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Dropout DNA, and the genetics of effective support

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Highlights

■ *The investment institutions make enrolling students is wasted unless people are engaged through to graduation*

■ *Pleasingly, the number of first-year students who seriously considered departing an Australian university before graduation is decreasing – from 35 to 27 per cent between 2008 and 2010*

■ *There has been an upswing in early departure intentions for later-year students – from 31 to 34 per cent between 2008 and 2010*

■ *Effective provision and use of student support is strongly correlated with retention*

■ *There are major disjuncts between the support students use and the support they need, disjuncts that evidence-based practice can do much to resolve*

Dropout DNA, and the genetics of effective support

Supporting participation and outcomes

Australia is seeking to expand participation in higher education – to get more students into the system and keep these people engaged in effective learning through to completion. In 2009 the Australian Government set attainment targets (40% of 25-to-34 year olds having a bachelor degree or above by 2025) coupled with an explicit mandate to diversify the student mix, in particular by balancing the inclusion of people from socioeconomically disadvantaged backgrounds (raising participation to 20% by 2020). Supporting students' engagement in higher education is fundamental to the success of these reforms. To support engagement meaningfully requires data on the effectiveness of engagement activities and conditions which goes beyond commonly collected data regarding student satisfaction with the quality of provision.

Student engagement is a concept that plays out in different ways at different points of the educational cycle. Initial efforts focus on shaping students aspirations, on building awareness about higher education and influencing participation decisions – see Figure 1. Admissions and integration processes play a vital role once students have joined. Once students have their feet on the ground, retaining them and keeping them productively engaged is key to quality and productivity. Finally, institutions and students need to engage in processes that support students in the transition to further scholarship or employment.

Dropout and effective support
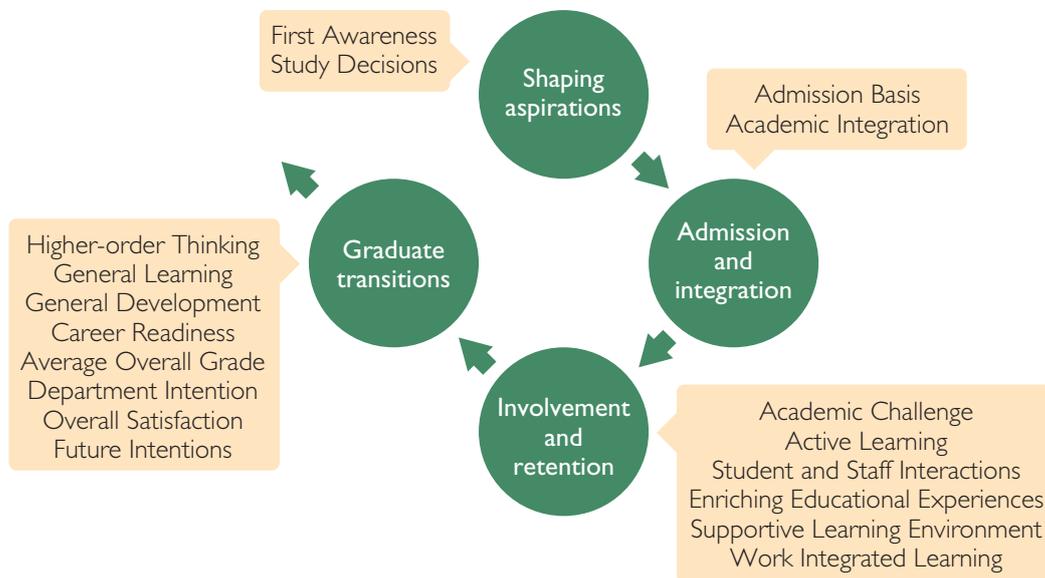
Figure 1: Student engagement cycle

Supporting students through their academic journey takes on many guises and can be as simple as providing timely and useful information or as complex as a multi-service intervention. For the purposes of this paper, 'support' is defined broadly as the university's interaction with a student, whether it be with academic or service professional staff, that enhances the study experience. It may be in the form of a specific university service, such as counselling or learning assistance, and it can also be in the form of student-teacher interactions, such as constructive feedback on assessments or an out-of-class discussion. Individualisation is a key component of successful support – students' perceptions that the assistance meets their specific needs increases student satisfaction and consequently retention. It is worth noting that 'support', at its best, is an integration of an institution's promise to the student via its mission statement, policy regarding academic engagement, and delivery of the promise in the form of both formal and informal activities and services.

Drawing on the 2010 Australasian Survey of Student Engagement (AUSSE – see Appendix 1) – the largest nationally representative set of data on current students yet collected in Australian higher education – this briefing concentrates on the retention of first- and later-year students. The overall sample size for this analysis is large – 25,950 students (around 14,300 first years and 11,650 later (mostly third) years), and is weighted to ensure representativeness of the target population – onshore undergraduate students.

The briefing takes a broad look at students' intentions to remain at university, examining rates for different subgroups. It highlights the vital role of student support in engaging students and preventing early departure. There are disjuncts, the data shows, between the support students need and that they receive from their institutions. The results are used to shed light on practices that institutions can use to further support students' participation in higher education.

I'm studying during Chemotherapy, but the support services available have helped me through, and I'm staying on.

A focus on attrition

Moving from serendipity to science

Higher education in Australia is big business. In 1985 there were just 138,666 university students, and in 1989 only around 10 per cent of the Australian population had a higher education qualification (DETYA, 1993). Only a few decades later there are over a million students in the system, with around a third coming from overseas. With expansion comes the need for more scientific approaches to identifying and managing students' engagement – for responding to individual needs and identifying loneliness in the crowd. The need for high-
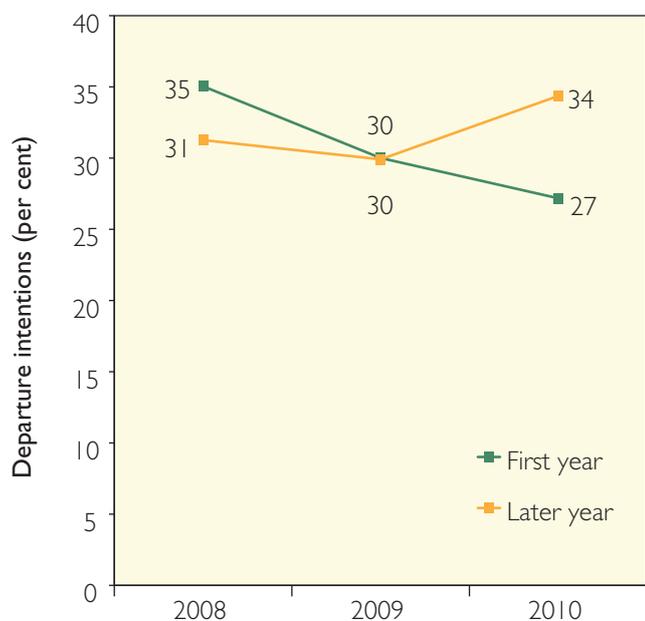
Figure 2: Student departure intentions

quality engagement strategies does not decrease as the system grows. In fact, the need for less serendipitous and more explicit approaches intensifies.

Student retention is vital to any increase in the quality, size or productivity of higher education. While various arguments can be mounted in favour of attrition or at least cast it as neutral – as do basic funding arrangements in Australia that fail to encourage retention or penalise dropout – in general attrition can be considered a 'bad thing'. There are a range of adverse consequences for individuals, institutions and the broader economy from students leaving higher education before graduation. Yet to date, very little has been done to understand and develop strategies to mitigate this phenomenon.

