

Moving beyond ‘acts of faith’: effective scholarships for equity students

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EXECUTIVE SUMMARY

This study investigates the relationships between equity scholarships and the retention and success outcomes of recipients at three deliberately different universities, Deakin University, Queensland University of Technology and the University of Sydney, for the academic year of 2013. The key finding of this study is that equity scholarships are effective in retaining recipients, across the three universities, across demographic groups and across different scholarship products. The receipt of a scholarship reportedly reduced stress, boosted morale and allowed scholarship holders to dedicate more time to their studies at each of the universities. There were more varied results with regard to the success rates of recipients which may reflect design features of the scholarship products and programs and other variable institutional characteristics.

We undertook to investigate which types of scholarships were effective for equity groups. Rather than scholarship design features such as value, duration and timing of award, the most defining design element referable to student outcomes was a scholarship's eligibility criteria, especially using Australian Tertiary Admission Rank (ATAR)/prior academic achievement ('merit') as a secondary selection criterion. The differences between equity and equity-merit scholarships matter because their selection criteria prioritise different sub-groups within equity groups: equity scholarships target those most disadvantaged and, thus, most at risk of leaving university prematurely. Equity-merit scholarships, on the other hand, target those disadvantaged students most likely to succeed because they have proven financial need and academic achievement at a high level. In our study, equity and equity-merit scholarships produced inverse student retention and success outcomes, i.e. equity scholarships had outcomes that were worse for those who got the highest value scholarships, whereas for equity-merit scholarships the outcomes were best for those students who received the most valuable scholarships.

In the allocation of equity scholarships a university effectively weighs up effort and risk in targeting and prioritising recipients. In addition to the importance of the selection criteria, the case studies illustrate that the more complex the institutional scholarship program, the less efficient is the administration of the selection process and the more difficult it is to evaluate relationships between scholarship product and student outcomes. Thus, the impetus is to design simple scholarship architectures with high volume products to generate effective student support, efficient processes and meaningful data.

Across institutions recipient type seemed to have more effect on student outcomes than scholarship type, with socioeconomic status, age, gender and basis of admission being categories that seemed to have a correlation with retention and success. Our findings suggest that a multi-factor assessment for scholarship eligibility is better than a single-factor one. Scholarships also have a value 'beyond money' in that latent potential can be realised if students have enough time to focus on their studies and receive a psychological lift from being recognised as worthy of the university's support.

Universities and policy makers should consider that money does not overcome all barriers to participation and scholarships reach only a tiny minority of students. They need to be embedded in comprehensive support systems to attract, retain and graduate students from financially and educationally disadvantaged backgrounds. The greatest contribution the Commonwealth can make is to provide consistent, predictable and appropriate levels of income support to all students by providing means-tested grants through the Centrelink system. There is great opportunity to build on these findings and explore the trends we found over time, and to assess and validate the observed relationships between scholarship types, recipient demographics and student outcomes using statistical and other methods.

INTRODUCTION

This project sought to ascertain which types of equity scholarships are effective in increasing participation and success in higher education of students from equity groups, particularly those from regional, remote or low socio-economic status (SES) backgrounds, Indigenous students and students with a disability. It aimed to use its findings to inform recommendations for the design of equity scholarship programs at institutional and sectoral levels.

The equity scholarships in this project, also variously described as grants and bursaries, were defined as follows:

- ‘Equity scholarships’: principal selection criteria are based on financial hardship and/or personal circumstance, including early conditional offers; and
- ‘Equity-merit scholarships’: selection criteria are based on both financial hardship and/or personal circumstances and prior academic attainment.

In both types of scholarships, university entrance scores may be used to differentiate eligible applicants in making final decisions about awards, i.e. as a tie breaker.

The participating Australian universities were selected for their geographic and institutional differences. Deakin University is an unaligned institution with campuses in Victoria. Queensland University of Technology (QUT) is located in Queensland and a member of the Australian Technology Network (Australian Technology Network of Universities 2015, p. 7). The University of Sydney’s main campuses are in NSW and it is a member of the Group of Eight universities (Group of Eight Australia 2015). Further information about these universities is provided in the institutional cases.

The project offered a snapshot in time. It analysed and compared cohorts of equity students from the three participating universities who received a scholarship in 2013 with the total student cohort and within equity cohorts in each institution using demographic, administrative and education outcome measures. The study triangulated these findings with data from a survey of 2013 scholarship recipients.

About this report

This report is structured into five main sections:

1. The background and context to the project, including a brief overview of the literature
2. Project methodology, including data sources and limitations of the study
3. Institutional case studies setting out retention and success outcomes as well as key survey findings: Deakin University, QUT and University of Sydney
4. Discussion and findings
5. Conclusion with recommendations for policy makers and practitioners and further lines of research.

Background and context

The project was conceived in the context of a national review of equity scholarships practice (Whiteford & Trinidad 2015) and reforms to Australian higher education proposed by the Commonwealth government in 2014. Whiteford and Trinidad (2015) reported that there was little evidence of what constitutes good practice in equity scholarship design in Australian higher education and a lack of comparative data on the influence of such scholarships on success and

retention. More broadly, Naylor, Baik and James identified a lack of evidence ‘on the effects of equity initiatives’, built on ‘rigorous methodologies’ (2013, p.7). While noting reasons for this, including multiple factors relating to the decision to go to university and complexities involved in analysing such decisions within diverse groups of people, they also proposed that without such evidence equity program design was ‘an act of faith, though often highly well-judged and highly credible’ (Naylor et al. 2013, p. 7). This gap in the evidence, as it relates to equity scholarships, is echoed in the title of this project and provided the impetus for the investigation reported here.

In 2014 the then federal Education Minister Christopher Pyne, proposed a series of significant higher education reforms through a Bill which did not pass the Senate (*Higher Education and Research Reform Amendment Bill* 2014). The proposed reforms included fee deregulation, a ‘Commonwealth Scholarships Program’ and changes to the Start-up scholarship status (from grant to loan), drawing concerns about resulting inequities, particularly in terms of financial impacts (see, for example, Kelly (2014)).

In this context, and given a significant investment in higher education scholarships in Australia over a number of years, the need for evidence about how to direct future scholarship investment was seen as pressing.

Higher education policy, systemic disadvantage and the widening participation agenda

Higher education equity initiatives have a comparatively long policy context in Australia, with accompanying longitudinal data (Naylor et al. 2013, p. 12). Since the Commonwealth Government’s 1990 policy blueprint *A Fair Chance for All*, Australian higher education policy has included an equity focus, underpinned by the premise that education and training are key to providing opportunities for disadvantaged groups (Department of Employment, Education & Training 1990). *A Fair Chance for All* included strategies and targets to achieve equity in higher education with a focus on access, backed by two funding streams: a Higher Education Equity Program (focused on access and successful participation) and the Aboriginal Participation Incentive.

The policy also designated six equity groups that experienced disproportionate systemic educational disadvantage, which are still current:

- socioeconomically disadvantaged people
- women in non-traditional areas of study
- people of Aboriginal and/or Torres Strait Islander origin or heritage
- people from non-English speaking backgrounds
- people with disability, and
- people from rural and isolated/remote areas.

Thus, in Australia, the notion of equity in higher education has long been conceptually defined by proportional representation, although equity policy and practice are not necessarily delimited in that way, and linked to targets for the representation of designated equity groups (Gale & Parker 2013, p. 6). *A Fair Chance for All* was also significant in placing an onus on universities to develop contextualised equity plans with reference to a national plan. These would include indicators and progress monitoring reported annually with reference to equity group representation, performance against targets, equity program progress and performance (Department of Employment, Education & Training 1990).

In the intervening years the widening participation agenda has evolved around the twin drivers of economic growth and social benefits (Naylor et al. 2013, p. 13). For example, the landmark *Review of*

Higher Education (Bradley et al. 2008), led by Professor Denise Bradley, found that people from low SES backgrounds, Indigenous, and rural and remote students were under-represented in higher education. The review's final report recommended targets and measures in response, making the case that widening participation in higher education would generate economic and social benefits. The then Labor Government's 2009 policy response (*Transforming Australia's Higher Education System*) formalised targets for the representation of equity groups in higher education and generated a number of initiatives to widen university participation (Naylor et al. 2013, p. 13). The report on the review of higher education by Bradley et al. showed that scholarships targeted at students from low SES background were one of the key initiatives implemented by Australian universities to overcome barriers to study at university. The relationship between scholarships and access, retention and success at university is complex, however. This is at least partly due to the systemic nature of disadvantage that students from under-represented groups face in their journey to, and through, university study, as the following brief overview of the literature illustrates.

Equity groups and systemic disadvantage

While the designation of equity groups has been beneficial in informing policy, in practical terms such groups are too broadly drawn to frame analysis of the complexity of disadvantage (Willems 2010, p. 605). Different impacts may be apparent within equity groups, determined by such factors as the membership of more than one equity group and overlaid by the effects of other contextual conditions. These overlays (termed 'equity sub-groups' by Willems) may include sociocultural factors such as access to technology, social isolation, proficiency in the language of instruction, employment and parental or carer status (Willems 2010, pp. 605-6).

In its progress report 2008–2011, the National Centre for Student Equity in Higher Education (2011, p. 1) offered a useful definition of equity:

...social systems (including education systems) tend to produce unequal outcomes (advantage and disadvantage), and that in part this is because individuals' starting positions and the processes involved in the production of social and economic outcomes are unfair. In this context, a commitment to equity is a commitment to adjusting social systems for socially just means and ends. In short, equity is a strategy: (a) to achieve (more) socially just ends; and (b) is informed by a theory about why and how...

Progress in the endeavour to create a more just society through higher education has been incremental and mixed. For example, Cardak, Bowden and Bahtesvanoglou found limited evidence in the literature of 'deepening participation by redressing socioeconomic disadvantage' (2015, p.15) and very little evidence of change in higher education participation by SES (2015, p. 9). Further, they contend that university participation by students from low SES backgrounds has remained steady, with expansion largely benefitting those from higher SES backgrounds, in keeping with patterns of representation in the US and Canada (Cardak, Bowden & Bahtesvanoglou 2015, pp. 9-10). More positively, in a review of Australian student equity data from 2007–2014, Koshy and Seymour (2015) found some growth nationally in the representation of students from low SES backgrounds enrolled at university compared with historical rates of representation. Their analysis showed that this improvement was variously distributed across university types, however, with Australian Technology Network universities showing greater growth than Group of Eight universities, and regionally located universities having far higher representation of low SES students than metropolitan universities.

This varied picture reflects the reality that the under-representation of people from low SES backgrounds in higher education involves a number of complex relationships that combine in different ways to prevent opportunities through a lack of enabling conditions and barriers (James et al. 2008, p. 10). Equity groups disproportionately experience educational disadvantage in the form of

systemic barriers, including restrictions of distance and time, the cost of higher education, prior low academic achievement or school non-completion and constraints on student expectations, motivation and aspiration (Gale et al. 2010, p. 5). These barriers correlate with four entwined preconditions of entry to university: availability, accessibility, achievement and aspiration, which need to inform equity policy and programs (Anderson & Vervoorn 1983). Equity scholarships mainly address the accessibility precondition to entry and their success in enabling participation in higher education is explored in the next section.

The relationship between financial disadvantage, scholarships and participation in higher education

Equity scholarships principally seek to address barriers associated with the cost of higher education. Yet the cost of education is but one barrier to higher education access and may vary in its impact by equity group (Naylor et al. 2013, p.20). Financial disadvantage has a range of systemic effects. Students from low SES backgrounds are under-represented in higher education due to lower educational attainment linked to SES. Further, there is a relationship between aspiration to go to university and SES (for example, Gale et al. (2010); James et al. (2008); Naylor et al. (2013)). As with other aspects of the under-representation of equity groups in higher education, the interplay of SES and aspiration for university is not straightforward, with the ability to negotiate a pathway towards aspiration needing consideration as well as the formation of aspiration to go to university (Gale & Parker 2013).

A national survey of Australian university student finances found increasing differentiation among students based on financial capacity. For example, full-time students from low SES backgrounds were more likely to go without food and those who worked were more likely to report that paid work affected their ability to study than other students, while Indigenous students were more likely to be funding their studies without family assistance and also more likely to be the sole provider for dependents (Bexley et al. 2013). As well as creating barriers in relation to funding living and study costs, financial disadvantage may have a deterrent effect based on aversion to accumulating debt (The Senate 2004, p. 171), although this point has been debated. For example, Cardak and Ryan found that financial constraints did not impact upon university participation by eligible students from low SES backgrounds although they noted that such students might be 'discouraged by ... the cost of a university education' (2009, p. 444). Similarly Reed and Hurd propose that students are not as sensitive to fee increases as some commentators have suggested (2014, p. 3). Further, a recent Australian study found that financial barriers were unrelated to university aspiration among low SES students, even though the majority had identified financial barriers to accessing higher education (Gore et al. 2015).

In a study of financially disadvantaged recipients of equity scholarships in a Victorian university, Carson (2010) found that students from rural backgrounds were doubly disadvantaged in relocating to university, facing additional financial costs and the loss of social networks. Students from rural and remote areas grapple with additional living and transport costs (Brett et al. 2015). Broadly speaking, financial disadvantage leads to a range of impacts including a lack of networks and access to technology, as well as the inability to afford basic facilities such as heating (Carson 2010, p. 39).

As noted earlier, financially disadvantaged students, such as those from low SES backgrounds, are more likely to need to combine work and study. As Moreau and Leathwood found in a UK post-1992 university, this can affect academic achievement, leading to stress and even ill health, due to the demands of negotiating work, study and other responsibilities (2006). Thus the systemic effects of

financial disadvantage reach beyond access to also create inequities in the quality of the student experience at university:

An important equality issue, and one particularly relevant to widening participation and issues of access, is that of access not only to university *per se*, but also to a quality student experience, including the time to engage fully in academic life. (Moreau & Leathwood 2006, p. 39)

In contrast with the extensive literature around widening participation in higher education, there is relatively little literature on the influence of equity scholarships on widening participation in higher education, particularly for financially disadvantaged students (Carson 2010, p. 38). In the small body of relevant literature, it is recognised that the influence of scholarships (on access, for example) is hard to measure due to multiple factors and the variable impact of these (James et al. 2008, p. 62). Soon after the release of the *Bradley Review of Higher Education*, Cardak and Ryan suggested that the effect of scholarships on the participation of students from low SES students was too early to determine (2009). Some commentators have tried to delineate the influence of scholarships on the higher education access, retention and success of students from equity groups.

For example, the potential influence of equity scholarships on aspiration and retention has been recognised (Naylor et al. 2013, p. 15). Reed and Hurd propose that scholarships can advance social inclusion by influencing the successful participation and retention of diverse students, including disadvantaged students whose academic potential has been previously latent (2014, p. 11). This expansive perspective contrasts with earlier views of equity and merit scholarships as a means to 'attract and reward meritorious students' (for example, Aitken, Schapper and Skuja (2004, p. 16).

There is consistent evidence that scholarships aid student retention but authors have been reluctant to attribute a causal relationship between receiving a scholarship and deciding to continue university study. In a study of equity and merit scholarships, Aitken et al. (2004) reported that disadvantaged students performed above average in their studies, without suggesting that this was a direct result of holding a scholarship. They found that a scholarship offered financial benefit and the ability to focus on study, along with a reduced need to undertake paid work to cover living and study costs (Aitken et al. 2004, p.24). Carson found that scholarships reduced students' financial burden and helped them to work less and focus 'more fully' on their studies (2010, p. 55). Overall Carson found that 'scholarships have a positive impact on students' studying and living conditions' (2010, p. 57).

Aitken et al. also found that holding an equity and merit scholarship had a positive influence on recipients' decision to study, influencing self-esteem and affirming past and present academic efforts (2004, p. 24). Scholarship recipients reported a psychological 'lift', characterised by pride in their achievements and the contribution of others towards these (Aitken et al. 2004, p.23).

More recently, Reed and Hurd have found that scholarships are a factor in supporting the successful participation and retention of disadvantaged students (2014, p.1). They found that holding a scholarship was associated with positive psychological influences such as a sense of belonging, security, independence, motivation, engagement and confidence (Reed & Hurd 2014, p.5). Scholarship recipients reported increased motivation based on being awarded a scholarship, associated with notions such as making the most of their time at university and greater resilience during difficult times associated with a desire to 'deserve' a scholarship (Reed & Hurd 2014, p.7). In line with other studies, however, Reed and Hurd do not claim that reported success effects are a direct effect of holding a scholarship; instead they present a model of 'connections of drivers and influences' (2014, p. 10).

The type of financial support provided to equity students can determine its effectiveness. For example, in a US study of state-based merit scholarship programs, Heller and Rasmussen reported

that grants were more effective than loans (2001). Significantly, they found that need-based scholarships promoted access for financially disadvantaged students, whereas merit-based schemes maintained the status quo because of a strong relationship between SES and the academic attainment which is the principal qualification for merit-based scholarships (Heller & Rasmussen 2001). Heller and Rasmussen suggested that the popularity of merit-based scholarships could 'crowd out' need-based schemes, thereby excluding access to college by financially disadvantaged students (2001, p. 35).

Moving from access to success, US research suggests that the relationship between financial support and student success is not straightforward or uniform. Alon (2007) found that grants and scholarships have the most positive effect on graduation in a study of the effectiveness of financial aid in promoting the retention and completion of minority students in highly selective US colleges and universities. Reflecting the complexity of the impacts of eligibility for aid and the likelihood of graduating, Alon found that the effect of financial aid needed to be considered separately from the negative effect of need-based eligibility for such aid. He found that minority students' persistence to graduation was 'more sensitive' to the amount of financial support provided, than their white counterparts' (Alon 2007, p. 297). Alon concluded that '... grant-based financial aid should be perceived and used as a tool to address the societal goals of diversity and equality' (2007, p. 309).

In a study of merit-based scholarships in a private art and design college in the US, Ganem and Manasse reported that the type of financial aid provided affects success and may have variable effects (2011, p.2). On the basis of statistical modelling they found that merit-based institutional scholarships at their college 'significantly impacted student success' (Ganem & Manasse 2011, p. 6).

While the influence of scholarships on student access to, and success at, university is contested, recent studies have consistently found a relationship between equity scholarships and student retention. Multiple co-existing variables mean it is not possible to establish whether this relationship is causative; however, there is evidence in support of scholarships as a positive factor in the retention at university of students from equity groups.

Limitations of equity scholarships as tools to widen participation

As discussed earlier, scholarships are but one tool to overcome barriers to access and retention of students from equity groups at university, and need to be considered as part of a program that addresses preconditions to higher education identified many years ago by Anderson and Vervoorn (1983): availability, accessibility, achievement and aspiration(1983)(1983)(1983)(1983). James et al. (2008) note that policies and programs responding to the under-representation of students from low SES backgrounds in higher education need to be multi-dimensional. Scholarships and similar financial support need to be considered as one aspect of a coordinated program to widen higher education participation, encompassing aspiration building, pathways, school partnerships and programs, transition into first year and other embedded supports (James et al. 2008, p. 6). For example, Cardak and Ryan (2009) noted the importance of promoting scholarships through partnerships with under-represented schools, to ensure early awareness of this type of support.

Willems acknowledges the complexity of equity issues and the varied factors and their different impacts on student participation, transition, retention and timely completion of higher education (2010, p. 618). She proposes that disadvantage needs to be considered with reference to multiple dimensions, not just membership of an equity group, and proposes an Equity Raw-Score Matrix as a tool for measuring 'the complexities of disadvantage' (2010, p.604).

Likewise Whiteford and Trinidad (2015) recommend that financial support should be considered as one of a number of supports underpinning positive student learning experiences, retention and completion. They also propose that equity scholarships need to be considered with reference to a university's mission and strategic direction and that universities should annually review scholarship allocations and processes to ensure transparency and develop an evidence base for practice.

