

Research Report

Australian Regional Higher Education:

Student characteristics and experiences

Submitted to the

**Department of Education,
Employment and Workplace Relations**

by



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LIST OF ABBREVIATIONS USED

ABS	Australian Bureau of Statistics
ACER	Australian Council for Educational Research
ARIA	Accessibility/Remoteness Index of Australia
AUSSE	Australasian Survey of Student Engagement
DEEWR	Department of Education, Employment and Workplace Relations
GCA	Graduate Careers Australia
GDS	Graduate Destinations Survey
GPS	Graduate Pathways Survey
HEI	Higher Education Institution
HESC	Higher Education Information Management System
LSAY	Longitudinal Surveys of Australian Youth
NCVER	National Centre for Vocational Education Research
OECD	Organisation for Economic Cooperation and Development

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EXECUTIVE SUMMARY

Key findings

1. Students at higher education institutions (HEIs) in regional parts of Australia are predominantly from surrounding regional areas
2. Students enrolled at regional HEIs are more likely to be female and tend to be older than their metropolitan counterparts. They are more likely to care for dependents and are more likely to be Indigenous.
3. Students from regional areas who wish to attend HEIs are often prevented from doing so by the costs associated with study, and are highly likely to defer the commencement of their courses for financial reasons.
4. Students who complete their studies at regional HEIs tend to remain in regional areas for both further study and employment.
5. Students at regional HEIs in the fields of agriculture and environmental studies, and who undertake further study, are much less likely than metropolitan students to continue in the same field of education.

Introduction

This study was undertaken for the Department of Education, Employment and Workplace Relations (DEEWR) by the Australian Council for Educational Research (ACER) during May, June and July of 2010. It focuses on students who study at higher education institutions (HEIs) in regional parts of Australia, with particular attention paid to their characteristics, motivations, experiences and outcomes, both in terms of further study and of employment. The study catalogues a number of existing data sources which can be utilised for research into this population and identifies key gaps in the current collections which inhibit some areas of analysis into students at regional HEIs.

Many of Australia's HEIs are located in regional areas. There are, however, significant variations in their degree of remoteness, with locations varying from 'very accessible' to 'very remote' under the Accessibility/Remoteness Index of Australia (ARIA). Inevitably, the degree of remoteness is strongly correlated with many institutional characteristics, such as the make-up of the student body and the courses which are offered to students. What is clear, however, is that Australia's regional HEIs provide the opportunity to gain a higher education to people for whom doing so would otherwise require moving to a metropolitan area.

While economies of scale often prevent regional HEIs from offering the full range of opportunities for students provided by their metropolitan counterparts, they are generally highly successful in educating a significant proportion of the population of regional areas, a population which has a marked tendency to remain in regional areas after completing their courses for further study and, most critically, employment. As such, the presence of one or more HEIs in a regional area is likely to mean that its workforce is equipped with greater skills and expertise than would otherwise be the case. Innovation and economic activity are heavily dependent upon these skills, and in many ways regional HEIs contribute directly to the capacity of regional communities to ensure sustainable development into the future. The importance of regional HEIs is reflected by the Australian Government's assertion that "sustainable higher education provision which is

responsive to the specific needs of regional Australia is essential to Australia's social and economic prosperity" (Australian Government, 2010: 40).

As the *Review of Australian Higher Education* (Bradley, Noonan, Nugent & Scales, 2008) noted, however, the provision of higher education in regional areas is not without its challenges. Prominent among these are the higher costs associated with the delivery of higher education in areas which are geographically remote, in which campuses are small and in which student bodies differ significantly from their metropolitan counterparts. If funding is to be efficiently targeted to support the activities of HEIs in regional areas it is first essential that there is a clear picture of the students who study in these institutions.

This report provides such a picture by synthesizing data from a range of sources. The scale of these sources varies in both depth and breadth. Nation-wide collections such as the 2006 Australian Census and data from the 2008 collection of the Higher Education Information Management System (HESC) provide data of great breadth, enabling the generation of a comprehensive picture of the characteristics which differentiate students who are enrolled at regional HEIs from their metropolitan counterparts. In contrast, targeted data collections including the Graduate Pathways Survey (GPS), the Graduate Destinations Survey (GDS) and the Australasian Survey of Student Engagement (AUSSE) provide greater depth and allow for a detailed analysis of the motivations, experiences and outcomes of students. Taken together, analysis of data collections which provide both broad and deep perspectives enables the creation of a nuanced and precise description of the ways in which students who are enrolled at regional institutions navigate the higher education landscape, and the pathways they move into. Moreover, submissions by individual HEIs to the *Review of Regional Loading* provide background details which usefully contextualise these findings.

A number of issues in the identification and analysis of students who are enrolled at regional HEIs are raised in this report. Particular difficulties arise from the confusion surrounding the definition of regional areas and the fact that many data sets identify only the institution at which an individual student is enrolled, not the particular campus. Given the large number of HEIs with multiple campuses, often encompassing both metropolitan and regional areas, this causes difficulty in identifying the target population. Consequently, some of the analyses undertaken in this report are based on only those students who are enrolled at HEIs which are solely located in regional areas. Overall, the lack of a targeted study of students who are enrolled at regional HEIs leads to a dearth of information on many aspects of their experiences and pathways. Despite these challenges, a number of conclusions about students who are enrolled at HEIs in regional areas of Australia can be clearly identified.

Characteristics of students who attend regional higher education institutions

The majority of students who are enrolled at HEIs in regional areas attended primary school in a regional area, have a home address in a regional area and are enrolled at an HEI in the same state as their home address. Taken together, these patterns suggest that many students enrol at HEIs in regional areas primarily because they live in relatively close proximity to them. Beyond the dominance of regional origins, students who are enrolled at regional HEIs are significantly more likely than those in metropolitan areas to be both female and older. They are also more likely to be Indigenous.

Choosing to attend a regional higher education institution

In parallel with other studies, data used in this project has shown that secondary-school completers in regional areas are much less likely to plan to engage in higher education than those in metropolitan areas, instead moving directly into work or vocational education as a means of achieving their desired employment outcomes.

For those regional school-leavers who would like to engage in a higher education, it is clear that financial factors are prominent in determining whether they do so or not. Moreover, financial considerations – particularly the steps required to qualify for Centrelink allowances – are the principal cause of high rates of deferral in regional areas. If their distance from an HEI makes it difficult for them to live at home while studying, prospective higher education students express considerable concern about the costs of accommodation and the availability of part-time work in the area surrounding the HEI they plan to attend.

Studying at regional higher education institutions

Students who study at regional HEIs are more likely to be enrolled on a part-time basis, are more likely to participate via a distance or multi-modal mode of education, and are more likely to enrol in higher education as a mature-age student or via a VET course than those at metropolitan HEIs.

The dominant areas of study of students at regional HEIs are management and commerce, health, education and society and culture. Students who are enrolled at all but six regional HEIs are less likely than those who are enrolled at metropolitan HEIs to be enrolled in the fields of natural and physical sciences, engineering or agriculture and environment. While bachelor degrees are dominant, students at regional HEIs are more likely than their metropolitan peers to be enrolled in enabling courses and less likely to be enrolled in doctorates by research and masters by coursework degrees.

Experiences of students at regional higher education institutions

Students at regional HEIs are equally as satisfied with their studies and engaged as those at metropolitan HEIs and are more likely to report that their studies have prepared them for employment. Indeed, students at regional HEIs are more likely to feel that their courses integrate employment-focused work experiences into their study, and are more likely to report that they have developed industry awareness and have acquired job-related or work-related knowledge and skills than students enrolled at metropolitan HEIs.

Further study outcomes for students who attend regional higher education institutions

Those who complete courses at regional HEIs are less likely than those who complete courses at metropolitan HEIs to move directly into further study, but equally likely to have done so within five years of completing their course. Further study is normally undertaken at the same institution, with less than one-sixth moving to metropolitan areas for further study. Those who have studied agriculture and environmental studies at regional HEIs are much less likely than their metropolitan counterparts to move on to further study in the same area, with a large proportion instead going on to further studies in education.

Employment outcomes for students who attend regional higher education institutions

Those who study at regional HEIs feel that their studies prepare them for employment better than those who study at metropolitan HEIs, and are more likely to feel that their employability and skills are 'excellent'. Within six months of completing their courses,

those who study at regional HEIs are somewhat more likely than those from metropolitan HEIs to have obtained a permanent or open-ended contract and to be in full-time employment.

Five years after completing their courses, the majority of those who were enrolled at regional HEIs and are working are still living in regional areas, with just over one-third having moved to metropolitan areas. Those who remain in regional areas are significantly more likely to originate in regional areas than those who leave and are very likely to be employed as educational professionals or health and welfare support workers. Five years after completing their courses, those from regional HEIs who stay in regional areas to work earn an average of \$7,000 less than those who move to metropolitan areas.

Conclusions and future research

Analysis of a range of data sets has shown clearly that students who are enrolled at regional HEIs are from regional areas themselves and tend to remain in regional areas for work and study after their courses finish. Greater financial support for regional students is likely to have a pronounced impact on their participation rates in higher education, hence providing a greater skilled workforce for regional areas into the future. It is hoped that recent Government reforms, including the provision of a Relocation Scholarship and a Student Start-Up Scholarship (DEEWR, 2010: 2) will go some way towards achieving this objective.

Despite the fact that some data on students who are enrolled at regional HEIs was available for this report, the lack of a targeted study of this population means that many aspects of the students and their experiences remain unknown. A particular omission from all data sets is any record of the family situation of students at regional HEIs, a factor that is likely to have a particular influence on their decisions about where, when and how to undertake a higher education. It is also difficult to distinguish between students at HEIs in remote areas of Australia and those who are studying in large regional towns. The inability to do so inevitably means that a great deal of nuance is lost and important differences between students at campuses of different sizes and locations are obscured. Finally, the inability to track the movements of significant numbers of students who are enrolled at regional HEIs over a long period of time means that the long-term contribution of regional HEIs to their regional communities cannot be estimated.

Studies which enable data to be collected on some or all of these areas would greatly enhance the body of knowledge on students who are enrolled at regional HEIs. In doing so, they would help to indicate possible roles of regional course completers in assisting regional areas of Australia to achieve sustained development, progress and prosperity into the future.

1 INTRODUCTION AND CONTEXT

Introduction

This report examines students enrolled at higher education institutions (HEIs) in regional areas of Australia, with particular emphasis on their characteristics, motivations, experiences and outcomes. The research was undertaken in the context of a need to fully understand the nature of regional higher education provision as part of a widespread review of the funding loading which HEIs in regional areas receive from the Federal Government. The Review has partly been stimulated by the conclusion in the *Review of Australian Higher Education* (Bradley, Noonan, Nugent & Scales, 2008:110) that the current model of regional loading is “not sufficiently targeted”. The Australian Government responded to the Bradley review with the publication of *Transforming Australia’s Higher Education System* (Australian Government, 2010:9), in which it proposes to work towards a “fair deal for Australia’s regions”, another stimulus for the current Review.

The provision of regional HEIs means that young people can remain at home while they study, both reducing the costs associated with gaining a higher education and reducing the loss of young people from regional communities to metropolitan areas. As such, regional HEIs can play a highly positive role in the lives of young people in regional areas. At the same time, the institutions themselves are likely to provide employment for local people and may enable local economies to provide services which would otherwise lack a sufficient customer base. It is clear that the existence of regional HEIs has the potential to benefit both local inhabitants and economies in numerous ways. The further contribution of HEIs to long-term regional sustainability is, however, less clear.

If regional economies are to fully benefit from the provision of higher education in their local communities, it is important that significant proportions of their students remain in regional areas after they complete their courses, either to engage in further study or to commence employment. This transition is premised upon the interplay of supply and demand factors. On the one hand, students need to have qualifications which are directly beneficial to their local communities and with which they can gain suitable employment. Ideally, their higher education studies will equip them with skills and expertise which will enable them to directly contribute to sustaining and enhancing their surrounding communities in both the short and long term. At the same time, course completers need to have access to appropriate employment opportunities in which they can apply their skills, or to further education with which they can enhance them. Beyond employment, those who complete courses at regional HEIs also need to have a personal motivation to choose to live in regional areas and while this is strongly impacted by employment, other factors such as whether or not they themselves originate in regional areas are likely to have a strong influence.

In order for the Australian Government to establish the most effective and efficient ways to ensure that regional areas are provided with the skilled workforces they need to ensure their long-term sustainability, it is vital to understand the movements of those students who enrol at regional HEIs. It is essential to gain a clear picture of the nature of students who choose to undertake their higher education at institutions in regional areas of Australia, and their motivations for doing so. It is important to uncover their assessment of the quality of the education they experience and to compare this with their counterparts at metropolitan HEIs. Most fundamentally of all, it is critical to understand the decisions they make about the location in which to undertake employment or further study after they

complete their courses, and to identify the proportion which choose to remain in regional areas. Only through undertaking such a study is it possible to understand the extent to which the provision of higher education in regional areas fulfils the promise of ensuring the vitality of regional economies in the longer term.

A suite of relevant sources of evidence are available that can help illuminate the experiences and outcomes of students at HEIs in regional areas. These data sets contain information of enormous value to policymakers, but until now they have not been brought together in one place. This has made it difficult to gain oversight of the way in which undertaking a higher education in a regional area influences the future choices which students make. This project responds to the need for such an oversight by collating and analysing data from a range of studies in order to present a comprehensive picture of those students who study at HEIs in regional areas. It uses existing data to build a clear overview of their characteristics, motivations, experiences and outcomes. In doing so, it explores the decisions which individuals make to undertake higher education in a regional area, the ways in which they experience their studies and the choices they make about where to undertake employment or further study.

This introductory chapter provides a context for the development of this report. It contains a review of the issues and literature concerning the provision of higher education in regional areas, and of the issues which face those students who wish to participate in it.

The context for this research

In the *Review of Australian Higher Education* (Bradley, Noonan, Nugent & Scales, 2008), the authors express concern that declining populations in regional areas of Australia, and their likely impact on student demand, will exacerbate current problems in the future. Indeed, the authors go so far to suggest that “Australia may need fewer university campuses in regional areas and more higher education service points, established to meet a need for a period of time and closed when the specific need is met” (111-112). Whichever policies are chosen, the authors of the *Bradley Review* emphasise the need for higher education provision in regional and remote areas of Australia to be “sustainable, flexible and innovative; able to anticipate and respond to local needs; the product of partnerships between communities, multi-sector providers, industry and the business sector; and able to share facilities and resources with local providers” (111).

The *Bradley Review* goes on to suggest that the current model of regional loading is “not sufficiently targeted” (110) to take account of the higher costs associated with running campuses in these areas. The authors highlight the lack of incentives to institutions to establish specific programmes which respond to local needs as well as the model’s inability to respond to factors which raise the cost of provision, including the geographic isolation of many regional campuses, small numbers of students, high proportions of students from Indigenous and disadvantaged backgrounds and flexible modes of delivery.

