



Factors Affecting Higher Education Completions

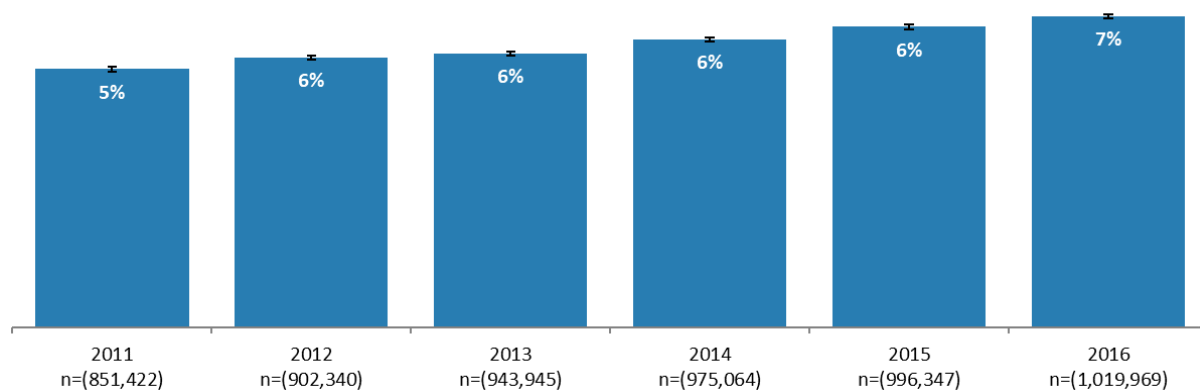
Disability

- *There are now a greater proportion of domestic undergraduates who report living with disability.*
- *Taking other factors including part time study into account, students with disability only have marginally lower six-year completion rates.*

Previous Australian research suggests that students with disability may experience social isolation or financial stress, which may put study completion at risk.ⁱ However, the evidence on the impact of disability on student outcomes in higher education is mixed.ⁱⁱ

In 2018, it was estimated 4.4 million (18 per cent) Australians live with disability, and 291,000 (9.3 per cent) of 15 to 24 year olds live with disability.ⁱⁱⁱ Participation statistics indicate a steady increase in the proportion of domestic undergraduates reporting disability, increasing from 5.5 per cent in 2013 to 7.3 per cent in 2018.^{iv} Research has suggested that participation has grown as the barriers to higher education have reduced, however it could also be that more students identify themselves as living with disability.^v In our analysis, we defined disability by having either received disability income support payments or having self-reported disability (see Data and methodology). Using this definition, a growing trend in disability enrolments can be seen both in numbers and proportion of enrolled students (Figure 1).

Figure 1. Percentage of enrolled students who self-reported living with disability and/or received a disability support pension, by year, 2011-2016.



Source: Custom MADIP extract linked to HEIMS records.

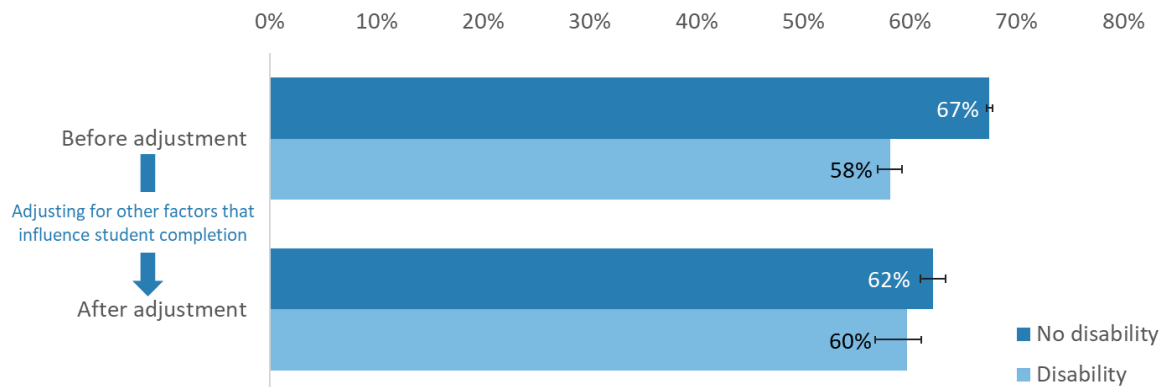
Notes: Unique Commonwealth supported higher education students enrolled each year (2011-2016) undertaking any course. Population (n) reported are overall student count each year. Unadjusted data shown. Error margins 95% z-statistic.

Students with disability six-year completion rates

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 to test the impact of disability on student completion. The raw data suggest a large impact of living with disability on completion rates (Figure 2). Students with disability had a lower completion rate, at 58 per cent, compared to students with no reported disability, at 67 per cent.