Summary

A long-term and consistent policy focus on increasing the representation of equity groups in Australian higher education has not yet led to significant or consistent change in the representativeness of Australian university populations. More positively, however, recognition of the complexity of the multiple factors that create barriers to higher education participation is now more widely reflected in the range and coordination of equity programs. For equity scholarship practice this has translated into a shift from the conceptualisation and implementation of equity scholarships programs as access initiatives through to a growing understanding that scholarships can positively influence the student experience, along with the retention and success of students from equity groups. As Whiteford and Trinidad noted (2015), building the evidence base for equity scholarship programs and developing these as part of a holistic program of equity initiatives are both critical strategies for increasing the influence that equity scholarships can have. This project contributes to the evidence base in comparing three deliberately different universities and their scholarship programs to identify which factors have the greatest effects in terms of retention and success outcomes of equity students.

PROJECT METHODOLOGY

This project investigated what types of scholarships have the greatest effect on retention and success in higher education by people from equity groups, especially students from low SES backgrounds, regional and remote Australia and students with disability. It was designed as comparative case studies, using retrospective cohort analysis. It drew on 2 quantitative data sets, one primary, one secondary, to present a comparative analysis of scholarship recipient cohorts at 3 universities and their educational outcomes in terms of retention and unit completion in 2013–2014. Ethics approval was obtained through the Deakin University Faculty of Arts and Education Human Ethics Advisory Group under the terms of the Deakin University Human Research Ethics Committee (HAE-15-055).

Case method was chosen because it promotes collaboration and reflection on practice, including critical appraisal of the relationship between theory and practice (Shulman et al. 1990). Each institutional case is descriptive with reference to social context (Yin 2012, p. 49) to the extent that it offers insights into whether, and how, having a scholarship worked for recipients. Taken together, the institutional cases enable ‘the development of detailed, intensive knowledge of a small number of related cases’ (Robson 1993, p. 40). As representations, the institutional cases that follow are offered as instances of ‘a larger class’ (Shulman et al. 1990, p. 76) of equity scholarships practice. The study is cross-sectional, taking 2013 as a snapshot in time. At the same time, longitudinal data is available for QUT and included in the QUT case. This data demonstrates that the 2013 results are reasonably consistent in comparison with other years.

Data sources

The findings and recommendations in this project are based on the triangulation of two data sets from a single point in time:

1. **Data set 1:** a quantitative snapshot based on 2013 institutional data on the retention and success of recipients of selected equity scholarship schemes
2. **Data set 2:** qualitative data derived from responses to a scholarships impact survey of 2013 scholarship recipients.

Data set 1

The project team agreed protocols to guide institutional data extraction and analysis. These specified and defined:

- ‘Equity’ and ‘equity-merit’ scholarship definitions and cross referenced to scholarship scheme characteristics, eligibility and assessment criteria
- Student demographics
- Administrative categories
- Data fields.

Data set 1 protocols are included in Appendix 1.

The scholarship recipient sub-set was compared with the whole of cohort data and cohorts of equity students across the sample fields for each of the three universities. From the data analysis, findings were generated on apparent links between scholarships and retention and success rates to identify the influence scholarships had in contributing to retention and success of students from different equity groups. These were derived from any change in retention and success for the scholarship recipients when compared with the total cohort and equity cohort.

Data set 2

The 'Scholarships Impact Survey' was developed at QUT to investigate the recruitment and retention effects of equity scholarships on recipients. The survey focuses on how students find out about scholarships, whether this influences their decision to come to university, how recipients use their scholarship money and what, if any, impact this has on their studies. It was designed to investigate the influence of scholarships on recipients' learning, to build on anecdotal evidence that scholarships had enabled students to give more time and attention to their studies and had reduced stress and complications in their lives. The Scholarships Impact Survey has been run annually at QUT since 2005.

A number of minor modifications were made to the survey instrument in 2015 to reflect retrospective administration of the survey to a 2013 student cohort, along with the relevant change of institutional affiliation, i.e. Deakin University and University of Sydney respectively. Survey administration was managed separately by each university. The survey questions are included as Appendix 2.

At the University of Sydney, an 'Other' response was included in the scale for Q 12 about the importance of the scholarship in staying at university. This was not included in the other two university surveys. At QUT, Q3 'How did you find out about equity scholarships at [university]?' was not included in the QUT survey until 2014. The Deakin and University of Sydney student survey data include these data but not QUT's, as the survey was run at QUT in 2013 before this question was added.

Questionnaire design

The Scholarships Impact Survey consisted of 14 questions at Deakin and University of Sydney and 13 questions at QUT, due to survey timing, and took approximately ten minutes to complete. Question types included summated rating, Likert-scaled, closed and open-ended. Students were encouraged to participate in the survey to support improvement of the Equity Scholarships Scheme at their institution.

The questionnaire employed a mix of intentionally narrow questions to test specific factors, and open-ended questions to capture unknown or unpredicted factors. Where the strength of an impact was of interest, simple Likert scales were used, including negative response options such as, 'I don't recall', or, 'It hasn't helped me stay at uni – I intended to stay anyway'.

The number of questions was small, and most were answered by selecting an available option. This simplicity aimed to encourage high response rates from a busy cohort who might suffer from survey fatigue. Many questions had an 'other' open-ended selection where text could be provided, to ensure that those who had more to say had ample opportunity to provide their views. An 'any other comments' question at the end of the survey was included to pick up issues that might otherwise have been missed. Several simple demographic questions allowed the responses to be disaggregated by commencing/continuing; first-in-family/not first-in-family status; and by the number of hours in paid employment, which is a known risk factor for attrition.

The design of the questionnaire was consistent with its purpose of finding trends and issues, rather than trying to prove a hypothesis. The questions do not have a high degree of numerical specificity, but were useful in using simple descriptive statistics to assist in aggregating responses, identifying trends over time, and examining and interpreting the open-ended text for qualitative factors. Survey questions are included as Appendix 2.

Emerging knowledge in two key areas

Two findings emerged from administration of the survey at QUT:

1. Responses to the question about why scholarships assisted with time and attention to study indicated 'reduced the necessity for paid work' as an unexpectedly strong factor given most scholarship types provide low levels of funding per annum.
2. Further, open-ended text responses showed high levels of gratitude and a sense of belonging among recipients, linked to gratitude for being chosen to receive a scholarship and associated motivation to prove their worth. This psychological effect of scholarships was unexpected. No other new major issues have emerged that have not already been covered by survey questions.

Together this suggested that the balance of specific and open-ended questions was sufficient to discover major trends and issues, in line with the survey's purpose. In using this survey over a number of years, QUT has found that, broadly speaking, aggregated responses vary little from year to year. QUT's experience suggests that the instrument is valid, reliable, and fit-for-purpose. If future modifications were to be made to the survey they would most likely relate to the pre-application phase, to investigate any possible relationship between higher education aspiration and recruitment activities.

Sampling frame

The survey was administered to:

- QUT students who held a Commonwealth Indigenous Scholarship, QUT Equity Scholarship or a QUT Equity Bursary in 2013
- Deakin University students who were paid a Deakin Access Scholarship or a Deakin Retention and Support Grant in 2013 after the relevant 2013 Census dates. The original respondent group of 262 respondents was modified to exclude 8 participants who had received Indigenous support bursaries that fell outside the agreed scholarship scheme criteria.
- University of Sydney students who held a Sydney Scholar Equity Award, University of Sydney First Year Bursary or E12 Scheme Scholarship in 2013.

Table 1: Scholarships Impact Survey response rates by institution

Institution	Invited population	No. of survey respondents	Response rate
Deakin University	1073	254	24.00%
QUT	2191	553	25.54%
University of Sydney	728	119	16.00%

Survey method

No incentives for participation in the survey were provided. Administration was managed by each institution as follows.

At QUT the survey was administered between 7 November 2013 and 6 December 2013. Students were invited by email to complete an online survey via a link to QUT's online student portal (QUT Virtual). Students were given just over four weeks to respond.

To minimise errors in survey administration, at Deakin University and University of Sydney, the survey was automated, using the online tool, SurveyMonkey. At the University of Sydney the survey was administered between 1 and 28 July 2015. Students were invited by email to complete an online survey. A reminder email went out on 16 July 2015.

At Deakin University the survey was administered between 1 and 24 July 2015. Students were initially invited to complete an online survey by email. A reminder email was sent out on 20 July. Of the sample, 202 Deakin respondents completed surveys online. To boost the response rate, telephone interviews were also conducted. A further 52 students completed surveys by phone interview. Telephone interviews were conducted by student ambassadors on 14 and 15 July 2015. These were current students employed as casual staff and trained by Equity and Diversity to facilitate education outreach activities. Student interviewers input answers to survey questions into SurveyMonkey during the telephone interview. Before conducting interviews, student ambassadors were briefed by the Research Manager, Dr Juliana Ryan, who was also on hand to answer questions and support student interviewers. Student interviewers were provided with a de-identified list of students to call, with first names only, and a protocol and basic script for undertaking telephone interviews. The list of students included options for interviewers to confirm student consent, completion of the online survey over the phone and to make any relevant notes. Plain language and consent forms used for administration of the survey by Deakin University and University of Sydney are included as Appendix 3.

Reporting

The QUT survey responses were collated and analysed by the QUT Equity Scholarships team. Aggregated results were reported to senior executive in a 2013 QUT Equity Scholarships Scheme report.

Dr Kelly George, led the quantitative analysis and reporting of the survey data for Deakin University and the University of Sydney. For Deakin University, Dr George worked with de-identified, but re-identifiable, data. For University of Sydney she worked with de-identified data. Dr Juliana Ryan thematically analysed qualitative comments for Deakin University and University of Sydney, assigning responses to thematic nodes in NVIVO, and providing node summaries for inclusion in the Deakin University and University of Sydney Scholarships Impact survey reports.

Non-response bias

The proportions of respondents by gender and age group were checked in all three survey data sets and found to be consistent with the overall populations that were invited to participate in the surveys. This indicates minimal response bias in the survey data.

Limitations

The project originally aimed to analyse data set 1 through comparison of the scholarship recipient sub-set with the whole of cohort data and cohorts of equity students and course cohorts across the sample fields for each of the three universities. Due to relatively small numbers the course cohort comparison did not proceed as it was not considered meaningful.

Due to the timing of this study and focus on the 2013 cohort, the survey was conducted retrospectively with 2013 scholarship holders at Deakin University and University of Sydney. The time lapse meant that some students at Deakin University and University of Sydney were unable to respond to survey questions because they did not recall circumstances and experiences from 2013. Ideally, the survey should be administered close in time to receipt of a scholarship and be consistent across all participating institutions in the same study.

Structure of the case studies

This report presents three university case studies which provide the scope and context of the equity scholarship program in each university and demographic information on their scholarship holders in the academic year of 2013. The case studies outline the institutional results for the retention and success outcomes of equity scholarship holders, identify any relationships between design features and outcomes, comment on any recruitment effect of the scholarships and draw out the main findings for each university. For QUT, longitudinal data and detailed information on recipients are also presented as part of the case study. These data were included because they are unique and allow for the results of this study to be placed in a longitudinal context as well as offering a more nuanced picture on the applicants for, and recipients of, equity scholarships.

Additional details on all three case studies have been included in the Appendix. An integrated discussion of the institutional findings is presented in the section following the case studies, beginning on page 62.

DEAKIN UNIVERSITY: SCOPE AND CONTEXT

Taking 2013 as a snapshot in time, the Deakin University case considers the influence of holding a Deakin University Retention and Support Grant, or Deakin Access Scholarship, on student retention, success and access to university.

Deakin University was established by an Act of Parliament in 1974 as a regional university in Geelong, Victoria, with a mission to widen access to university and a focus on distance education. Today Deakin has more than 50000 students enrolled at campuses in Melbourne, Geelong (2 campuses), Warrnambool and in the Cloud (25% of Deakin's student population choose to study wholly in the Cloud) (Deakin University 2015). Deakin maintains a commitment to widening participation, teamed with a strategic focus on 'driving the digital frontier' to equip students for employment in a globalised digital economy (Deakin University 2015).

In 2013 Deakin Retention and Support Grants and Deakin Access Scholarships had a combined value of \$3.4 m. Both schemes were strategically aligned with Deakin's *Widening Participation Plan 2011–2013* (Deakin University 2010). The plan was built around a 'Triple A' framework of Aspiration, Access and Achievement which articulated into 11 widening participation strategies. Scholarships were positioned as an Access intervention and linked to a strategy to reduce financial, transport and accommodation barriers (Deakin University 2010).

Equity scholarships remain a key initiative in Deakin's program to widen university access and participation. Today equity scholarships, bursaries and grants represent 84% of the University's total scholarship program (nous Group 2015).

About the selected equity scholarship schemes

Deakin University Retention and Support Grants and Deakin Access Scholarships were offered to domestic undergraduate and postgraduate students in 2013. Deakin University Retention and Support Grants are offered as a one-off, one-year payment. Deakin Access Scholarships are offered for the duration of the degree. For the first time in 2013, Deakin Access Scholarship recipients were able to choose how their scholarships were allocated to cash, tuition or, where relevant, accommodation fees as follows:

1. \$7,500 (Deakin Access Scholarship), comprising:
 - a \$500 deposit on a student's Deakin Card to be spent at any of the University facilities, with the remaining \$7,000 allocated as chosen by the student, as a cash payment, as a payment towards tuition fees, or as a combination of the two.
2. \$10,000 Accommodation Scholarship per year for the normal duration of the student's course, comprising:
 - a cash payment of \$2000
 - a payment of \$8,000 which was made directly towards annual accommodation costs.
3. \$15,000 per year for Postgraduate Scholarships comprising:
 - \$6,000 cash (of which \$1000 was paid upon acceptance of the offer)
 - Up to \$9,000 towards tuition fees.

Eligibility criteria for both scholarship schemes included a combination of Centrelink or family taxable income status, personal circumstances and membership of specified equity groups. Student applications were assessed and ranked based on application information, including supporting

documents. Further detail about eligibility and selection criteria, funding sources and design features of the two schemes is included as Appendix 4.

Data sources

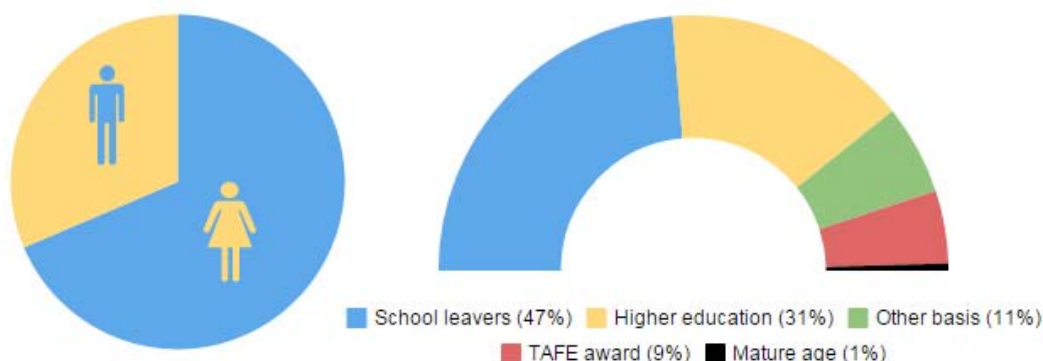
Findings are based on the triangulation of two datasets:

- Institutional data on retention and success outcomes for 2013 recipients of the two specified equity scholarships schemes by demographic (gender, age, low SES, regional/remote, Aboriginal and/or Torres Strait Islander origin or descent, and disability) and administrative categories (commencing/continuing, attendance mode, attendance type and basis for admission). Protocols for the collation and analysis of this dataset are included as Appendix 1.
- Responses (n=254) to the Deakin University Scholarship Impact Survey. This was administered in July 2015 as detailed on page 19.

About 2013 Deakin University equity scholarship holders

In 2013 equity scholarship holders (n=1073) represented 3.0% of the total Deakin University student cohort. Reflecting the undergraduate focus of the Deakin equity scholarships program, 93.6% of equity scholarship recipients were undergraduate, with postgraduate and Higher Degree by Research students constituting the remainder (6.4%).

Figure 1: Admission characteristics of Deakin University's 2013 equity scholarship holders

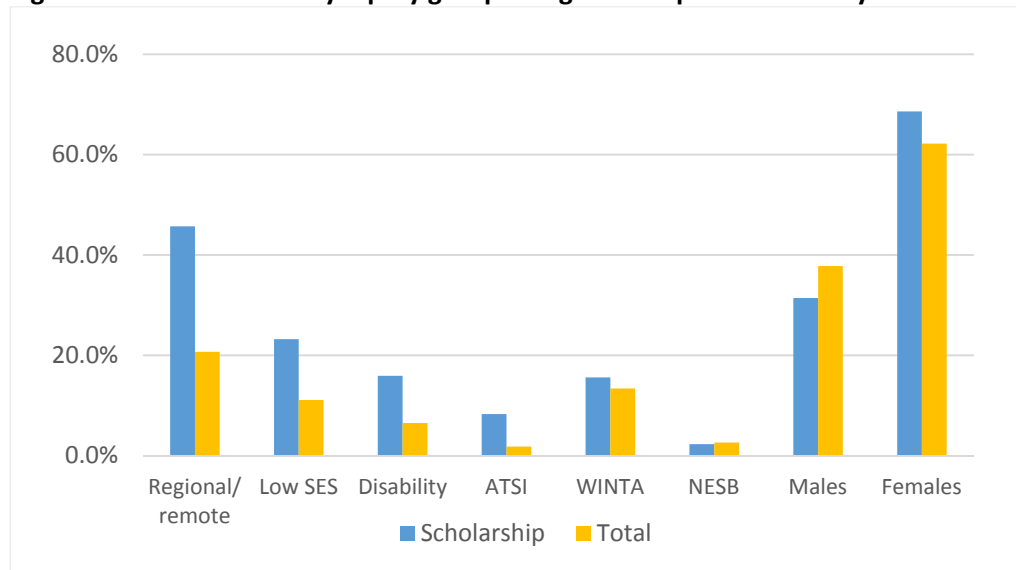


The majority of equity scholarship holders were female (68.6%; males: 31.4%) and returning students (61.8%; commencing students 38.2%). While the majority of equity scholarship holders were on-campus students (85.2%), a significant minority of 14.8% were off campus ('Cloud students'), reflecting Deakin's founding mission and ongoing strategic focus on education in the Cloud.

Just under half of scholarship recipients were school leavers, followed by those with prior higher education (complete or incomplete), those admitted on 'other basis', those with a TAFE award and others who achieved mature age entry (Figure 1).

Across the study, Deakin had the highest proportion of students with a disability among its 2013 equity scholarship recipients. Equity group and gender representation by cohort are shown in Figure 2 below.

Figure 2: Deakin University equity group and gender representation by cohort



The following results and analysis focus on students from low SES backgrounds, regional and remote students, students with disability and Aboriginal and/or Torres Strait Islander students. These results are presented with reference to recipient characteristics and, where relevant, by scholarship type. As will be discussed, the Deakin data suggests that although scholarship type is a factor in student retention and success outcomes, recipient characteristics are generally more influential.

FINDINGS

Retention

Across equity groups and scholarship types, equity scholarship holders had higher retention rates than other students. Scholarship impact survey data also affirmed this relationship. The majority of survey respondents (78%) reported that their scholarship had helped them to stay at university. Taken together, our data supports the finding that scholarships are a factor in the retention of students from equity groups.

