

# Staying the Course: Retention and Attrition in Australian Universities

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## Findings

### Abstract

In this study of 485,983 students in 32 Australian universities in 2006, the retention figure was 89.5%, the attrition figure was 10.5%. 89.5% of students *stayed the course*, either completing the course in 2006 or continuing to 2007. 10.5% *dropped out*.

7.6% of the 102,686 international students dropped out, staying the course better than the 383,297 Australian students, 11.3% dropped out. Female students stayed the course better than male students; undergraduate students stayed the course better than postgraduate coursework students.

Students in Health, Engineering, Management/Commerce, Architecture and Education stayed the course better than students in Science, IT, Creative Arts, Society/Culture and Agriculture/Environment.

19 to 23 year olds, 58% of the student population, did better than average.

In the 32 universities, attrition rates ranged from 5.3% to 30.3%. In 27 universities, international students stayed the course better than Australian students and in five universities Australian students stayed the course better than international students. It is one of the key findings of this study that four universities had attrition rates higher than 15%, including three with domestic attrition rates higher than 20%.

### The Study

This is a study of retention and attrition in 32 Australian universities.

The expression *staying the course*, used in the title, is taken from the UK National Audit Office 2007 report **Staying the Course: The Retention of Students in Higher Education**<sup>1</sup>. The House of Commons Committee of Public Accounts kept this expression in its 2008 report **Staying the Course: The Retention of Students on Higher Education Courses**<sup>2</sup>.

The nouns retention and attrition do not lend themselves readily to active verbs. In this report, students who are counted in retention figures *stay the course*, students who are counted in attrition figures *drop out*.

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<sup>1</sup> National Audit Office 2007 **Staying the course: the retention of students in higher education** report by the Comptroller and Auditor General 26 July 2007 viewed 1 September 2008 at <http://www.nao.org.uk/pn/06-07/0607616.htm>

<sup>2</sup> House of Commons Committee of Public Accounts 2008 **Staying the course: the retention of students on higher education courses** Tenth Report of Session 2007–08 viewed 1 September 2008 at <http://www.publications.parliament.uk/pa/cm200708/cmselect/cmpubacc/322/322.pdf>

The concepts of attrition and retention need some clarity.

Australia's Department of Education, Employment and Workplace Relations (DEEWR) defines the attrition rate for year (x) as the proportion of students in year (x) who neither complete nor return in year (x + 1). It defines the retention rate for year (x) as the number of students in year (x) who continue in year (x + 1) as a proportion of the students in year (x) who did not complete the course in year (x).

In this study, retention simply is the inverse of attrition, and 2006 is the base year, as follows

Attrition =  $(T-C-G)/T$  (the proportion of students in year 2006 who neither completed nor returned in year 2007)

Retention = Inverse of Attrition =  $(C+G)/T$  (the proportion of students in year 2006 who either completed or returned in year 2007)

where

T is Total number of students enrolled in 2006

C is number of students in population T who continued in 2007

G is number of students in population T who completed in 2006

example

If, of 100 students in 2006, 30 graduated in 2006 and 60 continued in 2007

Attrition =  $(100-60-30)/100 = 10\%$

Retention = Inverse of Attrition =  $(60+30)/100 = 90\%$ .

In this study of 485,983 students in 32 Australian universities in 2006, the retention figure was 89.5%, the attrition figure was 10.5%.

89.5% of students in 2006 stayed the course, 10.5% dropped out.

## Population

The **Australian Universities International Directors' Forum (AUIDF)** is the forum of the International Directors in the 38 universities that are members of Universities Australia. This study of retention and attrition of Australian and international students was carried out with the cooperation of AUIDF. Of the 38 Australian universities who participate in AUIDF, 32 universities chose to participate in the study.

The base student population included both international and Australian students who were enrolled in an award course in at least one reporting period in 2006, who were studying full time on campus in Australia, and excluding postgraduate research students. For both Australian and international students, the study included only those students studying full time on campus in Australia, to ensure comparison of like with like. There was no international student population with which to compare Australian students studying part time, and there was no Australian student population with which to compare international students studying at offshore campuses. The study excluded postgraduate research students, for whom issues of progress and retention are somewhat idiosyncratic.

Thus the study excluded offshore students, external students, part time students, postgraduate research students and non-award students. Specifically, study abroad and exchange students were excluded as non-award students.

No sampling is involved, so no tests of statistical significance add value to the findings.

## Findings

In 32 Australian universities in 2006, 89.5% of students stayed the course, completing their studies or continuing on to 2007, as in Table 1 **Overall Results**. 10.5% dropped out.