Attrition is a complex and multifaceted phenomenon which incorporates transitions such as cross-institutional mobility, 'dropout' from higher education, course transfer, temporary deferral, and academic failure. The AUSSE includes a series of questions to facilitate the measurement of a range of different movements, change rationales and destinations. The current analysis focuses on intentions for 'early departure', defined as departure from an institution before the completion of a qualification.

Each August since 2007 the AUSSE has posed the following question to large representative samples of first- and later-year higher education students: "In this academic year have you seriously considered leaving your current institution?" Students who answer "yes" are invited to specify reasons. The current analysis excludes those who were graduating or leaving having completed their qualification. With nationally representative samples of students at large numbers of institutions responding to around 100 questions, the AUSSE offers an unprecedented window into student retention.

Headline rates and groups of interest

Figure 2 presents headline rates for serious departure intentions for the last three years. Pleasingly, the rate for first-year students appears to be decreasing – from 35 per cent in 2008 to 27 per cent in 2010. The rate for later-year (typically third-year) students remained relatively constant between 2008 and 2009, but has shown a concerning upswing from 31 per cent in 2008 to 34 per cent in 2010.

These trends are informative, but the reasons behind them are less clear. The first-year rate may reflect a countercyclical engagement with higher education as a result of adverse economic conditions from late 2008 onwards. Similarly, the upswing for third-year students may reflect the easing of adverse economic conditions in 2010, prompting more to consider leaving higher education before graduation to secure work. This is conjecture, but digging deeper into the results helps unpack the demographic and contextual dynamics underpinning headline rates.

In terms of explanatory power, demographic and context factors explain a relatively small amount of variation in early departure intentions for reasons clarified in the analysis of causal factors below. Focusing on first years studying in 2010, the institution, narrow field of study and average overall grade are the strongest correlates, explaining around 2.1 per cent, 1.4 per cent and 1.0 per cent of the variance in departure intentions. For 2010 later years, the strongest correlates are narrow field of study (5.8%), institution (2.9%), working for pay off campus (1.1%), and average grade (1.0%).

The institution students attend and the interactions they have with this institution are also likely to make a different. Looking at the departure intentions for first- and later-year students at each institution clearly shows that there is a significant amount of variation across institutions.

Field of education explains a considerable amount of variation in early departure intentions. These figures are typically of considerable interest to teachers, students, institution managers and leaders, and policymakers. Given this, a long list of around 50 fields is presented in Table 1, sorted in decreasing order by first-year rates. These figures are presented largely without comment, except to note what may be a broad correlation with the competitiveness of entry and also career prospects, and that there are different patterns for first- and later-year learners.

While demographic characteristics explain relatively little overall variation in departure intention, there is certainly variation across subgroups. Differences between groups are very interesting to explore, particularly as not all of the variation aligns with

Dropout and effective support

Table 1: Departure intentions for selected fields of education

Field of education	First year (%)	Later year (%)
Horticulture and viticulture	57	25
Building	48	17
Sport and recreation	45	56
Mechanical and industrial engineering and technology	45	27
Librarianship, information management and curatorial studies	43	29
Business and management	40	35
Performing arts	38	37
Graphic and design studies	37	50
Optical science	35	17
Agriculture	35	36
Information technology	34	47
Humanities	33	57
Mathematical sciences	33	24
Sales and marketing	33	39
Economics and econometrics	33	34
Communication and media studies	32	41
Language and literature	32	58
Pharmacy	32	32
Health	31	36
Studies in human society	31	36
Law	31	29
Visual arts and crafts	31	44
Computer science	30	46
Justice and law enforcement	30	42
Complementary therapies	30	36
Behavioural science	29	37
Nursing	29	49
Tourism	28	40

Field of education	First year (%)	Later year (%)
Human welfare studies and services	28	39
Natural and physical sciences	27	41
Management and commerce	26	18
Earth sciences	26	35
Rehabilitation therapies	25	28
Architecture and building	25	48
Teacher education	25	33
Biological sciences	23	33
Creative arts	23	38
Geomatic engineering	22	26
Banking and finance	22	34
Information systems	21	31
Political science and policy studies	20	47
Engineering and related technologies	20	26
Accounting	20	29
Public health	19	31
Civil engineering	18	19
Aerospace engineering and technology	18	27
Process and resources engineering	16	22
Medical studies	16	17
Agriculture and environmental studies	15	32
Environmental studies	15	19
Dental studies	14	23
Chemical sciences	14	23
Philosophy and religious studies	13	28
Electrical and electronic engineering and technology	13	30
Physics and astronomy	10	10
Veterinary studies	8	22

expectation. Table 2 shows 2010 rates for selected individual characteristics. Rates for Indigenous students are higher and certainly go up by more across years. Rates for people with a disability are also higher than for others. People with an English-speaking background have higher departure rates than people with a language background other than English, and rates for English speakers increase more across years. There is little difference between male and female rates, or in terms of parental educational background. Internet access – a question added to the 2010 AUSSE to provide a new angle on socioeconomic status – does show an effect, whereby people with broadband or ADSL have lower rates than those with dial-up or no access. Government financial support makes little difference in first year, but is linked with a modest increase in dropout intentions by third year.

The dropout intentions of students from provincial or remote areas show a larger increase across year levels than do the intentions for metropolitan students, leading to third-year figures for the former two groups to be several points higher. Differences between socioeconomic groups (when measured conventionally using postcode and also more refined locality measures) are slight, reflecting findings from earlier national studies of university admissions (Coates, Edwards & Friedman, 2010).

Table 3 reports departure intention rates for various study-related characteristics. The growth in attrition intentions for on-shore international students is striking – double that of domestic students. Part-time or external students report higher rates than people studying full time or on campus, but the gap stays constant across years. Spending greater time travelling to campus is linked with general increase in departure intentions – perhaps linked with the hassle of the commute. Spending more time on campus reduces students' intentions to depart. For most of these groups attrition

Table 2: Departure intentions for selected individual characteristics

Subgroup		First year (%)	Later year (%)
Indigenous	Not Indigenous	27	34
	Indigenous	35	45
Sex	Male	28	34
	Female	27	35
Disability	No disability	27	33
	Disability	40	48
Language background	English	28	35
	Non-English	27	31
International	International student	22	36
	Domestic student	28	34
Family background	Not first in family	29	34
	First in family	26	34
Home internet access	None	36	43
	Dial-up	39	52
	Broadband/ADSL	27	32
Government payment	No payment	28	33
	Government payment	27	37
University payment	No university payment	28	34
	University payment	22	34
Region	Metropolitan	28	33
	Provincial	27	39
	Remote	25	37
Socioeconomic background	Low	28	33
	Middle	28	36
	High	26	33

Dropout and effective support

appears higher for later-year students, affirming the need for institutions and the system as a whole to put greater focus on this group of learners.

A wide range of contextual matters are measured in the AUSSE, offering significant insights into how different student activities are linked with departure intentions. In summary, working for pay on campus and managing personal business are both linked with little increase in departure intentions, although there are slight increases for those working over 16 hours. A steady increase in attrition is linked with off-campus paid work, particularly for those working over 16 hours, although another AUSSE Research Briefing (Coates, 2011) shows that this is moderated by a large number of individual, course, institutional and broader social factors. Participating in extracurricular activities or caring for dependents has

no relationship with departure intentions, again except for those taking part in more than 30 hours. The number of hours each week spent relaxing and socialising has a steady negative relationship with departure intentions – relaxed and happy students are less likely to depart.

