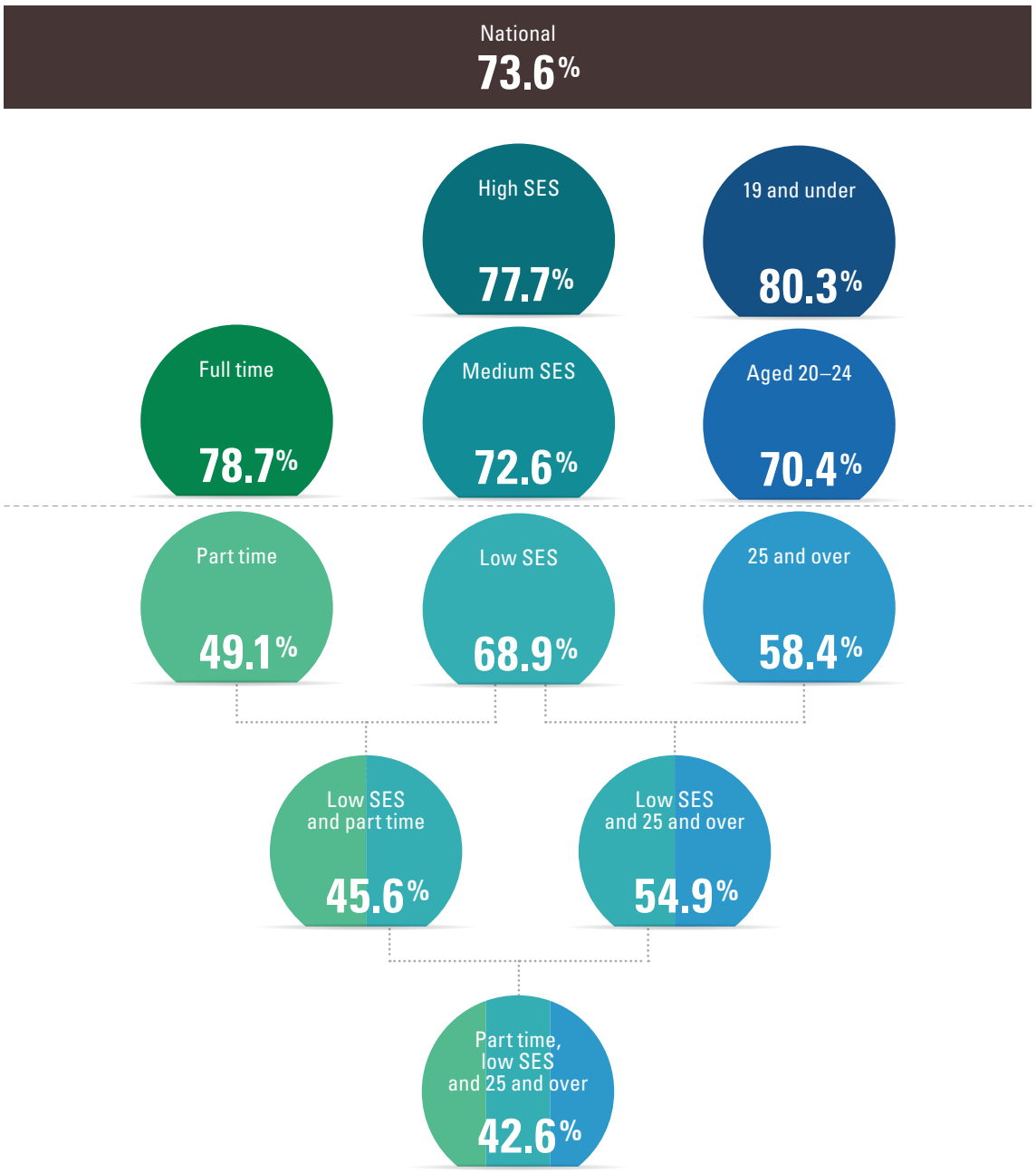


Figure 31: Completion rates, nine years after commencement, by SES, age and type of attendance, for domestic bachelor students commencing in 2005