**Table 1**  
**Overall Results**

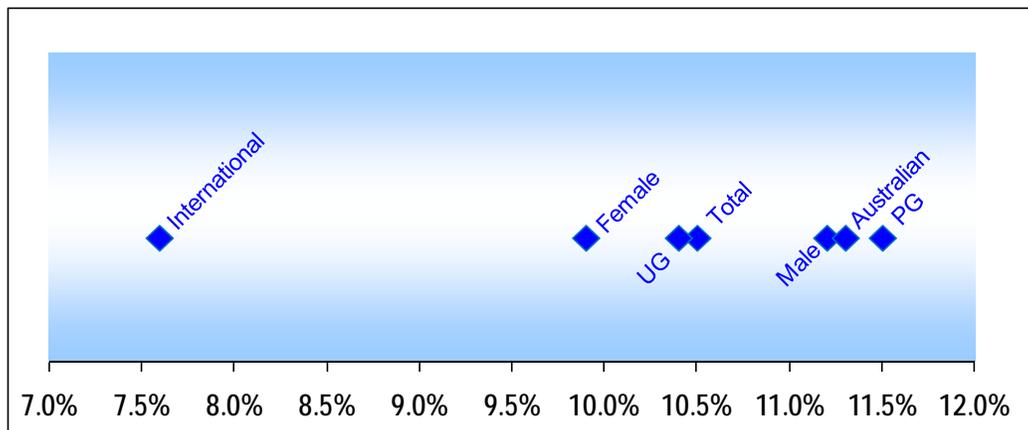
	Retention	Attrition	Total
Population	434,831	51,152	485,983
%	89.5%	10.5%	100%

In staying the course

- women did better than men
- undergraduates did better than postgraduate coursework students
- international students did better than Australian students.

Chart 1 **Attrition Rates by Groups** compares the attrition rates for these six groups with the total population.

**Chart 1**  
**Attrition Rates by Groups**



## Gender

The population included 159,742 female students and 137,556 male students, as in Table 2, **Gender: Population**.

**Table 2**  
**Gender: Population**

	Female	Male	Total
<b>International</b>	49,448	53,238	<b>102,686</b>
<b>Australian</b>	218,889	164,408	<b>383,297</b>
<b>Total</b>	<b>268,337</b>	<b>217,646</b>	<b>485,983</b>

48% of international students were women; 57% of Australian students were women. In total, 55% of students in the study were women.

International female students (6.5% dropped out) stayed the course better than international male students (8.6% dropped out). Australian female students (10.7% dropped out) stayed the course better than Australian male students (12.1% dropped out). Overall, 9.9% of female students dropped out, staying the course better than male students, 11.2% dropped out, as in Table 3 **Gender: Attrition**.

**Table 3**  
**Gender: Attrition**

	Female	Male	Total
<b>International</b>	6.5%	8.6%	<b>7.6%</b>
<b>Australian</b>	10.7%	12.1%	<b>11.3%</b>
<b>Total</b>	<b>9.9%</b>	<b>11.2%</b>	<b>10.5%</b>

## Level of Study

The population included 422,501 undergraduate students and 63,484 postgraduate coursework students, as in Table 4, **Level of Study: Population**.

**Table 4**  
**Level of Study: Population**

	Undergraduate	Postgraduate Coursework	Total
<b>International</b>	67,606	35,081	<b>102,687</b>
<b>Australian</b>	354,895	28,403	<b>383,298</b>
<b>Total</b>	<b>422,501</b>	<b>63,484</b>	<b>485,985</b>

34% of international students were postgraduate coursework students, 7% of Australian students were postgraduate coursework students. In total, 14% of students in the study were postgraduate coursework students.

International postgraduate coursework students (7.3% dropped out) stayed the course better than international undergraduate students (7.7% dropped out). But Australian undergraduate students (10.9% dropped out) stayed the course better than Australian postgraduate coursework students (16.6% dropped out).

Overall, 10.4% of undergraduate students dropped out, staying the course better than postgraduate coursework students, 11.5% dropped out, as in Table 5 **Level of Study: Attrition**.

**Table 5**  
**Level of Study: Attrition**

	Undergraduate	Postgraduate Coursework	Total
<b>International</b>	7.7%	7.3%	<b>7.6%</b>
<b>Australian</b>	10.9%	16.6%	<b>11.3%</b>
<b>Total</b>	<b>10.4%</b>	<b>11.5%</b>	<b>10.5%</b>

## International and Australian Students

Overall, 7.6% of the 102,686 international students dropped out, staying the course better than the 383,297 Australian students, 11.3% dropped out, as in Table 6 **International and Australian Students: Attrition**.

**Table 6**  
**International and Australian Students: Attrition**

	Population	Attrition
<b>International</b>	102,686	<b>7.6%</b>
<b>Australian</b>	383,297	<b>11.3%</b>
<b>Total</b>	<b>485,983</b>	<b>10.5%</b>

## Broad Field of Education

Australia conforms to an international classification on Broad Field of Education.

Attrition rates were compared for students in Natural and Physical Sciences, Information Technology, Engineering and Related Technologies, Architecture and Building, Agriculture, Environmental and Related Studies, Health, Education, Management and Commerce, Society and Culture and Creative Arts<sup>3</sup>.