In response to the *Bradley Review*, the Australian Government has published *Transforming Australia’s Higher Education System* (2010), in which it affirms that “sustainable higher education provision which is responsive to the specific needs of regional Australia is essential to Australia’s social and economic prosperity” (40), particularly through providing a skilled workforce for regional economies. At the same time, the Government has set the target that “by 2010, 20 per cent of higher education enrolments at the undergraduate level will be people from a low-socioeconomic status background” (DEEWR, 2010:1). Given that regional areas tend to have larger numbers of people from

lower socio-economic backgrounds, this target will have a significant impact on regional areas.

Australian developments reflect the broader international context. In a 2008 report, the United Kingdom government reflected on the value of HEIs for their local communities, particularly in disadvantaged areas. Their report suggests that local provision both broadens higher education participation and leads to the retention of skills in those areas, leading to innovation and economic growth. Crucially, the report states that “a local, high quality campus can open up the chance of higher education to young people and adults who might otherwise never think of getting a degree” (Department of Innovation, Universities and Skills, 2008:1). At the same time, the Organisation for Economic Cooperation and Development (OECD) reports that member nations are “putting considerable emphasis on meeting regional development goals, by nurturing the unique assets and circumstances of each region, particularly in developing knowledge-based industries. As key sources of knowledge and innovation, HEIs (HEIs) can be central to this process (Organization for Economic Cooperation and Development, 2007:11).

In the Australian context, a report written for the Business-Higher Education Roundtable suggests that regional HEIs are vital for regional development, with a multiplier effect of \$2 billion each year, and that they are critical in enhancing the skills of regional populations, hence fulfilling “roles beyond the realm of education” (Winchester et al.:1). Regional HEIs tend to be among the largest employers in regional areas and play an important role in the cultural life of regional communities. Similarly, an enquiry into geographic differences in higher education participation in Victoria, tabled in the Victorian Parliament (Victorian Parliament, 2009:xix), found that HEIs in regional areas play “a vital role in regional development”.

Students in regional areas

While the role of HEIs in regional areas is clearly multifaceted, this report is principally interested in the role which regional HEIs play in the lives of their students, and the opportunities which they give students who would otherwise find it difficult to engage in a higher education. The first critical aspect to note is that regional parts of Australia are generally poorer and more disadvantaged than metropolitan areas, with less provision of services, fewer employment opportunities and lower educational outcomes. While regional areas in other nations face similar challenges, the enormous geographical size of Australia means that the distances between regional centres can be immense, making it very difficult for individuals to access services in other towns and cities.

Low rates of educational achievement are a product of what James et al. (1999:87) term “a three-way intersection of family socioeconomic background, the characteristics of the community context in which people live, and the physical distance from a campus”. Not only do regional populations have less access to educational services, there is also a widespread sense that higher education study is neither necessary nor relevant to life in a regional community. Together, these influences lead to lower participation rates in higher education among regional populations, with this trend accentuated with increasing remoteness (James et al., 1999; James, 2001; Khoo and Ainley, 2005; Long et al., 2000; Marks et al., 2000; Stevenson et al. 2001). The role played by socio-economic status is highlighted in a recent report (DEEWR, 2010), which concludes that socio-economic status has a greater impact on higher education participation rates than many other factors such as proximity to campuses and economic resources.

For those individuals who do choose to undertake higher education, the decision often requires that they move to a metropolitan area to pursue their studies. In many cases this is seen as necessary in order to attend a prestigious institution, with those Australian institutions ranked most highly both nationally and internationally all located in cities. The search for prestige is not, however, the most pressing issue for all students. Indeed, a report by the Parliament of Victoria (2006) finds that most young people from regional areas would consider remaining in those areas if they could access appropriate opportunities. Not only does moving to a metropolitan area require individuals to leave behind family and friends, but it also requires the outlay of significant amounts of money, particularly to pay for accommodation, a fact which makes this option unobtainable for many. Moreover, it represents a net loss to their regional communities, both during study and afterwards. As Hillman and Rothman (2007) report, 74 per cent of students who move to metropolitan areas for study remain there after graduation in order to take up employment. Moreover, those most likely to leave regional areas for metropolitan areas are the highest educational achievers and those who live in locations in which there are the most limited services (including educational facilities). As such, there is the danger of a brain drain from regional to metropolitan areas, leaving regional communities without the skills required for sustainable development.

Given the cost of study in a metropolitan area, many of those who would otherwise wish to engage in higher education are unable to do so. As James (2001:469) finds, students in regional areas are “likely to perceive “discouraging” inhibitors and barriers, such as cost” which cause them to choose not to engage in a higher education, and this is particularly the case for those from the most disadvantaged backgrounds and for whom there is no HEI easily accessible. A report by the Australian Bureau of Statistics (2009) highlights the impact of these decisions on educational achievement, finding that while the proportion of people with post-school qualifications increased in the decade until 2006 from 44 per cent to 57 per cent in major cities, the increase was from just 30 to 36 per cent in the most remote areas, concluding that gains in participation “occurred in the more accessible areas”.

Regional higher education provision

While there are HEIs in many regional communities in Australia, provision is patchy with a wealth of services in some regional centres and no service in others. As Appendix 1: Regional institutions illustrates, some regional areas are particularly well served by HEIs. The Gold Coast, for example, which has a population of approximately 400,000, has Griffith, Bond, Central Queensland and Southern Cross university campuses. Likewise Broome, with a population of approximately 12,000, is serviced by both Edith Cowan and Notre Dame Universities. There are, however, many sizeable regional towns where there is no provision of HEIs, such as Tamworth with a population of approximately 33,000 and Broken Hill, with 19,000 residents.

Beyond the uneven provision of HEIs in regional areas of Australia, there is great consternation among institutions about the lack of consensus in defining a ‘regional’ institution, concern which was reflected in the diversity of suggestions made to the *Review of Regional Loading*. While there is a degree of confusion at present, it will be difficult to arrive at a definition which captures what one submission terms the “fine grained and critical variables” (Griffith University, 2010:2) which distinguish the cost of providing higher education at one campus and another.

Inevitably, the degree of remoteness of an HEI is strongly correlated to its number of students, the make-up of its student body, the proportion of students enrolled in a distance mode of education, the courses which it is able to offer and its ability to attract sustainable numbers of students (Potts, 2003). All of these factors have an impact on the cost of providing education and with this in mind, submissions to the *Review of Regional Loading* present a wide array of possible definitions, some of which are based on the location of a campus, others on the location of the main campus of an institution and yet others on the origins of students. Clearly, deciding on a comprehensive way to define the regionality of an HEI, and its concomitant regional loading, is a central part of the *Review of Regional Loading*. It is, however, beyond the scope of this report and, as such, the data analysis in the following chapters will use the most practical measures currently available to distinguish between regional and metropolitan HEIs.

Challenges faced by students at regional higher education institutions

While a great deal of attention has been paid to the relatively low levels of participation of regional students in higher education, surprisingly little research has been conducted among students who are enrolled at regional HEIs. One fact that is known is that they are far more likely than those in metropolitan areas to defer the commencement of their studies. For example, Polesel (2009) finds that not only are school completers from rural regions of Victoria more likely to defer a university place than those in urban Melbourne, but also the rate of deferral among students in regional areas has been rising much more rapidly than the rate of deferral among those in urban areas. Between 2004 and 2009, Polesel finds that the deferral rate for urban high school graduates rose from 5.5 to 6.5 per cent but the rate for their counterparts in regional areas rose from 9.9 to 15.9 per cent, and he suggests that the difference is attributable to the greater likelihood that people in rural areas have a lower socio-economic status. Similar findings are reported for Queensland, where deferral rates are 6.4 per cent in metropolitan areas and 10.4 per cent in non-metropolitan areas (Queensland Department of Education, Training and the Arts, 2007).

As a report on deferral in Victoria finds, the principal factor behind this trend is the need to “accumulate the income they will need to fund further education, as well as to develop logistical solutions for moving to an urban centre” (Parliament of Victoria, 2006:207-8). While a proportion of those who defer higher education do go on to commence their courses, others select alternative pathways to their desired careers, with many more regional students likely to move into apprenticeships and traineeships, or to employment, than those in metropolitan areas (Polesel et al., 2005). Financial pressures do not cease once students commence their higher education. Lewis et al. (2007) investigate the experiences of students at La Trobe University’s Bendigo campus and find that students living in private rental accommodation are particularly likely to be struggling financially. The authors find that many students underestimate the cost of university education before they commence and find themselves unprepared for the expenses involved. This challenge is lessened when an HEI is located in close proximity to their home address. As Edwards and Marks (2008) conclude, those students who live at a great distance from a HEI view the two options of relocation or lengthy travel times as reasons not to participate in higher education at all.

In addition to financial pressures, students who are enrolled at regional HEIs are likely to have a range of other pressures which make studying difficult. As research with students at the University of South Australia’s new campus in Mount Gambier (Ellis, 2008) finds, many students are balancing family commitments and paid employment with their studies.

The need to balance a range of commitments is likely to be greater amongst students from regional areas because of the fact that those who do commence a higher education are more likely to be female than their metropolitan peers (Krause et al., 2005).

Crucially, the students in Ellis' research state that they would not have undertaken a higher education at all if the campus had not been established nearby. While distance education is an option chosen by many students who are enrolled at regional HEIs, Eversole (2001) identifies many challenges with this option. As respondents in Eversole's research explain, many young people are not attracted to the option of distance education, instead wishing to have social interactions with their peers while engaged in higher education. This means that they tend to move to metropolitan areas to enrol at a HEI whereas distance education is an option taken up by mature-aged students who wish to combine their studies with employment and have the necessary self-motivation to do so.

While the research mentioned here has highlighted some major issues for regional students, the lack of literature about the ongoing experiences and outcomes of students who enrol at regional HEIs is pronounced, and ultimately indicates the relative lack of attention that has been paid to this group in the past.

Work placements in regional areas

One area in which a reasonable amount of research has been undertaken relates to the participation of higher education students in work placements in regional areas and the impact which this activity has on their intentions regarding future employment in regional communities. The relatively extensive literature on work placements is due to the intense interest in assuring medical workforces in regional areas, with most projects relating to research with medical students. Nevertheless, the literature is able to identify some clear patterns which are equally of relevance to students in other areas of study.

In some metropolitan HEIs, medical students have the option of participating in a placement in a regional area, while other metropolitan HEIs actually provide a regional campus which integrates formal study with work experience. In the latter case, Spencer et al. (2008) find that the opportunity to undertake a semester- or year-long stay at a regional campus is eight times more attractive to students who are from a regional background themselves. Nevertheless, many students from urban backgrounds also choose to opt for this experience and report that the main benefits of doing so are greater access to clinical experience, as well as free accommodation. As Worley et al. (2000) find, medical students who do rotations in rural areas of Australia have more access to patients and greater opportunities for clinical learning than when they are in metropolitan areas. This finding is supported by Lyon et al. (2008) in research with medical students at the University of Sydney's rural clinical school, as well as both Parry et al. (2002) and Wakeford (1983) in the UK. Better opportunities to apply their skills in practical settings are clearly of enormous benefit to the skills development of students.

Moreover, research with medical students in Queensland (Eley and Baker, 2009) has found that those who undertake a clinical placement in a rural area may be encouraged to undertake rural medicine in the future, even if they have little prior experience of rural life. This finding echoes that of Critchley et al. (2007) in Victoria, who finds that even a four-week placement influences just over half of participants to consider practicing in a regional area in the future, reflecting findings by Wilkinson et al. (2004) in Queensland and Wilkinson et al. (2003) Australia-wide.

While all these studies involve relatively small numbers of students, research with more than 100,000 medical students in the USA (Jones et al., 2000) equally finds that undergoing a regional placement makes students more likely to be interested in practicing in a rural area. It is important to note, however, that Jones et al. (2009) find that those medical students most likely to work in regional areas in the future are those who have spent the most time living in regional areas, including for study. This suggestion is supported by evidence from Australia which indicates that the majority of graduates from the School of Medicine at James Cook University (JCU) for example, who undertake their entire degrees in Townsville, intend to undertake work in North Queensland in the future (Hays et al., 2006).

Despite the focus on medical students, and the impossibility of knowing whether students' intentions translate into concrete actions, the overall findings from research with medical students may be applied to work placements in other areas of study such as social work (Bowles and Duncombe, 2005) and teaching (Mays and Lyons, 2006). It is clear that an experience in a regional area, even one as short in duration as one month, has the potential to encourage students to undertake employment in regional areas in their future careers. Clearly, the more time students spend in regional areas, the more likely this outcome is to be realized, with the greatest likelihood among students who have undertaken their entire degrees in regional areas. As Spencer et al. (2008) note, however, those who are most attracted to regional placements, and hence to future regional employment, are those from regional origins themselves. This brings us back to the importance of enabling students from regional areas to undertake a higher education in the first place, and the vital roles that regional HEIs play in this process.

Conclusion

While there are limitations to the amount of literature that is available on regional higher education provision and the experiences of students who are enrolled at HEIs in regional areas, several clear patterns have become apparent in the discussion above. First, regional higher education provision makes a significant contribution to the regional communities in which institutions are located. Where HEIs are not locally available, school-leavers find it difficult to engage in higher education at all, either due to the prohibitive cost of studying in a metropolitan area or the lack of interest in participating in distance modes. While the most high-achieving students may be able to gain scholarships to study in cities, this represents a serious brain drain to regional communities. Older individuals may be more likely to engage in a distance mode of education although local provision of a physical campus is likely to encourage those who would not otherwise have done so to participate in higher education.

Second, regional provision of higher education in Australia is highly uneven, with some regional areas well provided for and others of similar populations without any local higher education providers. It is likely that the high cost of providing higher education in more remote communities, and the lack of recognition of distinctions between regional HEIs in terms of degree of remoteness in the current model of regional loading, deters HEIs from opening campuses in some areas.

Third, those students in regional areas who do decide to undertake a higher education are faced with a number of challenges. They are significantly more likely to defer the commencement of their courses for financial reasons, and to struggle financially during their studies than their metropolitan counterparts. Students at regional HEIs are more likely

to be female than those in cities, with many needing to balance study with caring roles and employment, which points to the need for flexible study options.

Finally, research with medical students suggests that any exposure to regional areas is likely to interest students to work in those areas in the future, with the likelihood increasing with the amount of time spent in a regional area. Those most likely to take up these options, however, originate in regional areas themselves and this suggests that exposure to a regional area during a work placement is less important than a prior attachment to regional areas per se. Ultimately, all of these findings point to a clear pattern – to ensure regional workforces it is necessary to provide regional students with the opportunity to enrol at HEIs in their local area, and to support them financially to do so.