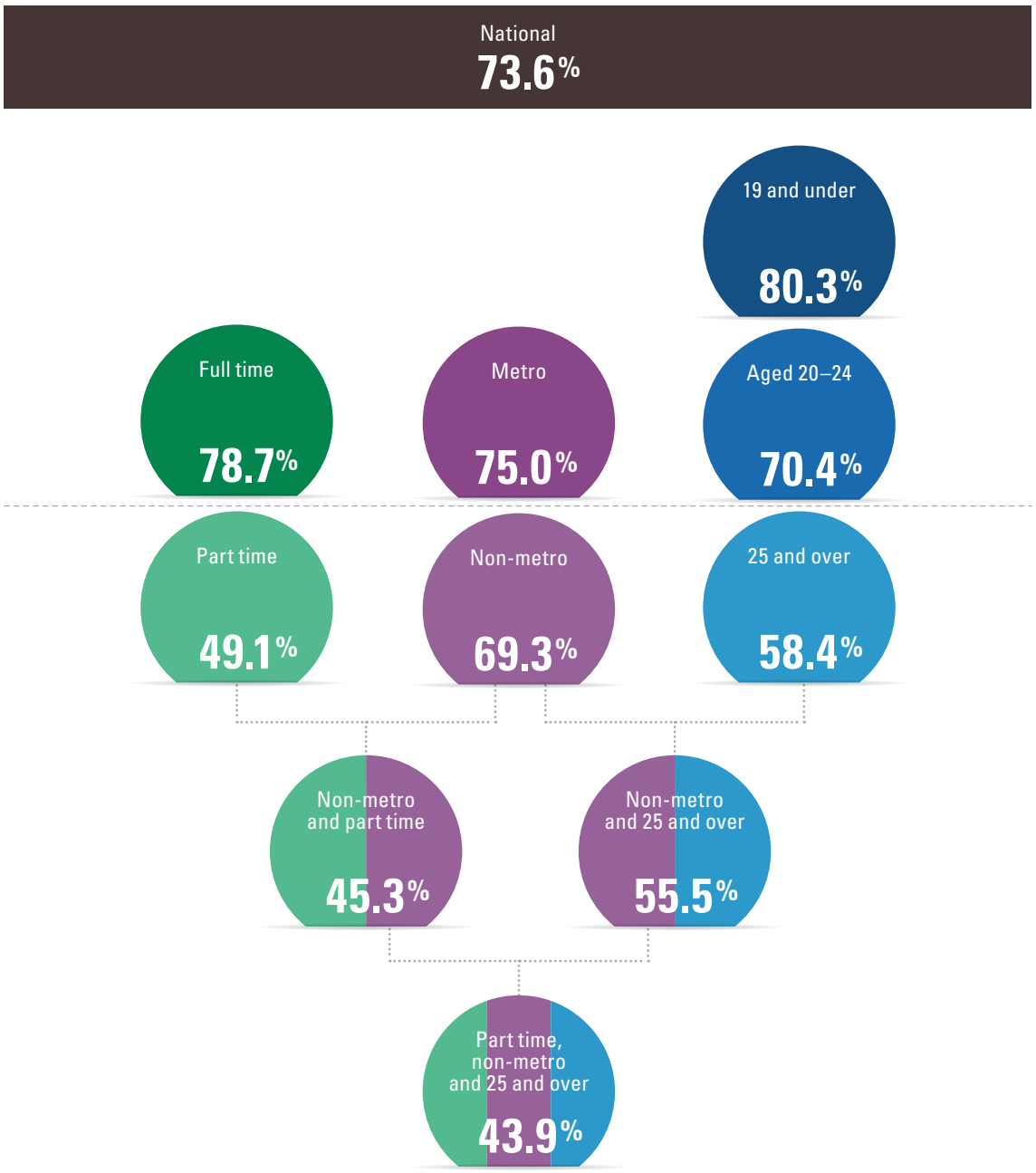


Figure 32: Completion rates, nine years after commencement, by residential location, age and type of attendance, for domestic bachelor students commencing in 2005