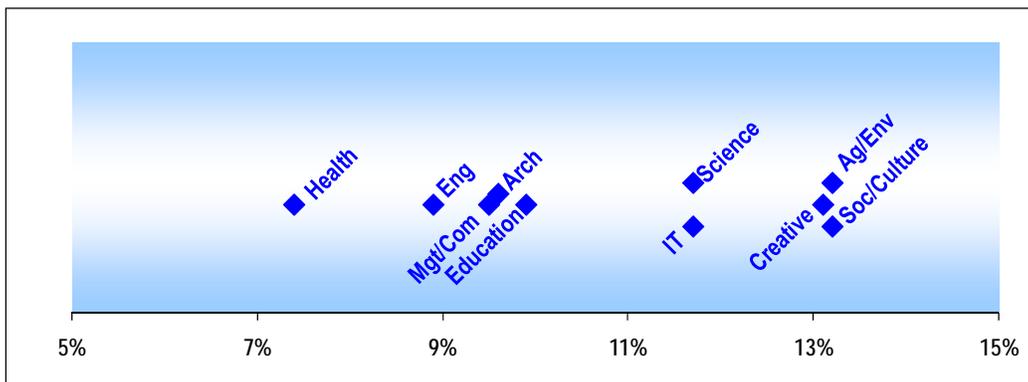
Attrition rates varied across these ten Broad Fields of Education as in Table 7 and Chart 2 **Broad Field of Education: Attrition**.

<sup>3</sup> There is an eleventh field, Food, Hospitality and Personal Services, but students in this field made up just 0.01% of the students in this study

**Table 7**  
**Broad Field of Education: Attrition**

Field	Population	Attrition
Management & Commerce	111,136	9.5%
Society & Culture	93,778	13.2%
Health	70,449	7.4%
Education	46,179	9.9%
Science	41,135	11.7%
Engineering	40,257	8.9%
Creative Arts	38,674	13.1%
IT	22,132	11.7%
Architecture/Build	14,909	9.6%
Agriculture/Env	7,255	13.2%

**Chart 2**  
**Broad Field of Education: Attrition**



Overall, across all fields of education, 10.5% of students dropped out. Students in Health, Engineering, Management/Commerce, Architecture and Education did better than this, and stayed the course better than students in Science, IT, Creative Arts, Society/Culture and Agriculture/Environment.

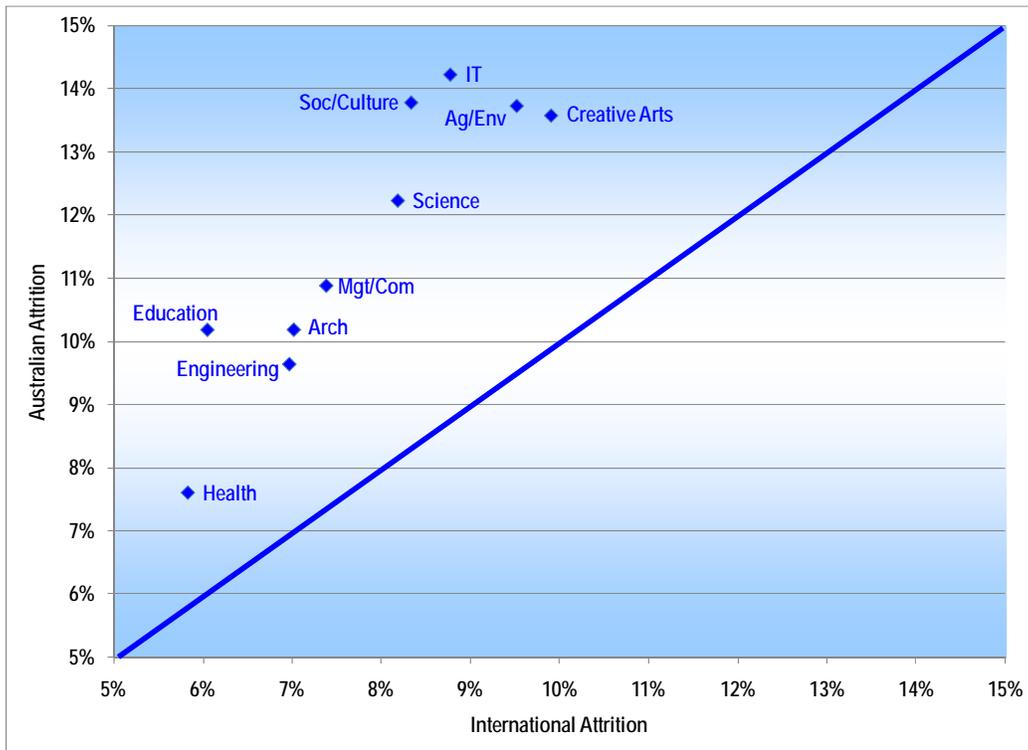
Across these ten Broad Fields of Education, attrition rates were compared between international and Australian students, as in Table 8 and Chart 3 **Broad Fields of Education: International and Australian Students**.

In every Broad Field of Education, international students stayed the course better than domestic students.