2 DATA AVAILABLE FOR ANALYSIS

Introduction

The previous chapter reported the fact that there is rather limited research literature on students who are enrolled at HEIs in regional areas of Australia. This is more a function of focus rather than data availability, however. Indeed, there are a number of valuable and extensive sources of data which this report will utilise to provide an overview of students who are enrolled at regional HEIs. This section will catalogue the available data, the pertinent characteristics of each collection and the decisions which were made about which collections to include and exclude for the purposes of this report.

Defining Regional HEIs

The most dominant set of definitions used in Australia to distinguish the degree of regionality of students from different areas of the country has been produced by the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA). These definitions refer to the geographic locations of students and draw on the Rural, remote and Metropolitan Areas Classification 1991 Census Edition (RRMAC) and the Accessibility/remoteness Index of Australia (ARIA) (Jones, 2004). The three defined regions are:

- Metropolitan Zone – those with a population of 100,000 or more (state capital cities and major urban statistical districts);
- Provincial Zone – those with a population of 25,000 to 100,000 (provincial city statistical districts and anywhere with an ARIA of < 5.92); and
- remote Zone – those with a population of less than 25,000 and an ARIA of >5.92

Each of these three regions can be subdivided into more precise regions – ‘remote’ can be divided into ‘remote areas’ and ‘very remote areas’, for example. One problem with the MCEETYA definitions is that they define places such as Hobart, Townsville, Geelong, the Sunshine Coast and Wollongong, all of which have populations of more than 100,000, as being in the ‘Metropolitan Zone’. Given their relative geographical remoteness, it is difficult to argue that Townsville and Hobart should be placed in the same category as Melbourne and Brisbane. For this reason, a population of 250,000 was agreed with representatives of DEEWR to be the cut-off for ‘regional’ HEIs in this project, although these are broken down into the areas defined by the ARIA where data is available.

Catalogue of data sources used

From the list of possible data collections to be used in this report which were provided by DEEWR, the decision was made to include the following:

Table 1: Data sources used

Data set	Custodian
Australasian Survey of Student Engagement (AUSSE)	ACER
Australian Census (Census)	ABS
Graduate Destination Survey (GDS)	Graduate Careers Australia
Graduate Pathways Survey (GPS)	DEEWR / ACER
Higher Education Student Collection (HESC)	DEEWR
Undergraduate Offers and Acceptances data (Offers)	DEEWR
Year 12 Student Choices (Choices)	DEEWR

Each of these data sets was able to provide data on some of the questions on which this report is based and not on others. In brief, the data sets yielded insights as per Table 2.

Table 2: Type of data provided by each collection

	Margin of error	Student characteristics	Student motivations	Study patterns	Study experiences	Further study outcomes	Employment outcomes
AUSSE	±5	✓		✓	✓		
Census	0	✓		✓			
GDS	0	✓		✓		✓	✓
GPS	±5	✓		✓	✓	✓	✓
HESC	0	✓		✓			
Offers	0		✓				
Choices	Unknown		✓				

As Table 2 makes clear, there were some overlaps in the data which each collection provided and in these cases – Student Characteristics and Study Patterns – data from the most comprehensive sets, primarily the Census and HESC data, was prioritised.

In the section below, the characteristics, size and strengths of each data set used is outlined, and any limitations associated with each in relation to data available on students who study at regional HEIs will be discussed. Abbreviations for each data set, which are used throughout the report to identify the sources of data, are shown in brackets.

Australasian Survey of Student Engagement (AUSSE)

The Australasian Survey of Student Engagement (AUSSE) is managed and run by the Australian Council for Educational Research (ACER) on behalf of participating institutions and is based on the North American National Survey of Student Engagement (NSSE). Data has been collected from first and third year students at HEIs across Australia and New Zealand since 2007, with the 2010 data collection soon to commence. Beyond statistics collected by the Australian Bureau of Statistics and DEEWR, the AUSSE is the largest collection of higher education student data in Australia. It reports on the engagement of students with their studies and their learning experiences, providing a valuable data set for all those interested in higher education in Australasia. Within Australia, 27,572 responses were collected from sampled students in 2009, of which 7,864 were from students enrolled at regional HEIs.

The 2009 AUSSE data which is used in this report does not identify the campus which students are enrolled at (although the 2010 collection will do so). Consequently, only those thirteen HEIs which are clearly located in regional areas are used in the classification of 'regional' HEIs (these are listed in Appendix 2). While it is possible to identify data from students at individual HEIs in the AUSSE data, confidentiality requirements do not allow the institutions to be named in this report. They will therefore be referred to as 'Regional 1', 'Regional 2' and so on in relevant charts.

2006 Australian Census (Census)

The Census of Australian Population and Housing is the largest single collection of data about the characteristics and demographics of people and their dwellings in Australia. It is conducted every five years, with the most recent Census undertaken in August 2006. This source has been used in this report as the primary provider of detailed information about the higher education participation and other important characteristics of people who are enrolled at HEIs in regional parts of Australia.

2006 Census data was accessed through CData online and enabled the identification of the characteristics of those who reported that they were engaged in a higher education course at the date of the Census, such as sex, gender and home address. The Census data could also be divided into different degrees of regionality based on the place of usual residence of individuals, from metropolitan to outer regional. The one drawback of the Census data is that when individuals report their place of usual residence it is not possible to ascertain whether this is their address during term-time or their family address, which causes some loss of clarity.

Graduate Destinations Survey (GDS)

Graduate Careers Australia (GCA) carries out a census of all university course completers on an annual basis for DEEWR – the Graduate Destination Survey (GDS). This survey focuses on graduates' and postgraduates' post-graduation pathways and course experience. The survey is administered in October for those who completed their university course in the first semester of each year, and April of the year following completion for those who completed their course in the second semester. Therefore, this collection essentially captures a picture of graduate outcomes four to six months after course completion. Data is available for both those who have completed coursework degrees and those who have completed research degrees.

The GDS is a large and detailed data set that provides nuanced information relating to the transitions immediately following completion of a university degree. The GDS does not

collect information about the campus which students were enrolled at and, only those thirteen HEIs which are clearly located in regional areas are used in the classification of 'regional' HEIs (see Appendix 2). In accordance with the Code of Practice that relates to this collection (AVCC/GCCA, 2001), individual institutions cannot be identified and will, once again, be referred to as 'Regional 1', 'Regional 2' and so on. In the 2009 data collection, used here, there were 123,284 responses, 23,315 of which were from students who had been enrolled at HEIs in regional areas.

Graduate Pathways Survey (GPS)

The GPS is a new collection which helps to provide information about the early careers of Australian graduates is the Graduate Pathways Survey (GPS), designed and conducted by ACER for the first time in 2008 (Coates & Edwards, 2009).

This collection is a census of Australian bachelor degree graduates five years after completion of their degree. Of particular relevance to the research in this report, the GPS has details about the subsequent employment and studies undertaken by this group following graduation from their bachelor degree, and the locations in which they undertake these activities. This enables the tracking of students who were enrolled at regional HEIs and the location of their employment and further studies five years after finishing their courses. The GPS does not record the campus at which an individual completed their studies thus, once again, only those thirteen HEIs which are clearly located in regional areas are used in the classification of 'regional' HEIs (see Appendix 2). The data includes responses from 9,238 individuals, 2,213 of whom had attended regional HEIs.

Higher Education Student Collection (HESC)

The DEEWR Higher Education Student Collection (HESC) comprises detailed information about students enrolled in Australian HEIs. The data collection contains details relating to the qualification, field of education, institution and other individual characteristics of students who are enrolled in a higher education degree in an Australian university each year. HESC data is the most comprehensive national collection of higher education student information available and has been utilised in this research to help identify the characteristics of those enrolled at regional HEIs.

For the purposes of this study, the Enrolments and Load files from 2008 were combined and all non-universities were removed, as were all individuals studying on an offshore basis, and all duplications. This left a total population of 944,266. Using the MCEETA location coder, the postcodes of each campus were then used to classify them into one of 8 areas, each with the following number of individuals: 'State Capital City' (692,428); 'Major Urban Area' (120,698); 'Provincial City (50,000-99,999)' (76,271); 'Provincial City (25,000-50,000)' (18,061); 'Inner Provincial Area' (24,081); 'outer provincial Area' (1,607); 'remote Area' (1,142); and 'very remote Area' (9,978). It should be noted that several of the university campuses classified as 'regional' for the purposes of this study, such as Newcastle, Wollongong and Geelong, are classified as 'Major Urban Areas' within this index and that Canberra is also classified as a 'Major Urban Area' rather than a 'State Capital City'.

In order to focus on specific regional campuses, all campuses in 'state capital cities' and Canberra were de-selected. This included metropolitan campuses from otherwise 'regional' HEIs (such as the University of Ballarat's campus in Canberra and CQUniversity's campuses in Sydney and Melbourne). Once this was done, any HEIs with regional campuses where the total number of students was less than 1,000 students were

removed from the analysis. This left a total population of 944,266, with 212,144 students studying in regional areas. The complete list of HEIs with at least one campus in a regional area can be found in Appendix 3.

In the discussion below, it is essential that readers take note of the different ways in which HESC and Census data record the location of higher education students in terms of their regionality. The measure of regionality in HESC data refers to the place in which the campus that a student is enrolled at is located. In contrast, the measure of regionality in Census data refers to a student's 'place of usual residence' on Census night.

Importantly, several factors mean that these measures do not record identical populations. First, the HESC data used here is from 2008, while Census data is from the most recent collection in 2006. Second, there is no guarantee that students identify their 'place of usual residence' on Census night as the same place as their campus – they may be enrolled on a distance basis and thus live far away, or they may record their family home as their usual residence, placing them in a completely different location, even a different state. Third, the Census records very precise collection districts and enables a person's location to be recorded with a high degree of accuracy. In contrast, the HESC data which ACER used in this report records only the postcodes in which an institution is located. While postcodes are very specific in cities they are very large and unspecific in remote and very remote areas.

When all of these factors are taken together, it is not possible to assert that Census and HESC data have a perfect overlap. While this is not a major issue when looking at very large numbers such as all higher education students in state capital cities, it can have a profound impact when discussing small numbers, such as female Indigenous students in remote areas. It is thus essential that the Census and HESC data used in this report are read in the light of the data collection issues discussed here.

Offers and Acceptances (Offers)

The Department of Education, Employment and Workplace Relations (DEEWR) supplied Offers and Acceptances data on the first preference applications to universities in 2009, divided by whether the applicant had a home address in a non-metropolitan or metropolitan area. It was not possible to discern the campus to which a person was applying and institutions were hence divided into regional and metropolitan on the same basis used for AUSSE, GPS and GDS data (Appendix 2). In total, 132,063 first preferences were logged in 2009, 31,891 of which were from those living in regional areas.

Research on Year 12 student choices (Choices)

Roy Morgan Research surveyed a sample of Year 12 students from across Australia in 2008 on their post-school choices, a project commissioned by DEEWR. This data collection provides valuable information on the decision-making process which secondary school students use to determine their future pathways and the factors which influence them. Students from regional areas are defined using MCEETA definitions and include all those outside State Capitals (excluding Hobart and Darwin), in the categories of 'Provincial' and 'remote'. The data is, however, limited by the small number of respondents, totalling just 3,212 overall, with only 1,254 from non-metropolitan areas. This means that beyond general patterns, the extent to which findings can be generalised to all school leavers in Australia is limited.

Main data sources considered, but not used

In addition to the data sources that have been utilised in this research there are two sources which were considered but not ultimately used in the research. In one case the source was not used due to the very small sample size which related to the specific focus of this research. In the other case the individuals were still in a transitional phase after completing their high school studies.

Longitudinal Surveys of Australian Youth (LSAY)

The Longitudinal Surveys of Australian Youth (LSAY) are a series of surveys commissioned by DEEWR and designed and managed by ACER (from 1995 to 2007) and the National Centre for Vocational Education Research (NCVER) (from 2007). The survey provides a longitudinal picture of pathways of young people through education and training and into the workforce. There are five cohorts in the survey, spanning from a group who were in Year 9 during 1995 to a group aged 15 in 2009. This data enables the tracking of pathways by each cohort as well as the comparison of the pathways taken by different cohorts.

While this survey has extensive data about the pathways taken through education by Australian youth, it has not been used in this research due to the very small numbers of participants who were enrolled at HEIs in regional areas of Australia.

On Track

On Track is a Victorian Government initiative which tracks the destinations of Victorian school leavers. In 2008, telephone interviews were carried out with 36,022 Year 12 or equivalent completers in Victoria, 9,473 of whom had home addresses in regional areas. Its focus is on their decision making at that stage. Given that this report focuses more on the experiences of students at regional secondary schools and their future directions, with only one section referring to their decisions about which pathway to take and which institution to attend, the decision was made not to include On Track data in this report. This was particularly the case because the major limitation of this data collection is that it relates only to the state of Victoria. Given that Victoria is relatively small in geographical terms with most other States and Territories in Australia, data is not representative of the picture on a nation-wide scale.

Data sets not consulted

Many other valuable sources of data on higher education students are held by individual institutions, federal and state government departments and a range of other bodies around Australia. Given the scope of this project, however, it was not possible to identify, collate and analyse additional data sets to those outlined above.

Identifying key gaps in national data

This exercise in identifying, exploring and cataloguing key data sources for identifying the experiences and outcomes of students enrolled at regional HEIs has shown that there are a number of robust and detailed data sources that can be used to examine the motivations, participation, characteristics, perceptions and outcomes of students who fit this population.

The research has also shown, however, that there are a number of gaps in the data available at the national level in Australia that lead to some limitations in the extent to which analysis of those students who are enrolled at regional HEIs can be undertaken.

While these gaps have been mentioned in the material above, this section provides a synthesis of the main issues.

First, the fact that many of the data collections do not include information about the campus at which a student is enrolled means that it is not possible to clearly identify all students who are enrolled at regional institutions in Australia. Many surveys collect only the name of the institution which a student is enrolled at and, given that many institutions have multiple campuses spread between metropolitan and regional areas, it is not always possible to tell where the specific campus at which a student studies is located. This shortcoming reflects the intention of the data sets used. In the GDS, GPS and Choices surveys the objective was to provide a national overview of higher education students, while the AUSSE produces institutional-specific reports. As such, they were never intended to distinguish between students at different campuses. Nevertheless, the lack of information about campuses means that comparisons between students enrolled at regional and metropolitan HEIs are not able to be as precise as they otherwise would. It should be noted, however, that the 2010 data collection of the AUSSE will ask participants to report the region in which their campus is located, thus providing more detailed and accurate data in the future.