**Deakin University finding 1:
Equity scholarships are a factor in the retention at university of students from equity groups.**

Table 2: Summary of 2013 Deakin University equity scholarship holder retention rates

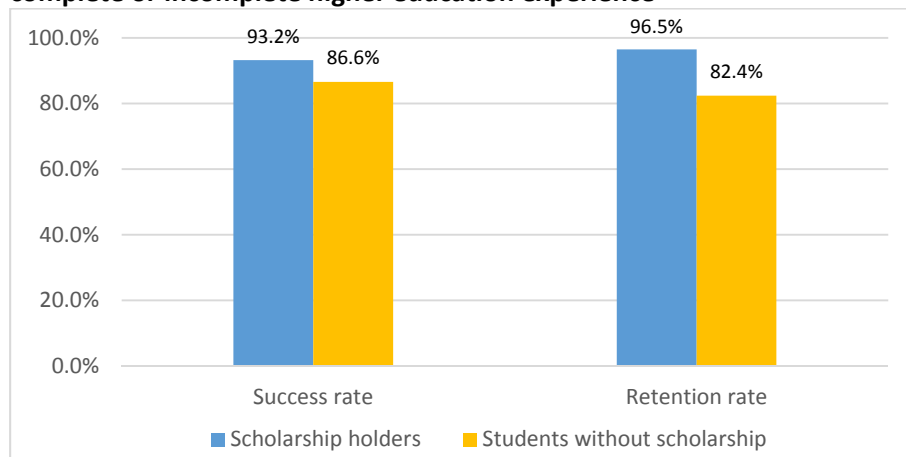
Student cohorts	Retention rate (%)			Base students	
	Scholarship holders	All 2013 students	% difference	Scholarship holders	All 2013 students
All students	91.2%	85.1%	6.1%	1,073	35,974
<i>Gender</i>					
Female	90.3%	85.6%	4.7%	736	22,371
Male	93.2%	84.3%	8.9%	337	13,603
<i>Course type group</i>					
UG	91.4%	86.7%	4.7%	1,004	27,148
PGC	84.8%	77.2%	7.7%	61	7,800
HDR	100.0%	93.5%	6.5%	8	1,026
<i>Commencing status</i>					
Commencing	89.3%	83.1%	6.2%	410	12,565
Returning	92.9%	86.4%	6.4%	663	23,409
<i>Attendance mode</i>					
On campus	92.5%	87.6%	4.9%	914	26,632
Cloud (online)	84.1%	77.7%	6.4%	159	9,342
<i>Basis of Admission</i>					
Secondary school education	90.4%	87.5%	2.9%	508	14,617
Complete/incomplete TAFE award	90.1%	85.4%	4.7%	99	3,570
Complete/incomplete higher educ.	96.5%	82.8%	13.7%	334	14,481
Mature age	77.8%	77.8%	0.0%	10	638
Professional qualification		100.0%			1
Other basis	83.0%	84.1%	-1.2%	122	2,667
<i>Age group</i>					
14-19	91.1%	87.8%	3.2%	336	9,586
20-24	92.2%	86.4%	5.8%	435	12,884
25-29	95.5%	81.1%	14.4%	125	4,595
30-39	86.7%	82.2%	4.6%	101	5,006
40-49	85.7%	81.2%	4.5%	57	2,703
50+	92.9%	80.2%	12.7%	19	1,200
<i>Equity students</i>					
Low SES students	89.3%	82.1%	7.2%	249	3,993
Other students	-	85.5%	-	-	31,981
Regional and remote students	92.4%	85.1%	7.3%	490	7,443
Other students	-	85.1%	-	-	28,531
Non-English speakers	85.0%	83.6%	1.4%	25	930
Other students	-	85.1%	-	-	35,044
Women in non-traditional areas	90.5%	84.5%	6.0%	167	4,809
Other students	-	85.2%	-	-	31,165
Student with disability	91.0%	84.5%	6.5%	171	2,345
Other students	-	85.1%	-	-	33,629
Aboriginal & Torres Strait Islanders	80.8%	71.1%	9.7%	89	642
Other students	-	85.4%	-	-	35,332

Within the institutional data there were two potentially overlapping exceptions to this overall finding. Scholarship holders admitted to Deakin on an 'other' basis had a slightly lower retention rate than non-scholarship holders. This was also the case for a small proportion of multiple scholarship holders: students admitted to university on 'other' basis, commencing students, Cloud students, older students (aged 30 and over) and Aboriginal and/or Torres Strait Islander students.

As shown in Table 2 above, holding a scholarship had a greater retention effect for males than females (8.9% improvement in retention rate compared with 4.7% for females). More positively, holding an equity scholarship seems to have been most significant in closing the retention gap for Aboriginal and/or Torres Strait Islander students.

Prior higher education appears to have been a factor in both the retention and success of equity scholarship holders, with such students showing the greatest gains in both areas compared with non-scholarship holders.

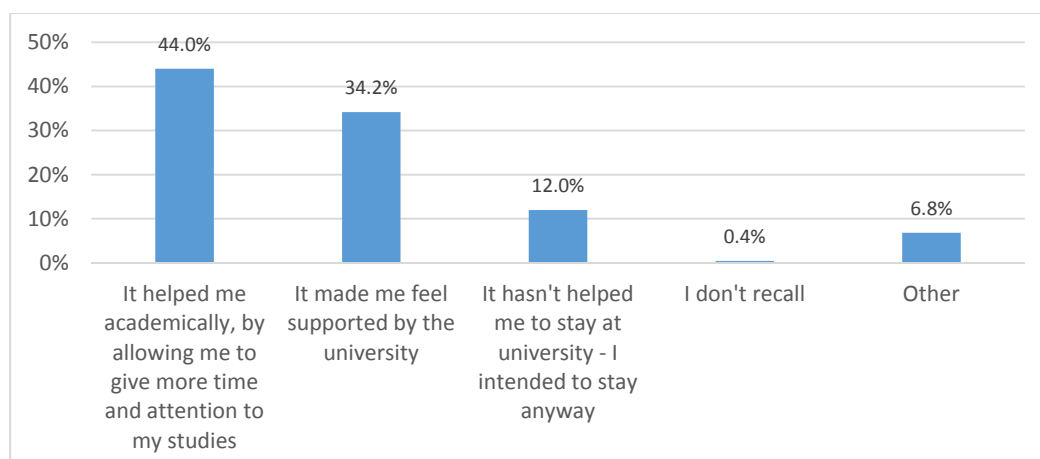
Figure 3: Success and retention outcomes for Deakin University students commencing with prior complete or incomplete higher education experience



How scholarships help retention

Survey data provided additional detail about the ways in which holding a scholarship helped student retention.

Figure 4: Deakin University influence of scholarship on retention (responses to survey question (n=228): In what way do you think the scholarship helped you to stay at university?)



Students' comments illustrated the relationship between holding a scholarship and staying at university. For example:

Student 1: *"The assistance from Deakin has been invaluable and during 2013 it was the difference between me staying at uni or having to drop out which would have been incredibly traumatic."*

Findings also supported the relationship between retention and 'bought time' to focus on study, which is also considered on page 29 in relation to success. Student comments encompassed financial relief and psychological effects such as reduced stress and a sense of belonging associated with feeling supported by the university.

Student 2: *"It was vital in being able to afford to go to university in regards to living expenses."*

For some, financial and psychological effects combined:

Student 3: *"I didn't have to worry about covering study & childcare costs, on top of the stress of trying to pass units."*

Time seemed to be the most precious currency of all for scholarship holders. This included time out of paid work to enable a focus on study:

**Deakin University finding 2:
Scholarships help equity students' retention at university by contributing to expenses and by 'buying' time to focus on studies.**

Student 4: *"My dad passed the year before from long illness and my Mum contracted cancer as well. It would have been impractical to work and study in the state of mind i was in."*

Scholarship type and retention

Institutional data showed higher retention rates for students with higher value scholarships (with the exception of the \$2,001–\$5,000 scholarship range). Scholarship type was associated with higher retention outcomes where the value was between \$7,500 and \$10,000. Students who received donor-funded equity scholarships showed 100% retention. Those who received a scholarship in the form of tuition fee relief also had notable retention rates.

Table 3: Summary of Deakin University student retention rates versus scholarship type

Scholarship type	Retention rate (%)	Scholarship number
All single scholarship recipients	91.3%	937
<i>Scholarship assistance type</i>	Accommodation	241
	Cash	514
	Tuition	140
	Combination of above categories	42
<i>Funding type</i>	Deakin funded	449
	Donor funded	50
	Government funded	438
<i>Payment schedule</i>	Duration of course	289
	One-off payment	648
<i>Scholarship dollar amount</i>	\$0 - \$500	33
	\$501 - \$1,000	180
	\$1,001 - \$2,000	405
	\$2,001 - \$5,000	125
	\$5,001 - \$7,500	111
	\$7,501 - \$10,000	68
	\$10,001 +	15

Retention outcomes by equity group

Review of institutional data by and within equity groups reveals some variations in the extent to which holding a scholarship influenced retention outcomes (see Appendix 5). For students from low SES backgrounds, holding a scholarship translated into a retention rate gain of 7.7% compared with low SES students who didn't hold a scholarship. Age seems to have a negative influence on the retention of low SES students, with retention outcomes for low SES scholarship holders aged 30-49 lower than those without scholarships. The influence of holding a scholarship on retention was higher for returning students and those with prior complete or incomplete higher education or TAFE, but less pronounced for school leavers.

A reverse age trend was evident for students with disability, with scholarship holders with disability aged 25 and above showing increasingly stronger retention rates compared with their non-scholarship-holding peers. Students aged 19 or under had lower retention rates than those without scholarships, correlating with lower retention rates for school leavers. Within the disability student cohort, those who were also from low SES backgrounds had strong retention rates well above those of their peers without a scholarship (96.4%/79.4%). Prior complete or incomplete higher education was associated with far stronger retention outcomes than prior TAFE studies.

For regional and remote students, scholarships were associated more strongly with improved retention rates. Students from low SES backgrounds, complete or incomplete higher education or TAFE prior study were also associated with stronger retention outcomes. Holding a scholarship appeared to have less influence on retention outcomes for regional and remote students aged 30-49, whose retention outcomes were lower than for regional and remote students without a scholarship. Regional and remote students who also had disability or who were also of Aboriginal and/or Torres Strait Islander origin or descent had better retention outcomes than those without a scholarship.

Success

The influence of holding an equity scholarship on success outcomes (Table 4) was less pronounced and more variable than on retention outcomes. For example, holding a scholarship had a stronger success effect for males than females (7.0%/3.2%). Success outcomes (90.1%/81.2%; see Table 3) were stronger for scholarship holders with disability than retention outcomes (91.0%/84.5%; see Table 4). From the institutional data shown in Appendix 5 it is clear that holding a scholarship closed the success gap for Aboriginal and/or Torres Strait Islander students, particularly for returning (91.3% success with scholarship/66.1% success without scholarship) and Cloud (76.5%/57.5%) students. This was also evident within the cohort of students admitted on an 'other' basis (75.5%/57.8%).

As shown earlier in Figure 3, prior higher education was also a factor in success outcomes for equity scholarship holders, with such students showing the greatest gain compared with non-scholarship holders.

Table 4: Summary of 2013 Deakin University equity scholarship holder success rates

Student cohorts	Success rate (%)			Base students	
	Scholarship holders	All 2013 students	% difference	Scholarship holders	All 2013 students
All students	90.1%	85.3%	4.7%	1,073	35,974
<i>Gender</i>					
Female	90.5%	87.4%	3.2%	736	22,371
Male	89.0%	82.0%	7.0%	337	13,603
<i>Course type group</i>					
UG	89.9%	84.8%	5.1%	1,004	27,148
PGC	92.8%	89.0%	3.8%	61	7,800
HDR	100.0%	96.2%	3.8%	8	1,026
<i>Commencing status</i>					
Commencing	85.9%	83.1%	2.8%	410	12,565
Returning	92.8%	86.8%	6.0%	663	23,409
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On campus	91.5%	86.2%	5.3%	914	26,632
Cloud (online)	79.1%	80.3%	-1.2%	159	9,342
<i>Basis of Admission</i>					
Secondary school education	91.0%	85.6%	5.4%	508	14,617
Complete/incomplete TAFE award	85.2%	82.6%	2.6%	99	3,570
Complete/incomplete higher educ.	93.2%	86.9%	6.3%	334	14,481
Mature age	77.6%	80.3%	-2.8%	10	638
Professional qualification		100.0%			1
Other basis	80.7%	78.8%	1.9%	122	2,667
<i>Age group</i>					
14-19	88.6%	84.2%	4.4%	336	9,586
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25-29	91.1%	85.1%	6.0%	125	4,595
30-39	86.7%	84.8%	1.8%	101	5,006
40-49	77.2%	84.9%	-7.8%	57	2,703
50+	90.8%	84.2%	6.6%	19	1,200

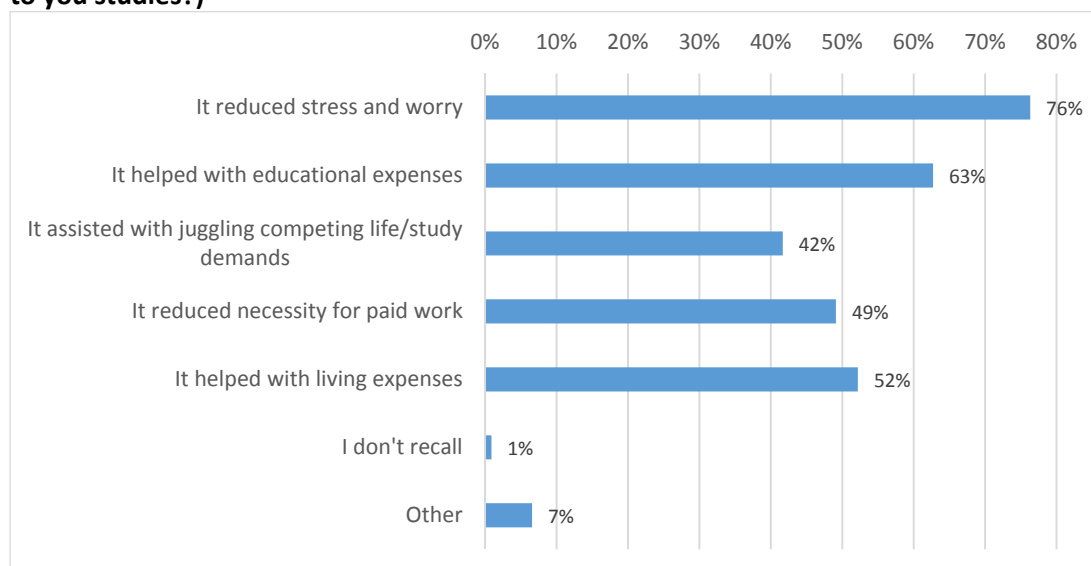
<i>Equity students</i>					
Low SES students	88.9%	81.8%	7.1%	249	3,993
Other students	-	85.8%	-	-	31,981
Regional and remote students	91.8%	86.8%	5.0%	490	7,443
Other students	-	84.9%	-	-	28,531
Non-English speakers	91.5%	83.0%	8.6%	25	930
Other students	-	85.4%	-	-	35,044
Women in non-traditional areas	88.5%	83.9%	4.6%	167	4,809
Other students	-	85.5%	-	-	31,165
Student with disability	90.1%	81.2%	8.9%	171	2,345
Other students	-	85.6%	-	-	33,629
Aboriginal & Torres Strait Islanders	77.9%	66.0%	11.9%	89	642
Other students	-	85.6%	-	-	35,335

Survey data also affirmed the influence of holding an equity scholarship on success outcomes. This principally related to the effect of a scholarship in contributing to educational and living expenses and in 'buying' time to focus on studies, with associated performance improvement.

How scholarships help student success

Of the 228 survey respondents, 66% reported that holding a scholarship had enabled them to give more time and attention to their studies to a large or very large extent.

Figure 5: Ways scholarship influenced provision of time and attention to studies (responses to survey question (n=228): In what way did the scholarship assist you give more time and attention to you studies?)



Students' comments referred to the extent and ways in which a scholarship might 'buy' students time to focus on study and reduce stress and life complexity.

Student 5: "I was studying off campus as a single Mum, it enabled me to buy a computer after my computer broke – without the computer I would not have been able to continue to study and complete my degree."

**Deakin University finding 3:
Scholarships help equity students' success by contributing to expenses and by 'buying' time to focus on studies.**

The above comment links holding a scholarship to both retention and success.

Similarly: **Student 6: "It made it possible to meet course demands."**

Students also described the relationship between debt relief and stress relief:

Student 7: "Since it covered my hecs then it reduced stress about getting into so much debt".

Success outcomes by equity group

The influence of holding a scholarship as a factor in success outcomes for equity students was varied (see Appendix 5). Among students with disability, those who were also from low SES backgrounds showed strong success outcomes (95.1%) compared with their peers who did not hold a scholarship (74.9%).

For students from a low SES background, males with scholarships had far higher success rates than those without (88.2%/77.5%), as did returning students (93.3%/82.6%) and students with prior complete or incomplete higher education (96.9%/83.4%). Age appears to have had a negative influence on success outcomes, with low SES scholarship holders aged 40-49 showing lower success rates than non-scholarship holders (66.4%/71.2%); however, this could be due to smaller numbers of students within this age group.

Among regional and remote students, stronger success outcomes were evident for returning students (95.2%/87.4%) and those with prior complete or incomplete higher education (96.7%/86.9%). Regional and remote students who also had disability or who were also of Aboriginal and/or Torres Strait Islander origin or descent had better success outcomes than their peers.

Aboriginal and/or Torres Strait Islander students who were also from a low SES background had better success outcomes than their peers without scholarships (76.8%/57.5%), as did those who were also regional and remote students (79.0%/60.2%).

While holding an equity scholarship seems to have been a factor in the retention of Cloud students and those aged 40-49, it was not a success factor for that cohort (Table 3).

Success and scholarship type

In the institutional data, scholarship type was associated with higher success outcomes where the value was between \$7,500 and \$10,000. As noted above, students were able to choose how scholarships were allocated to cash and fee relief. There was also an above-average success rate for students receiving a scholarship of between \$1,001 and \$2,000.

**Deakin University finding 4:
Scholarship type is a factor in supporting equity student success.**

Table 5: Summary of Deakin University student success rates versus scholarship type

Scholarship type		Success rate (%)	Scholarship number
All single scholarship recipients		89.9%	937
<i>Scholarship assistance type</i>	Accommodation	94.3%	241
	Cash	86.9%	514
	Tuition	95.2%	140
	Combination of above categories	85.7%	42
<i>Funding type</i>	Deakin funded	91.0%	449
	Donor funded	98.5%	50
	Government funded	88.0%	438
<i>Payment schedule</i>	Duration of course	91.1%	289
	One-off payment	89.5%	648
<i>Scholarship dollar amount</i>	\$0 - \$500	82.7%	33
	\$501 - \$1,000	88.3%	180
	\$1,001 - \$2,000	90.7%	405
	\$2,001 - \$5,000	88.3%	125
	\$5,001 - \$7,500	89.1%	111
	\$7,501 - \$10,000	94.0%	68
	\$10,001 +	98.1%	15

A small number of the surveyed students (n=9) reported that having a scholarship did not help them give time and attention to study. As for retention, this seemed to be linked to scholarship type, suggesting that the cash component of scholarships is significant in 'buying' time to focus on studies. For example:

Student 8: “It didn’t really affect anything – it paid for a course that otherwise would have been a HECS debt. I still had to work, still stresses over living expenses and textbooks like any other student.”

