



Factors Affecting Higher Education Completions

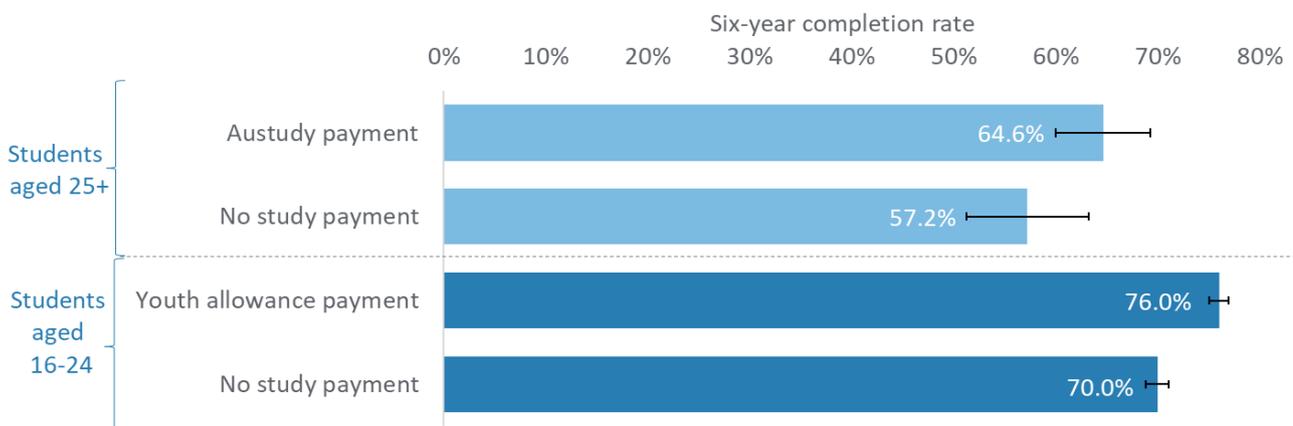
Study assistance

- Income support increases six-year completion rates on average by six to seven percentage points for full time students and higher for students from disadvantaged backgrounds.

Study assistance increases completion rates for full-time bachelor's degree students

We examined the six-year completion rates of a cohort of 120,000 students who commenced a bachelor's degree for the first time in 2011. Using higher education student data linked to health, tax, social support and other demographic data, we found that full-time bachelor's degree students receiving Youth Allowance¹ and Austudy assistance had 6-7 per cent higher six-year completion rates than equivalent students receiving no payments. This result emerged after taking account of a wide range of student characteristics and institutional factors such as gender, gross income per semester and institution attended that are known to also influence completion rates (see Introduction). Our findings are consistent with earlier analysis of survey data showing that university students that reported receiving Youth Allowance were more likely to complete their course.ⁱ

Figure 1. Six-year completion rates of full-time bachelor's degree students, by income support payment controlling for other confounding factors, 2011–16.



Source: Multi-Agency Data Integration Project, custom analytical extracts using student payment data linked to student records.

Notes: The population includes all undergraduate Commonwealth supported students who commenced a bachelor's degree (course types: 9, 10) (excluding Open University Australia courses) for the first time in 2011. Average completion rate was 74 per cent (N=98,882). The results use exact matching and regression to control for a range of other factors known to affect completion rates. Error bars are 95% confidence intervals. The relationship between study assistance type and completion rate was tested using Poisson regression post-

¹ In this factsheet, Youth Allowance refers to the study payment only.

matching [Youth Allowance results: $z = 8.3$, $p < 0.001$; Pseudo $R^2 = 0.02$, $N = 31,032$] [Austudy results: $z = 2$, $p = 0.049$; Pseudo $R^2 = 0.06$, $N = 1,318$].

What is study assistance?

Study assistance payments are means-tested payments designed to assist Australians to undertake further education and training. Different payments support particular demographic groups. In our cohort, Youth Allowance was by far the most common payment received by commencing bachelor's degree students during their studies, accounting for 79 per cent of those who received an income support payment.