Second, no research has been specifically conducted on those who are enrolled at regional HEIs. All main surveys are targeted at a sample of all higher education students in Australia. Given that the numbers of students who study at metropolitan HEIs far outnumber those who study in regional areas, the latter group is in the minority in all data sets. The lack of a specific focus on students at regional HEIs means that many questions which would relate to them specifically remain unasked. As such, it is impossible to know if the decision to enrol at a regional HEI involves the consideration of a different set of factors to the decision to enrol at a metropolitan HEI. Crucially, there is no way of knowing whether students who are enrolled at regional HEIs would still engage in a higher education if there was no HEI in their local area. Given concerns about the participation of regional youth in higher education and training, the lack of data about this particular factor is a real concern.

In addition, the lack of specific information about where students study, and the relatively small numbers of participants from regional areas, means that it is not possible to distinguish between those enrolled at HEIs in large regional cities and those enrolled at HEIs in remote areas of Australia. It is likely that these two groups, and all those in between, have quite different experiences and outcomes. It is not currently possible, however, to identify these contrasts which means that the particular experiences of some students, particularly those who are enrolled at the most remote HEIs, remain obscured by broader themes.

Third, other than the AUSSE, the data collections used in this report do not record the family status of individuals who participate in higher education. It is therefore not known whether students have children, partners or other dependents. Given the importance of caring roles and family commitments in determining where an individual can choose to live, whether an individual can participate in a higher education course, the mode in which they participate in a higher education and their employment outcomes, this is a significant omission and inevitably means that some of the factors which influence the decision making of students are occluded.

Finally, the outcomes of people who have attended HEIs are partly a function of what they have studied and partly a function of the opportunities which are available for them. It is not possible to know the extent to which the professions and further study which individuals move into are determined by a paucity of choices in their local area, or by other factors. It may be the case, for example, that there are no obvious employment opportunities for those who have studied particular courses at regional HEIs, forcing them to move into other directions. Alternatively, they may have weighed up a range of options and made an informed decision. Without this crucial information, it is not possible to ascertain the extent to which regional HEIs are educating students in subject areas directly relevant to their local communities or not, making it very difficult to estimate the impact which regional HEIs have on local economies.

As interest in regional development and sustainability increases, it seems imperative that further research is conducted which specifically focuses on those who are enrolled at regional HEIs and enables data to be collected on specific factors which are important in those contexts. This would enable more precise data about students at HEIs in regional areas to be accrued and to be available for analysis, greatly enhancing the body of knowledge which exists about the impact of regional HEIs in Australia and their role in regional progress and prosperity.

3 CHARACTERISTICS OF STUDENTS AT REGIONAL INSTITUTIONS

CHAPTER AIM

- to determine the characteristics of students who are enrolled at regional HEIs.

KEY CHAPTER FINDINGS

- 46,000 more females than males living in non-metropolitan areas are enrolled in higher education;
- 56.1% of those enrolled in higher education and living in remote areas are aged 25 or above;
- Between 51.5% and 94.2% of students enrolled at regional HEI campuses have a permanent home address in a regional area;
- 28.2% students enrolled at regional HEIs are from low socioeconomic groups; and
- 14.9% of students enrolled at regional HEIs spend more than 30 hours per week caring for dependents.

Introduction

This chapter synthesizes a range of data sources to quantify the characteristics of those students who are enrolled at the campuses of HEIs which are located in regional parts of Australia. The focus of this chapter is to examine the type of students who study at regional HEI campuses and to uncover any ways in which they differ from students who study at metropolitan HEI campuses. Where the data allows, characteristics will be compared across states and also according to the degree of remoteness of an HEI campus. The primary means of documenting student characteristics here is by using data from the 2006 Census to indicate participation rates and also data from the DEEWR Higher Education Student Collection (HESC) to chart demographic characteristics such as gender, age and place of origin.

It is very important that the Census and HESC data used in this chapter are read in the light of the data collection issues discussed on page 24. In particular, it is important to note that the data contained in these two collections does not classify higher education students into the same areas of remoteness. Census data records the place of usual residence of individuals, while HESC data records the location of the HEI campus at which they are enrolled. In many cases individuals will be counted differently in each data collection and, while both data collections give clear indications of overall patterns, this important difference means that direct comparisons between the two are not possible.

Participation Rates

Figure 1 provides an overview of the participation rates in higher education across Australia, based on the place of usual residence of individuals as collected in the Census. If participation rates are taken to be the percentage of all those aged 15 to 64 who were enrolled in a HEI on the date of the 2006 census, it is clear that a far greater proportion of the population of metropolitan areas are enrolled at HEIs than the population of non-metropolitan areas.

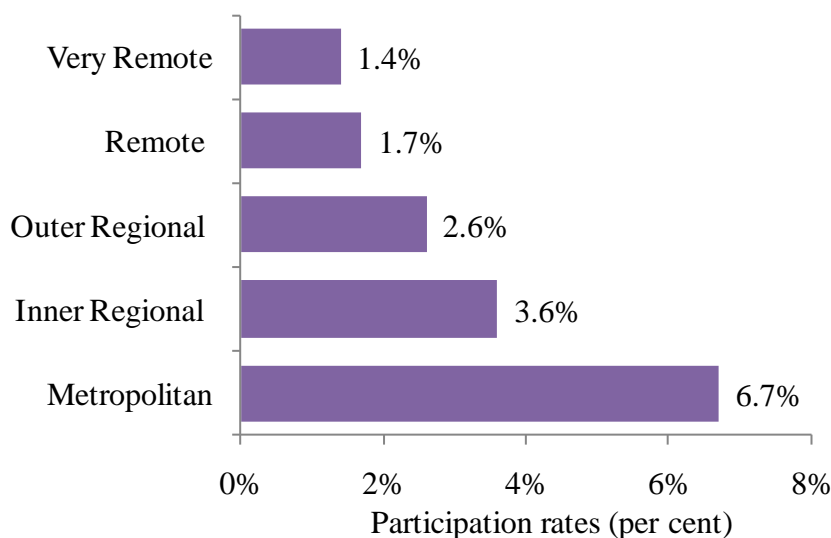


Figure 1: Participation in higher education by remoteness of place of usual residence (Census)

As Figure 1 makes clear, 6.7 per cent of those with their place of usual residence in metropolitan areas are enrolled at HEIs while this is the case for just 3.6 per cent of those in inner regional areas, 2.6 per cent of those in outer regional areas, 1.7 per cent of those in remote areas and only 1.4 per cent of those in very remote areas.

These figures reflect previous findings which point to falling rates of participation in higher education with increasing distance from capital cities (James et al., 2004; James et al. 1999; Marks et al., 2000; Stevenson et al., 2001). They also indicate a number of factors which are critical in any study of students who are enrolled at HEIs in regional areas. First, the lower participation rates in higher education in regional and remote areas suggest that many young people in regional areas move to metropolitan areas for study, a trend supported by extensive literature. Moreover, they suggest that young people in regional areas are more likely to choose to participate in other activities rather than enrolling in a HEI, such as employment, TAFE or apprenticeships. This trend will be examined in more detail in a later section. Finally, they highlight the challenges which regional HEIs face in ensuring sustainable levels of enrolments in the face of both of these factors.

Overall, Figure 1 gives some context to the most pressing issues which face HEIs in regional areas, and which impact the availability of a skilled workforce in regional communities which can ensure their sustainable development in the future. Figure 1, however, indicates national patterns only and there are significant differences within Australia, as indicated in Figure 2.

As Figure 2 shows, there is an overall tendency for higher rates of participation in higher education among those with their place of usual residence in metropolitan areas which then falls as degree of remoteness of the place of usual residence of individuals increases. While this is generally true across the nation, enrolment at a HEI by remoteness of the place of usual residence varies from state to state. Overall, between 6.3 and 7.0 per cent of those whose place of usual residence is in a metropolitan area are enrolled at a HEI, with the level highest in Victoria (7.0 per cent) and lowest in New South Wales (6.3 per cent).

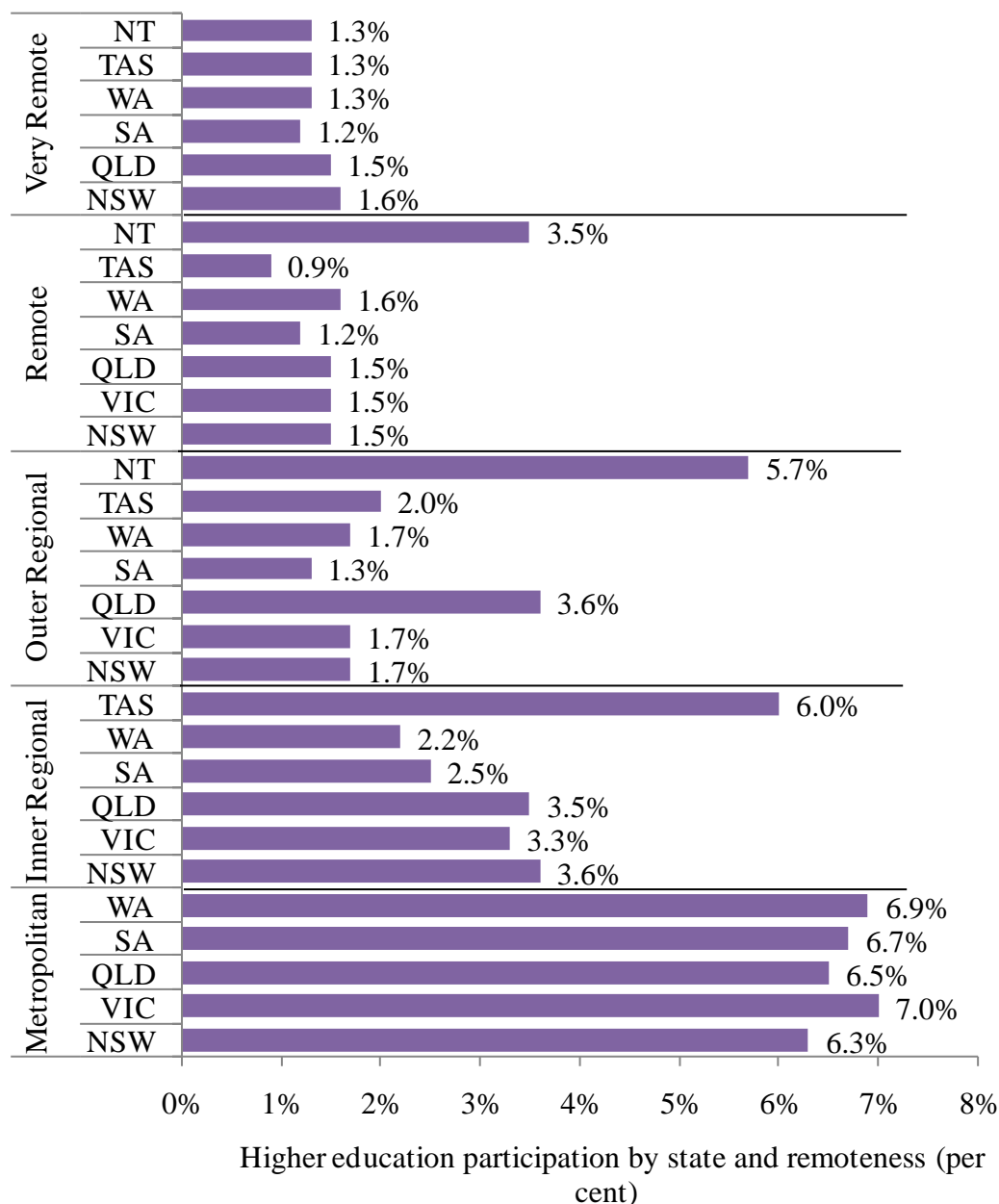


Figure 2: Participation in higher education by state and remoteness of place of usual residence (Census)

Two other State and Territory capitals are classified separately. Hobart is classified as an inner regional area and has higher education participation rates of 6.0 per cent, while Darwin is classified as an outer regional area and has higher education participation rates of 5.7 per cent. Excluding Hobart and Darwin, the chart indicates that between 2.2 and 3.6 per cent of those whose place of usual residence is in inner regional areas is enrolled at a

HEI, with the lowest participation rates in Western Australia (2.2 per cent) and the highest in New South Wales (3.6 per cent). In outer regional areas, between 1.3 per cent and 3.6 per cent of the population are enrolled at a HEI, with the highest rates of participation found in Queensland (3.6 per cent) and the lowest in South Australia (1.3 per cent).

Considering remote areas, it is important to note that the definition of Alice Springs as a remote area results in the proportion of those whose place of usual residence is in the Northern Territory and who are enrolled at HEIs (3.5 per cent) to be significantly above that of other states (between 0.9 and 1.6 per cent). Finally, in very remote areas the proportion of the population that was enrolled at a HEI at the time of the 2006 Census is between 1.2 and 1.6 per cent. Interestingly, the lowest participation rates in outer regional, remote and very remote areas, and the second-lowest participation rate in inner regional areas, are found among those whose place of usual residence is in South Australia.

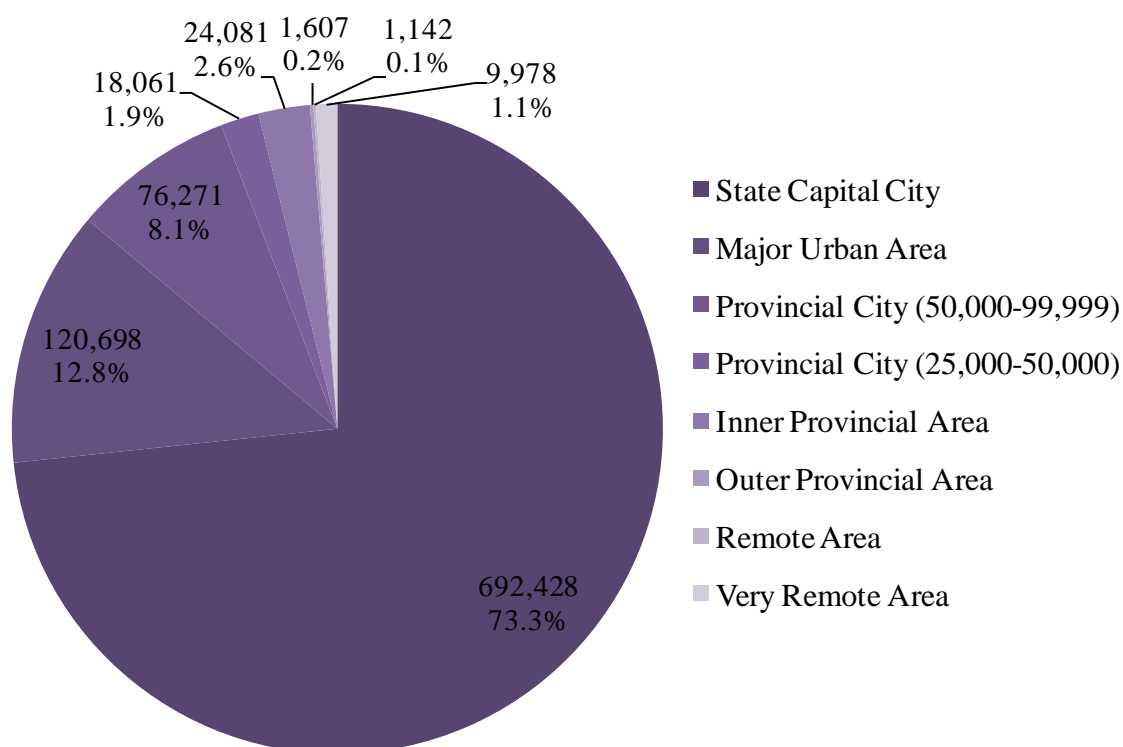


Figure 3: All higher education students by campus remoteness (HESC)

While higher education participation rates are influenced by a wide range of factors, they are inevitably a reflection of the existence of HEIs. Figure 3 indicates the proportions of individuals who reported that they were enrolled at an HEI at the 2006 Census. Numbers of individuals are also given, rounded to the nearest 1,000 and all figures relate to the location of the campuses at which students are enrolled.