**Table 8**  
**Broad Fields of Education: International and Australian Students**

Field	International Population	Australian Population	International Attrition	Australian Attrition
Management & Commerce	45,135	66,002	7.4%	10.9%
Society & Culture	9,767	84,011	8.3%	13.8%
Health	9,279	61,170	5.8%	7.6%
Education	2,810	43,369	6.0%	10.2%
Science	5,535	35,600	8.2%	12.2%
Engineering	10,606	29,653	7.0%	9.6%
Creative Arts	5,564	33,110	9.9%	13.6%
IT	10,305	11,827	8.8%	14.2%
Architecture/Build	2,921	11,988	7.0%	10.2%
Agriculture/Env	746	6,509	9.5%	13.7%

**Chart 3**  
**Broad Fields of Education: International and Australian Students**



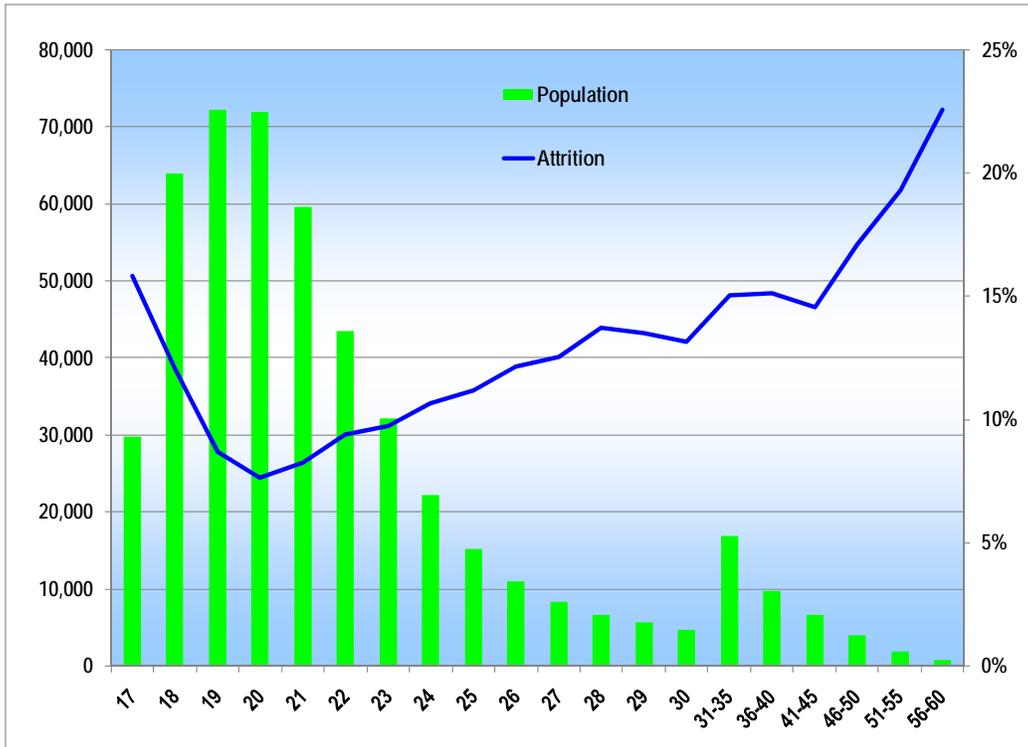
## Age

Across the population, 99.8% of students were aged between 17 and 60. Attrition rates varied across ages as in Table 9 and Chart 4 **Age: Attrition**.

Table 9  
Age: Attrition

Age Group	Population	Attrition
17	29,678	15.8%
18	63,834	12.1%
19	72,092	8.7%
20	71,853	7.6%
21	59,522	8.2%
22	43,471	9.4%
23	32,025	9.7%
24	22,176	10.7%
25	15,148	11.2%
26	10,885	12.1%
27	8,255	12.5%
28	6,552	13.7%
29	5,542	13.5%
30	4,635	13.1%
31-35	16,855	15.0%
36-40	9,680	15.1%
41-45	6,594	14.6%
46-50	3,876	17.1%
51-55	1,841	19.3%
56-60	718	22.6%

Chart 4  
Age: Attrition



Overall, 10.5% of students dropped out.

In terms of staying the course, students aged 19 to 23, 57.5% of the student population, did better than this.

15.8% of 17 year olds (6.1% of the student population) and 12.1% of 18 year olds (13.1% of the student population) dropped out, suggesting that slightly older students stay the course better, perhaps benefiting from experiences such as gap years. But this study did not distinguish between freshers and sophomores.

From 23 years old on, attrition rates increase with age.