+ 6 Engagement and experience in low-completion groups

From the cohort analyses presented in the previous sections, it has been established that the equity groups of focus in this report (low SES, non-metro and Indigenous) have lower completion rates than their peers, even nine years after commencement of their degree. The data have also highlighted a number of other key demographic and enrolment characteristics linked to lower completion (such as being an older commencer, part-time study, external study, and having lower ATAR). The cross-tabulated analyses show that any combination of these factors work together to compound the likelihood of attrition among students. This section of the report aims to explore the experiences and engagement of these students while they are enrolled at university. It is designed to identify if there are notable differences in these experiences that might help universities and policymakers focus interventions to enhance retention for these particular groups of students.

The 2013 University Experience Survey (UES) results have been analysed to explore these issues. The groups of focus for the analysis are the key equity groups as well as students with the characteristics identified in the cohort analysis as having lower likelihood of completion. The analysis begins by exploring UES scale scores, and then looks at some specific items from the survey related to early departure from university.

6.1 UES scale scores

The University Experience Survey combines items to create a number of scale scores that offer a broad insight into student experience and engagement with their university (for detail on the development of the UES and scales, see Radloff, Coates, James, & Krause, 2011). In the analysis for this report, a number of these scales were explored in detail: Learner Engagement, Teaching Quality, Learning Resources, Support and Skills Development. The main focus of the analysis was to explore any differences in scale scores among students who belong to one or more equity groups.

Table 6 shows the mean scores for UES scales, with detail by SES, region and Indigeneity. Broadly, the scale scores do not reveal any meaningfully differences within these categories of students. The largest scale difference within the table is in the Support scale where Indigenous students have a 3.8 point higher score than non-Indigenous students – interesting, but given the small size of the Indigenous sample, not a large enough difference to be meaningful. This finding is important because it shows that student responses to issues the scales reflect are not significantly different by equity-based categories. However, the results are also not particularly surprising, given that the scale scores for the UES and for other similar instruments are relatively consistent in showing little

Table 6: UES mean scale scores by SES, region and Indigeneity, 2013

Category	Group	Learner Engagement	Teaching Quality	Learning Resources	Support	Skills Development
SES	High	59.8	68.5	70.3	59.0	67.9
	Medium	59.3	68.8	71.7	60.7	69.3
	Low	58.7	68.9	72.0	61.5	69.7
Region	Metro	59.6	68.6	71.2	60.0	68.9
	Non-metro	58.6	69.0	71.7	61.4	69.2
Indigenous status	Non-Indigenous	59.3	68.7	71.3	60.3	68.9
	Indigenous	57.2	69.9	73.2	64.1	70.5
National total		**59.2**	**68.7**	**71.3**	**60.4**	**68.9**

or no variation by most demographic characteristics. It is consistently reported in these kinds of national surveys, that the variable that is overwhelmingly the most influential on student responses is field of study. The most recent UES National Report confirms this: 'results varied a little on the basis of demographic and contextual characteristics, but considerably on the basis of subject area' (GCA & SRC, 2015, p. iii).

6.2 Intention to leave university early

A critical UES question that is relevant to this project asks students whether they have seriously considered leaving university before graduating. Unlike in the scales analysis above, on this UES item, some clear differences by student characteristics and membership of equity groups are apparent.

In parallel with the data explored earlier in this report, low-SES, non-metro and Indigenous students are all more likely than their classmates to have considered leaving university early. The proportions of students who have considered leaving university early are displayed by group in Figure 33. The data show a particularly large difference in the early departure intentions between Indigenous and non-Indigenous students. While the gap is not as substantial for non-metro and for low-SES students, the differences in these intentions are still of note.

In addition to this, other student demographic and enrolment characteristics linked to lower completion in the cohort data reported earlier also tend to have higher rates of intention to depart early as measured through the UES items. Figure 34 shows that against the national average, students aged 25 and over, non-school-leavers, and those studying part-time or externally all have a higher intention to leave university before graduation.