As identified in several earlier AUSSE reports (Coates, 2008, 2009, 2010), students' academic performance has a consistent and quite strong relationship with the propensity to departure prior to course completion. The AUSSE's Student Engagement Questionnaire asks students to report their average overall grade on a percentage metric. Figure 3 illustrates that first-year learners are more likely to depart due to low grades than people in later year, but aside from this the rate of decrease is broader similar between the year levels – falling from around 35 per cent (lower grade groups) to 25 per cent (higher grade groups) for first years, and 40 per cent to 30 per cent for later years. Inspection of the graph reveals there may be three clusters of grades that are salient in relation to departure intentions – those below 50, those between 50 and 65, and those over 65.

Table 3: Departure intentions for selected study characteristics

	Subgroup	First year (%)	Later year (%)
Fees	International fees	22	35
	Government funded	28	35
Mode and type	Part time or external	30	38
	Full time and on campus	26	33
Travelling to campus	None	27	37
	1 to 5	25	34
	6 to 10	28	33
	11 to 15	32	36
	16 to 20	33	44
	21 to 25	44	35
	26 to 30	32	50
	Over 30	36	36
Total time on campus	None	28	43
	1 to 5	38	39
	6 to 10	31	40
	11 to 15	29	33
	16 to 20	26	32
	21 to 25	25	31
	26 to 30	25	30
	Over 30	26	26
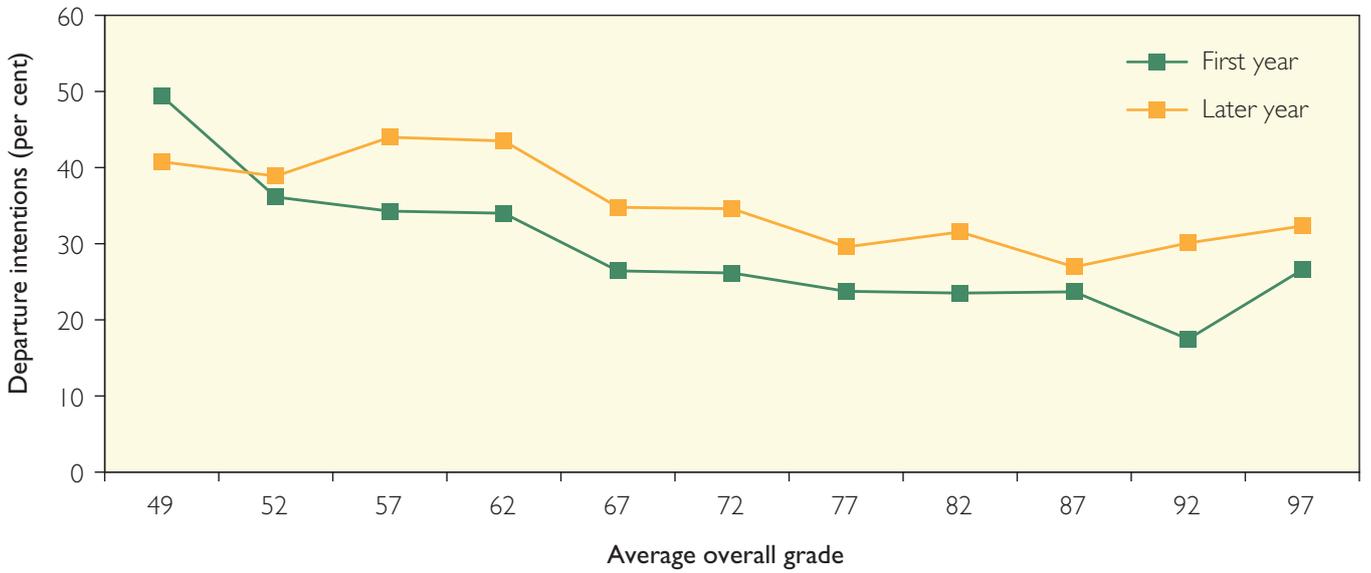
Figure 3: Departure intentions by average overall grade
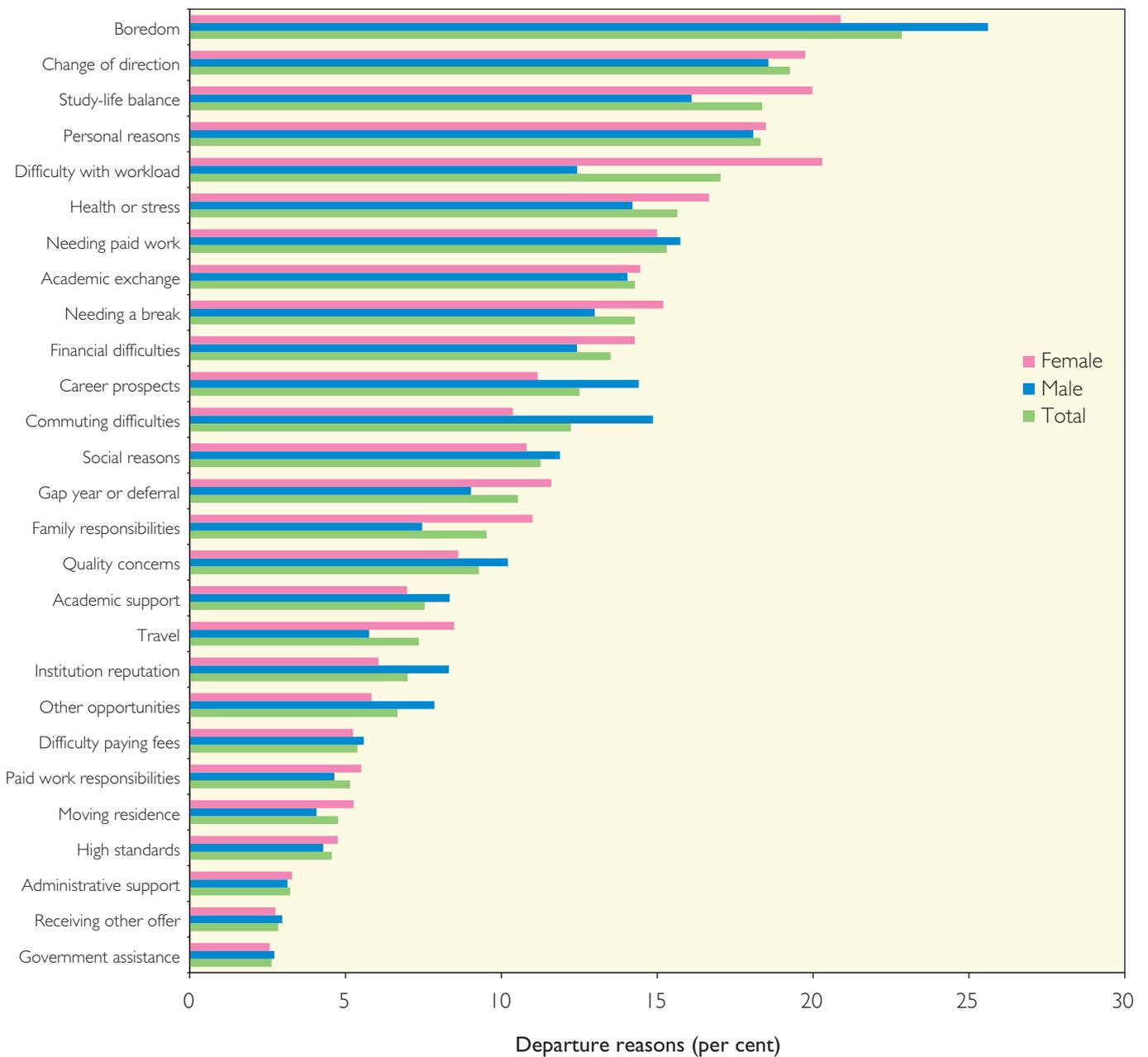
Figure 4: First-year student departure reasons by sex

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Espoused reasons for wanting to go

Looking at variations in departure intentions across subgroups is very informative, particularly for people from these groups or with professional interests in particular areas. Equally interesting is exploring the various reasons students provide for saying they will leave. The 2010 AUSSE explored this area in depth, building on qualitative analyses conducted in the previous three years. Looking deeply at these reasons is imperative for people with an interest in student retention and success. For parsimony, only statistics

for first-year students who reported that they had considered departing are explored in the following results. Clearly the departure of later-year students is also cause for concern, not least because it takes place when people are so close to the finishing line.