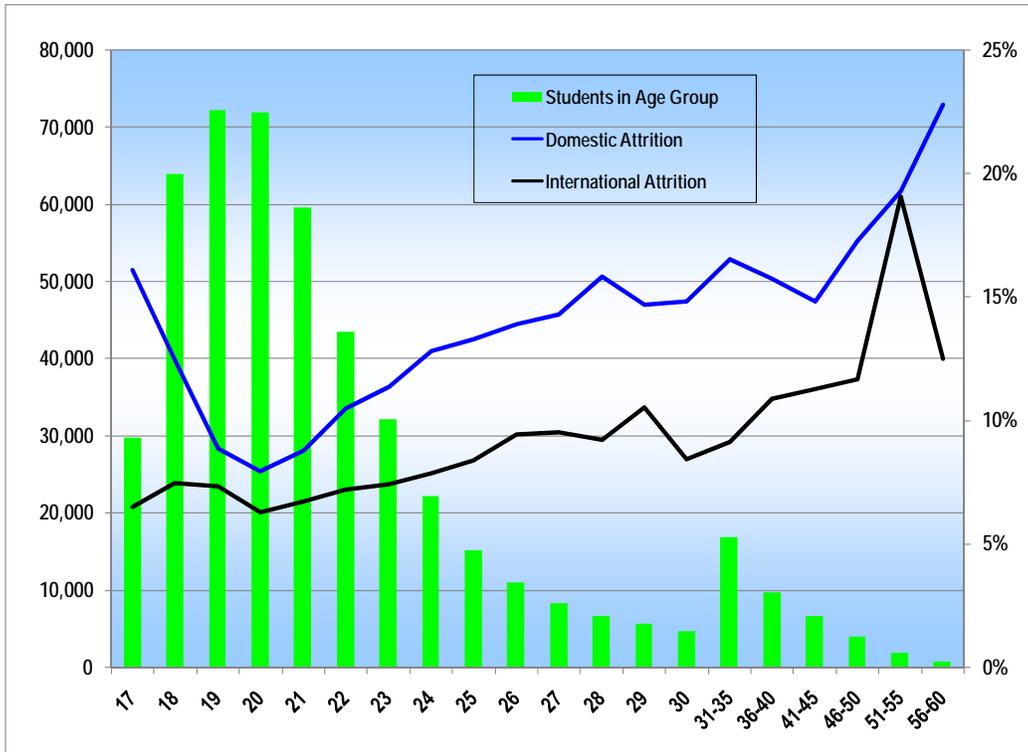
Attrition rates across age groups were compared between international and Australian students, as in Table 10 and Chart 5 **Age: International and Australian Students**.

At every age, international students stayed the course better than Australian students.

**Table 10**  
**Age: International and Australian Students**

Age Group	International Population	Australian Population	International Attrition	Australian Attrition
17	986	28,692	6.5%	16.1%
18	4,417	59,417	7.4%	12.4%
19	8,444	63,649	7.3%	8.9%
20	13,001	58,853	6.3%	7.9%
21	14,750	44,774	6.7%	8.7%
22	14,375	29,096	7.2%	10.5%
23	13,188	18,838	7.4%	11.4%
24	9,608	12,568	7.9%	12.8%
25	6,406	8,742	8.4%	13.3%
26	4,303	6,582	9.4%	13.9%
27	2,999	5,256	9.5%	14.3%
28	2,096	4,456	9.2%	15.8%
29	1,580	3,963	10.5%	14.7%
30	1,224	3,411	8.4%	14.8%
31-35	3,412	13,443	9.1%	16.5%
36-40	1,204	8,476	10.9%	15.7%
41-45	445	6,150	11.2%	14.8%
46-50	129	3,747	11.6%	17.3%
51-55	42	1,799	19.0%	19.3%
56-60	16	702	12.5%	22.8%

Chart 5  
Age: International and Australian Students



## Home Country

Universities reported the home countries of 102,674 international students. The students came from 220 countries, with 150 countries the source of fewer than 50 students each.

There were 24 home countries with more than 500 students each, and these 24 countries were the home countries of 90.2% of international students.

Table 11 **Home Country: Attrition** shows populations and attrition rates for these 24 home countries. Chart 6 **Home Country: Attrition** displays attrition rates for these 24 home countries, with some colour coding of regions.

**Table 11**  
**Home Country: Attrition**

Country	Population	Attrition %
China	27,268	6.4%
Malaysia	10,813	5.1%
India	9,387	10.7%
HK	8,139	7.3%
Singapore	6,972	5.2%
Indonesia	6,368	5.2%
Korea	2,733	10.5%
Thailand	2,422	7.0%
Japan	2,016	9.5%
Taiwan	1,982	8.6%
Vietnam	1,913	6.3%
Canada	1,847	6.6%
Sri Lanka	1,475	5.6%
US	1,341	14.6%
Norway	1,336	13.1%
Bangladesh	1,101	12.4%
Zimbabwe	848	10.1%
Pakistan	760	9.7%
Kenya	755	9.0%
Germany	713	10.7%
Mauritius	655	9.3%
Brunei	618	7.4%
Sweden	601	19.1%
UAE	517	8.3%

As in Chart 6 **Home Country: Attrition**, Sweden, US and Norway were the source countries with the highest attrition rates. These countries are the source of many study abroad students in Australia.