While these results are not surprising given what the cohort completion data has revealed earlier in this report, they are still important in showing that there are credible sources of data that help to flag issues with regard to retention and completion of students while they are still at university.

6.3 Reasons for early departure

The UES data relating to intention to leave also offers insight into the reasons that students have for considering leaving university before graduation.

Overall, among those students nationally who noted that they had seriously considered leaving university early, the five most commonly reported reasons were:

- health or stress (32 per cent of those with early departure intentions)
- workload difficulties (30 per cent)
- study/life balance (30 per cent)
- financial difficulties (29 per cent)
- need to be in paid work (25 per).[2]

Students from low-SES, non-metro or Indigenous groups who had considered early departure were more likely than other students to select these five reasons. The largest difference between these equity groups and other students was for the reason of financial difficulties. Of those who considered discontinuing, this reason was given by 44 per cent of Indigenous students compared with 29 per cent non-Indigenous students, 35 per cent low-SES compared with 22 per cent high-SES students and 35 per cent of non-metro students compared with 27 percent of those from a metro area. Similarly, in a UES question relating to whether financial circumstances affected study, students from low-SES, non-metro and Indigenous backgrounds were much more likely than other students to indicate that this had an impact on their university lives.

Further analysis of the different reasons for considering leaving university early highlights the variation in pressures on university continuation felt by different groups of students. Table 7 provides two lists of reasons for considering early departure from university (see the Appendix for detailed figures relating to this table). The list on the left highlights reasons that were most likely to be stated by students in equity groups, while the list on the right contains reasons most likely to be stated by students outside the equity groups.

The list is telling. The reasons noted more commonly by equity-group students than other students revolve around finance, family obligations and core issues relating to 'getting by', whereas the issues noted more commonly among advantaged students than equity-group students centre around issues of 'choice' and lifestyle. Of all the data from the UES, this analysis is perhaps the most insightful for identifying the different pressures on university students. This analysis highlights the areas in which students from equity groups stand out from their peers when it comes to engagement and retention and offers areas of focus for institutions interested in increasing retention among particular groups.

[2] *Note that students could indicate more than one reason for intention to depart early.*