Figure 4 displays the reasons selected by students for wanting to leave higher education study early, sorted by results for all first-year students. Results are provided for male, female and all first-year students. The stand out information in this figure is that personal and social factors are listed as the top reasons driving students'
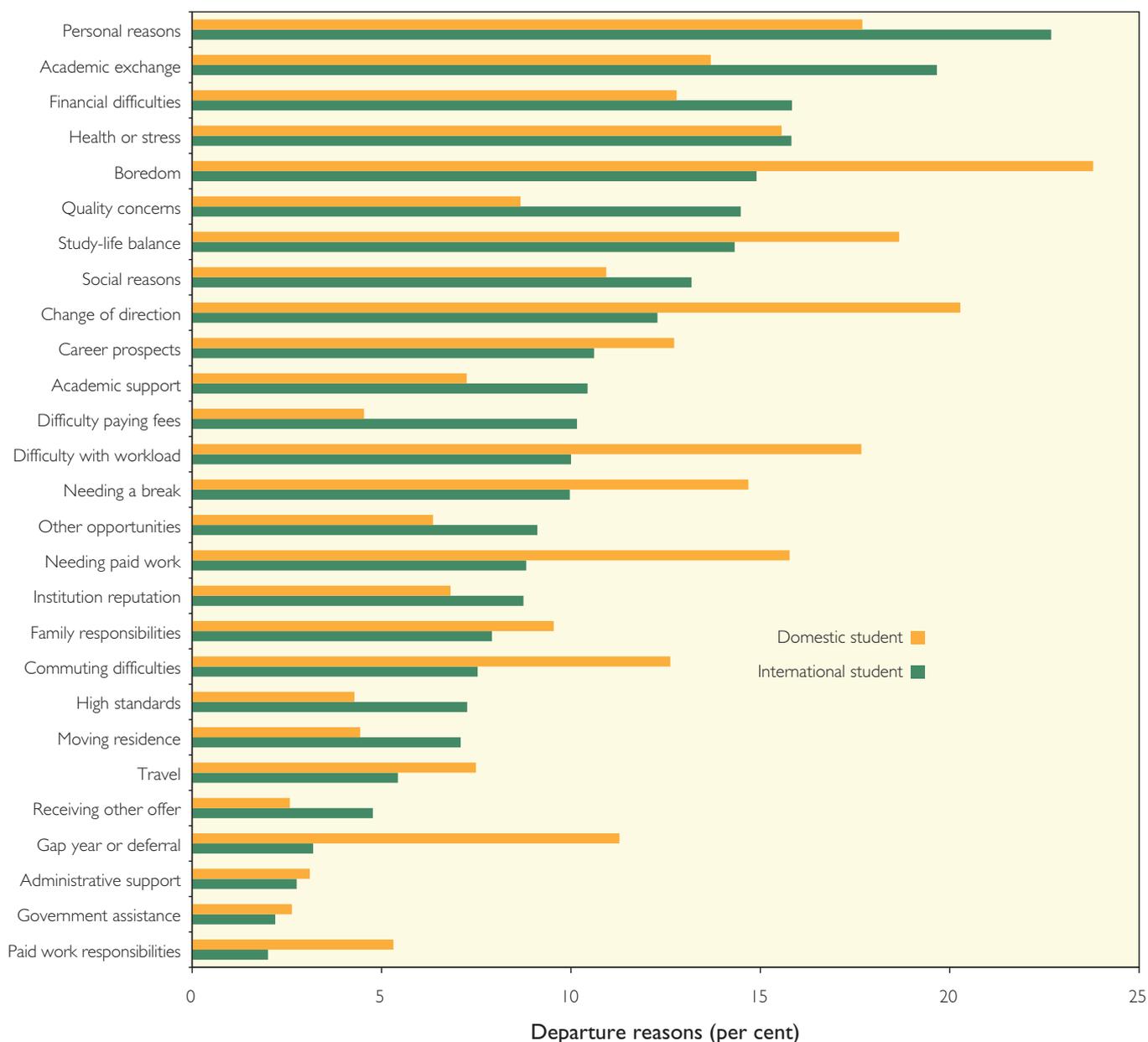

Figure 5: First-year student departure reasons by international student status

Table 4: First-year student departure reasons for selected subgroups

Departure reasons	Mode of study		Home location			Socioeconomic status			Family background		Indigenous	
	Part time or external (%)	Full time and on campus (%)	Metro-politan (%)	Provincial (%)	Remote (%)	Low (%)	Middle (%)	High (%)	Not first in family (%)	First in family	Not Indigenous (%)	Indigenous (%)
Government assistance	2	3	2	3	7	2	2	2	2	3	2	6
Receiving other offer	3	3	3	1	2	1	3	3	3	3	3	5
Administrative support	4	3	3	4	3	3	3	3	3	4	3	5
High standards	6	4	4	5	11	5	5	3	3	6	5	5
Moving residence	6	5	4	7	5	5	5	5	5	4	5	9
Paid work responsibilities	14	3	4	9	16	7	6	3	4	8	5	21
Difficulty paying fees	7	5	4	8	13	6	5	4	4	6	5	9
Other opportunities	6	7	7	6	7	6	6	8	7	5	7	7
Institution reputation	4	8	8	4	0	9	6	7	7	8	7	4
Travel	6	8	8	7	10	7	7	9	7	8	7	10
Academic support	8	8	7	8	4	7	7	7	6	9	8	8
Quality concerns	9	9	9	8	1	9	9	9	9	11	9	4
Family responsibilities	17	8	8	15	30	16	10	5	7	13	9	26
Gap year or deferral	7	11	10	10	4	11	8	13	11	9	10	13
Social reasons	9	12	10	11	2	9	11	11	11	11	11	7
Commuting difficulties	6	13	13	8	7	12	12	12	12	12	12	17
Career prospects	8	13	13	11	0	13	13	12	13	12	13	8
Financial difficulties	16	13	10	21	22	16	13	11	10	17	13	17
Needing a break	10	15	13	14	33	17	14	12	15	13	14	15
Academic exchange	10	15	14	11	0	11	12	17	15	12	15	9
Needing paid work	18	15	14	20	15	17	16	12	13	19	15	27
Health or stress	17	15	14	20	16	17	17	13	14	18	15	26
Difficulty with workload	20	16	15	21	40	20	18	13	13	22	16	26
Personal reasons	15	19	16	22	29	23	17	17	18	18	18	26
Study-life balance	23	18	16	22	22	23	18	14	16	22	18	32
Change of direction	14	20	20	20	9	20	18	21	23	16	20	12
Boredom	16	25	23	20	20	19	23	23	24	21	23	20

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Table 5: First-year student departure reasons by field of education