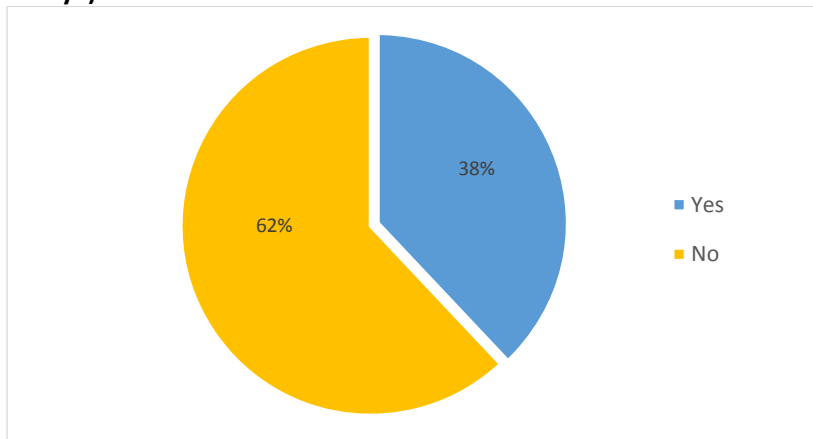
Recruitment and attraction of students

As noted earlier, in the past scholarships were largely viewed as access strategies, although more recently the influence of scholarships on equity student retention and success has been reported (for example, Reed and Hurd (2014)). Our data on this aspect is based solely on scholarships impact survey responses. Two survey respondents referred to the access implications of holding a scholarship; for example:

Student 9: “... without the scholarship ... would not have been able to afford to attend university.”

Survey data indicates that the recruitment influence of Deakin equity scholarships was not strong. This was at least partly due to comparatively low awareness of scholarships before students attended university, as shown below.

Figure 6: Recruitment influence of equity scholarships by awareness (responses to survey question (n=237): Were you aware of Commonwealth or equity scholarships before you started university study?)



This low level of awareness of equity scholarships was almost identical among commencing students, at 39%. Comments about the equity scholarship program included suggestions about better and earlier promotion of scholarships (n= 6/93), such as:

Student 9: “Advertising them more to high school students and students already enrolled in university courses would be highly beneficial, ensuring everyone gets the chance to apply for them.”

**Deakin University finding 5:
Equity scholarships do not have a strong influence on the recruitment of equity students.**

Awareness of scholarships this does not seem to have strongly influenced students’ decisions to go to university. Among the minority of students who indicated that they were aware of scholarships before attending university only 32% reported that knowing about scholarships had influenced their decision to go to university either to a large or very large extent. The majority (57%) reported that this awareness had either no influence (48%) or only influenced their decision to go to university to a slight extent (9%).

Timing of the scholarship offer may also have been a factor. In response to the question, ‘To what extent did receiving your equity scholarship offer before you enrolled influence your decision to go to Deakin University?’ 37% of respondents agreed that a scholarship offer had influenced their decision to go to Deakin to a large or very large extent. A significant minority of 23% of respondents reported that receiving a pre-enrolment scholarship offer had not influenced their decision at all. This pattern was very similar for commencing students. A very small minority (2%) of respondents to a question about the Deakin scholarship program reported that a scholarship offer was the reason they came to Deakin. In commenting about the scholarship scheme, 2 out of 93 respondents to this question gave having a scholarship as the reason they came to Deakin. One of these stated that they had been planning to attend another university but changed to Deakin because of a scholarship offer.

Design and implementation of equity scholarship programs

Survey respondents had the option of providing additional comments or suggestions about the Deakin scholarship program. A significant minority (37%) took up the opportunity, some providing multiple responses.

Respondents were notably appreciative of receiving a scholarship, with 18 respondents using the opportunity to say thank you for their scholarship. This appreciation extended forward, with half of those who made comments on the effectiveness of the program expressing the wish that it continue for others' benefit; for example:

Student 10: *"Make sure the program keeps running, without it, I wouldn't be where I am today."*

Some respondents elaborated on the positive influence of holding a scholarship. Comments covered access to university (n=8), reduction of stress (n=8), psychological impact and affirmation (n=6), buying time for study (n=5), financial impact and staying at university (n=3).

The following comment epitomises the psychological and social influences of scholarships on equity students:

Student 11: *"I had such a difficult year in 2012 when I commenced for various personal reasons and my grades suffered immensely. Receiving this scholarship felt as though I was getting a fresh start at university and I haven't looked back ever since. I'm so thankful to have been given this opportunity. If I did not receive this scholarship I truly believe i wouldn't be where I am today. It motivated me to work my hardest."*

Comments and suggestions also provided recommendations about improvements to scholarship program design, including:

- **Promotion of scholarships**, including the need to raise awareness of scholarships, particularly during school years, to complement aspiration building activities
- **Administrative streamlining of the scholarship application process**
- **Scholarship product design**, including duration, value, packaging and the timing of payments
- **Increasing support** for particular equity groups, increasing the number of scholarships and increasing the value of scholarships.

Summary

The Deakin University case supports the value of equity scholarships based on their potential influence on student success and retention, as well as access to university.

Student 11 captured this value across its financial, psychological and social dimensions:

"I'm so thankful to have been given this opportunity. If I did not receive this scholarship I truly believe I wouldn't be where I am today. It motivated me to work my hardest as well as allowed me to be less focused on finances, and my GPA has improved trimester by trimester ever since, thank you Deakin!"

Another student encapsulated the implications of effective equity scholarship programs for present and future generations of students:

Student 12: *"It is a priceless opportunity for students. It gives them the confidence to study regardless of their financial situation."*

QUEENSLAND UNIVERSITY OF TECHNOLOGY: SCOPE AND CONTEXT

The Queensland University of Technology in Brisbane has 45,000 students, including some 6,000 from overseas. One of 8 public universities in Queensland, it is a member of the Australian Technology Network (ATN) and was created from the amalgamation of the Brisbane College of Advanced Education and the Queensland Institute of Technology in 1989.

The three campuses include two in the inner city and one in the outer-urban region north of Brisbane (Caboolture) whose local population has low levels of tertiary participation. The six faculties cover QUT Business School, Creative Industries Faculty, Faculty of Education, Faculty of Health, Faculty of Law and the Science and Engineering Faculty.

QUT has a long history of social justice activity for both students and staff, with a particular emphasis on low-income students and gender equity. Some programs, such as the admissions bonus scheme for low-income students, are over 20 years old. The Equity Services Department, which manages the needs-based scholarship scheme, is responsible for a number of social justice initiatives, and for driving related change across the university.

About the QUT Equity Scholarships Scheme

Scholarships for students experiencing financial hardship have been in place as a university-wide scheme since 1998, although it was not until 2005 that the Equity Scholarships Scheme (the Scheme) reached a large scale. At the time of writing, the Scheme provides approximately \$4.5m in scholarships and bursaries each year, and reaches over 2,200 recipients annually.

All QUT-funded scholarships are for one year. Students re-apply, and have their applications re-assessed, annually. The scheme is conceptualised and positioned as a learning program, not a welfare program, and also aims to de-stigmatise financial hardship and normalise financial support. The value of the main scholarship products in 2015 is \$3,500 for a scholarship and \$1,500 for a bursary, although in 2013, the values were lower (\$2,500/\$1,000).

Since 2005, QUT has allocated a set percentage of its budget annually for equity scholarships, and has been simultaneously building the [Learning Potential Fund \(LPF\)](#). At \$41m and growing, it is a sector trend-setter, and will eventually be the sole source of scholarship funds. The LPF involves the sector's largest Staff Giving program (704 staff donate each pay); a fund-raising committee of senior business leaders; a Staff Giving Committee; a dedicated team in the Development Office; and matching funds for all donations. Although the fund-raising element is not the subject of this study, it is worth noting that in QUT's experience, institutional knowledge and commitment to the issue of student poverty can be built through engagement in fund-raising, and that showing the positive effect of scholarships on individuals is the key to motivating donors, be they staff or external.

The Scheme also provides scholarship guarantees to certain cohorts of commencers – since December 2005 for applicants from [The Smith Family's Learning for Life](#) program, and since 2012 applicants who are assessed by Queensland Tertiary Admissions Centre (QTAC)'s [Educational Access Scheme](#) as experiencing financial hardship.

The Scheme is tightly nested with other [financial support measures](#) of a just-in-time nature – loans, emergency bursaries, work-integrated learning bursaries, hardship grants, budgeting advice and Centrelink advocacy. Since 2009, stories of the Scheme's recipients have been used in pre-tertiary

outreach with low-income schools and communities, to challenge the myth of university unaffordability and to stimulate interest in tertiary study.

About the selected scholarship schemes

The QUT case includes three elements within the overall Scheme:

1. Equity Scholarships (ranging from \$1,000–\$5,000 per year)
2. Indigenous Commonwealth Scholarships
3. Equity Starter Bursary (\$500 to cover costs at the start of semester).

Assessment criteria

From its inception the Scheme established particular characteristics, which have remained unchanged. Assessment criteria relate to the financial hardship and complicated life circumstances of the applicant. A dual focus on applicants being both cash-poor and time-poor was intentional from the outset and designed to capture those most at risk of attrition. Points are awarded for each assessment criterion, some on a sliding scale, and all based on evidence. The weighting given to each of the criteria results in a 50/50 weighting of applicants' financial and life circumstances. Some scores require judgement from the assessors, and comparability is maintained by a combination of training, detailed criteria, moderation via light sampling by the supervisor, and group meetings about difficult cases. All applicants receive a total score which indicates their overall level of need – the higher the score, the needier they are assessed to be. Different scholarship products are allocated in order of value, so that applicants with the highest scores get the highest-value scholarship they are eligible for.

A small number of exceptions to this rule occur, as some donor-funded scholarships have other criteria in addition to need; for example, gender, rurality, or a particular discipline area. These scholarships with particular criteria are allocated first.

Over time there has been continuous improvement in the selection methodology with changes to the numerical weighting of some assessment criteria and to some 'severity' scales. There has also been continuous improvement in the administration and business processes underpinning the Scheme, including early outcome advice to applicants (pre-Christmas), and early payment processing (pre-census date). The purpose-built data base is integrated with central student systems, and automates much of the process without losing the personal touch.

Assessment criteria are included in full in Appendix 6, along with information about how different scholarship types are managed within this overall selection method.

Eligibility

Another distinct feature of the Scheme, is that it does not take into account school results or university grade point average (GPA). Eligibility to apply is as wide as possible – all students except a handful, are eligible to apply. Special consideration is given to Aboriginal and Torres Strait Islander applicants within the Scheme, particularly in the measurement of need.

Funding rounds

There are three rounds of scholarship allocation within the annual scheme – before Christmas; semester 1 and semester 2. In the first round, successful applicants are advised of the outcome before the end of the year. This is particularly important for commencers who are then aware that they will receive a scholarship, should they be offered and accept a place at QUT and enrol. Successful applicants are paid by about week 2 of semester, which is prior to census date, except for Commonwealth Scholarships which mandate that payment must be after the census date. Appendix 6 shows the numbers of different scholarships allocated in 2013, and the payment timelines for each.

Data sources

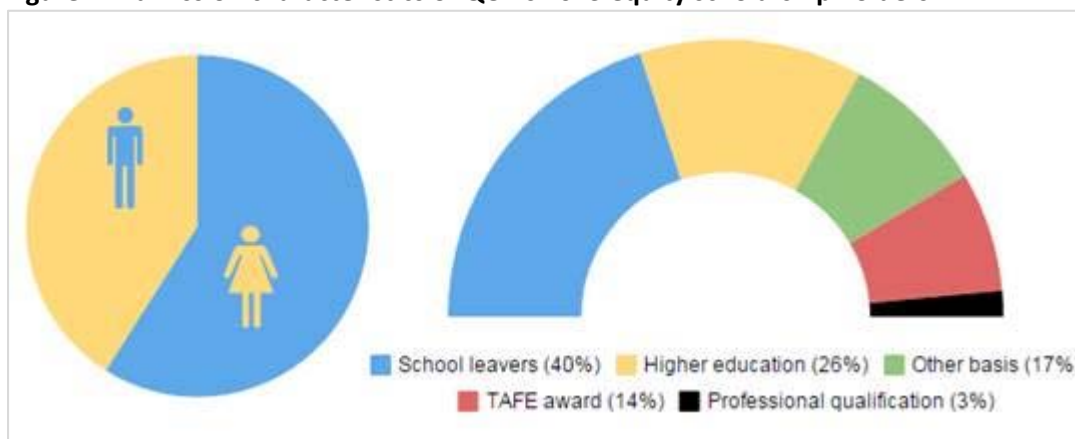
Findings are based on the triangulation of two datasets:

- Institutional data on retention and success outcomes for 2013 recipients of the equity scholarships scheme by demographic (gender, age, low SES, regional/remote, Aboriginal and/or Torres Strait Islander origin or descent, and disability) and administrative categories (commencing/continuing, attendance mode, attendance type and basis for admission). Protocols for the collation and analysis of this dataset are included as Appendix 1.
- Responses (n=553) to the QUT Scholarship Impact Survey. This was administered in November 2013 as detailed on page 19.

About 2013 Queensland University of Technology equity scholarship holders

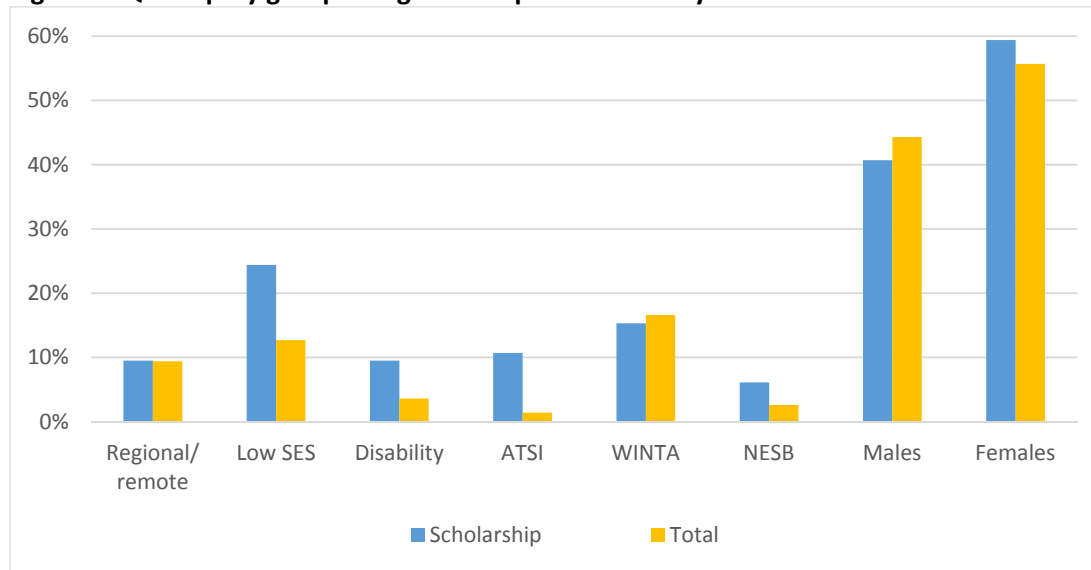
In 2013, 4,872 students applied, and 2,128 scholarships/bursaries were allocated. In general, the applicant pool, and the recipient cohort reflect the faculty spread of the overall student body.

Figure 7: Admission characteristics of QUT’s 2013 equity scholarship holders



Of the 2,128 equity scholarship recipients in 2013, 59.4% were female and 40.7% male. This is on par with the overall university student population of 55.7% female and 44.3% male (Figure 8). Very high proportions (93.8%) of the recipients were studying in undergraduate courses, with postgraduate coursework and research students making up the rest at 6.2%. The majority of recipients (96.4%) were studying via internal mode. This is reflective of QUT’s overall student population where more than 89.0% of students are internal or on-campus students. Most (70.5%) of recipients were 14–24 years of age.

Figure 8: QUT equity group and gender representation by cohort



With the exception of women studying in non-traditional areas, the proportion of recipients from equity groups exceeds the group’s representation in the University population. For example, low SES students are 12.7% of the population but over 24% of recipients. Further assessment information about the equity scholarship cohort shows that 56.25% of the recipients are on a Centrelink benefit, 50.66% have ‘high’ financial hardship (indicating deprivation), 16.26% are parents or carers, and 57.99% have challenging personal circumstances

FINDINGS

Retention

The retention effect of scholarship-holding is apparent across all scholarship types and all equity cohorts. Taken as a group, equity scholarship recipients had a higher retention rate of 86.6% than the all-student rate of 83.7%, a significant and somewhat surprising result considering the all-student group includes those who do not have pressing financial or personal circumstances.

Within each equity cohort, the retention rate for scholarship-holders is higher than non-scholarship-holders in the same group. The scholarship-holder retention rates of each equity group also exceed the all-student rate, except for regional and remote students, where it is lower (Table 6).

QUT finding 1: The retention effect of holding an equity scholarship is apparent across all scholarship types and all equity cohorts.

Table 6: Summary of 2013 Queensland University of Technology equity scholarship holder retention rates

Student cohorts	Retention rate (%)			Base students	
	Scholarship holders	All 2013 students	% difference	Scholarship holders	All 2013 students
All students	86.6%	83.7%	2.9%	2,128	37,495
<i>Gender</i>					
Female	85.6%	83.7%	1.9%	1,263	20,883
Male	88.0%	83.8%	4.2%	865	16,612
<i>Course type group</i>					
UG	86.8%	85.3%	1.5%	1,997	29,892
PGC	81.0%	72.3%	8.7%	113	5,999
HDR	94.4%	86.6%	7.8%	18	1,604
<i>Commencing status</i>					
Commencing	83.9%	80.8%	3.1%	1,054	13,836
Returning	89.9%	86.0%	3.9%	1,074	23,659
<i>Attendance mode</i>					
On campus	86.8%	84.7%	2.1%	2,051	33,262
Cloud (online)	80.7%	74.9%	5.8%	77	4,233
<i>Basis of Admission</i>					
Secondary school education	88.4%	85.9%	2.4%	864	14,235
Complete/incomplete TAFE award	84.6%	83.4%	1.3%	293	3,281
Complete/incomplete higher educ.	86.6%	82.2%	4.4%	551	17,065
Mature age	75.0%	74.2%	0.8%	60	310
Professional qualification	84.1%	82.0%	2.1%	360	2,604
Other basis					
<i>Age group</i>					
14-19	87.1%	85.8%	1.3%	832	11,466
20-24	87.7%	86.1%	1.6%	668	13,854
25-29	88.2%	79.6%	8.6%	216	4,751
30-39	85.5%	78.1%	7.4%	239	4,230
40-49	79.0%	78.1%	0.9%	173	3,194
50+					
<i>Equity students</i>					
Low SES students	88.4%	81.8%	6.6%	520	4,751
Other students	-	84.0%	-	-	32,744
Regional and remote students	85.4%	88.2%	-2.8%	201	3,510
Other students	-	84.1%	-	-	33,985
Non-English speakers	92.4%	86.5%	5.9%	129	982
Other students	-	83.7%	-	-	36,513
Women in non-traditional areas	85.6%	84.8%	0.8%	325	6,216
Other students	-	82.8%	-	-	20,783
Student with disability	83.1%	80.1%	3.0%	202	1,351
Other students	-	83.9%	-	-	36,144
Aboriginal & Torres Strait Islanders	85.2%	78.5%	6.7%	227	522
Other students	-	83.8%	-	-	36,973

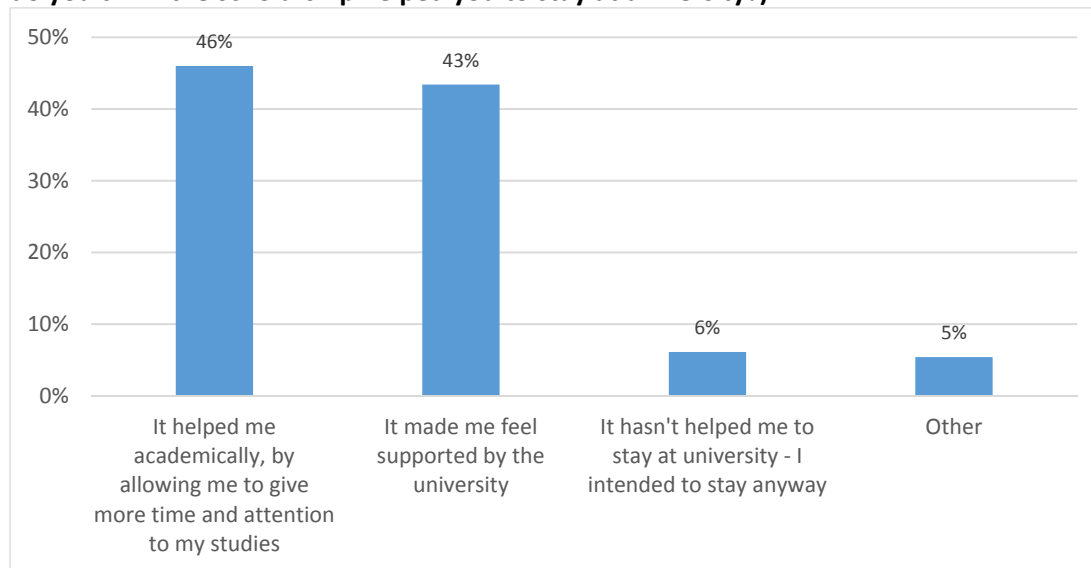
How scholarships help retention

The consistency of retention outcomes across multiple parameters indicates a direct relationship with scholarship-holding. The survey responses provide confirmation and illustrate how scholarships help retention.