As discussed above, and illustrated in Appendix 1: Regional institutions, higher education provision is uneven across Australia, with some areas served well and other, more populous regions, not served at all. While it is possible for those who live in communities in which no HEIs are available to study via a distance mode, the practical challenges of doing so, and the lack of direct peer support, are discouraging factors. The impact of regional variations in higher education participation in Australia means that almost three-quarters of higher education students in Australia (692,000) are enrolled at a HEI campus

in a state capital city, with a further 12.8 per cent (121,000) enrolled at a HEI campus in a major urban area. As Figure 3 shows, just 8.1 per cent (76,000) of all higher education students in Australia are enrolled at a HEI campus in a provincial city with a population of between 50,000 and 90,000, with only 1.9 per cent (18,000) enrolled at a HEI campus in a provincial city with a population of less than 50,000. Just 13,000 individuals are enrolled at HEI campuses in outer provincial, remote or very remote areas. It is important to note that these figures are based on the geographical location of the HEI campus at which a student is enrolled, not on their place of residence.

Notwithstanding the method used to define a ‘regional’ HEI, this means that students enrolled at HEI campuses in regional parts of Australia are very much the minority of all higher education students in Australia. While this factor alone may mean that students at regional HEI campuses require a range of specific policy responses, it is also likely that they differ in particular aspects in comparison with their metropolitan counterparts. The next section examines variations in gender, age and other demographic factors.

Gender balance

A person’s gender is likely to affect their enrolment at a HEI in significant ways. Most importantly, it tends to have a relationship with subject choice as well as employment outcomes. A further impact of gender on the participation of individuals in both higher education and employment is the greater burden of child-rearing responsibilities which are borne by women in relation to men. The gender balance of those enrolled at regional HEIs is thus vitally important in understanding the particular challenges which such institutions face.

Figure 4 uses 2006 Census figures to show rates of participation in higher education across Australia by gender. Numbers used in the discussion below are rounded to the nearest 1,000 and represent the area of remoteness of the place of usual residence given by individuals at the time of the Census.

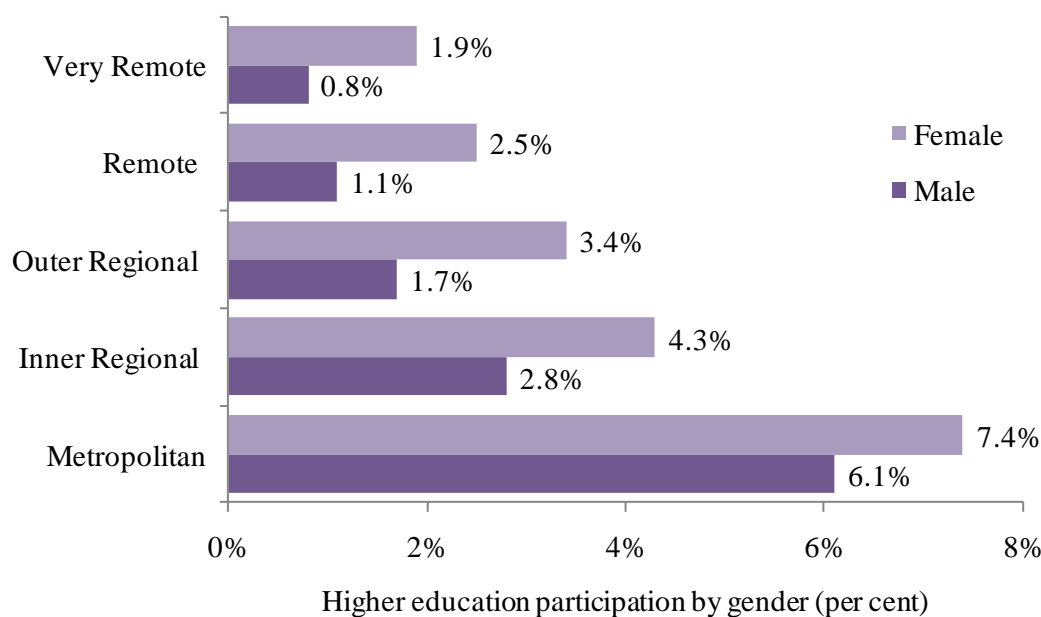


Figure 4: Participation in higher education by gender and remoteness of place of usual residence (Census)

As Figure 4 clearly illustrates, females have greater participation in higher education than males in every location, with a significant impact on numbers. Among those with their place of usual residence in metropolitan areas, the participation rate in higher education is 7.4 per cent for females, representing 343,000 individuals, and 6.1 per cent for males, representing 277,000 individuals. This means that among those whose place of usual residence is in a metropolitan areas there are 66,000 more female than male students enrolled in HEIs. Outside of metropolitan areas, however, the gender differences are even more marked, and become greater with increasing remoteness.

The overall impact of the variations in participation rates is that of the 124,000 individuals participating in higher education and who recorded their usual place of residence as non-metropolitan at the 2006 Census, 78,000 were female, representing an additional 46,000 female than male higher education students living in regional area. Among those with their place of usual residence in inner regional areas, 4.3 per cent of the female population (55,000 individuals) are enrolled in higher education while the participation rate for males is just 2.8 per cent (34,000). The participation rate of those with their place of usual residence in outer regional areas is 3.4 per cent (20,000) for females, double the participation rates of males of 1.7 per cent (11,000). Among those with their place of usual residence in remote areas, the participation rate for females is 2.5 per cent (2,000), more than double the 1.1 per cent rate (1,000) of males. Finally, among those with their place of usual residence in very remote areas the participation rate of females of 1.9 per cent (1,000) is almost two-and-a-half time the rate of males of 0.8 per cent (400).

It could be assumed that young men are more likely to participate in TAFE than young women, and that this would explain the significant gender difference in higher education participation rates. As Figure 5 indicates, however, this is not the case, with females generally having greater rates of participation than males in both higher education and TAFE, irrespective of the degree of remoteness of the place in which they have their usual residence.

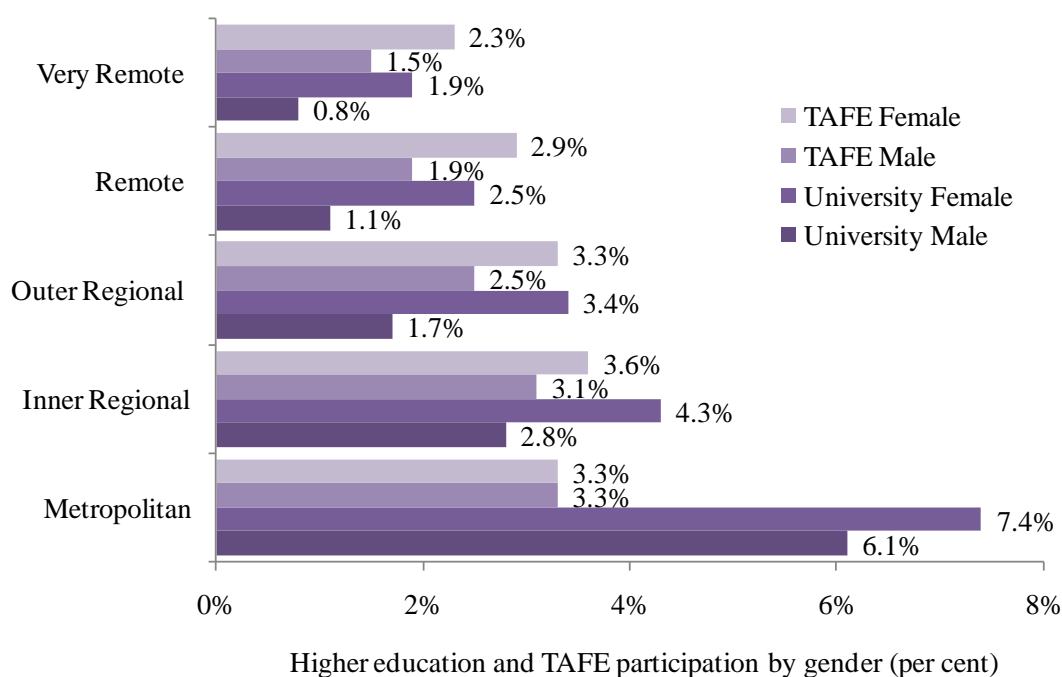


Figure 5: University and TAFE participation by gender and remoteness of place of usual residence (Census)

The predominance of females among those participating in higher education is supported by HESC data which indicates that females account for 54.7 per cent of all enrolments at HEI campuses in state capital cities in 2008, as indicated in Figure 6, and as based on the location of the HEI campus which students are enrolled at. This means that there are 65,000 more female than male students at HEI campuses in state capital cities. HESC data also makes clear, however, that the dominance of female students generally increases with the remoteness of an area, with females particularly dominant at HEI campuses in outer provincial and remote areas, where they account for 73.1 per cent and 71.5 per cent of students respectively.

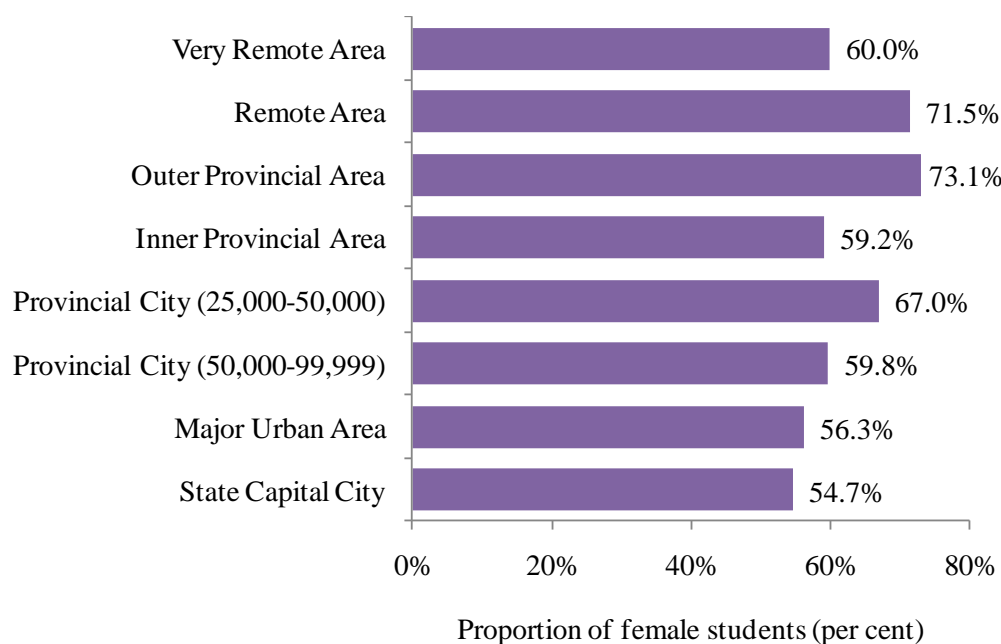


Figure 6: Gender balance in higher education institutions by campus remoteness (HESC)

As a consequence, there are 44,000 more female than male students enrolled at HEI campuses which are located outside state capital cities. For example, there are 6,000 females studying at HEI campuses in outer provincial areas, in comparison to just 4,000 males.

If each individual institution is considered, the predominance of female students understandably varies, influenced as it is by the course offerings at each campus. Nevertheless, clear patterns emerge if we divide the figures by the campus at which students are enrolled. While overall proportions of female students vary between 47.1 and 81.2 per cent at regional HEI campuses, female students make up a larger proportion of students than the metropolitan HEI campus average in nearly all cases. Overall it is clear that the student bodies of regional HEI campuses are more female-dominated than those in metropolitan areas. The extent to which this pattern is determined by demand and supply is unclear, but it is likely that there is simply a greater interest among females in regional areas to participate in a higher education. This, in turn, will influence the areas of study offered by regional HEIs, the modes of participation of students and the employment which they move into.

Age ratios

While gender is one way of considering the characteristics of higher education students in various regions of Australia, another important factor is age. Figure 7 displays the age breakdown of those individuals who reported being enrolled at a HEI in the 2006 Census by degree of remoteness of their place of usual residence.

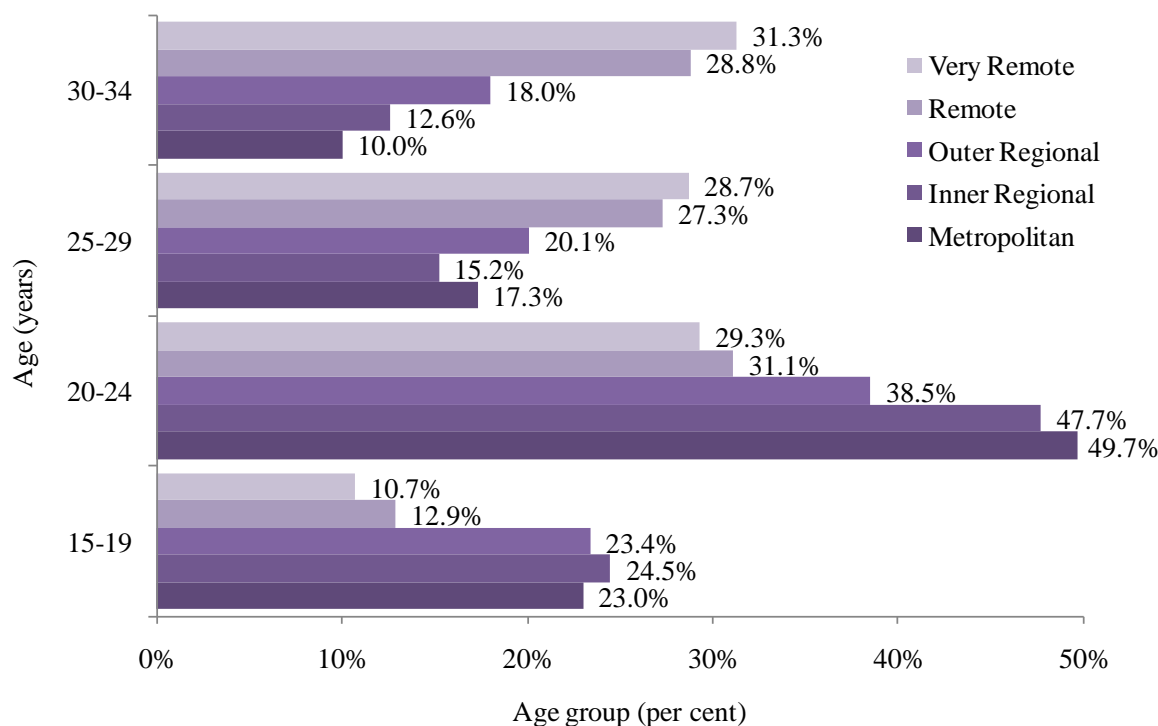


Figure 7: Age of higher education students by remoteness of place of usual residence (Census)

While almost half of all students who are enrolled at HEIs and have their place of usual residence in metropolitan areas are aged 20 to 24, less than a third of those enrolled at HEIs and with their place of usual residence in remote or very remote areas is in this age group. In contrast, while 10 per cent of those enrolled at HEIs and having a place of usual residence in metropolitan areas are aged 30 to 34, this age group account for more than a quarter of those enrolled at HEIs and having a place of usual residence in remote or very remote areas. It is clear that students enrolled at HEIs and who live in regional areas of Australia tend to be older than their counterparts from metropolitan areas, with average age increasing with degree of remoteness of place of residence.