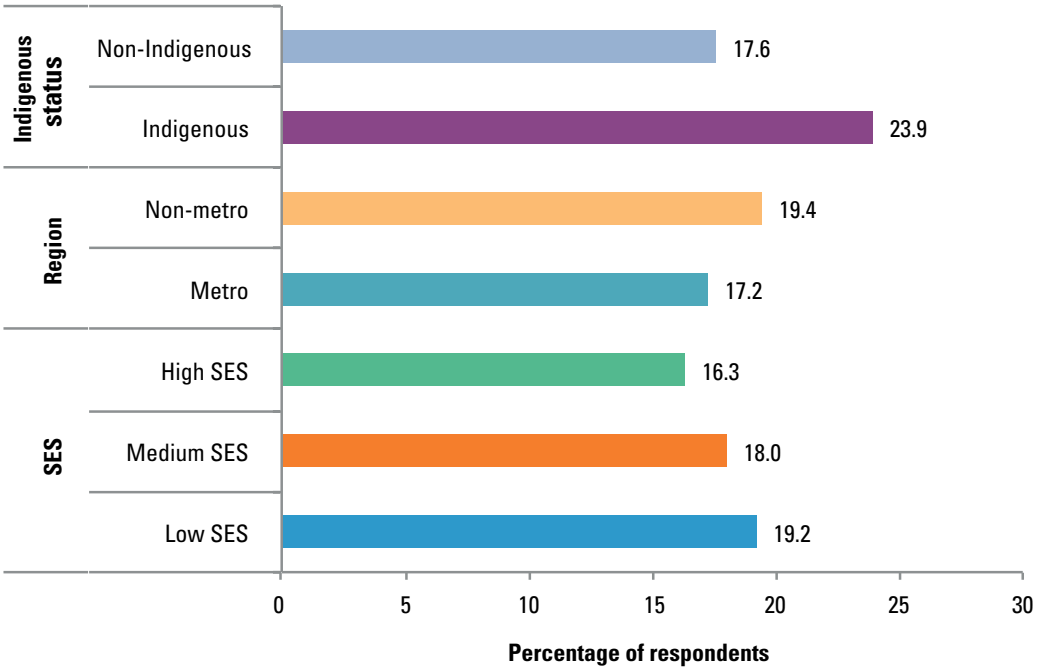


Figure 33: Proportion of students who have seriously considered leaving university early, by selected group, UES 2013

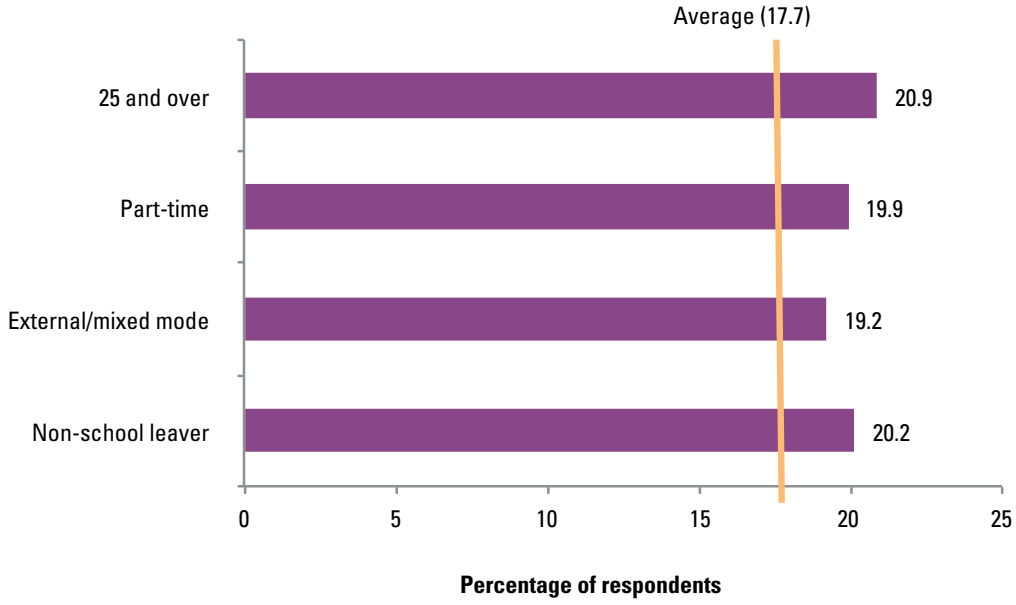


Figure 34: Proportion of students who have seriously considered leaving university early, by selected characteristics, UES 2013