Field of education	Quality factors (%)	Psychosocial factors (%)	Financial factors (%)	Practical factors (%)	Academic factors (%)
Physics and astronomy	35	68	9	17	22
Geomatic engineering	50	13	0	0	20
Biological sciences	8	21	17	16	18
Optical science	0	26	0	13	34
Earth sciences	5	19	19	15	10
Political science and policy studies	8	15	14	15	10
Public health	0	21	19	10	12
Architecture and building	10	15	8	11	14
Mechanical and industrial engineering	20	20	0	5	14
Law	13	14	8	10	12
Engineering and related technologies	10	14	10	9	12
Nursing	9	17	11	6	10
Health	7	16	10	8	12
Business and management	10	16	11	8	8
Medical studies	2	19	9	8	13
Mathematical sciences	12	9	5	10	16
Natural and physical sciences	6	13	8	10	14
Creative arts	7	13	7	10	14
Society and culture	6	14	9	9	11
Teacher education	5	15	10	8	11
Behavioural science	4	16	9	9	11
Studies in human society	1	13	12	10	11
Management and commerce	8	14	9	8	9
Philosophy and religious studies	6	7	6	8	18
Agriculture and environmental studies	0	14	12	9	9
Pharmacy	4	14	5	10	10
Sales and marketing	4	14	6	7	13
Information technology	3	12	7	9	12
Language and literature	3	11	10	7	10
Human welfare studies and services	3	11	11	6	9
Accounting	4	12	9	6	8
Economics and econometrics	5	9	6	12	6
Chemical sciences	0	2	9	10	16
Dental studies	0	12	7	3	15
Veterinary studies	4	7	2	7	15
Civil engineering	0	8	6	13	5
Electrical and electronic engineering	12	1	9	6	2
Computer science	4	5	2	5	14

early departure intentions. Financial matters are rated down the list, as are practical or academic matters, and concerns about quality.

Figure 5 reports figures for international and domestic students, sorted by results for international students. There are clearly several notable differences, including that international students are more inclined to leave due to quality concerns, difficulty paying fees and personal reasons. They are less likely to leave due to boredom, deferral, having a change of direction, difficulty with workload, needing paid work, commuting problems, or simply needing a break. Given the significant funds invested in attracting students, particularly those from abroad, these findings provide serious insights into the differences between domestic and international students and, consequently, the kinds of steps that can be made.

Table 4 reports departure reasons for further selected subgroups. Results are sorted in ascending order of intentions for all first-year students (these aggregate figures are not repeated in this presentation). Clearly, in a time of expansion these differences point to many serious considerations for policy and practice. It is evident, for instance, that people from remote home backgrounds are more likely to leave due to personal or family reasons, needing a break, workload, difficulty with standards, financial difficulties, difficulties paying fees, and paid work responsibilities. That people from low socioeconomic backgrounds are more likely to leave due to family responsibilities, personal reasons, study-life balance, difficulty with workload and financial responsibilities may come as little surprise, but this evidence provides a foundation and prompt for action.

Table 5 reports departure reasons by field of education. In this presentation the above list of around 30 discrete factors have been grouped into five composite measures: quality factors, psychosocial factors, financial factors, practical factors, and academic factors. A score for each of these composite measures (or factors) has been produced by taking the simple average of the percentage score for each of the constituent factors. The average score for each field has then been computed. Hence a higher score corresponds to this facet of departure intention being selected by more students. The fields of study are sorted in terms of the average total across all composites. That is, of all fields of education 'physics and astronomy' has the highest aggregate score for departure – computer science the lowest. For each field, looking across the factors helps highlight patterns which underpin student departure. Replicating this kind of analysis within institutions would provide enormous insight into the factors linked with student departure.

The vital role of support

A prime lever for engagement

The above analysis of early departure contains numerous insights into the distribution and likely causes of this highly concerning phenomenon. Identifying mitigation strategies is the next step. Numerous analyses of AUSSE data over the last four years have revealed that various forms of support would appear to be the most important correlates of early departure, and hence play an important role in its prevention. This makes intuitive sense, but exploring what the data have to say provides enormously useful evidence about what is really going on and hence what optimal responses could be made. A broad overview of key data is presented here. The results are focused on all first-year students.

Each semester I reconsider because of the lack of support at the institution. My own personal motivation has kept me there.

'Student support' and 'student services' are very broad concepts that mean different things to different people. It is helpful to revisit in more detail the working definition introduced earlier. Student support is a broad range of activities, including student services, which occur as part of the educational experience at universities. Often it is individualised – for instance: timely feedback on an assessment, course advice, or a counselling appointment. Support can be formal or informal, but what is important is that the student perceives the exchange to helpfully contribute to their learning or development. Student support can also be a vast range of articulated programs and services designed to facilitate study and learning within the student's lifecycle, such as transition programs, academic writing courses, and internship opportunities. Interactions and activities such as these 'support' student learning. Students feel engaged and motivated to study. Student support can therefore be the difference between an average experience and an excellent one, between dropping out and staying.

An important aspect of support is access. Is it readily available? Are students aware of it? Can students access it easily? In general, universities do provide a range of student support services, and there is certainly a lot of rhetoric around best practice in teaching and learning, in particular the importance of student/teacher contact. It is not unusual, however, for students to comment on exit surveys that they were unaware of such opportunities, or that they had little or no interaction with their lecturers. The reasons for this are complex. They can be a due to resourcing or

communication: insufficient staff to provide a timely service or ineffective communication strategies to ensure widespread awareness of service provision.

Access may also be an issue of responsibility: a student's failure to make an appointment with a learning skills adviser or a tutor's lack of office hours. If we look further, however, we can also find that for many students who are struggling with their studies, finding the physical and psychological time to get help is just another hurdle in an already difficult course. Compound this with administrative barriers, such as needing 'permission' to use a service, or a timetable that inhibits access during standard business hours, and the result is that it is often just too difficult to get support when it is needed.

Academic responsibility plays a role too. A red cross without explanation on an assessment or a tardy response to an email enquiry does little to encourage student engagement. Neither does ignorance of support services or failure to refer. Personalised feedback and individual attention from academics, not surprisingly, makes students feel important and supported.

All of the above are reasons why it is important to consider support in a more nuanced fashion, deserving greater flexibility and individualisation of delivery, and involving all parts of the institution. These are also why the nexus between the support services and academics is so important. Developing more collaborative or systems-oriented approaches to student support we invariably lead to improvements in satisfaction and retention.