Youth Allowance (Student and Apprentice) is aimed at full-time students aged 16 to 24 in school, VET or Higher Education. In June 2016, Youth Allowance was supporting 177,378 higher education students, or 78 per cent of all 226,515 supported students, which in total cost \$2.44 billion in 2015-16. The majority of Youth Allowance recipients were aged 20 years and over (65 per cent), single (97 per cent) and dependent (52 per cent). The majority of Youth Allowance recipients (73 per cent) received the maximum rate of payment.ⁱⁱ

Austudy is aimed at full-time students aged 25 and over in VET or Higher Education. In June 2016, Austudy was supporting 32,392 higher education students, or 66 per cent of all 48,910 supported students, which in total cost \$645 million in 2015-16. The majority of Austudy recipients were aged 25-34 (63 per cent) and single (78 per cent). The majority of Austudy recipients (82 per cent) received the maximum payment rate.ⁱⁱⁱ

ABSTUDY is intended to help Aboriginal and Torres Strait Islander students and is considered in a separate factsheet (see Indigenous factsheet).

Overall completion rates were lower for full-time students that were 25 years or older with or without Austudy (Figure 1). This is consistent with a known negative effect of age on completion rates (see Indigenous factsheet). The proportion of Austudy recipients with dependent children and/or other caring responsibilities was 36 per cent and the opportunity costs of study are often higher for older students giving up their earning potential for full-time study. The impact of Austudy also seems to be age dependent. While overall, the positive effect of Austudy payment on student completion was around 7 per cent, this varied considerably within the cohort. For full-time students in the 25 to 29 year old cohort, Austudy recipients were 18 per cent more likely to complete than their counterparts in the same age range. This declined to 3.6 per cent for students who were 40+ years old.

There was no positive effect of Youth Allowance or Austudy found for part-time bachelor's degree students. It is possible for students to have received full-time study assistance at some point during their study and still have an average study load that is part-time over their entire course of study.

Table 1 shows the median annual disposable incomes of all 841,676 bachelor's degree students in the 2015-16 financial year (semester two of 2015 and semester one of 2016) by whether they received study assistance or other income support at least once, whether they undertook paid work and what their average study load was over those two semesters.

Six out of ten students received no study assistance or other income support in 2015-16. Of those students around 80 per cent worked in 2015-16, earning median annual disposable incomes around \$19,000 to \$26,000 depending on whether they were full-time or part-time (Table 1). These incomes were well below the individual

median equivalised household disposable incomes of \$48,000 for Australians in 2016 according to HILDA data², with most student incomes likely to be in the bottom ten per cent of all incomes.

Around one third of students received income support in the 2015-16 financial year (36 per cent overall; Table 1) noting that the rate is higher at over 40 per cent in the calendar year. Students receiving study assistance were less likely to work paid jobs during their study year at 73 per cent and 61 per cent for *study assistance* and *other* income support recipients, respectively (compared to 82 per cent of students with no income support). Of those students that did work, their median annual disposable incomes ranged from around \$14,000 to \$34,000

Table 1. Proportion and median annual disposable incomes of students in 2015-16, by income support, working status and average study load.

Income support payment status	Working status	Average study load	Proportion (per cent)	Median annual disposable income, \$
None	Not working	Full-time	8	0
		Part-time	2	0
	Working	Full-time	36	18,818
		Part-time	11	34,101
Student	Not working	Full-time	9	9,793
		Part-time	1	9,793
	Working	Full-time	24	13,936
		Part-time	2	17,589
Other	Not working	Full-time	1	20,608
		Part-time	1	19,201
	Working	Full-time	2	22,820
		Part-time	3	26,851

Source: Multi-Agency Data Integration Project, custom analytical extracts using Personal Income Tax and PAYG payment summary data linked to student records.

Notes: N=481,690. The population includes undergraduate Commonwealth supported students who commenced a bachelor’s degree (course types: 9, 10) (excluding Open University Australia courses) that studied in both six-month periods of the financial year. A full-time student was defined as having an Equivalent Full Time Study Load (EFTSL) greater than or equal to 0.75 during this period. A part-time student was defined as having an EFTSL more than 0.049 and less than 0.75. Only students who studied (EFTSL>0.049) in both semesters in each financial year were counted. PAYG payment summaries were used to determine whether student was working. Disposable income is gross income after deductions, income tax and levies.