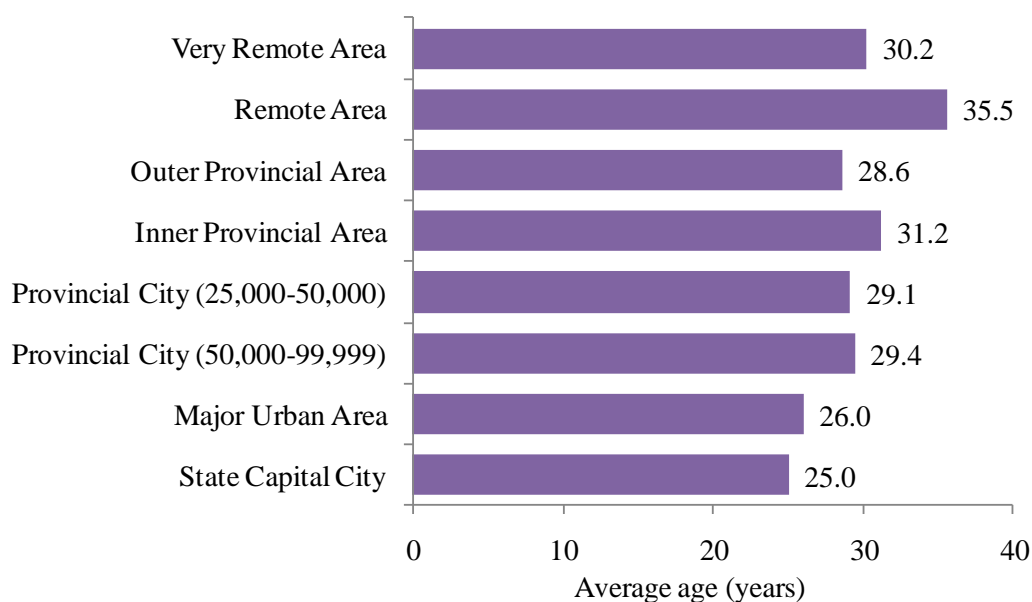


Figure 8: Average age by campus remoteness (HESC)

Once again, this pattern is confirmed by HESC data. As Figure 8 makes clear, the average age of students enrolled at HEI campuses in state capital cities is 25, while students enrolled at HEI campuses in all other areas are older, with the oldest average age of 35.5 years found among students enrolled at HEI campuses in remote areas.

If HESC data is broken down by institution (Figure 9), and the students enrolled at HEI campuses in regional areas of Australia are considered, it is clear that the average age of students enrolled at the regional campuses of all HEIs other than Griffith and Wollongong is higher than the average age of students enrolled at metropolitan HEI campuses. The oldest students are those enrolled at the regional campuses of the University of New England, where their average is 32.8 years. Students enrolled at the regional campuses of Charles Darwin University and Charles Sturt University, in common with those at the University of New England, are on average aged over 30. Overall, it is possible to conclude that those students enrolled at the majority of regional HEI campuses are older than their counterparts who are enrolled at HEI campuses in metropolitan and urban areas.

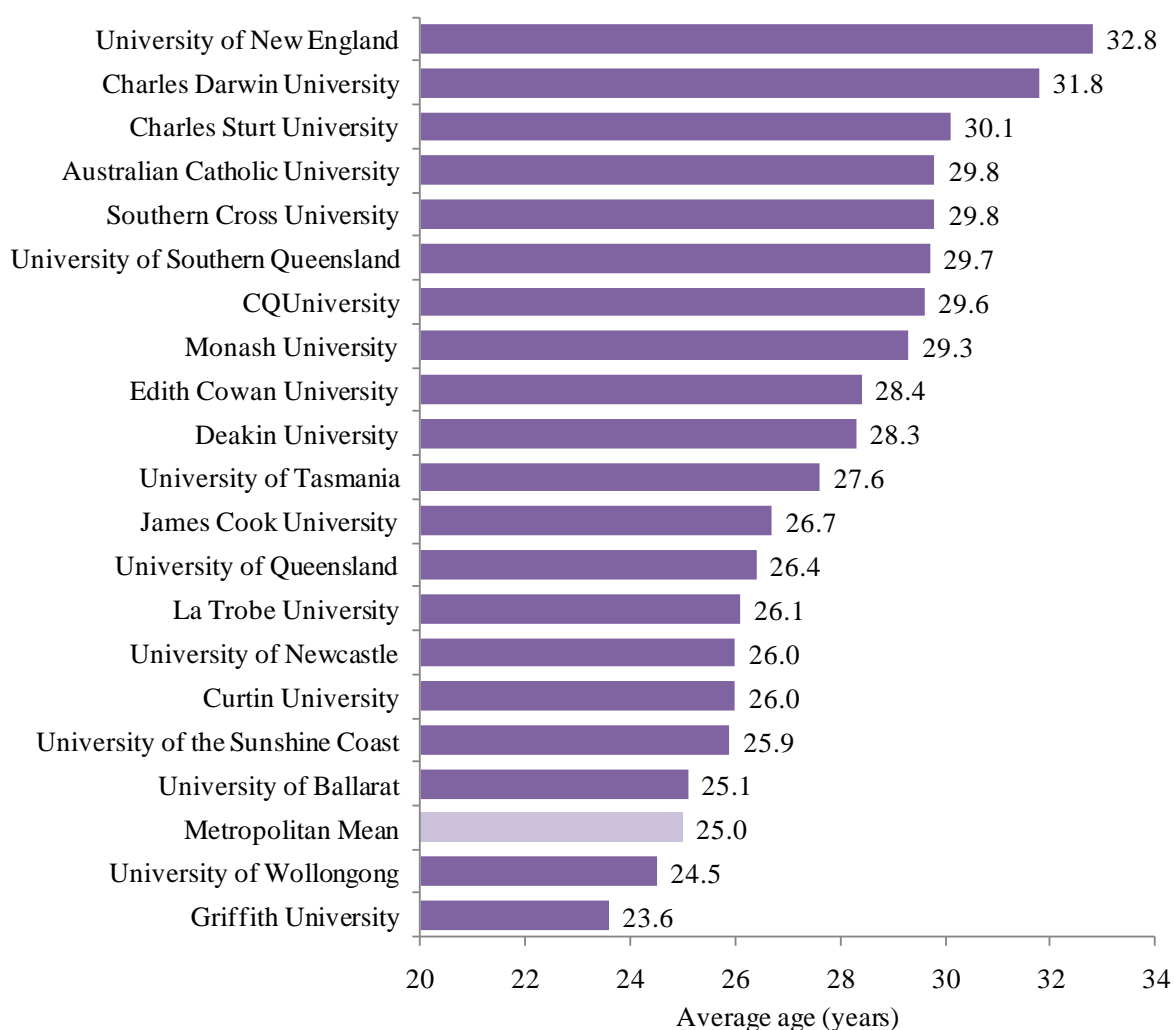


Figure 9: Average age by institution regional campus (HESC)

The age of students is important for several reasons. First, older students are more likely to be juggling study with employment and family responsibilities. This has an impact on the way in which they are able to engage in their studies, their modes of attendance, their ability to participate in group projects and internships and the time they have available for any extra-curricula activities. Moreover, the services required by older students are not the same as those required by younger students.

Older students are less likely to join clubs and societies, to play in sports teams and to get involved in student politics than their younger counterparts. They are more likely to need access to childcare services and to flexible forms of learning, to require assistance with housing and may need more assistance with study skills than those who have recently finished their high school education. Finally, the financial support required by older students is likely to be greater than that required by younger students in order to compensate them for the additional caring responsibilities which they are likely to have. All of these factors have a significant impact on the operations of HEIs and the way in which they deliver courses to students.

Places of origin

Another crucial element in understanding students who study at regional HEIs is to consider their region of origin. Figure 10 indicates the proportion of students enrolled at HEI campuses in regional areas of Australia and who indicate that their permanent home address is in a regional area. Just 12.1 per cent of students who are enrolled at metropolitan campuses of HEIs have permanent home addresses in regional areas, while for regional campuses the proportion ranges from 51.5 per cent to 94.2 per cent of all students.

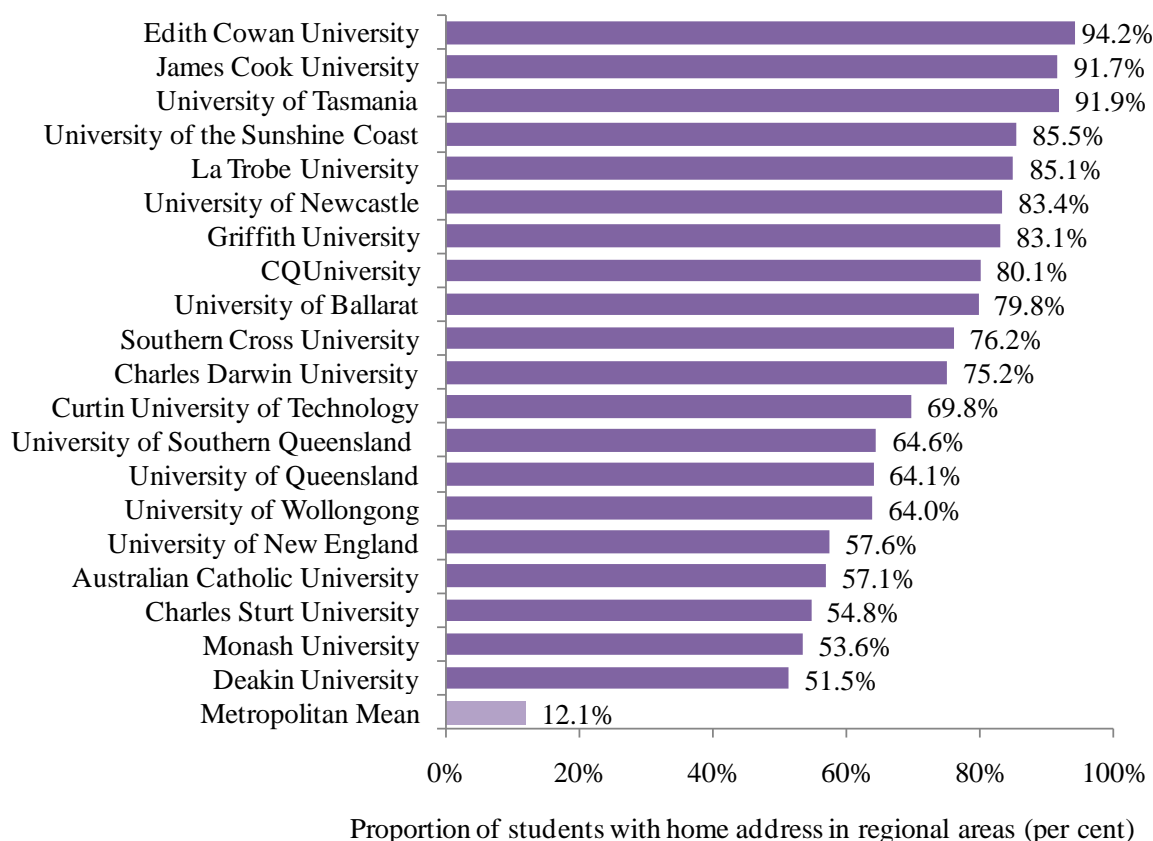


Figure 10: Students with home addresses in regional areas, by institution regional campus (HESC)

It is clear that the majority of students who are enrolled at HEI campuses in regional areas are from regional areas themselves. This is an important factor in any consideration of higher education provision. While it is impossible to predict the percentage of students in regional areas who would participate in higher education if they did not have access to an HEI in their area (Harding 2010), it is likely that this would be a large proportion.

As Table 3 indicates, high proportions of those students who are enrolled at HEI campuses in regional areas have permanent addresses in the state in which the campus is located. This is particularly the case for large states in which populations are widely distributed, with 95.4 per cent of students who are enrolled at regional campuses in South Australia and Western Australia originating in the same state. In contrast, it is interesting to note that just 58.1 per cent of students who are enrolled at HEIs in the Northern Territory have permanent home addresses in that state, with 11.9 per cent originating from South Australia, 9.1 per cent from Queensland and 8.7 per cent from Victoria.