Over 90% of survey respondents said the scholarship helped them stay at university. Of these, 46% said it helped academically by allowing more time and attention to study, and 43% said it made them feel supported by the university (Figure 9).

When asked about how the scholarship assisted them to give more time and attention to their studies, respondents' top three answers (all >80%) were that it reduced stress and worry; it helped with educational expenses; and it helped with living expenses. In addition, nearly half of respondents said the scholarship reduced the necessity for paid work.

Figure 9: Influence of scholarship on retention (responses to survey question (n=553): In what way do you think the scholarship helped you to stay at university?)



Unsolicited feedback and open-ended survey comments confirm a powerful mix of practical and psychological effects which holding a scholarship can have on helping students to stay at university and focus on study.

Student 1: *“Without the financial support from QUT, the stress would have sunken my dream of becoming a teacher. I cannot put in words how grateful I am for the scholarship, and how essential it has been to allow me to continue my studies, especially as a full time single father.”*

Student 2: *“I cannot express enough how important the QUT Equity Scholarship has been to my time at university. Being supported by the university makes up for not being able to be supported by parents or family in times of need and in everyday situations and this has helped me stay at university and motivates me to do well in my studies. Receiving this scholarship has allowed me to develop my readiness for paid employment again as a lot of the stress and worry around having enough money to get by, together with the need to do well in my classes, is significantly lowered. I don't know where I would be without this support. Thank you”*

Student 3: *“It is fantastic, I am a sole parent with 2 children, both of whom have disabilities. Their disabilities and high care needs prevent me from engaging in paid work to supplement my income.*

The equity scholarship program reduces the financial stress and worry so I can focus on my studies.”

Thus the retention effect can be seen to arise from the practical outcomes of holding a scholarship – paying for educational and living expenses (which reduces stress) plus reducing paid work hours (which generates time) – in addition to the psychological effects (feelings of gratitude, motivation, and a sense of belonging).

QUT finding 2: Equity scholarships affect retention through two factors. At the practical level they reduce stress by covering educational and living expenses, enabling reduced paid work hours. Psychologically, holding a scholarship can generate feelings of gratitude, motivation and a sense of belonging.

Scholarship type and retention

As shown in Table 7, scholarship type does not appear to have consistent correlations with retention. The strongest observable pattern was in relation to scholarship value in that students who received the most valuable scholarship products, had the lowest retention rates. This finding is related to QUT’s selection methodology and is further explained on page 45.

Table 7: Summary of QUT student retention rates versus scholarship type

Scholarship type		Retention rate (%)	Scholarship number
All single scholarship recipients		86.8%	2,035
<i>Scholarship type</i>	QUT scholarship	84.7%	1,402
	QUT bursary	92.7%	529
	Government scholarship	88.0%	104
<i>Funding type</i>	QUT funded	86.7%	1,919
	Donor funded	81.8%	12
	Government funded	88.0%	104
<i>Payment schedule</i>	Duration of course	90.0%	42
	One-off payment	86.7%	1,993
<i>Scholarship dollar amount</i>	\$0 - \$500	100.0%	1
	\$501 - \$1,000	92.7%	528
	\$1,001 - \$2,000	85.5%	190
	\$2,001 - \$5,000	84.8%	1,316
	\$5,001 - \$7,500		
	\$7,501 - \$10,000		
	\$10,001 +		

Retention outcomes by equity group

The consistent effect of holding a scholarship on retention is observable in the aggregate data. Retention rates are generally higher for equity groups (Appendix 7: templates 2, 3, 4, 5) with the exception of:

- regional and remote students who also have disability (template 3)
- students with disability (template 4)
- students studying online
- by basis of admission (school leavers, professional qualification and institutional admission)

- for students aged 24 or below
- students with disability who are also women studying in non-traditional areas.

Change over time: longitudinal data from QUT

QUT has undertaken institutional data analysis and collected student survey data since 2007 and thus, has the benefit of available longitudinal data. The retention rate of scholarship-holders has exceeded that of all students in all but 2 years (2011 and 2012), when it was marginally lower. The most recent gap (2014) was a 0.55% difference compared with the 2013 gap of 2.91%. Thus, the retention-enhancing effect of equity scholarships has been relatively consistent over time, despite changes in the number and mix of products (including Commonwealth scholarships).

QUT finding 3: The effect of holding a scholarship on student retention is relatively consistent over time in both institutional and survey data.

The consistency of survey data over time has been remarkable. With the exception of two questions, the percentage responses to all questions have remained stable over 8 years, despite variations in the scale and type of scholarships. Two questions provide positive exceptions. Firstly, the extent to which the scholarship has helped to give more time and attention to studies has seen a steady increase over time of those reporting 'to a large or very large extent' from 65% in 2007 to 83% in 2014. Similarly, the percentage who said scholarships were 'essential' in helping them stay rather than drop out, grew from 53% in 2007 to 73% in 2014. These trends suggest that QUT equity scholarships are becoming more relevant to retention over time, and that the retention effect is likely to continue.

Success

Contrasting with consistent retention outcomes, the effect of scholarship-holding on student success is quite variable. The success rate of scholarship-holders did not exceed that of all students in 2013, nor in 2012 and 2014.

Within equity groups, the success of scholarship-holders is better than non-scholarship-holders for low-SES, regional/remote, and Indigenous students, but only the regional/remote rate exceeds the all-student rate. For students with a disability, and women in non-traditional areas of study, the scholarship-holders' success rates are lower than those without scholarships in those groups (Table 8). The relationship between receiving a cash scholarship and the number of units passed, is more than likely related to the extent to which the scholarship assists with providing focus and time for study.

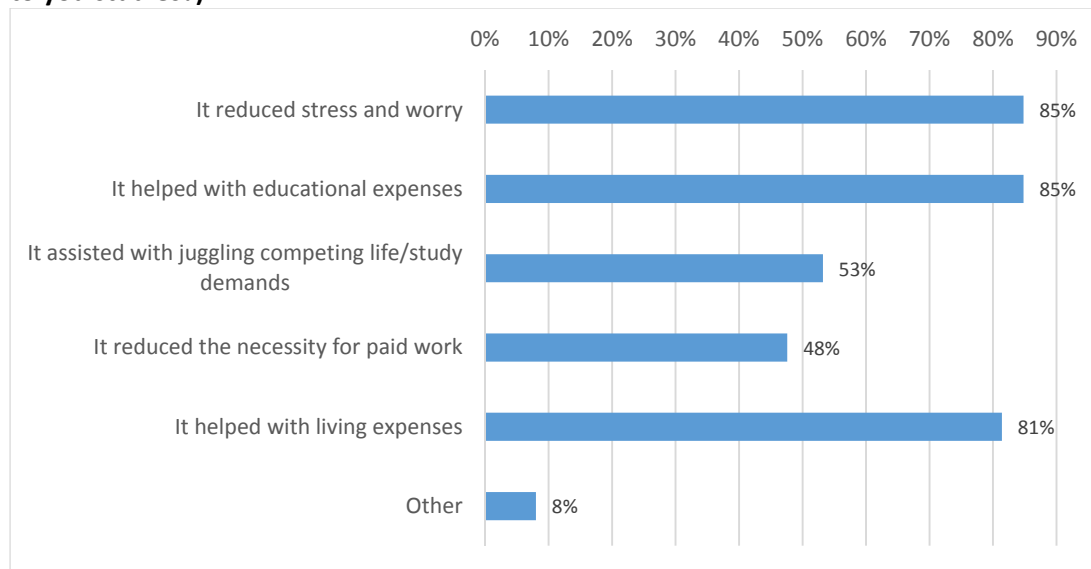
Table 8: Summary of 2013 QUT equity scholarship holder success rates

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Female	86.7%	90.0%	-3.3%	1,263	20,883
Male	83.4%	85.0%	-1.6%	865	16,612
<i>Course type group</i>					
UG	85.2%	87.2%	-2.1%	1,997	29,892
PGC	89.1%	92.3%	-3.2%	113	5,999
HDR	65.8%	74.8%	-9.0%	18	1,604
<i>Commencing status</i>					
Commencing	82.6%	86.6%	-4.0%	1,054	13,836
Returning	88.2%	88.4%	-0.2%	1,074	23,659
<i>Attendance mode</i>					
On campus	85.5%	87.8%	-2.3%	2,051	33,262
Cloud (online)	81.3%	85.7%	-4.4%	77	4,233
<i>Basis of Admission</i>					
Secondary school education	87.5%	88.3%	-0.8%	864	14,235
Complete/incomplete TAFE award	78.8%	83.0%	-4.2%	293	3,281
Complete/incomplete higher educ.	86.8%	88.4%	-1.6%	551	17,065
Professional qualification	77.7%	77.3%	0.4%	60	310
Other basis	81.8%	87.1%	-5.2%	360	2,604
<i>Age group</i>					
14-19	85.4%	87.3%	-1.9%	832	11,466
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50+					
<i>Equity students</i>					
Low SES students	86.9%	86.4%	0.5%	520	4,751
Other students	-	87.9%	-	-	32,744
Regional and remote students	88.7%	88.2%	0.5%	201	3,510
Other students	-	87.6%	-	-	33,985
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Other students	-	87.7%	-	-	36,513
Women in non-traditional areas	81.4%	87.4%	-6.0%	325	6,216
Other students	-	89.6%	-	-	20,783
Student with disability	77.9%	83.2%	-5.3%	202	1,351
Other students	-	87.8%	-	-	36,144
Aboriginal & Torres Strait Islanders	78.6%	75.8%	2.8%	227	522
Other students	-	87.9%	-	-	36,973

How scholarships help student success

When asked about how the scholarship assisted them to give more time and attention to their studies, respondents' top three answers (all >80%) were that it reduced stress and worry; it helped with educational expenses; and it helped with living expenses. In addition, nearly half of respondents said it reduced the necessity for paid work (Figure 10).

Figure 10: Ways scholarship influenced provision of time and attention to studies (responses to survey question (n=553): In what way did the scholarship assist you give more time and attention to you studies?)



Student comments reinforce this connection:

Student 4: *"The equity scholarship program is fantastic! I feel nothing but gratitude towards equity services and QUT. I am a single mum with 4 kids and I have to deal with many different life style stresses - financial strain is the only reason I would not continue my studies. The scholarship that I have received in the past 2 years has meant that I have been able to purchase text books and cover the costs of my studies at a time when I also have to juggle paying for school books/ uniforms and fees for 3 of my children to attend school. I would simply not be able to afford my university expenses for my studies without QUTs help. I am proud to say that due to my ability to focus on my studies I have made the deans list for academic achievement for the last two years. I have no doubt that this is in part due to the support I have received from QUT equity services in allowing me the time to dedicate to my studies through their financial support. I feel very lucky to have the support of my university which has allowed me the opportunity to further my education and provide a better future for myself and my children. Thanks QUT- university has changed my life!"*

Student 5: *"If I did not receive this scholarship I would not have been able to complete and focus on my studies. It 100% reduced the financial stress as I had no other financial support. It allowed me to reduce the hours of paid work to concentrate academically. I am truly grateful for the support and someday will give back to the university that has helped me. A HUGE THANK YOU, although I do not think there is enough words to express my gratitude!!!!"*

Success outcomes by equity group

Overall, success rates for scholarship holders from Aboriginal and Torres Strait Islander backgrounds (Appendix 7: template 5) were higher than their peers without scholarships. In general scholarship-holders from low SES backgrounds had slightly higher success rates than their peers without scholarships (Appendix 7: template 2) with several variations. Females had slightly lower success rates than their non-scholarship holding peers, as did commencing students and those aged 40-49. Multi-membership of equity groups was also associated with lower success rates for scholarship holders with two exceptions: low SES students who were also Aboriginal and/or Torres Strait Islander and low SES students who were from regional or remote areas.

QUT finding 4: The effect of holding a scholarship on student success is variable.

Regional and remote scholarship holders also had a higher success rate overall than their non-scholarship holding peers, again, with some variances apparent (Appendix 7: template 3). Again, these were similar to low SES students in that females, commencing students and mature aged

students (age 25-29 and age 40-49) had lower success rates than their non-scholarship holding peers. Multi-membership of equity groups was associated with notably lower success rates for regional and remote students with a disability and regional and remote students who were also women studying in non-traditional areas. More positively, regional and remote students who were also Aboriginal and Torres Strait Islander, from a non-English speaking background or low SES had higher success rates than their peers without scholarships.

Success and scholarship type

Scholarship type and student success outcomes do not seem to be directly related in the data in terms of design features, with the exception of the observable relationship between scholarship value and success rates (Table 9). As was observed for the retention outcomes, success rates decreased with increasing scholarship value.

Table 9: Summary of QUT student success rates versus scholarship type

Scholarship type		Success rate (%)	Scholarship number
All single scholarship recipients		85.8%	2,035
<i>Scholarship type</i>	QUT scholarship	83.9%	1,402
	QUT bursary	91.8%	529
	Government scholarship	79.6%	104
<i>Funding type</i>	QUT funded	86.1%	1,919
	Donor funded	88.4%	12
	Government funded	79.6%	104
<i>Payment schedule</i>	Duration of course	82.7%	42
	One-off payment	85.8%	1,993
<i>Scholarship dollar amount</i>	\$0 - \$500	100.0%	1
	\$501 - \$1,000	91.8%	528
	\$1,001 - \$2,000	86.1%	190
	\$2,001 - \$5,000	83.3%	1,316
	\$5,001 - \$7,500		
	\$7,501 - \$10,000		
	\$10,001 +		

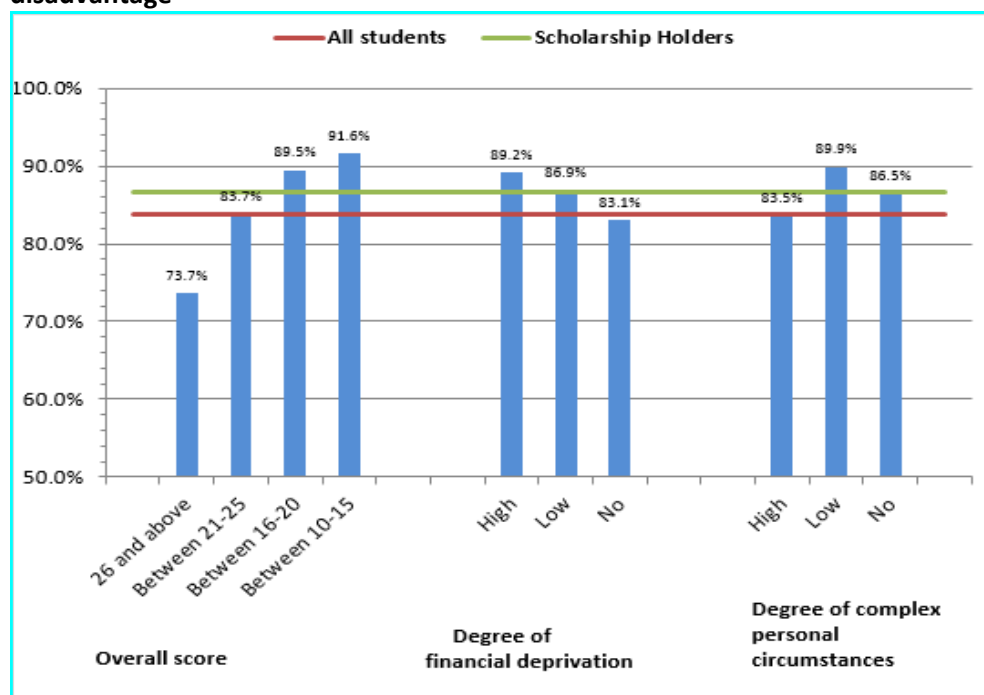
Recipient factors influencing success and retention

The data presented in this section are unique to QUT. Their inclusion allows for a finely-grained analysis of the level of financial need and life complexity on student outcomes in terms of retention and success rates than was possible in the other two cases, which were based on cross-sectional data.

Recipient disadvantage score and retention

The QUT assessment method results in a large applicant/recipient pool with a sliding scale of scores, so outcomes for recipients can be analysed by their score – which is an overall measure of neediness. Apart from recipients with the very highest scores (26 and above), all scholarship recipients had higher retention outcomes, which increased as scores reduced.

Figure 11: Queensland University of Technology retention rate comparison by assessment of disadvantage



Recipients with very high scores had extreme levels of both financial deprivation and complicated life circumstances, a combination which seemed to undermine the retention effect of the scholarship. Whether a positive retention effect could have been produced by higher-value scholarships to the most needy is an open question. Similarly, whether retention for this cohort would have been even worse without the scholarship, is not known. The solution to better retention for this high-needs group may lie in supports other than financial.

Within the QUT scoring method, separate scores are allocated for each of 'financial deprivation', and 'degree of complex life circumstances'. Thus, while the total score combines these dimensions, it is also possible to analyse the scholarship effect by these factors separately.

QUT finding 5: In combination, extreme financial deprivation and life complexity reduce the retention effect of equity scholarships.

There is an observable correlation between high levels of financial deprivation and scholarship effect on retention. These data seem to indicate that the poverty of the recipient is able to be overcome by the scholarship, and that the poorest recipients get the biggest effect from the scholarship. Those in the 'no' group here are not well-off, but are living a basic 'no-frills' existence, but still able to

pay bills and eat regularly. It is pleasing and validating to find that the poorer the recipient, the more powerful is the retention effect of the scholarship. This direct correlation also suggests validation of the targeted approach of Commonwealth student income support measures (Youth Allowance, Start-up scholarships etc.) which are based on means-tested income measures.

QUT finding 6: The retention effect of the scholarship is more powerful the higher the degree of the recipient's financial hardship.