Study assistance helps disadvantaged students to complete their degrees

While Figure 1 shows a positive *average effect* of study assistance on completion rates, the impact of study assistance can vary depending on the situation of the student. For example, the positive impact of study assistance on student completion was found to be higher for full-time students originating from the most disadvantaged of communities in Australia, as measured by the socio-economic status of the area that they lived in the year prior to starting their degree (Figure 2). Likewise, the impact of study assistance was significantly lower or negligible for full-time students originating from the most advantaged communities in Australia. Measures of socio-economic status such as that used in Figure 3 are area-based and so not as directly related to a student’s circumstances. However, by simulating a randomised control trial we were able to confirm these results

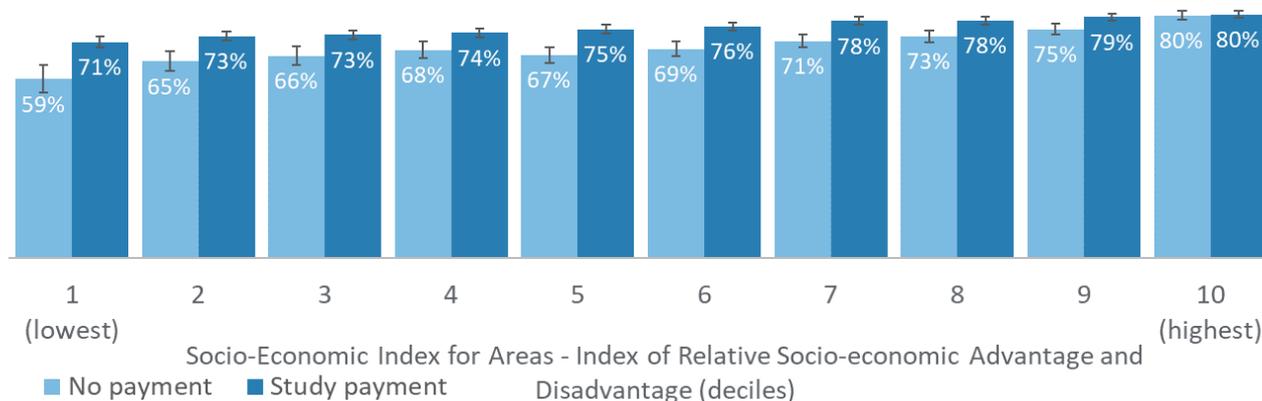
² Based on 2015-16 individual’s equivalised household disposable income from *Household Income and Labour Dynamics in Australia* survey data.

statistically for students receiving Youth Allowance. Matched samples were too low to confirm whether these findings held for Austudy recipients.

The positive impact of Youth Allowance is also higher for students under the age of 25 years whose parents have no bachelor’s degree qualifications (Figure 3). Parents’ educational attainment is a more direct measure of the support available to the student. Bachelor’s degree qualifications are a strong predictor of higher incomes and wealth in Australia³ and may also lead to financial and other support such as higher expectations of success in higher education. Completion rates for younger full-time students have a positive association with parents’ qualifications at the time of enrolment (Figure 3).

The results for area-based socio-economic status and parents qualifications are consistent with the positive influence of income support on degree completion rates where students belong to two or more equity groups (see *Multiple equity groups* factsheet).

Figure 2. Six-year completion rates of full-time bachelor’s degree students, by socio-economic background (SEIFA-IRSAD), by Youth Allowance/Austudy payment status, 2011–16.

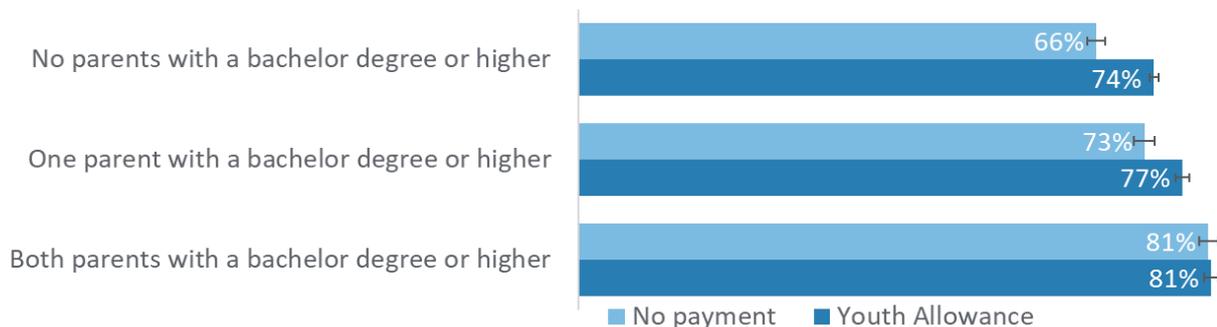


Source: Multi-Agency Data Integration Project, custom analytical extracts using student payment data linked to student records.