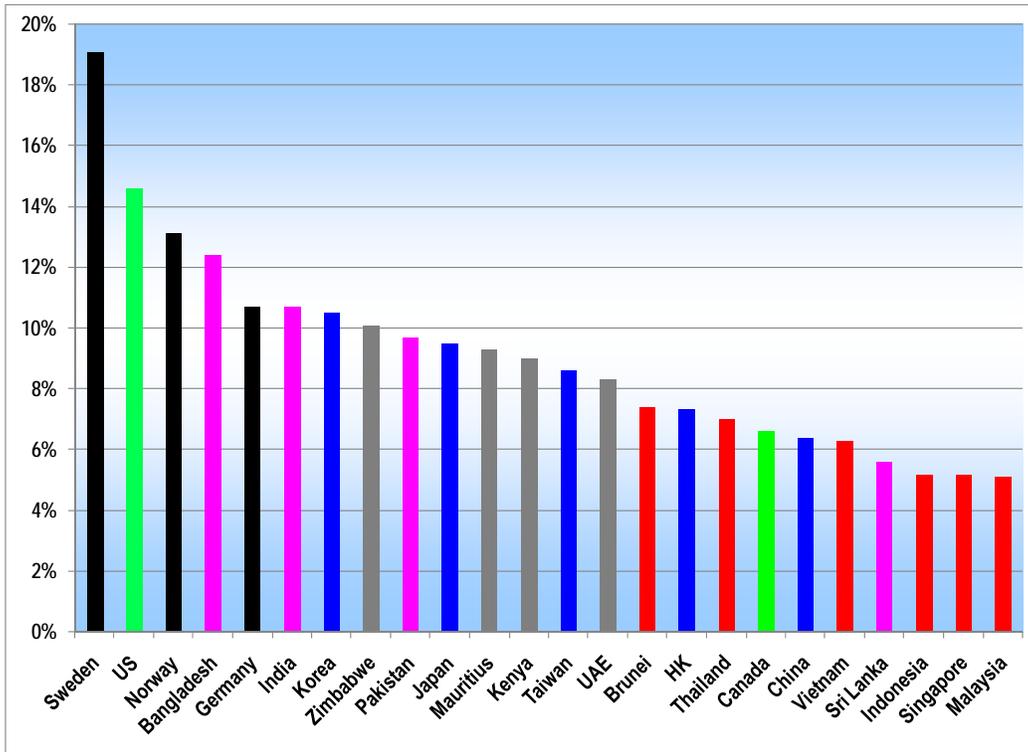
The methodology of the study excluded study abroad and exchange students, so a number of universities agreed to drill down into numbers from these source countries. None of these universities had included study abroad or exchange students in the population of the study.

Several universities suggested that students from Europe, including Scandinavia, and from North America, looking for a study abroad experience in Australia, had enrolled in full degree programs and then dropped out, inflating attrition rates for these source countries. There may be aspects of agent behavior contributing to such practice.

In any case, universities in Australia are unlikely to invest in intervention strategies that seek to reduce attrition rates in respect of Sweden, US or Norway, or Germany.

In Chart 6 **Home Country Attrition**, Bangladesh is the only other country with an attrition rate higher than the Australian figure of 11.3%.

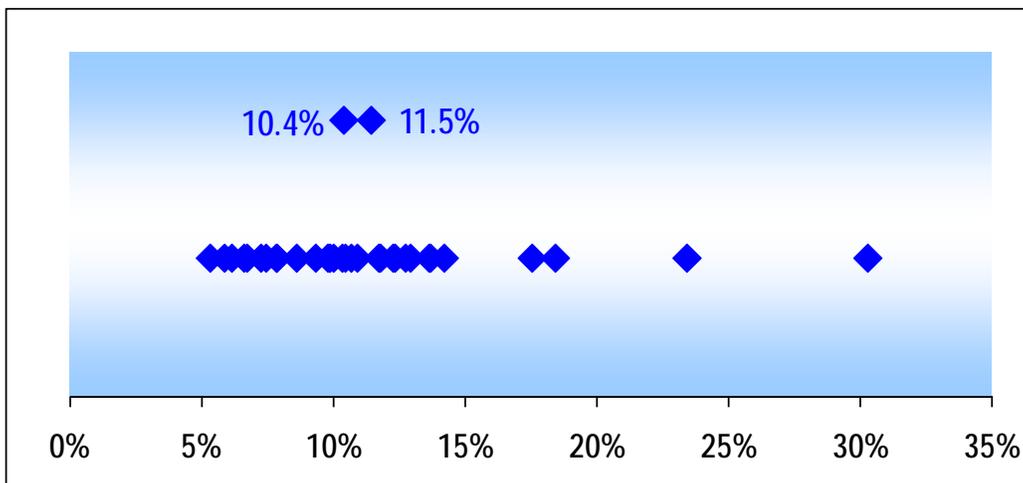
Chart 6  
Home Country: Attrition



## Universities

Across the 32 universities, attrition rates ranged from 5.3% to 30.3%, as in Chart 7  
Universities: Attrition. The average was 11.5%, the median 10.4%.