The total impact of support

Figure 6 captures the point made above. It reveals average scores for AUSSE scales for students who report lower support (those in the bottom half of the distribution of Supportive Learning Environment scale scores) and those who report higher support. In all instances, students who report feeling less support have lower scale scores than those who report higher perceptions of support. The Departure Intention scores are highly instructive. In short, of people who feel less supported 39 per cent reported seriously considering
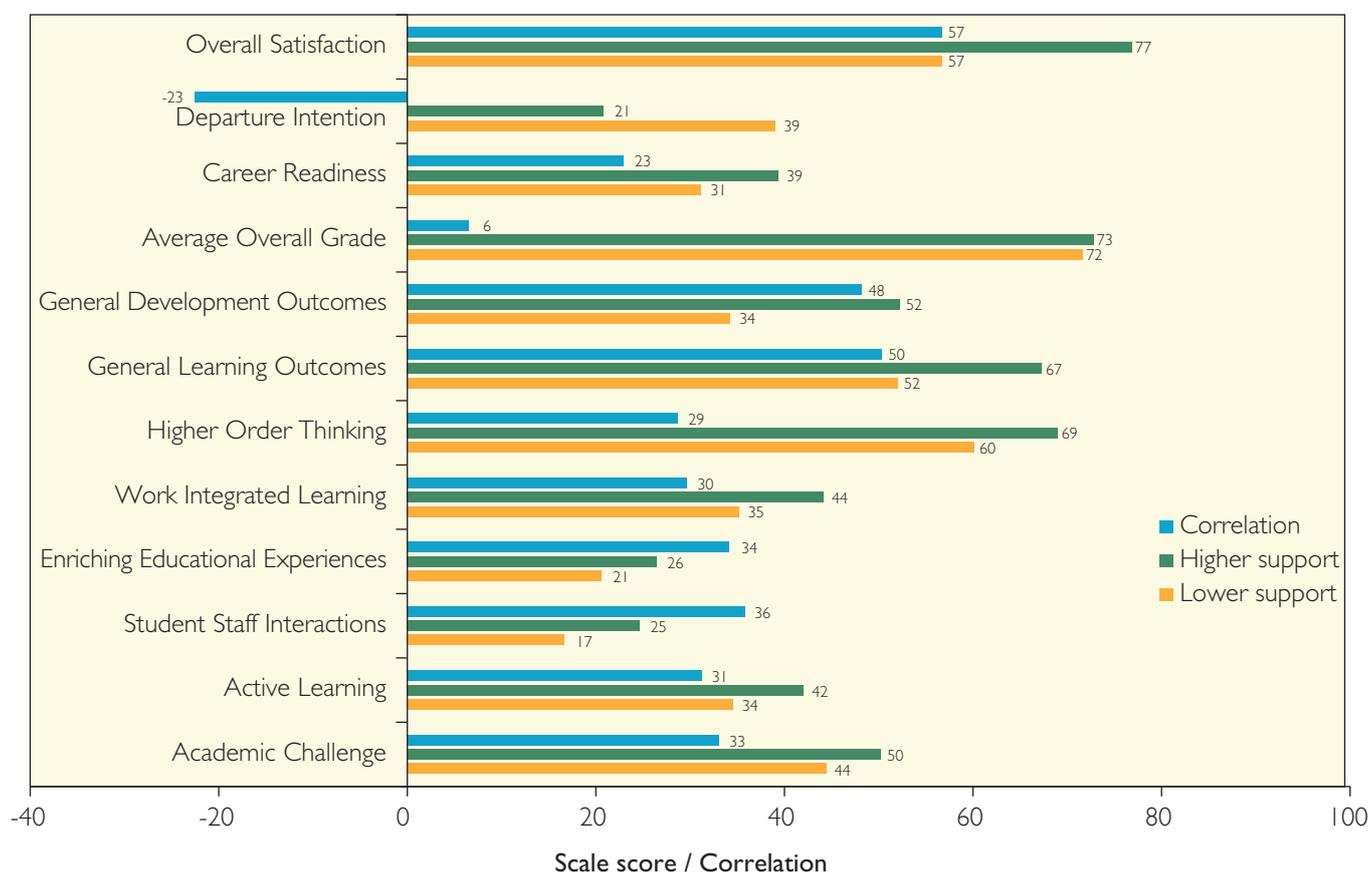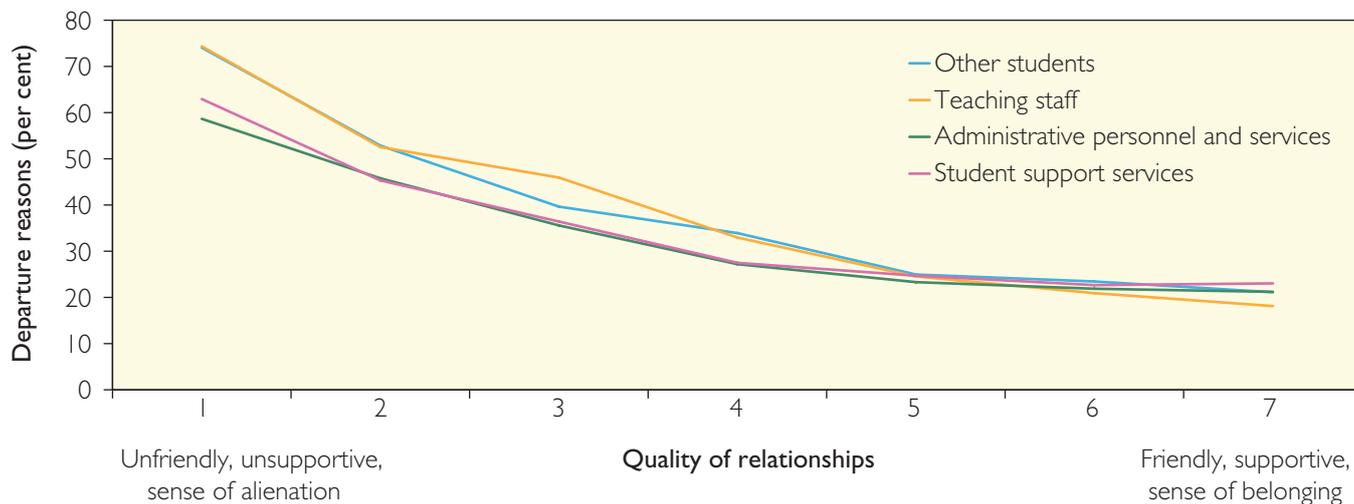

Figure 6: Engagement and outcomes by perceived level of support

Figure 7: Departure intentions by the supportiveness of relationships

departing before graduation, which compares with only 21 per cent of those students who felt more than the median level of support.

Figure 6 also presents correlations between Supportive Learning Environment scores and each of the other scales (converted onto a metric ranging from –100 to +100). Correlation estimates are over 20 (r=0.2) for all scales except Average Overall Grade (as per university marking and reporting procedures the distribution of overall grades is highly kurtotic and hence linear correlations that assume a normal distribution are less informative than may otherwise be the case). The correlations between support and student-teacher interaction – the

latter itself being a particularly powerful form of support – are particularly high. Both of these phenomena are very closely linked with Overall Satisfaction, affirming the driving role of support on students' overall perceptions of their higher education experience. The point here has immediate implications for policy and practice: improve support and increase contact with staff, and satisfaction and retention is likely to increase.

Figure 7 brings out the importance of relationships, showing the percentage of students who consider early departure in terms of the quality of relationships with members of the institutional community. The same broad trends are notable for all four types of
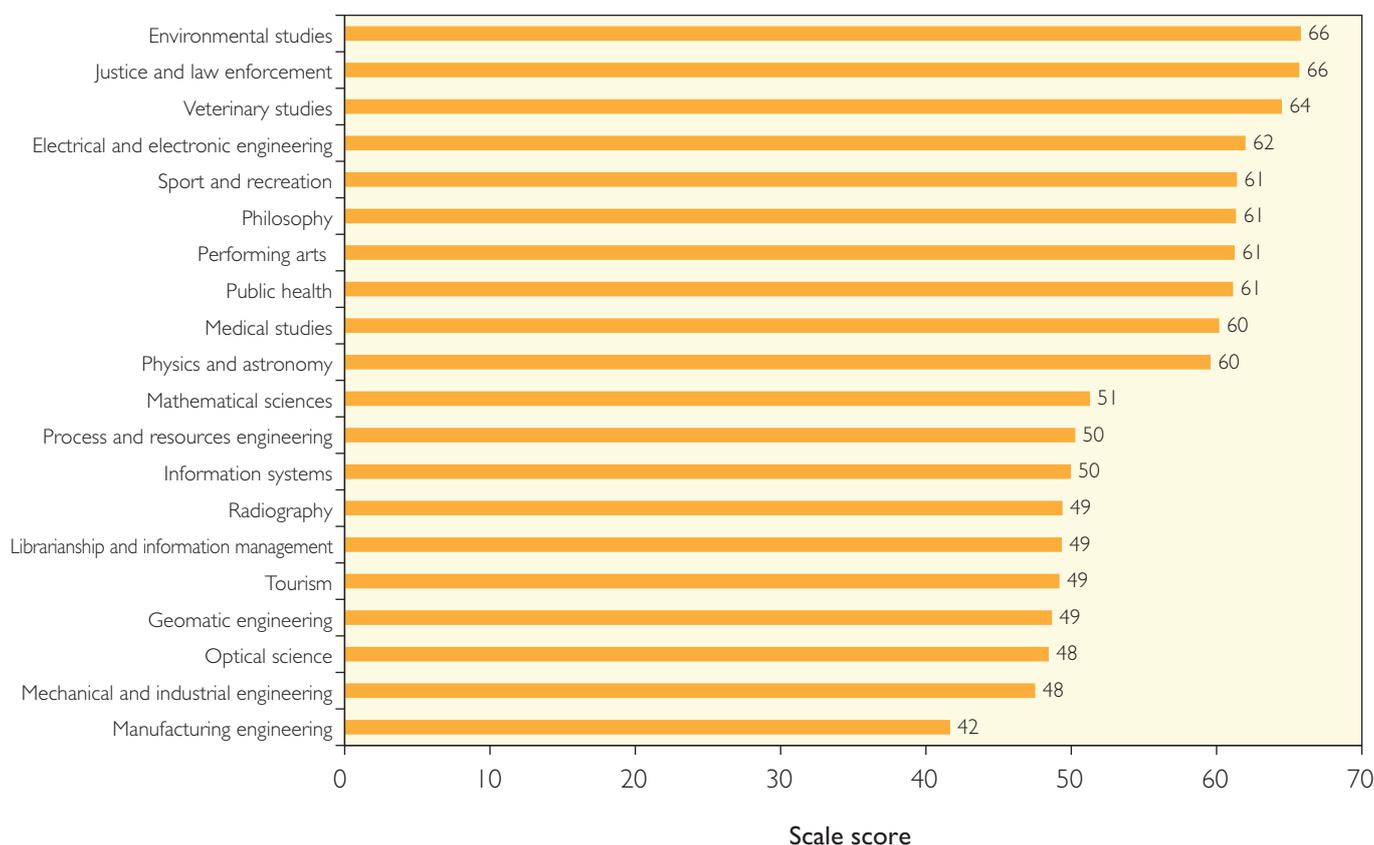
Figure 8: Perceived level of support by top and bottom ten fields of education