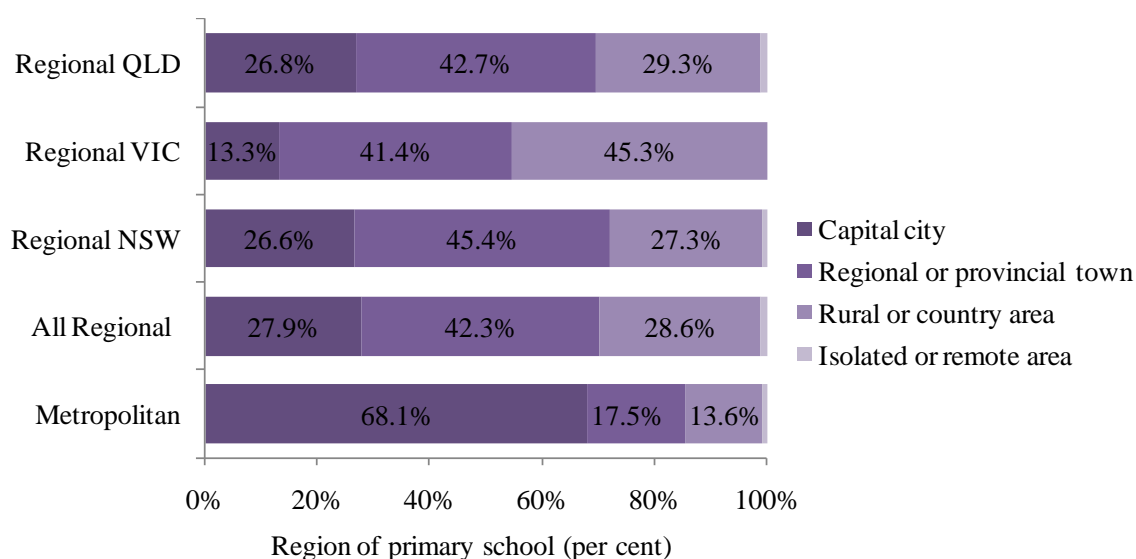
Table 3: Student origins by state of campus and permanent home location (HESC)

State of Regional Campus	State of permanent home location						
	NSW	VIC	QLD	WA	SA	TAS	NT
VIC	83.7%	5.3%	5.5%	1.0%	1.3%	0.6%	0.4%
NT	5.1%	8.7%	9.1%	5.9%	11.9%	0.5%	58.1%
QLD	7.0%	2.5%	87.0%	0.9%	0.8%	0.4%	0.7%
SA	0.9%	2.0%	0.1%	0.4%	95.4%	0.3%	0.9%
TAS	3.2%	5.0%	1.8%	0.6%	0.8%	87.7%	0.2%
VIC	7.5%	83.3%	3.2%	1.5%	1.8%	1.0%	0.5%
WA	1.6%	1.0%	1.0%	95.4%	0.4%	0.2%	0.3%

While HESC data records only the permanent home address for students who are already enrolled in HEIs, it is important to note that ‘home postcode’ is not a particularly accurate determinant of regionality. In their submission to the *Review of Regional Loading*, the University of South Australia point out that “many students from regional locations ... have a metropolitan postcode listed as their home postcode because it is their ‘home’ during the academic year or because they have relocated to a metropolitan area to undertake their studies” (University of South Australia, 2009). Other data sets, however, give us a longer-term view.

Participants in the Graduate Pathways Survey (GPS) were invited to note the location in which they attended primary school. This enables us to gain a greater understanding of the long-term origins of higher education students. Data limitations do not allow us to know the actual campus which students are enrolled at, only the institution. Thus, in this analysis ‘regional HEIs’ are defined as just those 11 which are solely located outside metropolitan areas (as indicated in Appendix 2).

As Figure 11 indicates, those students who are enrolled at HEIs in regional areas of Australia are much more likely to have attended primary schools in regional areas than students who are enrolled at metropolitan HEIs.

**Figure 11: Origins of higher education students by location of HEI (GPS)**

While just 17.5 per cent of those enrolled at metropolitan HEIs had attended a primary school in a regional or provincial town and just 13.6 per cent had attended a primary school in a rural or country area, the equivalent figures for students enrolled at regional HEIs are 42.3 per cent and 28.6 per cent respectively.

Figure 11 also records the backgrounds of students enrolled at regional HEIs in the three most populous states and this makes clear that the likelihood that a regional student had attended a regional primary school is similar in New South Wales and Queensland, and particularly pronounced in Victoria.

Overall, it is possible to conclude that students enrolled at regional HEIs are likely to have attended a primary school in a regional area, and to continue to have their permanent address in a regional area. Taken together with the evidence about states, it is clear that regional HEIs are very much patronised by students from their surrounding areas.

Indigenous students

One of the major issues facing HEIs in Australia is the low level of participation of Indigenous students. An analysis of HESC data makes clear that HEI campuses in regional areas are far more likely to have Indigenous students enrolled than campuses in metropolitan areas. Figure 12 indicates the proportions of higher education students who report themselves as being of Aboriginal and/or Torres Straits Islander origin (Indigenous), with area defined as the place in which the HEI campus they are enrolled at is located. At HEI campuses in remote areas, Indigenous students account for 60.9 per cent of all students and total 695 individuals. This is not shown on Figure 12 in order to highlight the variations in other areas.

The next highest proportion of Indigenous students is found in at HEI campuses in very remote areas, where they total 276, making up 2.8 per cent of all students. At HEI campuses in outer provincial areas and provincial cities (25,000-50,000), Indigenous students number just 35 and 340, respectively, comprising 2.2 and 1.9 per cent of all students. At HEI campuses in both inner provincial areas and major urban areas, Indigenous students make up just 1.5 per cent of all students, numbering 362 and 1,842 respectively. At HEI campuses in provincial cities (50,000 – 99,999), Indigenous students total just 1,018, accounting for 1.3 per cent of all students. Finally, the numbers of Indigenous students are largest at HEI campuses in state capitals where they total 4,830, although they make up just 0.7 per cent of all students. What these figures do not tell us, however, is the place of origin of Indigenous students. It is likely that many of those who live in very remote or remote areas and are enrolled at HEIs do so in state capital cities or other less-remote areas of Australia.

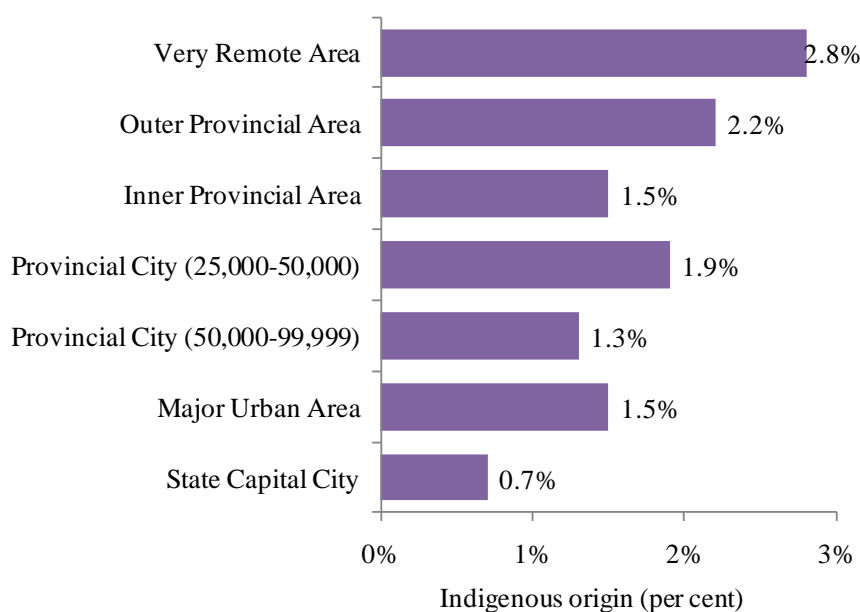


Figure 12: Indigenous students by remoteness of campus (HESC)

Reflecting the female-dominated nature of regional HEIs, Census data tells us that while the rate of Indigenous students as a percent of all students rises by the distance of their place of usual residence from a State capital city, female Indigenous students have higher levels of participation in higher education than male Indigenous students in every part of Australia, irrespective of the degree of remoteness.

Figure 13 indicates the representation of Indigenous students who are enrolled in higher education divided by the region in which their place of usual residence is located. In very remote areas, Indigenous females comprise 23.2 per cent of all females from those areas who participate in higher education, while Indigenous males comprise just 19.8 per cent of all males from those areas who participate in higher education. The pattern of greater female Indigenous participation in higher education is replicated for each level of remoteness of their place of usual residence, with Indigenous students comprising 0.7 per cent of female students and 0.5 per cent of male students who are enrolled at HEIs and whose place of usual residence is in major cities.

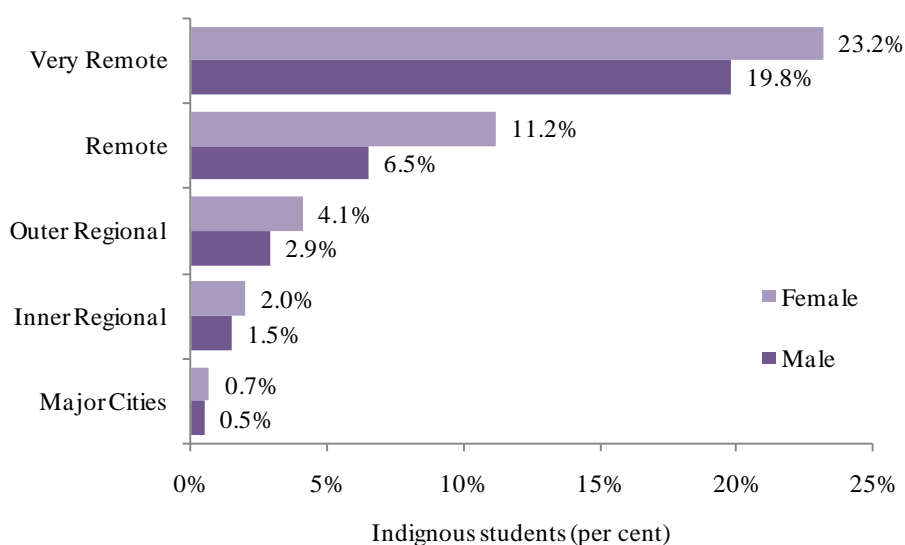


Figure 13: Indigenous students by place of usual residence (Census)

While Figure 12 and Figure 13 indicate patterns across Australia as a whole, HESC data also allows these figures to be broken down by individual institutions. As Figure 14 shows, proportions of students who report that they are of an Aboriginal and/or Torres Straits Islander origin vary significantly among regional HEI campuses. It should be noted that almost all students at Batchelor Institute of Indigenous Tertiary Education are Indigenous and these are not shown on Figure 14 in order to highlight the differences among all other institutions with campuses in regional areas.

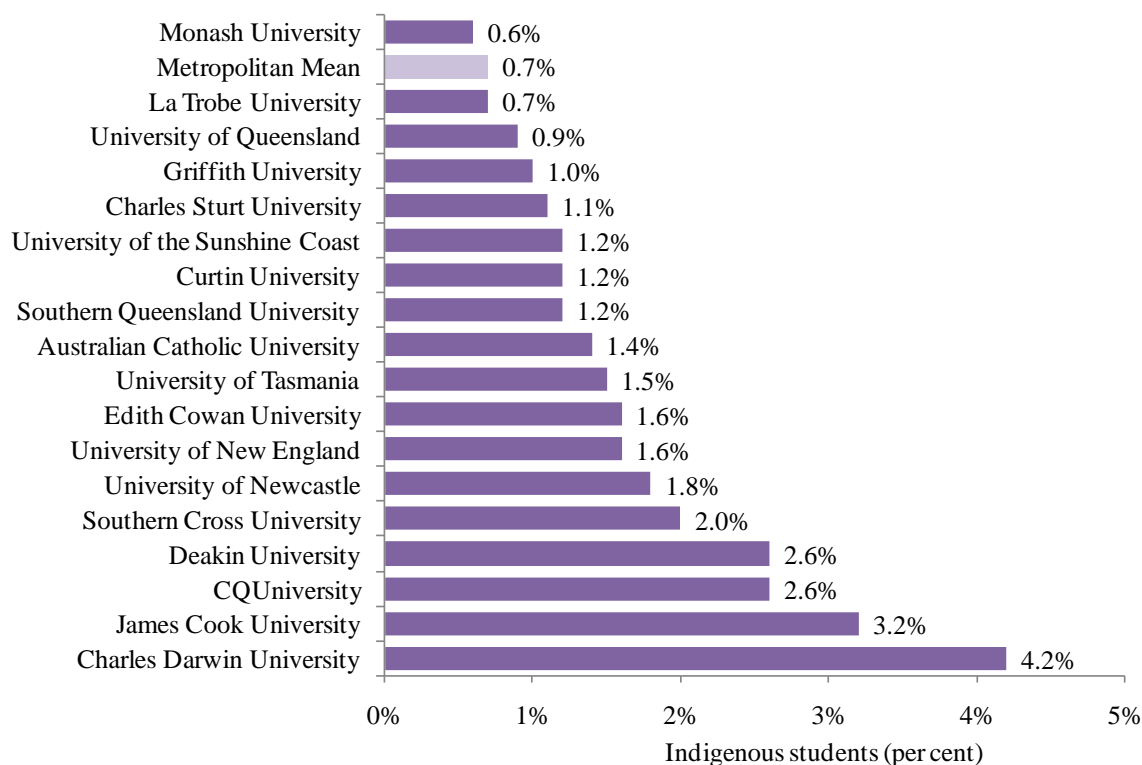


Figure 14: Indigenous students by institution regional campus (HESC)

While the variations are significant, it is clear that nearly every regional HEI campus hosts a greater proportion of Indigenous students than do metropolitan HEI campuses. This is important because it not only shows the role which regional HEIs play in enabling Indigenous participation in higher education, but also illustrates an additional responsibility which regional HEIs are likely to face to a greater extent than their metropolitan counterparts.

International students

While much of the focus on regional higher education revolves around Australian students, it should not be forgotten that international students play an important role in the higher education sector in Australia as a whole, and while they make up a greater proportion of all higher education students at HEI campuses in metropolitan areas, they are also represented at HEI campuses in regional areas. Figure 15 shows the proportion of international students – those who hold international student visas – at HEI campuses in a range of areas. At campuses in state capital cities they comprise 23.1 per cent of all higher education students. While this proportion falls rapidly as distance increases, they continue to comprise 2.6 per cent of higher education students in very remote areas.

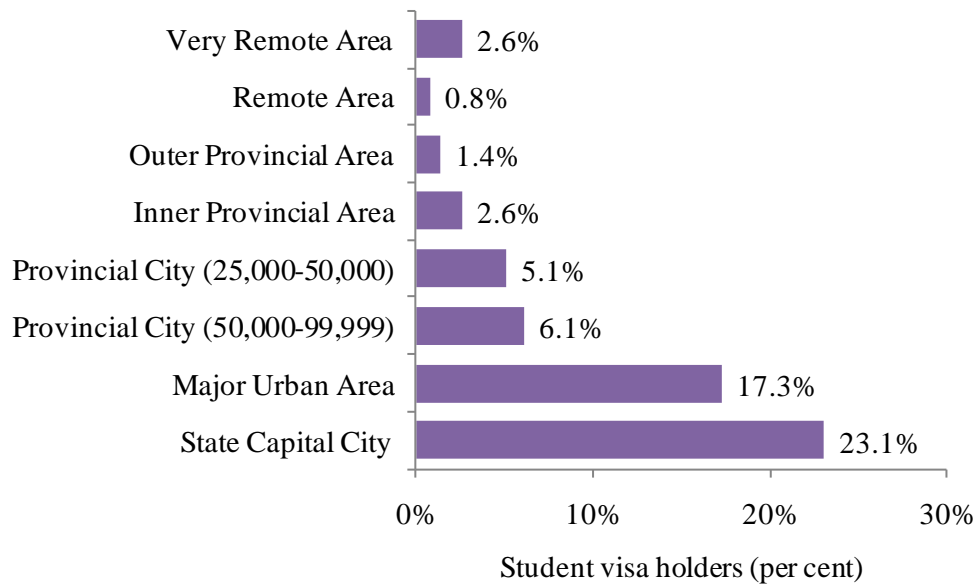


Figure 15: International students (HESC)

Inevitably, the proportion of international students does vary significantly by institution. Figure 16 indicates the proportion of international students at regional campuses of HEIs. Griffith and Wollongong universities host a greater proportion of international students than the average for metropolitan areas. While all other regional HEIs host lower proportions, these remain significant, with international students comprising at least 10 per cent of the student bodies at James Cook, Sunshine Coast, Tasmania and Ballarat universities and between 5 and 10 per cent at another nine regional HEIs.