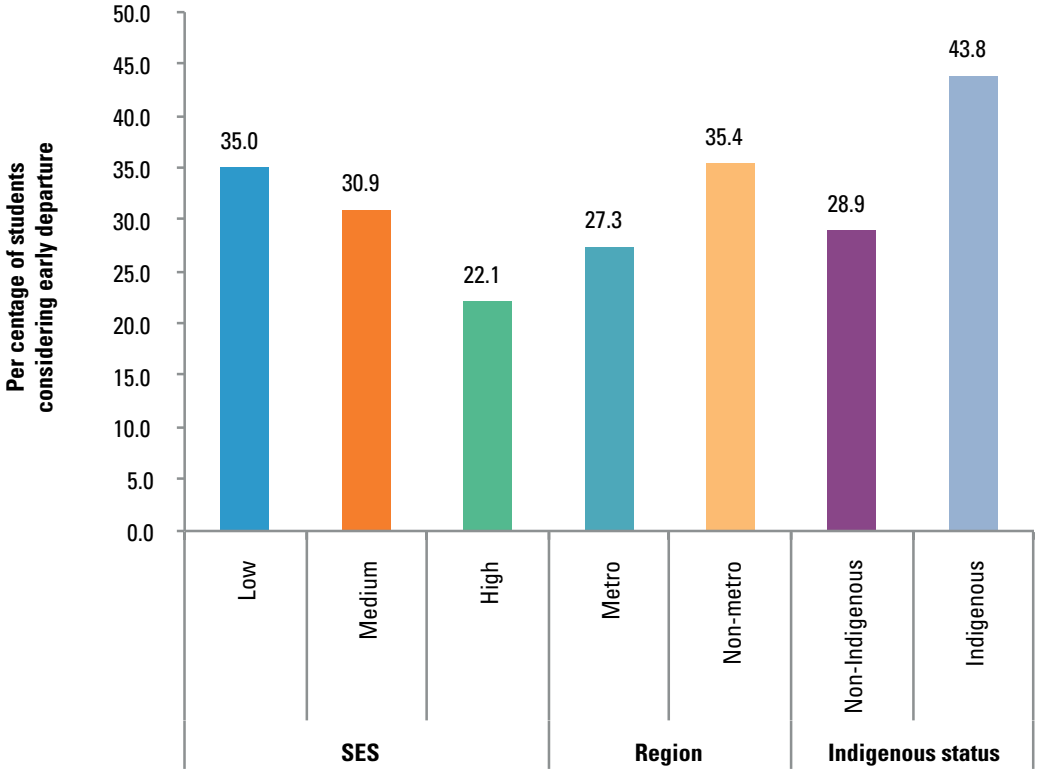


Figure 35: Proportion of students considering early departure who indicate that financial difficulties are an influence on departure intention, by selected group, UES 2013

Table 7: Reasons for considering early departure, by disadvantaged and advantaged students, UES 2013

Reasons cited more commonly by low-SES, non-metro and Indigenous students	Reasons cited more commonly by high-SES, metro and non-Indigenous students
Financial difficulties	Boredom/lack of interest
Family responsibilities	Change of direction
Health or stress	Career prospects
Workload difficulties	Expectations not met
Need to do paid work	Gap year/deferral
Moving residence	Quality concerns
Study/life balance	Other opportunities
Academic support	Travel or tourism
Fee difficulties	

+ 7 Conclusion

This report has focused on exploring the differences in course completion among university students in Australia. The focus in the analyses has been on three key student groups – those from low-SES background, those living in non-metro regions and Indigenous students. The report has utilised new data from the Commonwealth which allows detailed tracking of university students throughout (and in and out of) enrolment over a nine-year period. Further analyses of a number of cohorts over six years have also been carried out to ensure that the findings for the nine-year cohort were not anomalous. The analysis of the cohort data has helped in identifying key characteristics that are more likely to be related to lower completion rates – both among 'equity' groups and in relation to other enrolment and demographic characteristics.

This conclusion revisits the main research questions that this project began with, and finishes with some suggestions for further analyses in the future.

7.1 Revisiting the research questions

As detailed in the introduction to this report, four main research questions guided the analysis for this report. A summary of the outcomes detailed in earlier sections is included here in order to address each specifically.

7.1.1 Do higher education completion rates differ for different groups of students?

The detailed cohort-tracking data compiled for this report clearly shows substantial differences in completion rates between groups of students both at nine years and six years following commencement of an undergraduate degree.

Enrolment characteristics that are associated with lower completion included studying part-time, studying externally, and studying in the fields of Information Technology or Agriculture and Environmental Studies

Students commencing with an ATAR below 60 had lower than average completion rates; however, fewer than half of all commencers have an ATAR, so this application is not as broad as some might think.

Demographic characteristics showing a difference in completion included male students with lower completion rates than female students, and students aged 25 and above at commencement with lower completion rates than those aged 19 and younger.

7.1.2 Are disadvantaged students less likely to complete university than others?

Low-SES, non-metropolitan and Indigenous students overall had lower than average completion rates. The national average completion rate was 73.6 per cent, over a nine-year period following commencement; the rate for low-SES students was 68.9 per cent, for non-metro students 69.3 per cent and for Indigenous students, 46.7 per cent.