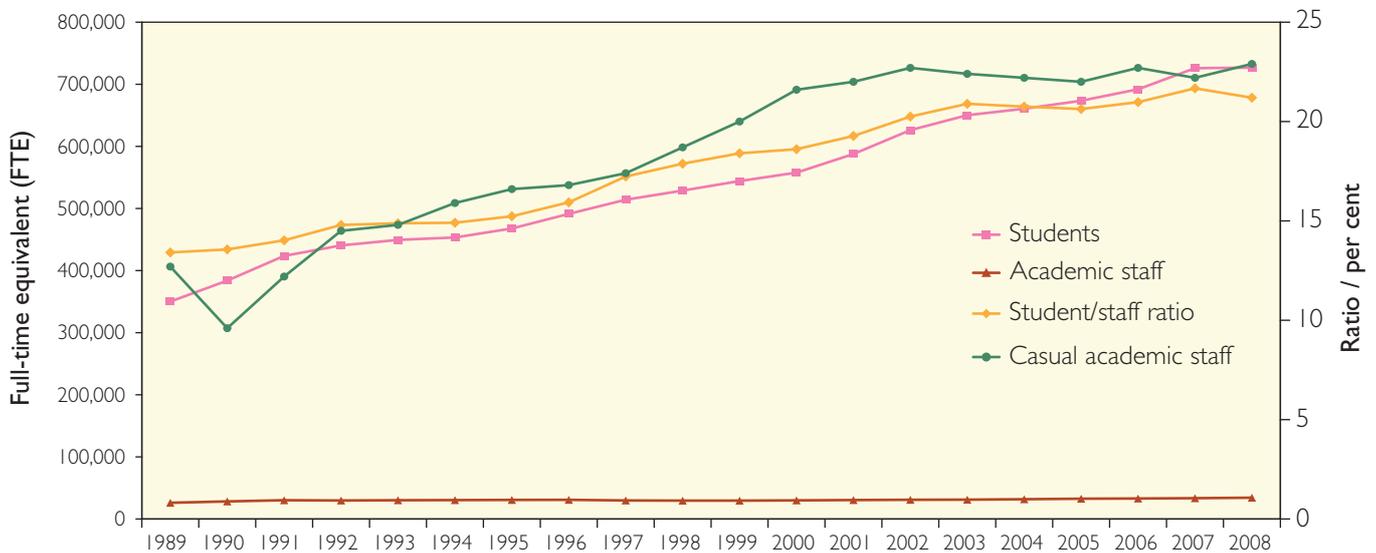# *Dropout and effective support*

Figure 9: Academic staff and student statistics

relationships investigated here. The impact of poor relationships with other students and teaching staff is particularly notable.

Subgroup perceptions of support

Despite this evidence underpinning the critical importance of support for student retention and hence for graduate outcomes and institutional and system expansion, students' perceptions of support and use of related services can be low. Figure 8 reports mean scores for the Supportive Learning Environment scale for the ten most and ten least supportive fields of education.

These national scale scores are informative, and are paralleled by many more detailed insights. For instance, around 10 per cent of first-year higher education students reported never seeking advice from academic staff in the 2010 academic year, around 30 per cent never used learning support services, close to 40 per cent reported that institutional conditions did not help them cope with non-academic responsibilities, and around a quarter reported that their institution did not provide support to help them socialise. Clearly, bolstering support (often, bolstering the 'quality' as much of the 'amount') in key areas and making people from at-risk subgroups feel more supported is likely to yield positive dividends for higher education.

At the same time, however, the support challenge is getting harder. Read against the left axis, Figure 10 shows growth in full-time equivalent (FTE) student

numbers is outstripping growth in academic staff – the former increasing from around 350,000 to 750,000 over a twenty year period compared with growth in staff numbers of just 8,000 from around 26,000 to 34,000. Accordingly student: staff ratios have risen from 13:1 to 21:1. Students are, of course, still being taught, but the effort is being met by a burgeoning number of casual staff (Coates & Goedegebuure, 2010). This plugs a gap, but of course given the constricted and contingent nature of their contractual relations with universities casual staff are unable to provide the same level of support as staff employed on a continuing or fixed-term basis. The intangibles that are so essential to support – such as having an office where students can approach staff, seeing students around campus, responding to communications out of hours, being an integrated part of a broader departmental community – are made significantly more difficult when staff remuneration is pegged to discrete specified deliverables.

This growing disconnectedness – the term 'alienation' might not be too strong – of staff from students and, if 'alienation' is accepted, of staff from a genuine involvement in teaching – is reflected in comparisons between staff and student perceptions of satisfaction and retention intentions. In 2010, teaching staff at nine institutions participated in the Staff Student Engagement Survey (SSES). Staff were asked to predict the percentage of students who rate the quality of academic advice as 'excellent'. Teaching staff reported 56.2 per cent compared with students' own declarations of 20.8 per cent. Further, while teaching staff predict that the
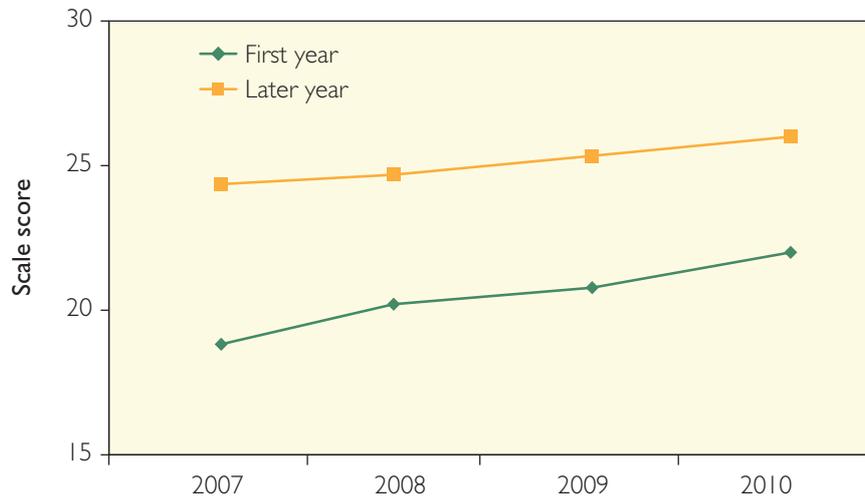
Figure 10: Student contact with staff

percentage of students who rate the quality of their entire educational experience as 'excellent' is 50.4 per cent, only 25.7 per cent of students share their opinion. Not surprisingly given the tight link between satisfaction and retention documented above, there is a similar mismatch between student and staff views of retention. Teaching staff reported that around 16.6 per cent of students had seriously considered leaving before graduation. This significantly underestimates the number of students who voice serious departure intentions (as above, around 30 per cent for both years combined).