The recipient's degree of complex personal circumstances indicates the severity and duration of issues such as having a disability or health condition; managing family dysfunction including domestic violence; and caring for people with special needs. The retention effect of scholarships is affected by this dimension in that those

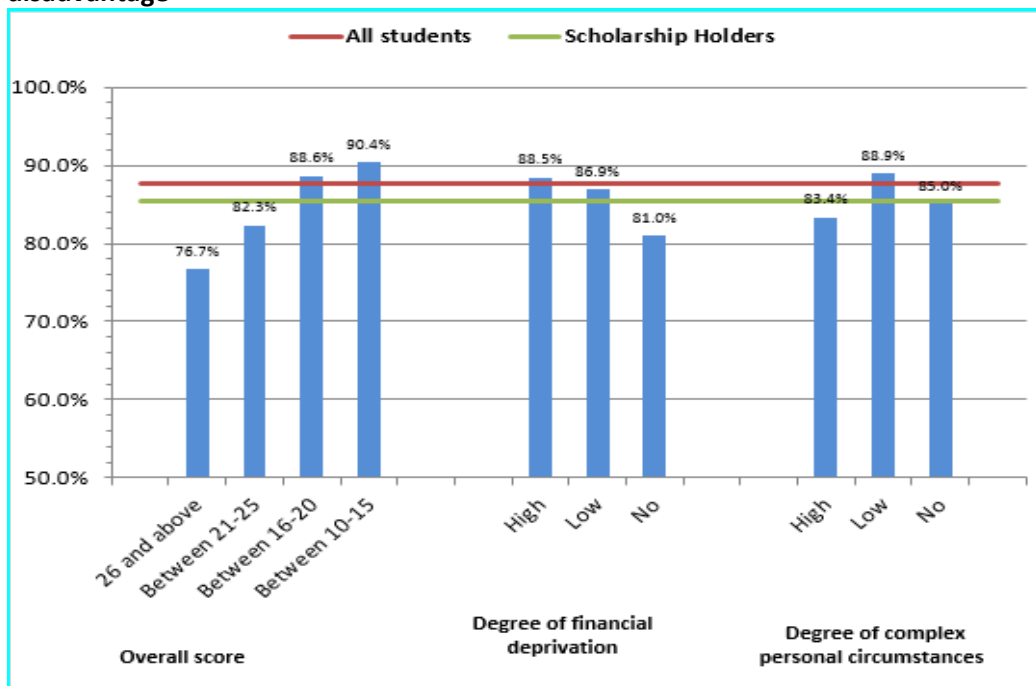
with a high degree of life complexity do not experience a strong retention effect, with their rate falling below that of other students and other scholarship holders (the red and green lines respectively in Figure 11). The retention effect is at its strongest for those whose degree of complex personal circumstances is not high. This reflects a common-sense observation that while money can assist with solving some of life's complications, it takes more than money to manage highly-complex life circumstances. Complex life circumstances are not as responsive to the effects of the scholarship as poverty is.

Examining the separate effects on retention of financial deprivation and complex circumstances, sheds light on the low retention effect in the group with high overall scores (only 76.7%). It is clearly the combined impact of both factors which undermines the retention effect of the scholarship for this cohort, as their rate is worse than would be predicted from examining each separate factor. For QUT, this validates the selection method which prioritises those with high levels of both factors. They are clearly the most at-risk group, and new efforts will have to be made to ensure they experience a positive effect from scholarship-holding.

Recipient disadvantage score and success

A similar pattern is apparent for success as for retention, although the scale of the effect is less intense than for retention, as previously noted.

Figure 12: Queensland University of Technology success rate comparison by assessment of disadvantage



These data seem to indicate that scholarship effects on success are at their most powerful for the moderately needy, although all levels of need (except the most extreme) experienced positive effects. Similar to retention, those with the most financial deprivation experienced the most positive success outcomes from the scholarship, but those with high degrees of complex circumstances did not. Again, it appears the combined effect of these two factors (as seen in the total scores from 21 upwards) has the most negative impact on scholarship effect.

QUT finding 7: Scholarships have a moderate success-enhancing effect for students in poverty but not for students with high life complexity.

Not receiving a scholarship

The next group of students (n = 168) whose scores were below the cut-off for the scholarship (i.e. below 15) experienced retention and success rates which were very positive, and higher than those of scholarship recipients. This indicates that they did not need the scholarship to have good outcomes, as they were experiencing neither a high degree of financial deprivation nor complex personal circumstances. This adds weight to the validity of the selection method and indicates that the cut-off scores currently used by QUT are about right. There may be scope to concentrate more of the financial resources to the most needy, highest-scoring group at some point, to see if that improves their retention and success outcomes.

Other factors

The QUT assessment data permits an examination of scholarships effect by 4 recipient characteristics:

1. Being on a mean-tested Centrelink benefit
2. Receiving financial support from partner/family
3. Being first-in-family
4. Being a parent/carer.

As well as contrasting effects for those with and without these characteristics, Figures 13 and 14 show how the effects compare with those of all students (the red line), and of all recipients (the green line).

Figure 13: QUT retention rate comparison by Centrelink benefit; financial support; first in family; and parent/carer

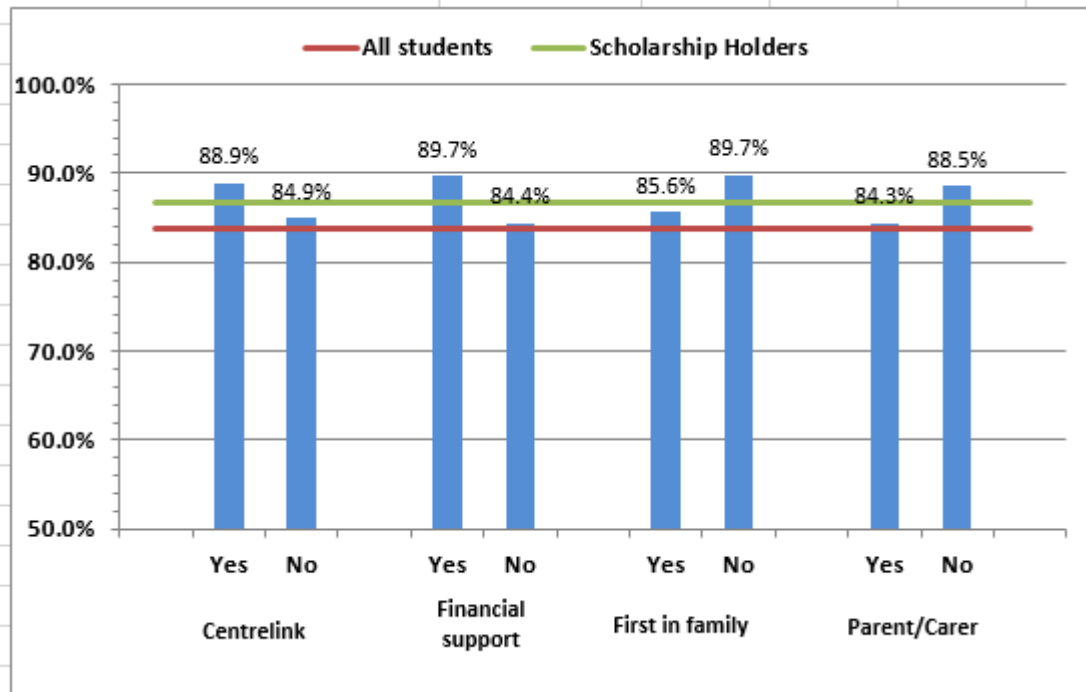
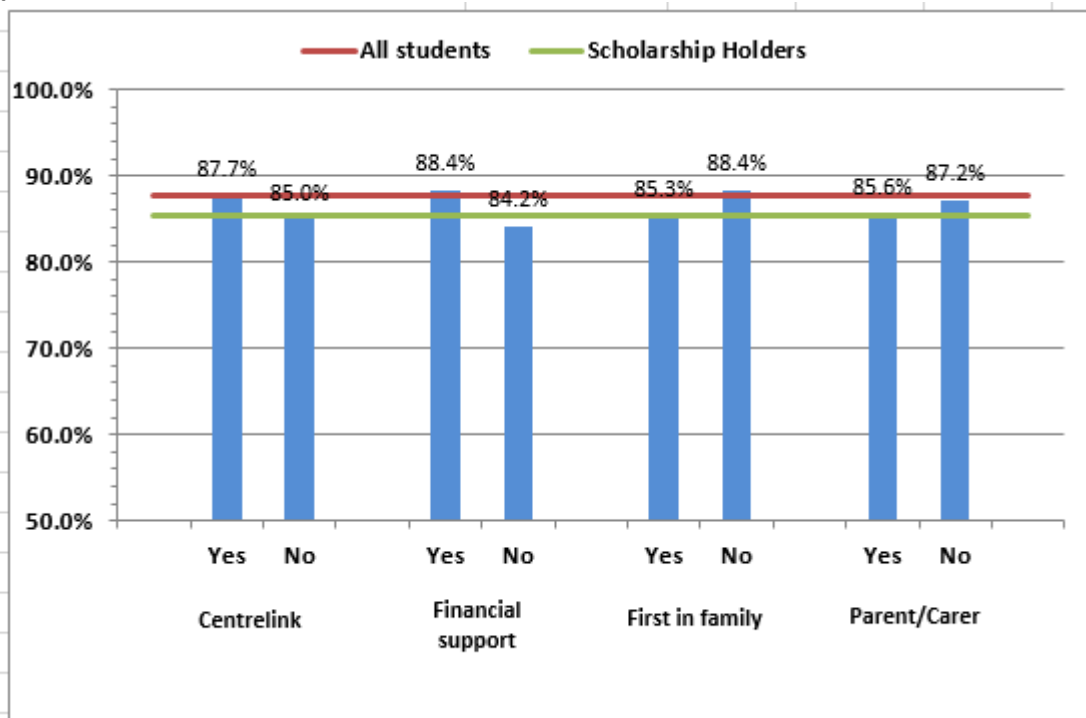


Figure 14: QUT success rate comparison by Centrelink benefit; financial support; first in family; and parent/carer



Centrelink: Recipients who were on a Centrelink benefit had good success (87.69%), retention (88.86%) and attrition rates (9.19%), when compared to students who were not on a benefit. The students not on a Centrelink benefit had a success rate of 84.96% and a retention rate of 84.93%. Centrelink status is a proxy for low income, and this pattern of strong retention and success is consistent with the correlation found with degree of financial deprivation. Most of those on Centrelink benefits also have access to Commonwealth scholarships such as Start-up and Relocation. So it may well be that those on Centrelink benefits who receive an institutional scholarship are relatively well-supported, and this combined support is producing the positive effect.

Financial support from family: Students who were partnered or had financial support from their family also had better retention (89.68%), success (88.39%) and attrition (8.58%) rates compared to those that weren't financially supported. Students who were not financially supported had a lower success rate of 84.16% and a retention rate of 84.43%.

First-in-family: First-in-family students had a lower success (85.32%), retention (85.57%) and attrition (12.44%) rate when compared to students who were not first in family. Their retention rate was still better than that of all other students, and their success rate was close to that of other students. Those unfamiliar with tertiary study and without the cultural capital to easily navigate it, need special attention. This data shows that scholarships contribute to positive outcomes for this high-risk group.

Parents/carers: Recipients who were not parents or carers had better success (87.22%), retention (88.52%) and attrition (9.87%) rates compared to those that were. Recipients who were parents and carers had a success rate of 85.64% and a retention rate of 84.34%. Parents and carers are time-poor and have more complex lives which may be the factor affecting the success and retention effects of the scholarship.

Although these are not unexpected differences between the yes/no groups on each of these four characteristics, none of the retention rates falls below that of all other students (below the red line). However, as with success, several cohorts are at or below both the rate for all students (red line) and the rate for all recipients (green line), being – those not on a Centrelink benefit; those not receiving any financial support from family; those who are first-in-family; and those who are parents/carers. These factors already attract points in the QUT assessment method and their weighting should be kept under review.

QUT finding 8: A multi-factor scholarship assessment process enables better targeting of scholarships to those most in need.

Summary of recipient factors

This unique analysis of effect by recipients' disadvantage factors indicates that a multi-factor assessment method (rather than reliance on a single criterion such as Centrelink status) is an effective way to target scholarships to the most needy. It also indicates that complex life circumstances are a particular factor which is not as responsive to scholarship benefits as poverty; and that the combined effect of both poverty and complex circumstances cannot be alleviated by a scholarship alone and that special measures may need to be enhanced for this cohort.

QUT finding 9: Targeted measures are required to counteract the combined effects of poverty and life complexity on the positive effect scholarships can have on student retention and success.

Recruitment and attraction of students

The recruitment effect of a scholarship is mild, a consistent finding over many years of survey data collection and analysis. Nearly half of all commencing student respondents said that knowing about the scholarships had no effect on their decision to go to university, and about 25% indicated it has a large or very large effect. A similar percentage (25%) of those receiving a scholarship offer prior to enrolment were affected to a large to very large extent. Pleasingly, awareness of scholarships amongst commencing students was 65%, a figure that has been steadily rising over time. This can be attributed to Widening Participation efforts which focus on scholarships.

QUT finding 10: The recruitment effect of scholarships is consistently mild over a number of years.

Design and implementation of equity scholarship programs

Forty-seven percent of survey respondents provided comments and suggestions about the scholarships scheme. Consistent with previous years, the majority of comments were regarding the financial, academic and psychological effect that receiving a scholarship had on the respondents' life at university. In 2013, however, a greater proportion of respondents commented on the benefit of increasing the scholarship amounts due to increased cost of living:

- 55% of respondents commented on the financial effect
- 21% of respondents commented on the academic effect of less worry about financial issues
- 5% of students advised that an increase in the scholarship amount would be more beneficial
- 9% of students provided a suggestion for improvement of the scheme
- 10% of respondents commented on the psychological effect of feeling affirmed and supported by the university.

The following student comment captured the value of holding a scholarship across financial, psychological and social dimensions:

Student 6: "It is a wonderful initiative and makes things from a maybe to a certainty, it also gives a person in a low socio-economic situation a hand up not a hand-out this again sustains the self-worth and the self-esteem and helps a person to have a dream become a reality."

Summary

The QUT case supports the value of equity scholarships based on clear effects on student retention, and access to university, which are apparent over many years. There is also some evidence that holding a scholarship may help influence the success of some students.

Uniquely, the QUT case offers a detailed illustration of how recipient characteristics are significant in shaping the effects that holding a scholarship has on retention and success and demonstrates the value of a multi-factor assessment process in targeting support where it is most needed.

UNIVERSITY OF SYDNEY: SCOPE AND CONTEXT

From its origins as Australia's first university established in 1852, The University of Sydney now has teachers, researchers and students based all over Australia. More than 50,000 students study in urban and regional campuses, teaching hospitals, farms and centres in widespread locations such as Broken Hill, the Barrier Reef, Camden and Dubbo, as well as campuses in Sydney. The University of Sydney's academic and teaching excellence is founded on principles of diversity and equity and these continue to be reflected in the University's ethos. Sydney University offers hundreds of scholarships to support and encourage talented students, and a range of grants and bursaries to those who need financial support.

Sydney University's Scholarship and Bursary programs sit alongside an extensive program of widening participation activity aimed at preparing young people from low socio-economic communities, Aboriginal and Torres Strait Islander young people and young people from regional areas for higher education. Increasingly high school students in partner schools are seeing higher education as a real option for them and are academically and personally prepared to take that next step. Pathways and scholarships continue to be important tools to assist students' transition to university.

About the selected equity scholarship schemes

For this snapshot in time three of the University of Sydney's equity scholarship programs were investigated. In 2013 two of these were already long standing – Sydney Access Scholarships (renamed as Sydney Scholar Equity Award in 2015) and The University of Sydney Bursaries. The third program, the E12 Scheme, was in its first year. Each of the programs offers different types of assistance to undergraduate students who are experiencing financial difficulty:

1. Sydney Scholar: Established in 2002 for students with academic ability with demonstrated financial disadvantage or other constraints.
 - Sydney Scholars receive \$6,000 p.a. for the course of their degree excluding for an optional honours year. Applicants must be in receipt of Youth Allowance or another means-tested Commonwealth benefit or expect to be under financial disadvantage when enrolled at university. Priority is given to applicants with disability or other disadvantages. At commencement students must also meet an 85+ ATAR. Continuing students must hold a 65+ weighted average mark (WAM). In 2013 there were 485 students on the program.
2. University of Sydney Bursaries: Established in 2002 for students in financial need demonstrated through youth allowance or another means tested Commonwealth benefit.
 - The University of Sydney Bursaries provide \$2,000 for first year students and up to \$1,000 for continuing students. 180 students received a bursary in 2013 and the total support provided was \$360,000.
3. E12 - Established in 2012 for students from low socio-economic backgrounds and those from identified disadvantaged schools. 2013 was the first intake through this program. It has grown considerably since 2013, with more than 297 student accessing Sydney University through this scholarship and pathway program in 2015.

- E12 provides a \$5000 scholarship, an iPad and an Access Card (which provides discounts on campus) during the first year of study. Students are recommended by their Principal and receive an early conditional offer with a reduced ATAR entry.

In 2013 regional schools were included in the E12 scheme based on Index of Community Socio-Educational Advantage (ICSEA) value. The University of Sydney schemes did not include Commonwealth Indigenous scholarships, whereas both the Deakin University and QUT schemes included these. A small number of similar donor funded scholarships for Indigenous students were included in the data. Further detail about eligibility and selection criteria, funding sources and design features of the three schemes is included as Appendix 8.

Data sources

Findings are based on the triangulation of two datasets:

- Institutional data on retention and success outcomes for the three specified equity scholarship schemes by demographic (gender, age, low SES, regional/remote, Aboriginal and Torres Strait Islander and/or disability) and administrative categories (commencing/continuing, mode of attendance, type and basis of admission)
- Responses (n = 119) to the University of Sydney Scholarship Impact Survey designed by QUT and administered by Sydney in July 2015 as detailed on page 19.

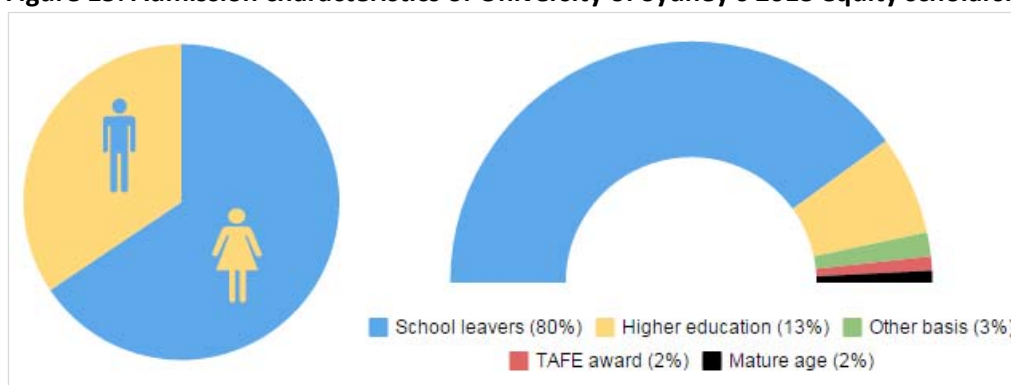
About 2013 University of Sydney equity scholarship holders

In 2013, 728 undergraduate students received scholarships through the identified equity scholarship schemes, representing 2.7% of the undergraduate cohort at the University of Sydney that year. The majority of scholarship holders were female (65.6%; males: 34.4%) and had been admitted to the University as school leavers.

A smaller number entered based on prior higher education (complete or incomplete), prior TAFE education (complete or incomplete), as mature age students or on 'other basis' (Figure 14).

Just under half of the scholarship holders (47.8%) were commencing at the University (52.3% continuing). The majority were under 20 years of age (55.4%), with a further 35.4% aged 20– 24 years.

Figure 15: Admission characteristics of University of Sydney's 2013 equity scholarship holders



Reflecting the design and delivery of Sydney's undergraduate programs, almost all of the students (97.8%) were based on-campus, with a small number of students undertaking online (2.19%) programs.