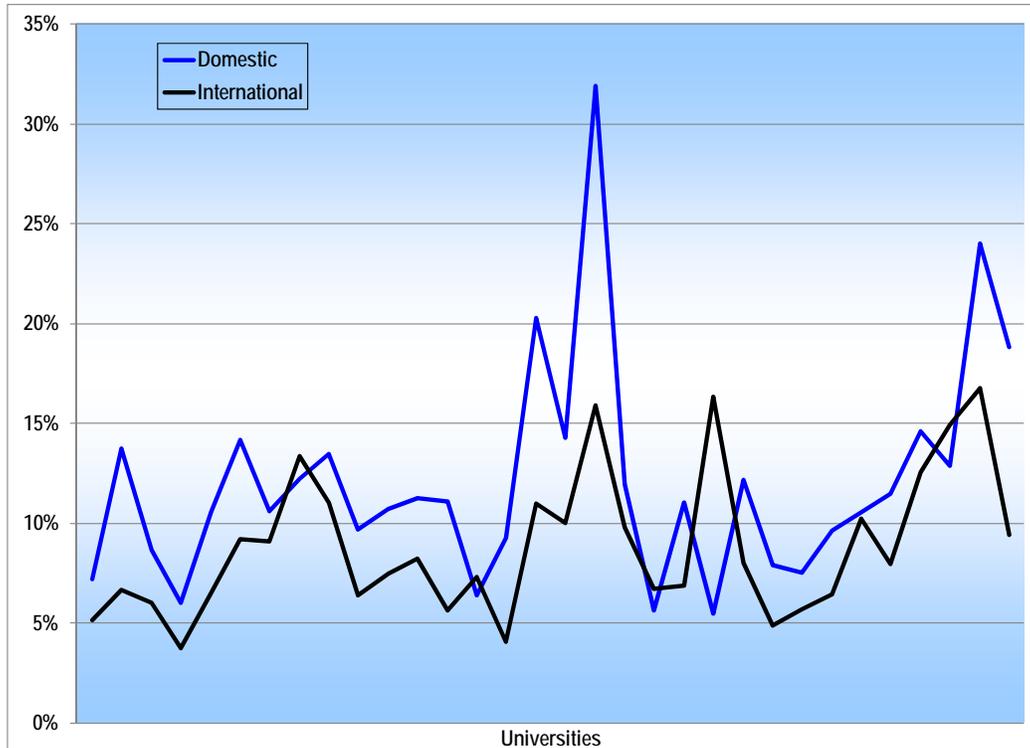
Chart 7  
Universities: Attrition



Overall, 7.6% of the 102,686 international students dropped out, staying the course better than the 383,297 Australian students, 11.3% dropped out.

For the 32 universities, attrition rates for international students were compared with attrition rates for Australian students in Chart 8 **Universities: International and Australian Students**. In 27 universities, international students stayed the course better than Australian students and in five universities Australian students stayed the course better than international students.

**Chart 8**  
**Universities: International and Australian Students**



It is one of the key findings of this study that four universities had attrition rates higher than 15%, including three with domestic attrition rates higher than 20%.

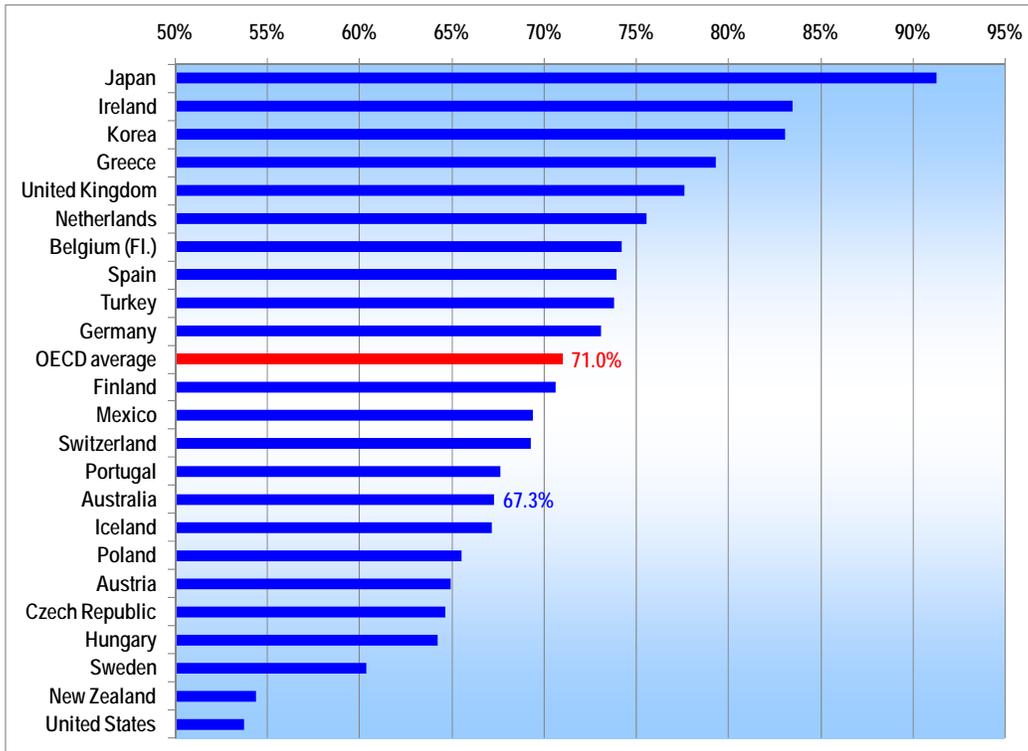
### International Comparisons

The Organisation for Economic Cooperation and Development (OECD) defines survival rates for university undergraduate students as representing the proportion of those who enter such a program who go on to graduate from such a program.