Many students belong to multiple equity groups. Students belonging to equity groups were also more likely to have many of the enrolment and demographic characteristics related to lower completion.

7.1.3 What are the most reliable variables for determining the likelihood of university completion?

This question is more complex and multidimensional than the other research questions guiding this work. To address this, several of cross-tabulated analyses of cohort progression were developed. A compounding effect was shown to occur when characteristics which were identified individually to have an impact on completion rates were explored in combination. For example, among low-SES students, those aged 25 or above had even lower completion rates than on average within this group. In most cross-tabulated analyses a compounding effect was evident, whereby both variables appear to be contributing towards lowering the likelihood of completion. The exceptions were analyses involving the variables of ATAR (which applies to a minority of students) and of university grouping.

As highlighted in the report, this is an area where further analysis could be beneficial. A key issue in extracting such data is developing research projects that are able to include data specifications that satisfy issues of confidentiality and privacy, while at the same time providing sufficient detail so as to offer in-depth insight into the relative impact of different variables on completion. This is further articulated in the 'future research' section in this conclusion.

7.1.4 Do factors relating to student engagement, experience or satisfaction help to explain the differences in completion rates for equity groups?

Detailed analysis of student responses to the University Experience Survey revealed two key outcomes in regards to this question. The first key finding was that broad scales relating to engagement and experience derived through this survey did not reveal any notable difference between students from equity groups and other students. This is consistent with other research. The second key finding, however, was that there were notable differences between groups of students' intentions to complete university. Students from equity groups were much more likely to have considered dropping out, as were students with other characteristics related to non-completion. Further to this, equity-group students who had considered leaving university early articulated reasons for this that were notably different from students from more advantaged backgrounds who were also considering leaving. Reasons such as financial difficulties, family and other responsibilities were much more likely to be mentioned by equity-group students than other students, while lifestyle and 'choice'-related reasons were more prominent among the more privileged groups of students than among equity-group students.

7.2 Future directions

These findings are substantial in themselves, as they offer a new insight into the progression of Australian undergraduate students throughout their whole university lives. It is hoped that the results detailed in this report can be used for improving the outcomes for groups of students whose opportunities are more constricted than others'. It is also hoped that this research can be the catalyst for further exploration of retention, progression and outcomes for students in Australian higher education. Some brief thoughts regarding this future research are offered in this final part of the report.

It is important to take this research further and to reiterate the benefits of university completion. As discussed in the background section of this report, there is data on graduate outcomes (in the early stages of graduation through the Graduate Destination Survey, and later through collections such as the Graduate Pathways Survey and the Beyond Graduation Survey) that offer in-depth analyses of outcomes. Further exploration of outcomes in the contexts of specific groups of students with low completion rates would highlight the difference that a university qualification can offer to disadvantaged students. Preliminary analysis suggests there are few differences in post-completion employment and salary outcomes between equity-group students and others. Further articulation of these outcomes, with a specific link to the issue of retention and progression for these groups would offer a worthy and targeted future research project.

As mentioned at numerous stages throughout this report, developing more detailed analyses based on the cohort data would significantly enhance our understanding of progression through university. In particular, there is a need to further explore data on Indigenous student completion. This would require a balance between confidentiality and useful research insights for the purpose of evidence-based policymaking. Projects such as this have helped to not only raise this issue, but to work towards solutions that include the Commonwealth Department of Education and Training as a key stakeholder with experts in this level of data manipulation.

In addition, there is potential to use CHESSN to link completions data with university admissions applications, school-level achievement and characteristics, and other more recently derived equity variables such as parental education and students being 'first in family' to attend or complete university. The application of this data to more sophisticated methods of analysis such as regression and multi-level modelling may also provide significant insights into the influence of individual variables, independent of others, on completion.