However, using the Multi-Agency Data Integration Project (MADIP) linked data allowed us to include a range of confounding factors, such as age and study load. When taking these other factors into account, the differences in completion rates between students living with and without disability becomes around 1-2 per cent, significantly but marginally lower for students with disability (Figure 2).

Figure 2. Six-year completion rates of 2011 commencing bachelor’s degree students by disability status.



Source: Custom Multi-Agency Data Integration Project (MADIP) extract linked to Higher Education Information Management Systems (HEIMS) records.

Notes: Unadjusted data (N = 119,510) and predictive margins shown from matched population (N = 60,938). Error margins 95% z-statistic. The comparisons between groups was confirmed using a Poisson regression on a statistically matched sub-sample controlling for confounding variables such as age, gender, study load etc. (No disability vs. disability: Incidence Rate Ratio = 0.96, p < 0.01).

As discussed in other factsheets other factors such as age and study load were most important in explaining completion rates and disability only had a very small individual effect.¹

Students with disability were more likely to be studying part-time (24 per cent) compared to students without disability (16 per cent). Further, approximately half of the students on disability support pensions studied part-time (50 per cent). Eligibility for the disability support pension requires a higher burden of proof including medical and non-medical criteria, which may suggest more severe disability.

¹ The differences between completion rate of disability support pension recipients and other groups were insignificant based on a Poisson regression on a statistically matched sub-sample controlling for confounding variables such as age, gender etc. (No disability vs. HEIMS self-reported disability: IRR = 0.92, p < 0.01; No disability vs. disability support pension: IRR = 0.92, p > 0.05; HEIMS self-reported disability vs. disability income support: IRR: 1.01, p > 0.05; N = 67,215). Modelled completion rate for no disability (53±1 %), HEIMS self-reported (48±3 %), disability support pension (49±5 %). Note: Students on both disability income support and self-reported disability in HEIMS were classified as disability income support.

The rates of completion increase dramatically for full-time students in both students with disability and no known disability (data not shown). Noting that living with disability may influence the choice of study load, this is an important factor in ensuring there is appropriate support to enable students to complete their studies. The marginal differences in six-year completion rates are an encouraging sign that the challenges of living with disability can be overcome.

Data and methodology

The analysis in this paper used approximately 120,000 HEIMS records linked to MADIP (Microdata: Multi-Agency Data Integration Project, Australia). The analysis included all Commonwealth supported students who commenced a bachelor's degree (course types: 9, 10) (excluding Open University Australia courses) for the first time in 2011, undertook study between 2011 and 2016 (reference period) and determines their completion status at the end of 2016. A student was defined as living with disability by either self-reporting disability at enrolment or receiving an income support disability payment at any point during study. The 'during study' time period is defined as between a student's initial commencing 2011 semester and the last semester of a student's course of completion or modal course of study inclusive.

For our 2011 commencing bachelor's cohort, we estimated 6 per cent of students lived with disability whilst studying. In 2009, the ABS estimated 8.3 per cent of Australian children attending school live with disability.^{vi} This suggests a small self-selection out of university for students with disability or an undercount in our data, possibly due to students opting not to report disability.ⁱⁱ

A random forest tree was constructed to determine the most important indicators for the outcome of interest, which were then used for matching and statistical analysis. Variables used were; tertiary entrance rank, age group, attendance type, institution size, Index of Relative Socio-economic Advantage and Disadvantage, remoteness area, gender, parents' educational status, field of education (STEM vs. non-STEM) and receiving mental health services. Summary statistics and a Poisson regression was used on the matched sample to confirm significance.

ⁱ Baik C, Naylor R and Arkoudis S (2015) *The first year experience in Australian universities: Findings from two decades, 1994-2014*, Melbourne Centre for the Study of Higher Education, Accessed 19 June 2020.

ⁱⁱ Cherastidham I, Norton A and Mackey W (2018) *University attrition: What helps and what hinders university completion?*, Grattan Institute, Accessed 19 June 2020.

ⁱⁱⁱ ABS (Australian Bureau of Statistics) (2018) *Disability, Ageing and Carers, Australia: Summary of Findings. Cat. No. 4430.0*, ABS, Accessed 19 June 2020.

^{iv} Koshy P (2019) *Equity student participation in Australian higher education: 2013 – 2018*. National Centre for Student Equity in Higher Education (NCSEHE), Curtin University, Perth.

^v Brett M (2016) Disability and Australian higher education. In, Harvey A, Burnheim C & Brett M (eds.) *Student equity in Australian higher education: Twenty-five years of A Fair Chance for All*, Springer, Singapore, pp. 87–108.

^{vi} ABS (Australian Bureau of Statistics) (2009) *Profiles of Disability, Australia, 2009, Cat. No. 4429.0*, ABS, Accessed 19 June 2020.