OECD in **Education at a Glance 2007: OECD Indicators**<sup>4</sup> compared survival rates in 2004. Against an OECD average of 71.0%, the figure for Australia was 67.3%, as in Chart 9 **OECD Survival Rates**.

<sup>4</sup> Organisation for Economic Cooperation and Development 2007 **Education at a Glance 2007: OECD Indicators** OECD Paris

Chart 9  
OECD Survival Rates



The OECD survival rate for US in 2004 was 53.7%. In the Summer 2008 issue of **International Higher Education**, Arthur M Hauptman<sup>5</sup> commented on participation and persistence in US

Another traditional means of comparing OECD countries is persistence rates—the proportion of entering students who complete their programs. Periodic longitudinal surveys of students entering universities in the United States suggest that about half of them receive a degree within six years. For community college students, the degree completion rate in the United States is much lower—certainly less than 20 percent and perhaps less than 10 percent, as many of the students who enroll do not plan to receive a degree. The view is that the United States has tended to be below the average of many other countries in terms of persistence, in part because as one of the first of the mass or universal systems in the world, the United States has adhered to the policy of letting more and more people try higher education and not worrying as much about how many complete their programs.

<sup>5</sup> Hauptman A M 2008 *Participation and Persistence in the United States* in *International Higher Education* n.52 Summer 2008 viewed 21 September 2008 at [http://www.bc.edu/bc\\_org/avp/soe/cihe/newsletter/Number52/p19\\_Hauptman.htm](http://www.bc.edu/bc_org/avp/soe/cihe/newsletter/Number52/p19_Hauptman.htm)

The OECD survival rate for UK in 2004 was 77.7%. The UK National Audit Office<sup>6</sup> in 2007 reported on two measures of retention

- the completion rate, the proportion of starters in a year who continue their studies until they obtain their qualification, with no more than one consecutive year out of higher education (As higher education courses take years to complete, an expected completion rate is calculated by the Higher Education Statistics Agency. Data to check whether the expected rates are close to the actual completion rates has only recently become available.)
- the continuation rate, the more immediate measure of retention, the proportion of an institution's intake which is enrolled in higher education in the year following their first entry to higher education.

The National Audit Office concluded

From the published performance indicators, of the 256,000 full-time, first-degree students starting higher education in 2004-05, 91.6 per cent continued into their second year. Also, the projected outcomes table shows that 78.1 per cent are expected to qualify with a first degree, with a further 2.2 per cent expected to obtain a lower qualification, and 5.8 per cent expected to transfer to another institution to continue their studies.

The OECD survival rate for New Zealand in 2004 was 54.4%. In the March 2005 issue of the Journal of Higher Education Policy and Management, David Scott<sup>7</sup> reported research on completion rates for domestic undergraduates in New Zealand. Of domestic students commencing bachelor degrees at public providers in 1998, 46% had completed successfully five years later, by 2002, and 7% were still studying.

## Outcomes

In this study of 485,983 students in 32 Australian universities in 2006, the retention figure was 89.5%, the attrition figure was 10.5%. 89.5% of students stayed the course, 10.5% dropped out.

While, overall, 10.5% of students stayed the course

- 7.6% of the 102,686 international students dropped out, staying the course better than the 383,297 Australian students, 11.3% dropped out
- 9.9% of female students dropped out, staying the course better than male students, 11.2% dropped out
- 10.4% of undergraduate students dropped out, staying the course better than postgraduate coursework students, 11.5% dropped out.

Students in Health, Engineering, Management/Commerce, Architecture and Education stayed the course better than students in Science, IT, Creative Arts, Society/Culture and Agriculture/Environment.

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<sup>6</sup> National Audit Office 2007 **Staying the course: the retention of students in higher education** report by the Comptroller and Auditor General 26 July 2007 viewed 1 September 2008 at <http://www.nao.org.uk/pn/06-07/0607616.htm>

<sup>7</sup> Scott D 2005 *Retention, Completion and Progression in Tertiary Education in New Zealand* in **Journal of Higher Education Policy and Management** Routledge Journals Abingdon UK

Across the population, 99.8% of students were aged between 17 and 60 years old. 19 to 23 year olds, 58% of the student population, did better than average. At every age, international students stayed the course better than Australian students.

In the 32 universities, attrition rates ranged from 5.3% to 30.3%. In 27 universities, international students stayed the course better than Australian students and in five universities, Australian students stayed the course better than international students. It is one of the key findings of this study that four universities had attrition rates higher than 15%, including three with domestic attrition rates higher than 20%.

## **About the Authors**

This study was carried out with the Australian Universities International Directors' Forum by Alan Olsen, Director of Strategy Policy and Research in Education Limited [www.spre.com.hk](http://www.spre.com.hk). Alan is a graduate of The University of Sydney and University of Technology, Sydney.

Jenny Spain, a graduate of The Australian National University, and Rebecca Wright, a graduate of Queensland University of Technology, provided research assistance on this study.