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+ Appendix – Reasons for considering leaving university early

Table 8: Reasons for considering leaving university early, by selected group (%), UES 2013

Reason for discontinuing	SES			Region		Indigenous status			All
	Low (n=2775)	Medium (n=7428)	High (n=4192)	Metro (n=11 230)	Non-metro (n=3190)	Not ATSI (n=14325)	ATSI (n=235)	Not stated (n=193)	(n=14 753)
Health or stress	35.2	32.4	29.5	31.7	33.4	31.9	40.9	31.1	32.1
Workload difficulties	33.1	31.2	26.5	29.5	32.6	30.2	35.3	25.9	30.3
Study/life balance	32.7	30.9	27.4	29.8	31.7	30.2	33.2	26.9	30.2
Financial difficulties	35.0	30.9	22.1	27.3	35.4	28.9	43.8	31.6	29.2
Need to do paid work	27.2	25.9	23.5	24.9	27.4	25.4	33.2	25.9	25.5
Personal reasons	25.6	23.8	22.8	24.0	23.5	23.8	27.2	21.8	23.8
Expectations not met	21.7	23.1	25.3	23.8	22.2	23.5	17.0	29.0	23.4
Boredom/lack of interest	19.4	21.8	25.1	23.3	18.8	22.3	13.6	17.1	22.1
Need a break	22.3	20.8	21.3	21.6	20.1	21.1	19.2	20.7	21.1
Change of direction	18.0	21.2	23.4	21.9	18.8	21.2	14.0	18.7	21.0
Career prospects	18.5	19.4	21.3	20.8	16.4	19.9	11.9	14.5	19.7
Family responsibilities	24.3	19.2	13.3	17.5	21.7	18.4	31.5	22.3	18.7
Paid work responsibilities	16.3	16.2	14.7	16.0	15.1	15.8	20.9	15.5	15.9
Academic support	15.8	14.9	14.3	14.3	17.0	14.8	20.0	20.2	15.0
Quality concerns	13.1	13.1	16.8	14.4	13.4	14.2	11.1	14.0	14.2
Gap year/deferral	10.0	13.1	14.4	13.6	10.1	12.8	9.8	10.9	12.7
Other opportunities	7.4	8.0	10.9	9.3	6.7	8.7	7.2	7.3	8.7
Commuting difficulties	13.1	11.9	10.9	12.2	10.6	11.8	9.8	12.4	11.7
Academic exchange	8.5	8.9	12.1	10.4	7.7	9.8	10.2	8.3	9.8
Fee difficulties	9.6	8.8	6.2	7.7	9.9	8.2	8.5	7.8	8.2
Travel or tourism	6.4	7.6	9.0	7.9	7.4	7.7	4.7	7.8	7.7
Social reasons	6.4	7.4	9.0	8.0	6.6	7.6	8.9	8.3	7.6
Administrative support	6.5	5.8	7.3	6.4	6.0	6.3	7.2	5.2	6.3

Table 8: Reasons for considering leaving university early, by selected group (%), UES 2013 (Continued)

Reason for discontinuing	SES			Region		Indigenous status			All
	Low (n=2775)	Medium (n=7428)	High (n=4192)	Metro (n=11 230)	Non-metro (n=3190)	Not ATSI (n=14325)	ATSI (n=235)	Not stated (n=193)	(n=14 753)
Institution reputation	5.6	5.8	7.0	6.5	4.9	6.1	3.4	10.9	6.2
Standards too high	5.5	6.3	5.0	6.0	4.9	5.7	4.7	6.7	5.7
Moving residence	6.3	5.3	4.7	4.4	8.3	5.3	10.6	5.2	5.3
Government assistance	4.8	3.9	3.4	3.6	5.0	3.9	4.7	4.2	4.0
Graduating	3.1	3.2	3.1	3.4	2.4	3.3	1.7	1.6	3.2
Received other offer	1.7	2.5	2.9	2.6	2.1	2.5	2.1	2.6	2.5
Other	13.6	13.2	13.5	13.5	12.9	13.2	14.9	19.7	13.3