But while the numbers and contexts look more challenging from a management perspective, there are signs that progress is being made. Measuring things proves that they count, and is an essential step in improvement. Across four implementations of the AUSSE, therefore, it may not surprising to see increases in students' reports of interactions with academic staff (see Figure 10). Institutions may be placing more emphasis on this, or teachers and students may be more aware of the importance of such interaction.

What, then, can be done

In summary, attrition is a major issue and challenge to individuals, institutions and national policy aspirations. A significant number of students have seriously considered discontinuing bachelor degree study before graduation. This is bad news. What makes it even worse is that people seek to drop out for psychosocial rather than for more tangible practical or financial reasons. This makes solving the attrition puzzle much more difficult, for it appears that a large part of the solution resides in providing more nuanced and directed forms of support. Support, particularly when provided by academic staff, is a very strong correlate of retention. Yet there are clear grounds for improving student support – for bolstering resources and re-tuning practices in this area.

What can be done to boost support, stem attrition and improve learner and graduate outcomes? The above discussion carries significant diverse insights for improving practice. A few suggestions are made by way of conclusion.

An obvious way to improve student support is to increase resourcing in this area, particularly in line with the critical nature of retention and national objectives for widening participation to under-represented groups. If institutions are mandated to increase enrolment to students who may be unprepared for tertiary study, it is commonsense to increase funding to student support initiatives. Unfortunately, the 'peripheral' service activities of higher education institutions are often the first to be pared back, particularly during times of financial austerity.

Services are vulnerable because they are often not well understood. The results in this briefing affirm the core value of support services to one of the academy's core missions – graduating people – but the value proposition of support services is often not clear, or well promoted. The range of support offered is also not always obvious. For example, most learning skills services offer programs that further develop students' tertiary academic skills, but many academics still only perceive learning skills as a remedial service or are unaware that they can request a workshop tailored to their subject. Clearly support services need to consider how to more effectively promote themselves. Similarly, academics need to take greater responsibility for understanding and using these services.

The narrow definition of 'teaching' activities that many institutions employ – something that only happens by academics in a classroom – can also undermine the integral role of support services and activities. For example, counselling services offer workshops for managing study-related stress, arguably an important service for students struggling to keep on top of their studies. Yet this would not be considered as a teaching and learning activity. For these perceptions to change, the connection between support and retention needs

to be understood better and taken more seriously. Data such as that presented in this briefing are also influential, which suggests that more research into the benefits of student support should be a priority.

However, excellent student support is not just about funding or perceptions. It is about a vision. Institutions need to set clear expectations regarding student learning and development that takes account of both curriculum and services, includes both academics and service professionals. This should be a structured approach, with policies and practices mapped out, links between all teaching and learning activities clear and outcomes measurable. Accountability is critical. Rewarding faculties or academics who successfully demonstrate improved student support is a clear signal that the student experience is seriously regarded and retention is an imperative.

Integration is a key concept here. Faculties and support services need to work together to support students, not in isolation. This is often difficult in the hierarchical university culture, however, where boundary issues and competing responsibilities do not necessarily facilitate collaboration, and where research can take precedence over teaching. Frustratingly, increasing workloads prevent even the most well-intentioned academics from prioritising student support. It is not unusual for student support to be the last item on the faculty's agenda, often resulting in reduced or inadequate services to a cohort.

Developing a more collaborative and holistic approach to student support requires leadership at all levels of the institution, from senior executives to course coordinators. Where there is vision and leadership, increased cooperation follows. Examples of effective faculty/service relationships are the inclusion of support service personnel on faculty teaching and learning committees, faculty/service collaborations in the development of subjects, and co-teaching and referral practices between services and faculties.

Finally, it is a basic but necessary point to make that effective student support is about the student. So we need to focus support in terms of students' needs and their situations, rather than along bureaucratic lines. This calls for greater flexibility and innovation. Support comes in many guises, and we need to consider alternative methods to deliver it so that students located at remote campuses, part time students studying in evening courses, or students with tight timetables can access relevant and timely support – even it if is out of normal business hours. Getting support should not

be difficult. Equally important, we need to educate students about the value of enrichment activities: to seek out assistance, take advantage of the range of services provided, and get involved in campus life.

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Appendix 1: Overview of the Australasian Survey of Student Engagement (AUSSE)

The AUSSE (AUSSE, 2011) was conducted with 25 Australasian universities in 2007, 29 in 2008, 35 in 2009, and 55 higher education providers in 2010. It offers institutions in Australia and New Zealand information on students' involvement with the activities and conditions that empirical research has linked with high-quality learning and development. The concept provides a practical lens for assessing and responding to the significant dynamics, constraints and opportunities facing higher education institutions. The AUSSE provides key insights into what students are actually doing, a structure for framing conversations about quality, and a stimulus for guiding new thinking about good practice.

Student engagement is an idea specifically focused on learners and their interactions with higher education institutions. Once considered behaviourally in terms of 'time on task', contemporary perspectives now touch on aspects of teaching, the broader student experience, learners' lives beyond university, and institutional support. It is based on the premise that learning is influenced by how an individual participates in educationally purposeful activities. While students are seen to be responsible for constructing their knowledge, learning is also seen to depend on institutions and staff generating conditions that stimulate and encourage involvement. Learners are central to the idea of student engagement, which focuses squarely on enhancing individual learning and development.

This perspective draws together decades of research into higher education student learning and development (Pace, 1979; Pascarella and Terenzini, 2005; Ewell and Jones, 1996; Astin, 1985; Coates, 2006, 2010; Kuh, 2008). In addition to confirming the importance of ensuring appropriate levels of active learning and academic challenge, this research has emphasised the importance of examining students' integration into institutional life and involvement in educationally relevant, 'beyond classroom' experiences.

The AUSSE measures student engagement through administration of the Student Engagement Questionnaire (SEQ) to a representative sample of first- and later-year bachelor degree students at each institution. The SEQ measures six facets of student engagement: Academic Challenge (AC), Active Learning (AL), Student and Staff Interactions (SSI), Enriching Educational Experiences (EEE), Supportive Learning Environment (SLE), and Work Integrated Learning (WIL). The SEQ is the most thoroughly validated survey instrument in use in Australian higher education, and has been revised for use in Australasian higher education.

The AUSSE has close methodological links with the USA's NSSE. To facilitate cross-national benchmarking, work has been done to align the instrument, population, sampling, analysis and reporting characteristics of AUSSE and NSSE. There are close ties between the SEQ items and those used in the College Student Report, NSSE's main instrument. This enables comparison to be made across these collections, with the exception of the WIL scale which is unique to AUSSE.

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