FINDINGS

Retention

**University of Sydney finding 1:
Equity scholarships are a factor in
the retention at university of
students from equity groups.**

Overall students who held one of the identified equity scholarships had improved retention compared with both the overall student cohort and to other equity students who did not receive a scholarship. The retention rate of students with a scholarship was 91.6%, a 4.8% improvement on the retention rate of all students (86.8%;

Table 1). A gender gap was apparent, with male scholarship holders showing higher retention rates. Interestingly, since the majority of students were school leavers, the apparent effect of holding a scholarship on retention was greatest among those aged 25-29.

Table 10: Summary of 2013 University of Sydney equity scholarship holder retention rates

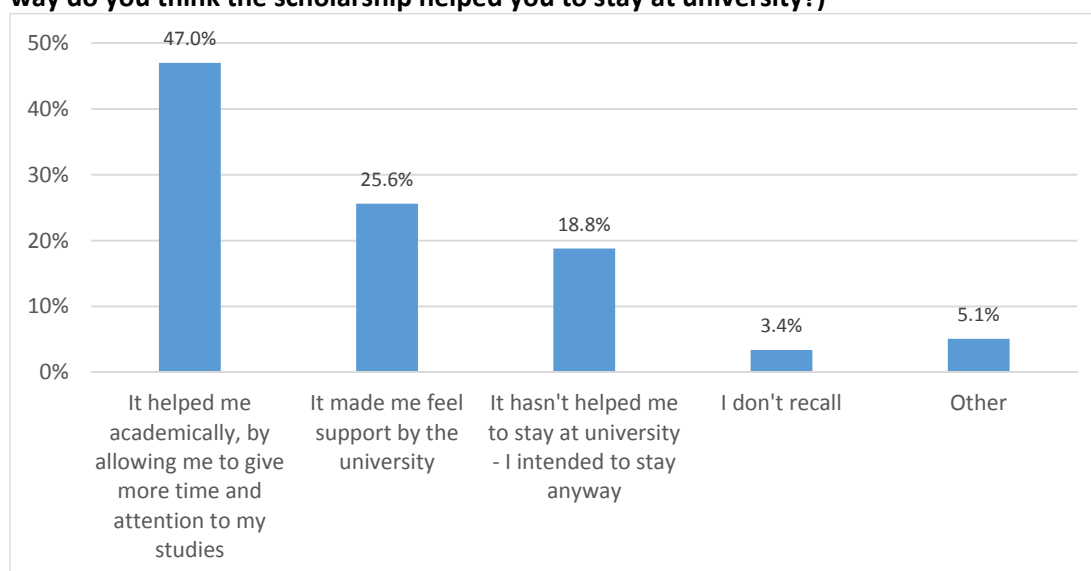
Student cohorts	Retention rate (%)			Base students	
	Scholarship holders	All 2013 students	% difference	Scholarship holders	All 2013 students
All students	91.6%	86.8%	4.8%	728	26,852
<i>Gender</i>					
Female	91.3%	87.4%	3.9%	478	14,922
Male	92.2%	86.1%	6.1%	251	11,930
<i>Course type group</i>					
UG	91.6%	86.8%	4.8%	728	26,852
PGC					
HDR					
<i>Commencing status</i>					
Commencing	89.5%	86.1%	3.4%	348	9,118
Returning	94.2%	87.3%	6.9%	381	17,734
<i>Attendance mode</i>					
On campus	91.4%	86.9%	4.5%	712	26,164
Cloud (online)	95.2%	84.6%	10.6%	16	688
<i>Basis of Admission</i>					
Secondary school education	91.4%	87.3%	4.1%	582	19,035
Complete/incomplete TAFE award	92.3%	79.4%	12.9%	14	751
Complete/incomplete higher educ.	90.9%	86.4%	4.5%	97	5,218
Mature age	100.0%	79.6%	20.4%	12	521
Professional qualification		0.0%			1
Other basis	92.9%	88.6%	4.3%	23	1,325
<i>Age group</i>					
14-19	92.0%	89.7%	2.3%	403	11,706
20-24	92.1%	84.6%	7.5%	258	12,402
25-29	90.3%	79.7%	10.6%	38	1,493
30-39	75.0%	80.2%	-5.2%	10	521
40-49	83.3%	79.5%	3.8%	15	437
50+	100.0%	81.9%	18.1%	5	293
<i>Equity students</i>					
Low SES students	91.7%	86.1%	5.6%	141	2,055
Other students	-	86.9%	-	-	24,797

Student cohorts	Retention rate (%)			Base students	
	Scholarship holders	All 2013 students	% difference	Scholarship holders	All 2013 students
Regional and remote students	82.7%	86.2%	-3.5%	92	1,303
Other students	-	86.9%	-	-	25,549
Student with disability	80.4%	84.9%	-4.5%	58	1,259
Other students	-	86.9%	-	-	25,593
Aboriginal & Torres Strait Islanders	95.0%	86.0%	9.0%	27	184
Other students	-	86.8%	-	-	26,668

How scholarships help retention

Survey data provided additional detail about the ways in which holding a scholarship helped student retention.

Figure 16: Influence of scholarship on retention (responses to survey question (n=117): In what way do you think the scholarship helped you to stay at university?)



Almost half of survey respondents (47%) indicated that having a scholarship helped them to stay at university by giving them more ‘time for their studies’, as for example:

Student 3: “It made staying at university an actual viable option instead of being forced to look for jobs.”

A further 26% indicated that having a scholarship made them feel ‘supported by the University’ (Figure 15). A minority (20%) indicate that they would have ‘stayed anyway’; however, even among this cohort, the positive influence of holding a scholarship on their ability to stay at university was evident:

Student 1: “I always intended to stay, I would have found a way without a scholarship, but life would have been so much harder and I could not have done as well as I did.”

Student 2: “...Whilst I would have continued to study anyway, it has made it so much easier to maintain a full time load and still fit in socially.”

Scholarship type and retention

Institutional data showed a relationship between scholarship value and retention rates, with retention rates for both single and multiple scholarship holders increasing with the dollar value of scholarships. Notably, students who received a specific donor-funded equity scholarship (Robert Floyd Marshall and Esen Marshall Memorial Scholarship) and Commonwealth Indigenous Scholarships showed 100% retention.

Table 11: Summary of University of Sydney student retention rates versus scholarship type

Scholarship type		Retention rate (%)	Scholarship number
All single scholarship recipients		91.5%	699
<i>Scholarship assistance type</i>	Accommodation	91.5%	699
	Cash		
	Tuition		
	Combination of above categories		
<i>Funding type</i>	Sydney co funded (Access)	94.4%	480
	Government funded (E12)	87.8%	90
	Government funded (Bursary)	86.0%	114
<i>Scholarship dollar amount</i>	\$0 - \$500	86.2%	116
	\$501 - \$1,000		
	\$1,001 - \$2,000		
	\$2,001 - \$5,000		
	\$5,001 - \$7,500		
	\$7,501 - \$10,000		
	\$10,001 +		

Retention outcomes by equity group

Referring to data in Appendix 9, comparison of retention rates for students from a low SES background who held a scholarship to other students from a low SES background who did not receive a scholarship (91.7%/85.6%) shows that retention was increased by 6.1%.

There was an increase in the retention (8.7%) of Aboriginal and Torres Strait Islander students with a scholarship compared with those without a scholarship (93.8%/85.1%). The increase was particularly noticeable for male students (100.0%/84.8%), who had a 15.2% increase in retention with a scholarship.

Only 7.5% of regional and remote students at the University received an equity scholarship during 2013. Overall, the retention rate for scholarship holders in this cohort was lower (-3.7%) compared with students without a scholarship (82.7%/86.4%). The combined influences of being from a regional or remote area and financially disadvantaged seem to have reduced the positive influence on retention of holding a scholarship.

As well, 7.9% of students with a disability at the University in 2013 received an equity scholarship. To receive one of these, students would be both financially disadvantaged and/or from a low SES background as well as having a disability. The retention rate of scholarship holders with disability

was lower (-4.7%) than other students with disability (80.4%/85.1%). This may be as a result of the impact of a smaller cohort (n=58) rather than a reflection of a broader issue.

Success

Overall students who held one of the identified equity scholarships had improved success compared with both the overall student cohort and to other equity students who did not receive a scholarship.

**University of Sydney finding 2:
Equity scholarships are a factor in
the success at university of
students from equity groups.**

The success rate of students with a scholarship was 94.4%, a 3.8% improvement on the success rate of all students (90.6%). A gender gap was apparent, with male scholarship holders showing a larger improvement in success rate.

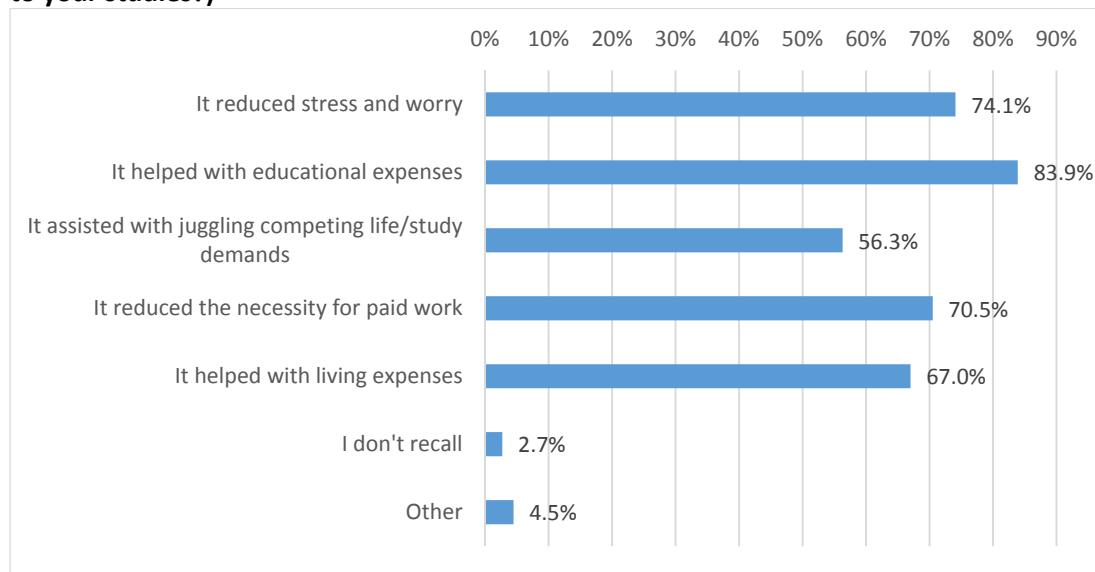
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<i>Attendance mode</i>					
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<i>Basis of Admission</i>					
Secondary school education	95.0%	90.7%	4.3%	582	19,035
Complete/incomplete TAFE award	85.3%	80.1%	5.2%	14	751
Complete/incomplete higher educ.	94.1%	91.8%	2.3%	97	5,218
Mature age	79.9%	76.8%	3.1%	12	521
Professional qualification		100.0%			1
Other basis	91.2%	93.8%	-2.6%	23	1,325
<i>Age group</i>					
14-19	94.2%	90.2%	4.0%	403	11,706
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30-39	86.0%	89.9%	-3.9%	10	521
40-49	83.0%	86.8%	-3.8%	15	437
50+	80.6%	89.0%	-8.4%	5	293
<i>Equity students</i>					
Low SES students	95.6%	89.5%	6.1%	141	2,055
Other students	-	90.7%	-	-	24,797
Regional and remote students	94.5%	91.6%	2.9%	92	1,303
Other students	-	90.5%	-	-	25,549
Student with disability	83.5%	82.0%	1.5%	58	1,259
Other students	-	91.0%	-	-	25,593
Aboriginal & Torres Strait Islanders	92.2%	84.7%	7.5%	27	184
Other students	-	90.6%	-	-	26,668

How scholarships help student success

Almost all survey respondents (94%) reported that the scholarship had helped (from a moderate to very large extent) to give them more time for their studies. As with retention, a correlation was observable between the positive influence of holding a scholarship on student success and age, for students aged 25-29.

Figure 17: Ways scholarship influenced provision of time and attention to studies (responses to survey question (n=112): In what way did the scholarship assist you give more time and attention to your studies?)



This is further supported by student comments:

Student 1: *“My scholarship meant I could earn enough money just working in the summer, meaning I could focus all my attention on my studies during the semester, which was essential during 2013 and 2014 for my 4th and 5th years.”*

Student 4: *“...I would be struggling to get by and give the necessary attention to my studies if I was not receiving the scholarship I currently have.”*

Student 5: *“It's a great help in maintaining high academic standards.”*

Success outcomes by equity group

Referring to Appendix 9, when comparing students with a low socio-economic background who held a scholarship with other students from a low socio-economic background who did not receive a scholarship (95.6%/89.0%), success was increased by 6.6%. Within this group the success improvement impact is worth noting particularly for females (97.0%/89.6%; difference of 7.4%) and returning students (96.3%/90.6%; difference of 5.7%).

Success rates increased by 8.4% for Aboriginal and Torres Strait Islander scholarship holders compared with Aboriginal and Torres Strait Islander students without a scholarship (92.0%/83.6%). The increase (12.0%) is most noticeable in male students with a scholarship compared with those without a scholarship (93.9%/81.9%).

Regional and remote students with a scholarship experienced more success (3.0%) during 2013, compared with the overall cohort of regional and remote students without a scholarship (94.4%/91.4%).

There was a small increase in the success rate (1.5%) of students with a disability with a scholarship compared with the students with a disability without a scholarship (83.5%/82.0%).

Success and scholarship type

Table 13: Summary of University of Sydney student success rates versus scholarship type

Scholarship type	Success rate (%)	Scholarship number
All single scholarship recipients	94.5%	699
<i>Scholarship assistance type</i>		
Accommodation		
Cash	94.5%	699
Tuition		
Combination of above categories		
<i>Funding type</i>		
Sydney co funded (Access)	96.8%	480
Government funded (E12)	91.4%	90
Government funded (Bursary)	88.0%	114
<i>Scholarship dollar amount</i>		
\$0 - \$500		
\$501 - \$1,000		
\$1,001 - \$2,000	87.9%	116
\$2,001 - \$5,000	91.3%	104
\$5,001 - \$7,500	96.8%	480
\$7,501 - \$10,000		
\$10,001 +		

The influence of scholarship type on student success was varied in the institutional data. Among single scholarship holders, students who held scholarships with a value above \$2,000 had higher success rates than students without a scholarship. Many older students received lower value scholarships (\$1,000), while school leavers received \$5,000-\$6,000 scholarships. Scholarship type in terms of scheme and funding source did not appear to influence success rates. Among multiple scholarship holders there was no apparent relationship between increased scholarship value and increased success rates. Numbers in this cohort were small, however.

Recruitment and attraction of students

In 2013 the University of Sydney enrolled its first cohort of students (109) through the E12 scheme, a pathway program which includes a first year scholarship. This program has continued to grow with many hundreds of applications each year. In 2015, 309 students were enrolled in this program. There has been a long held belief within the University community that scholarships influence student decisions to enrol at Sydney among both 'high achieving' and 'equity' cohorts.

Of the 50% surveyed who were commencing at the University, 37% had received their scholarship offer before enrolment and 13% after enrolment. Nevertheless, students still indicated that the influence of equity scholarships on their decision regarding enrolling at the University in 2013 was limited. Twenty nine percent indicated that it had not influenced their decision-making 'at all' and 25% indicated that it had 'to a slight extent'. However, as noted above students surveyed did indicate that one of the outcomes of receiving a scholarship was a sense of belonging to, and being supported by, the University.

It is clear that despite the availability of information about scholarships, students find it difficult to navigate and access. Of the students surveyed, half were continuing students and half had also found out about the scholarship from the University website.

Design and implementation of equity scholarship programs

Some of the advice provided on design included increased and easier access to information about scholarships, a simplified application process and increased ongoing scholarships.

Summary

The University of Sydney case supports the value of equity scholarships in influencing the retention and success of equity students, as well enabling access to university, as evidenced in the following student comments:

Student 6: "They are so important to help students with financial difficulties who have significant academic potential."

Student 7: "Essential for certain populations."

Student 8: "I hope it will continue to help others in my situation to persevere and attain tertiary qualifications."

DISCUSSION AND FINDINGS

Scholarship effects: higher retention and less stress

The key finding of this study is that, in aggregate, equity scholarships are effective in retaining recipients, across the three universities, across demographic groups and across different scholarship products (Table 14). This concurs with existing research which showed that students with a scholarship performed above average in their studies (Aitken, Schapper & Skuja 2004) and that scholarships were a factor in supporting the successful participation and retention of equity students (Reed & Hurd 2014). In our study, the most consistent retention gap between scholarship holders and non-scholarship holders was evident at QUT and the largest retention gap between scholarship holders and non-scholarship holders was evident at Deakin.

There were more varied results with regard to the success rates of recipients, with Deakin showing the largest and most consistent success effect and QUT showing a negative relationship. Students at the University of Sydney have success rates above the other two universities for both scholarship recipients and the total cohort and the observable scholarship effect was smaller and less consistent than at Deakin (Table 15).

Table 14: Summary of the difference in retention rates for students with and without scholarships at each institution

Student cohorts	Retention rate (%)		
	Deakin % difference	QUT % difference	Sydney % difference
All students	6.1%	2.9%	4.8%
<i>Gender</i>			
Female	4.7%	1.9%	3.9%
Male	8.9%	4.2%	6.1%
<i>Course type group</i>			
UG	4.7%	1.5%	4.8%
PGC	7.7%	8.7%	
HDR	6.5%	7.8%	
<i>Commencing status</i>			
Commencing	6.2%	3.1%	3.4%
Returning	6.4%	3.9%	6.9%
<i>Attendance mode</i>			
On campus	4.9%	2.1%	4.5%
Cloud (online)	6.4%	5.8%	10.6%
<i>Basis of Admission</i>			
Secondary school education	2.9%	2.4%	4.1%
Complete/incomplete TAFE award	4.7%	1.3%	12.9%
Complete/incomplete higher educ.	13.7%	4.4%	4.5%
Mature age	0.0%		20.4%
Professional qualification		0.8%	
Other basis	-1.2%	2.1%	4.3%
<i>Age group</i>			
14-19	3.2%	1.3%	2.3%
20-24	5.8%	1.6%	7.5%
25-29	14.4%	8.6%	10.6%
30-39	4.6%	7.4%	-5.2%
40-49	4.5%	0.9%	3.8%
50+	12.7%		18.1%
<i>Equity students</i>			
Low SES students	7.2%	6.6%	5.6%
Other students	-	-	-
Regional and remote students	7.3%	-2.8%	-3.5%
Other students	-	-	-
Student with disability	1.4%	5.9%	-4.5%
Other students	-	-	-
Aboriginal & Torres Strait Islanders	6.0%	0.8%	9.0%
Other students	-	-	-

Table 15: Summary of the difference in success rates for students with and without scholarships at each institution

Student cohorts	Success rate (%)		
	Deakin % difference	QUT % difference	Sydney % difference
All students	4.7%	-2.3%	3.8%
<i>Gender</i>			
Female	3.2%	-3.3%	3.2%
Male	7.0%	-1.6%	4.2%
<i>Course type group</i>			
UG	5.1%	-2.0%	3.8%
PGC	3.8%	-3.2%	
HDR	3.8%	-9.0%	
<i>Commencing status</i>			
Commencing	2.8%	-4.0%	3.1%
Returning	6.0%	-0.2%	5.0%
<i>Attendance mode</i>			
On campus	5.3%	-2.3%	3.9%
Cloud (online)	-1.2%	-4.4%	-0.2%
<i>Basis of Admission</i>			
Secondary school education	5.4%	-0.8%	4.3%
Complete/incomplete TAFE award	2.6%	-4.2%	5.2%
Complete/incomplete higher educ.	6.3%	-1.6%	2.3%
Mature age	-2.8%		3.1%
Professional qualification		0.4%	
Other basis	1.9%	-5.2%	-2.6%
<i>Age group</i>			
14-19	4.4%	-1.9%	4.0%
20-24	6.2%	1.7%	4.4%
25-29	6.0%	-3.7%	4.5%
30-39	1.8%	-1.9%	-3.9%
40-49	-7.8%	-6.5%	-3.8%
50+	6.6%		-8.4%
<i>Equity students</i>			
Low SES students	7.1%	0.5%	6.1%
Other students	-	-	-
Regional and remote students	5.0%	0.5%	2.9%
Other students	-	-	-
Student with disability	8.6%	-3.5%	1.5%
Other students	-	-	-
Aboriginal & Torres Strait Islanders	4.6%	-6.0%	7.5%
Other students	-	-	-

The receipt of a scholarship reportedly reduced stress and boosted the morale of scholarship holders at each of the universities. This confirms findings in the literature that scholarship recipients experienced better study and living conditions (Carson, 2010) and that scholarships enabled an increased focus on study by reducing the number of hours students had to spend in paid work

(Aitken, Schapper & Skuja 2004). The student survey results consistently showed that recipients saw a reduction of stress and buying time for study as the key benefits of having a scholarship (Table 16). Students stated that they were grateful for receiving a scholarship and felt supported by their university although there was some variation between the case study institutions. This may also reflect the timing of the survey and type of support provided.