Notes: The population includes all undergraduate Commonwealth supported students who commenced a bachelor’s degree (course types: 9, 10) (excluding Open University Australia courses) for the first time in 2011. Students were allocated to the Socio-Economic Index for Areas (SEIFA) Index of Relative Socio-economic Advantage and Disadvantage (IRSAD) they lived in in the year prior to starting higher education. The average completion rate was 74 per cent (N=98,882). Error bars are 95 per cent confidence intervals. We used exact matching and regression to control for seventeen other factors known to affect completion rates. The average treatment effect of Youth Allowance on completion rates in a matched sample increased from 2.7 per cent to 7.5 per cent between deciles 9 to 10 and 1 to 2, respectively and was tested using Poisson regression post-matching [Youth Allowance results: log pseudo-likelihood = -29,165; Pseudo R²=0.02, N = 31,032].

³ See <https://www.education.gov.au/benefits-educational-attainment>

Figure 3. Six-year completion rates of full-time bachelor's degree students, by parent(s) educational attainment at time of enrolment, by Youth Allowance payment status, 2011–16.



Source: Multi-Agency Data Integration Project, custom analytical extracts using student payment data linked to student records.

Notes: The population includes all undergraduate Commonwealth supported students who commenced a bachelor's degree (course types: 9, 10) (excluding Open University Australia courses) for the first time in 2011. Comparison is to full-time students under 25 years of age receiving no payment. The average completion rate was 74 per cent (N=98,882). Error bars are 95 per cent confidence intervals.

Data and Methodology

The analysis in this factsheet used higher education student records linked to MADIP (Microdata: Multi-Agency Data Integration Project, Australia). The MADIP data contains records from: Census 2016, Social Security, Medicare Benefits Schedule, Personal Income Tax and the Pharmaceutical Benefits Scheme. The records have been de-identified and are accessed via that ABS DataLab, a secure server, run by the ABS who maintain the integrity of the data held on the DataLab.

We examined all students who commenced a Bachelor Graduate Entry and Bachelors Honours award courses for the first time on a Commonwealth Supported Place in 2011 (course types: 9, 10; excluding Open University Australia courses). There were 119,175 students in this cohort, of which 67 per cent completed their bachelor's studies within the 6-year time period. For this factsheet we focussed on full-time students of which there were 98,882 students in this cohort, with a 74 per cent completion rate within the 6-year time period.

The analysis included all students who commenced in 2011, undertook study between 2011 and 2016 (reference period) and then determined their completion status at the end of 2016 (completed, still actively studying (i.e. enrolled) or inactive (i.e. no instance of enrolment)). A semester was considered as either the first or last 6 months of the calendar year in order to maintain comparability with other MADIP data.

We simulated a randomised control trial by creating a matched sub-population of 66,393 students. By applying a random forest model predicting the treatment and outcome, we selected on the seven highest contributing features (a proxy for confoundedness), which still preserved a large sample size. The covariates controlled for are institution size, mode of attendance (Full-time or Part-time study based on EFTSL semester average), STEM Field of Education flag, total income (semester average), Socio-economic background (Low-Med-High IRSAD), age at commencement (grouped), and gender. A doubly robust method of matching and binomial logit regression was used according to Gelman & Hill (2006)^{iv} on the matched sample to confirm significance. Additional variables in the regression were tertiary entrance rank, parents' educational status, gender, receiving student payment, English-speaking country of birth, age group, attendance type, institution, SEIFA, STEM field of education, and income per semester.

Income support

Income support flags indicate whether a student was in receipt of government study assistance or another form of income support payment while studying. Study assistance includes Youth Allowance, Austudy and ABSTUDY. Other income support payments include students eligible for Carer Payment, Disability Support Pension or Parenting Payment (Single or Partnered).

This factsheet is not an evaluation of study assistance. Missing from the MADIP dataset are the financial dependence and asset information used to calculate a student's eligibility for payments. Also, as people may have received more than one type of income support payment, there may be double counting of students across income support categories.

ⁱ Ryan C (2013) *Student income support and education and training participation in Australia*, NCVER, Adelaide

ⁱⁱ Department of Social Services (2019) '[DSS Payment Demographics June 2016; Youth allowance \(student and apprentice\) payment trends and profile report, June 2016](#)', *DSS Payment Demographic Data*, Accessed 19 December 2019.

ⁱⁱⁱ Department of Social Services (2019) [DSS Demographics June 2016; Austudy payment trends and profile report, June 2016](#), *DSS Payment Demographic Data*, Accessed 19 December 2019.

^{iv} Gelman A and Hill J (2006) *Data Analysis Using Regression and Multilevel/Hierarchical Models*, Cambridge University Press, Cambridge.