Table 16: Select student survey statistics by institution

	Deakin	QUT	Sydney
A: In what way did the scholarship assist you give more time and attention to your studies?			
<i>It reduced stress and worry.</i>	76%	85%	74%
<i>It helped with educational expenses</i>	63%	85%	84%
<i>It assisted with juggling competing life/study demands</i>	42%	53%	56%
<i>It reduced the necessity for paid work</i>	49%	48%	71%
<i>It helped with living expenses</i>	52%	81%	67%
B: In what way do you think the scholarship helped you to stay at university?			
<i>It helped me academically, by allowing me to give more time and attention to my studies.</i>	44%	46%	50%
<i>It made me feel supported by the university</i>	34%	43%	27%
<i>It hasn't helped me to stay at university – I intended to stay anyway</i>	12%	6%	20%

Given the differences between the three institutions and their scholarship programs, these similarities are remarkable and may be regarded as universal effects of equity scholarships. The point-in-time nature of this study has previously been acknowledged as a limitation and longitudinal work would assist in strengthening our findings. The time series data analysis undertaken by QUT since 2007 does suggest, however, that this 2013 snapshot is typical. The retention and success effects observed at QUT and the student survey results were very stable over that time.

Our study found important differences in effect among the universities and they stem from two possible sources: the type of scholarship product as well as recipient type, which we had not expected to emerge as the more interesting dimension. These differences are explored below.

Institutional differences by scholarship type

This study sought to explore the relationships between the type of equity scholarship and student outcomes and provide commentary on the effectiveness of institutional scholarship programs. We did not attempt to do any statistical analysis of these relationships but have instead observed patterns that emerged from the institutional data sets. Given the dearth of literature on the impact of different equity scholarships on different equity group recipients, this comparison is a valuable first step which can inform future statistical analysis.

Results from QUT and the University of Sydney showed that differences in scholarship design mattered, including value, duration and eligibility criteria, especially using ATAR/prior academic achievement as a secondary selection criteria. At the University of Sydney, the Sydney Scholar scholarship had demonstrably the best outcomes in terms of retention and success of recipients and there seemed to be a strong correlation between scholarship type and outcomes, i.e. Centrelink

status as primary eligibility criterion, ATAR used as a secondary eligibility criterion and a substantial scholarship value (\$6,000) allocated for the duration of the degree.

At QUT, there was an observable correlation between scholarship product and student outcomes but the effect was the reverse compared to Sydney, i.e. those who got the higher value scholarship products had the lowest retention and success rates. This is due to the selection process at QUT which prioritises the students who demonstrate the greatest need for support and pays no attention to prior academic achievement. Deakin uses ATAR/prior achievement as a tie breaker to determine successful applicants in a large pool. These differences in eligibility criteria and selection processes suggest that the stronger retention and success effects observed at Sydney, and to a lesser extent at Deakin, might be seen as the result of an in-built achievement bias within an equity scholarship program. Our results illustrate that selection criteria are an important variable in the relationships between scholarship type and student outcomes and reflect the institution’s priority group, whether or not this is stated.

Institutional differences by scholarship recipients

The second factor which explained differences between the three universities related to recipient type. The relevant questions were: Does it matter who receives a scholarship? Even more so than scholarship type? And, if so, which scholarship recipients are most affected?

Across institutions, recipient type seemed to have more influence on student outcomes than scholarship type, to this extent supporting the value and meaningfulness of the Martin equity indicators as measures of disadvantage, at least at the aggregate level. The low SES measure based on postcode did not prove useful as a measure of assessing individual disadvantage in metropolitan universities and none of the participating universities used it to assess eligibility of applicants. Yet students from low SES backgrounds were over-represented among the scholarship holders in each of the universities (Table 17).

Table 17: Equity group representation in scholarship recipient cohorts at each institution

Equity group	Deakin		QUT (%)		Sydney (%)	
	% s’ship recipients	% total cohort	% s’ship recipients	% total cohort	% s’ship recipients	% total cohort
Low SES	23%	11%	24%	13%	19%	8%
Regional/remote	46%	21%	10%	9%	13%	5%
Indigenous	8%	2%	11%	1%	4%	1%
Disability	16%	7%	10%	4%	8%	5%

There were other consistent findings relating to recipient type and demographics across the three universities. There was an observable gender achievement gap for the total student cohort in that male students had lower retention and success rates than female students. In all three cases, receiving a scholarship closed the gender achievement gap for retention outcomes but not success.

Furthermore, the largest and consistent retention effect of any subgroup across the three universities was observable for students aged 25-29. Similarly, students who had been admitted on the basis of a complete or incomplete TAFE award or previous higher education had much better retention outcomes with a scholarship than without.

These findings suggest a correlation between gender and age and having a more complicated life. QUT collects information on these and other indicators and categorises students into cohorts with low, medium and high impact personal circumstances. Table 18 illustrates that women, students aged 25 and above as well as those with parent/carer responsibilities were over-represented in the medium to high impact personal circumstances cohort at QUT, indicating it would be useful to statistically test these relationships and their impact on student outcomes.

Table 18: Representation of age, gender and parent/carer status (%) in QUT equity scholarship cohort

	QUT recipients with medium to high impact personal circumstances	All QUT recipients
<i>Gender</i>		
Female	66%	60%
Male	34%	41%
<i>Age group</i>		
Below 25	51%	70%
25 – 29	16%	10%
30 and above	33%	20%
<i>Parent/carer</i>		
Yes	24%	21%
No	76%	79%

In the recipient survey, there were some differences between the case study institutions around the perceived impact of the scholarship on retention and the necessity to work. QUT students were least likely to stay at university without a scholarship, University of Sydney most likely, with Deakin students in between (Table 16). Despite receiving a scholarship, Deakin students reported the highest number of working hours on average per week (20% >16 hours), followed by QUT (10%) and Sydney (7%) students. At the other end of the spectrum, QUT students had the highest reported rate of not working at all (42%), Sydney 17%, with Deakin in the middle at 27%. This suggests that having a scholarship alleviates the need of students to work most strongly at QUT, producing a stronger stress-reduction effect and thus contributing to the explanation of the university’s consistent retention effect.

Equity scholarships make a difference but cannot overcome all obstacles

The more finely-grained results available for QUT illustrate that scholarships help overcome financial disadvantage but cannot overcome the effects of very complex lives. Alon (2007) noted the importance of separating the potentially negative influence (and complex outworkings) of need from the potentially positive influence of financial assistance, i.e. the scholarship holders are not starting from a level playing field and yet they do so comparatively well. This finding also stresses the point that scholarships are only one piece in the puzzle to effectively widen participation as observed by James and colleagues (2008) and Whiteford and Trinidad (2015). Scholarships are, however, an important tool where financial hardship is seen as the greatest barrier to participation.

We can observe that equity scholarships make a difference where it matters most for students who are trying to balance study with other demands of life. While it is not possible to make definitive

claims about the relationships between equity scholarship design and student outcomes based on our data and methods of analysis, it is clear that some universities, such as QUT, have developed sophisticated systems and processes to target scholarships at those groups of equity students they regard as most deserving of institutional support. In that context, equity scholarships are less an act of faith and more a strategic and targeted strategy to support students who face financial and other barriers to participation in higher education at every stage of their university journey.

Scholarships also have a value 'beyond money' as Reed and Hurd (2014) assert. Our data confirms that latent potential can be realised in the form of student success if students have enough time to focus on their studies and receive a psychological lift from being recognised as worthy of the university's support.

CONCLUSION, RECOMMENDATIONS AND FURTHER LINES OF RESEARCH

This study has confirmed previous research which found that equity scholarships are an effective tool in increasing the retention of students from equity groups. Across the three universities scholarships bought recipients more time to dedicate to their studies. The influence of scholarships on the success rates of recipients was less consistent. This may be linked to variations in the design features of the scholarships or other institutional factors which were beyond the scope of the present study to explore.

We found that scholarships assist students in financial need enough to stay at university but can only do so much to overcome the effects of complex personal lives. Universities and policy makers need to recognise that money does not overcome all barriers and that scholarships are no panacea to increase retention and success of equity students. For optimal effectiveness, scholarships need to be embedded in comprehensive support systems that enable students to succeed at university.

Informing institutional practice on equity scholarships

The most important design element in our study was the scholarship's eligibility criteria, especially using ATAR/prior academic achievement as a secondary selection criterion to create an equity-merit scholarship product. The differences between equity and equity-merit scholarships matter because their selection criteria prioritise different sub-groups within equity groups: equity scholarships target those most disadvantaged and, thus, most at risk of leaving university prematurely. Conversely, equity-merit scholarships target those disadvantaged students most likely to succeed because they have proven academic achievement at a high level. In our study, equity and equity-merit scholarships produced inverse results in student retention and success outcomes, i.e. equity scholarships had outcomes that were worse for those who got the highest value scholarships, whereas for equity-merit scholarships the outcomes were best for those students who received the most valuable scholarships.

In the allocation of equity scholarships, a university is weighing up effort and risk in targeting and prioritising recipients. In addition to the importance of the selection criteria, the case studies illustrate that the more complex the institutional scholarship program, the less efficient is the administration of the selection process and the more difficult it is to evaluate relationships between scholarship product and student outcomes. Thus, the impetus is to design simple scholarship architectures with high volume products to generate effective student support, efficient processes and meaningful data.

Recipient type matters

A key finding of this study was that recipient type seemed to have a strong relationship with student outcomes. This suggests that a multi-factor assessment for scholarship eligibility is better than a single-factor assessment. While useful in aggregate, the existing equity groups are not sufficient or accurate enough in determining need at the individual level and should not be used to assess scholarship applicants, with the exception of students with disability or a health condition. Instead, factors such as Centrelink status, financial support from family, being first in family and being a parent or carer can be used as indicators to assess financial hardship and complex lives.

What do these findings mean for public policy?

The existing equity groups indicate the presence of complex life circumstances which, along with financial hardship, are the main risk factors to target for scholarships. Institutional scholarships, however, are only one source of income for students experiencing financial disadvantage while studying at university. They are given to a tiny proportion of the student cohort, about 3% of students in the universities included in this study. In selection regimes where prior academic achievement is considered, recipients are often the academically successful of the financially disadvantaged, not necessarily the ones who might experience the greatest financial or personal hardship. Even when scholarships are given to those with the greatest demonstrable disadvantage, money alone cannot overcome the obstacles students face.

The greatest contribution the Commonwealth can make is to provide consistent, predictable and appropriate levels of income support to all students through the Centrelink system, targeted through means-testing at those who demonstrate financial hardship. The support must be in the form of grants, not loans, as loans increase the financial burden of the most disadvantaged and add to existing barriers to participation. Universities should provide additional income support, using scholarships as one component of their institutional support system to attract, retain and graduate students from financially and educationally disadvantaged backgrounds.

The relationships between equity scholarships and student outcomes are complex. But it is without question that equity scholarships make a difference in retaining those who have chosen higher education as their path despite the obstacles they have had to overcome to get there.

Further lines of research

This study has investigated patterns of observable relationships between equity scholarship products and student outcomes at three deliberately different universities at one point in time. There is great opportunity to build on these findings and explore the trends we found over time, and to assess and validate the observed relationships using statistical modelling, among other methods. The success of these studies will depend on the structure and scale of institutional scholarship programs, with simple and large scale ones being preferred. There are interesting relationships to be explored between student demographics and their influence on recipient outcomes, including age, gender, parental/carer status and equity group membership. Finally, the recruitment effect of equity scholarships was not strong in the data in this study but could be a focus in future research.

REFERENCES

Aitken, D, Schapper, C & Skuja, E 2004, 'Do Scholarships Help? Preliminary Results of a Case Study of Students in Scholarship Programmes at Monash University, 1997-2001', *Widening Participation and Lifelong Learning*, vol. 6, no. 1, pp. 15-24.

Alon, S 2007, 'The influence of financial aid in leveling group differences in graduating from elite institutions', *Economics of Education Review*, vol. 26, no. 3, pp. 296-311.

Anderson, D & Vervoorn, A 1983, *Access to privilege : patterns of participation in Australian post-secondary education*, Australian National University Press, Canberra.

Australian Technology Network of Universities 2015, *Australian Technology Network of Universities*, Australian Technology Network of Universities, retrieved 27 November 2015, <<https://www.atn.edu.au/>>.

Bexley, E, Daroesman, S, Arkoudis, S & James, R 2013, *University student finances in 2012: A study of the financial circumstances of domestic and international students in Australia's universities*, Universities Australia, Canberra.

Bradley, D, Noonan, P, Nugent, H & Scales, B 2008, *Review of Australian Higher Education Final Report*, Department of Education, Employment and Workplace Relations, Canberra.

Brett, M, Sheridan, A, Harvey, A & Cardak, BA 2015, *Four barriers to higher education regional students face – and how to overcome them*, The Conversation, US Inc., retrieved 22 November 2015, <<http://theconversation.com/four-barriers-to-higher-education-regional-students-face-and-how-to-overcome-them-49138>>.

Cardak, BA, Bowden, M & Bahtesvanoglou, J 2015, *Are Low SES Students Disadvantaged in the University Application Process?*, National Centre for Student Equity in Higher Education, Curtin University, WA.

Cardak, BA & Ryan, C 2009, 'Participation in Higher Education in Australia: Equity and Access', *Economic Record*, vol. 85, no. 271, pp. 433-48.

Carson, T 2010, 'Overcoming student hardship at Swinburne University, Australia: an insight into the impact of equity scholarships on financially disadvantaged university students', *Widening Participation and Lifelong Learning*, vol. 12, no. 3, pp. 36-59.

Deakin University 2010, 'Deakin University Widening Participation Plan', Deakin University.

Deakin University 2015, 'Live the Future Agenda 2020, 2015-2017', Deakin University.

Department of Employment, Education & Training 1990, *A fair chance for all: national and institutional planning for equity in higher education: a discussion paper*, Australian Government Publishing Service, Canberra.

Gale, T & Parker, S 2013, *Widening participation in Australian higher education. Report submitted to HEFCE and OFFA*, CFE (Research and Consulting) Ltd, Leicester, UK and Edge Hill University, Lancashire, UK.

Gale, T, Sellar, S, Parker, S, Hattam, R, Comber, B, Tranter, D & Bills, D 2010, *Interventions early in school as a means to improve higher education outcomes for disadvantaged (particularly low SES) students*, National Centre Student Equity in Higher Education, SA.

Ganem, NM & Manasse, M 2011, 'The Relationship between Scholarships and Student Success: An Art and Design Case Study', *Education Research International*, vol. 2011, pp. 1-8.

Gore, J, Holmes, K, Smith, M, Lyell, A, Ellis, H & Fray, L 2015, *Choosing University: The impact of schools and schooling. Final report to the National Centre for Student Equity in Higher Education*.

Group of Eight Australia 2015, *Group of Eight Australia*, Group of Eight Australia, retrieved 27 November 2015, <<https://go8.edu.au/>>.

Heller, D & Rasmussen, C 2001, 'Merit scholarships and college access: evidence from Florida and Michigan', in D Heller & P Marin (eds), *State Merit Aid Programs: College Access and Equity*, Harvard University, Cambridge MA.

Higher Education and Research Reform Amendment Bill 2014, 44 edn, 2014, <http://www.aph.gov.au/Parliamentary_Business/Bills_Legislation/Bills_Search_Results/Result?bld=r5325>.

James, R, Bexley, E, Anderson, A, Devlin, M, Garnett, R, Marginson, S & Maxwell, L 2008, *Participation and equity: A review of the participation in higher education of people from low socioeconomic backgrounds and Indigenous people*, Centre for the Study of Higher Education, University of Melbourne.

Kelly, M 2014, *Will the real Commonwealth Scholarships please stand up?*, National Centre for Student Equity in Higher Education, retrieved 27/11/15 2015, <<https://www.ncsehe.edu.au/will-real-commonwealth-scholarships-please-stand/>>.

Moreau, MP & Leathwood, C 2006, 'Balancing paid work and studies: working (-class) students in higher education', *Studies in Higher Education*, vol. 31, no. 1, pp. 23-42.

National Centre for Student Equity in Higher Education 2011, *National Centre for Student Equity in Higher Education Progress report 2008-2011*, National Centre for Student Equity in Higher Education, Adelaide SA.

Naylor, R, Baik, C & James, R 2013, *Developing a critical interventions framework for advancing equity in Australian higher education*, Centre for the Study of Higher Education, University of Melbourne, Melbourne.

nous Group 2015, 'Deakin's domestic scholarship and bursary strategy. Draft Operational plan', nous Group.

Reed, RJ & Hurd, B 2014, 'A value beyond money? Assessing the impact of equity scholarships: from access to success', *Studies in Higher Education*, pp. 1-15.

Robson, C 1993, *Real World Research: A Resource for Social Scientists and Practitioner-Researchers*, Blackwell, Oxford, UK; Cambridge, Massachusetts, USA.

Shulman, J, Colbert, J, Kemper, D & Dmytriw, L 1990, 'Case Writing as a Site for Collaboration', *Teacher Education Quarterly*, vol. 17, no. 1, pp. 63-78.

The Senate 2004, *A hand up not a hand out: Renewing the fight against poverty Report on poverty and financial hardship*, Parliament House, Canberra.

Whiteford, G & Trinidad, S 2015, *Equity Scholarship Provision in Australian Universities: Insights and Directions*, National Centre for Student Equity in Higher Education, WA.

Willems, J 2010, 'The Equity Raw-Score Matrix—a multi-dimensional indicator of potential disadvantage in higher education', *Higher Education Research & Development*, vol. 29, no. 6, pp. 603-21.

Yin, RK 2012, *Applications of Case Study Research*, Sage.

APPENDICES

Appendix 1: Protocols for data set 1

Appendix 2: Survey questions (all universities)

Appendix 3: Plain Language Statement and Consent Form (Deakin University and University of Sydney)

Appendix 4: Overview of selected scholarships (Deakin University)

Appendix 5: Deakin University institutional data

Appendix 6: Overview of selected scholarships (QUT)

Appendix 7: QUT institutional data

Appendix 8: Overview of selected scholarships (University of Sydney)

Appendix 9: University of Sydney institutional data