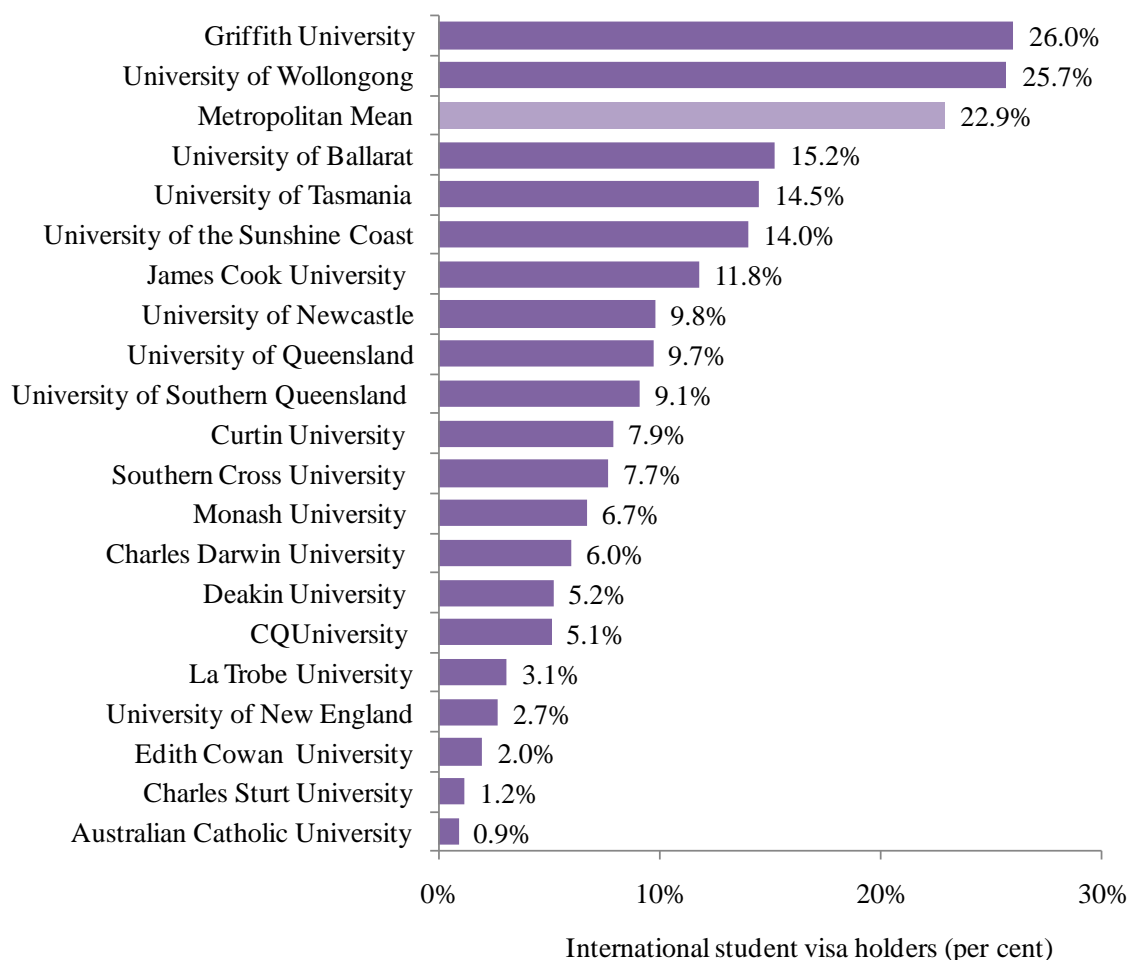


Figure 16: International students by institution regional campus (HESC)

Given the income streams which international students generate for HEIs, and the services they require in terms of language support, their presence or absence at regional HEIs is an important aspect in any discussion of regional loading. As one submission to the *Review of Regional Loading* states “a regional university is simply not as attractive as a major urban university to overseas students” (Charles Darwin University, 2010:5).

Low socioeconomic status

Several submissions to the review of regional loading mention the high proportion of students from low socioeconomic groups which is enrolled at regional HEIs. As one suggests, “around 30 per cent of regional and 50 per cent of remote students are classified as low SES” (Deakin University, 2010:2) and another reports that its catchment area includes many schools “classified as low SES” (Murdoch University, 2010:2). The proportion of students from low socioeconomic backgrounds is important because, as several submissions mention, it has an impact on the way in which the teaching of students needs to be undertaken, with one institution suggesting that regional loading should be given to institutions with student bodies which include a “high level of low SES backgrounds” (University of Newcastle, 2010: 2).

HESC data does not record measures of socioeconomic status in its data collection, but the AUSSE does. It is important to note, however, that AUSSE data does not identify the campus which students are enrolled at and thus the 11 HEIs which are solely located in regional areas (Appendix 2) are used in reference to ‘regional’ HEIs in this analysis.

As Figure 17 indicates, data from the AUSSE shows that 28.2 per cent of students who are enrolled at regional HEIs are from low socioeconomic groups, in comparison to just 13.9 per cent of students who are enrolled at metropolitan HEIs. Moreover, while 39.7 per cent of students enrolled at metropolitan HEIs are the first in their family to enrol in a HEI, this is the case for 51.2 per cent of students enrolled at HEIs in regional areas.

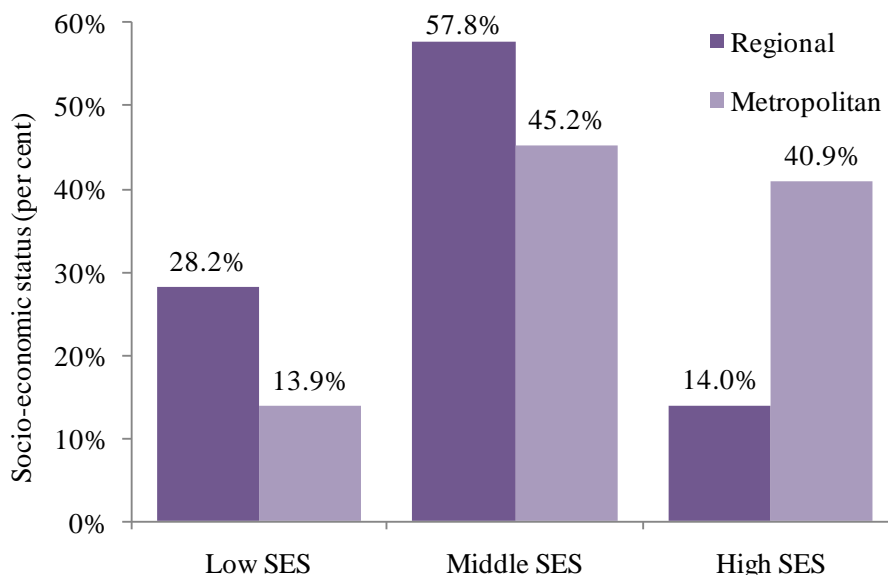


Figure 17: Proportion of students in each socioeconomic group (AUSSE)

Much of the calculation of a person's socioeconomic status derives from an examination of levels of parental educational achievement. As Figure 18 shows, AUSSE data tells us that just 29.5 per cent of students who are enrolled at HEIs in regional areas have fathers with a higher education qualification, while just 29.0 per cent have mothers with a higher education qualification.

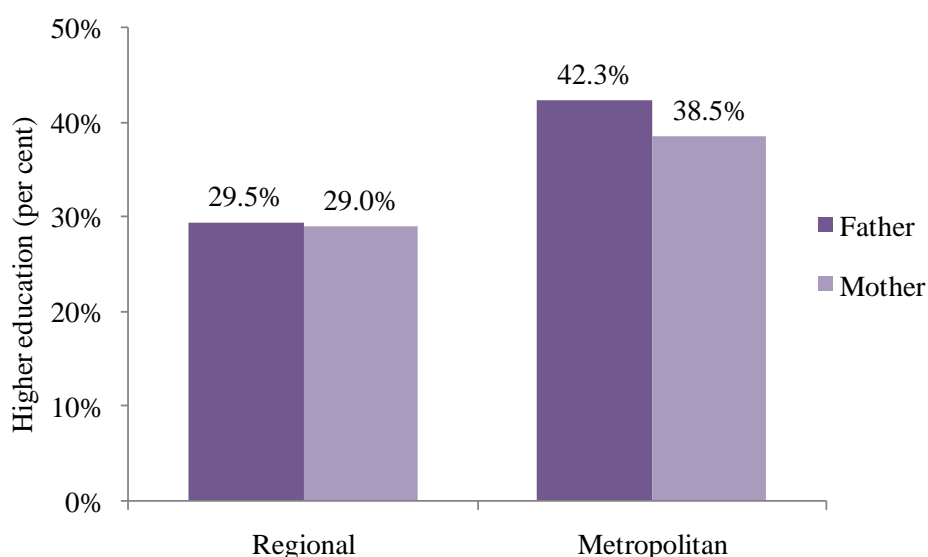


Figure 18: Proportion of parents with higher education (AUSSE)

In contrast, the fathers of 42.3 per cent of students at metropolitan HEIs have higher education qualifications and this is also the case for 38.5 per cent of mothers. These

differences not only relate to socioeconomic status but are also likely to influence educational expectations and aspirations.

While Figure 17 and Figure 18 indicate overall percentages of students from low socioeconomic backgrounds at regional HEIs, it is clear that these proportions are likely to vary from one institution to another. While it is possible to identify data from students at individual HEIs in the AUSSE data, confidentiality requirements do not allow them to be named and they will be referred to as ‘Regional 1’, ‘Regional 2’ and so on.

As Figure 19 indicates, just one regional HEI has a lower proportion of students from a low socioeconomic background than the metropolitan mean, with proportions of students from this group varying from 19.7 to 50.2 per cent at all other regional HEIs. Moreover, while 39.7 per cent of students enrolled at metropolitan HEIs are the first in their family to engage in a higher education, this is the case for between 41.8 and 57.8 per cent of students enrolled at regional HEIs.

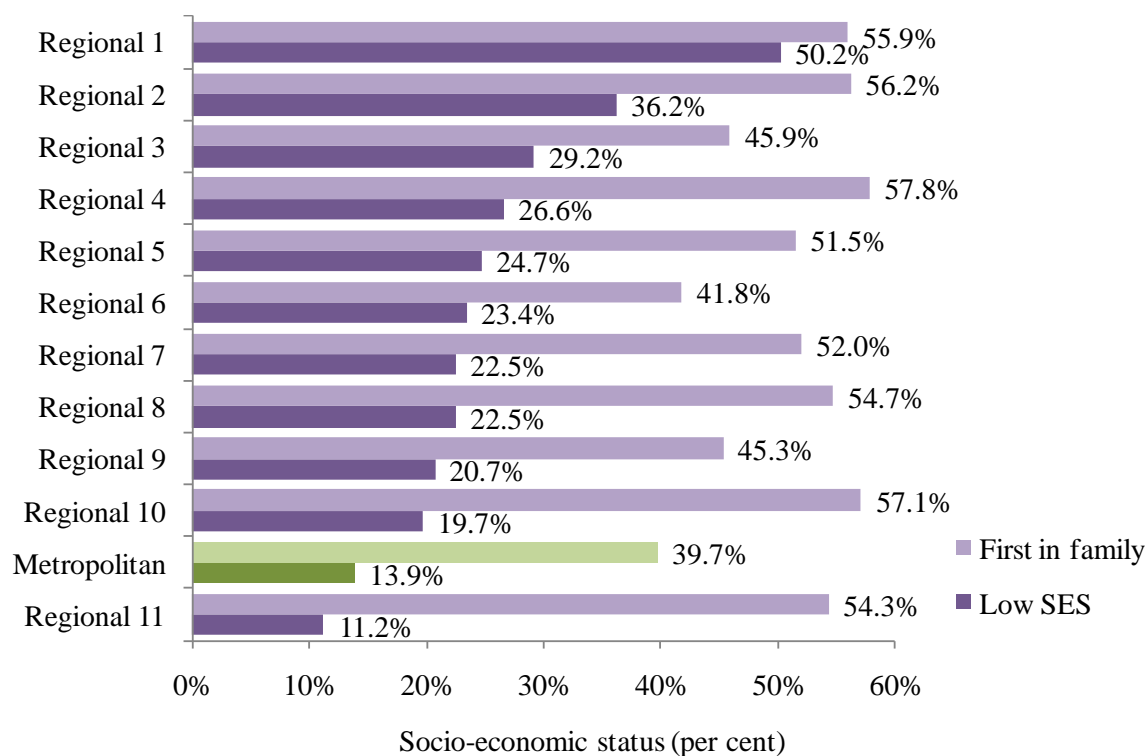


Figure 19: Socioeconomic status and first in family by regional institution (AUSSE)

These findings are critical given the observation by the recent DEEWR report (2010) on the connection between socioeconomic status and participation in higher education. The report itself concurs with earlier conclusions by James et al. (1999), namely that socioeconomic background is of central importance in determining higher education participation, and is more significant than access and economic resources. As the DEEWR report states, “socio-economic status accounts for around ten percentage points of the difference between regional and inner metropolitan university participation rates” (2010, 15-16).

Moreover, once students from low socioeconomic backgrounds are enrolled at a HEI, they “are likely to require higher levels of support, including financial assistance, greater

academic support, mentoring and counselling services, to enable them to succeed (DEEWR, 2010, 1). If HESC data were to record the highest level of education attained by the parents of all students, this would enable participation rates of students from low SES backgrounds in higher education, and their educational outcomes, to be closely tracked.

Care for dependents

While HESC data does not collect information on the family situation of students, the AUSSE does. This is important as it impacts on the time which students have available for studying and the modes in which they do so. As Figure 20 indicates, students who are enrolled at HEIs in regional areas report spending more time than those enrolled at metropolitan HEIs caring for their dependents, with 14.9 per cent of students at regional HEIs spending more than 30 hours per week on care for dependents in contrast to just 6.5 per cent of students at metropolitan HEIs.

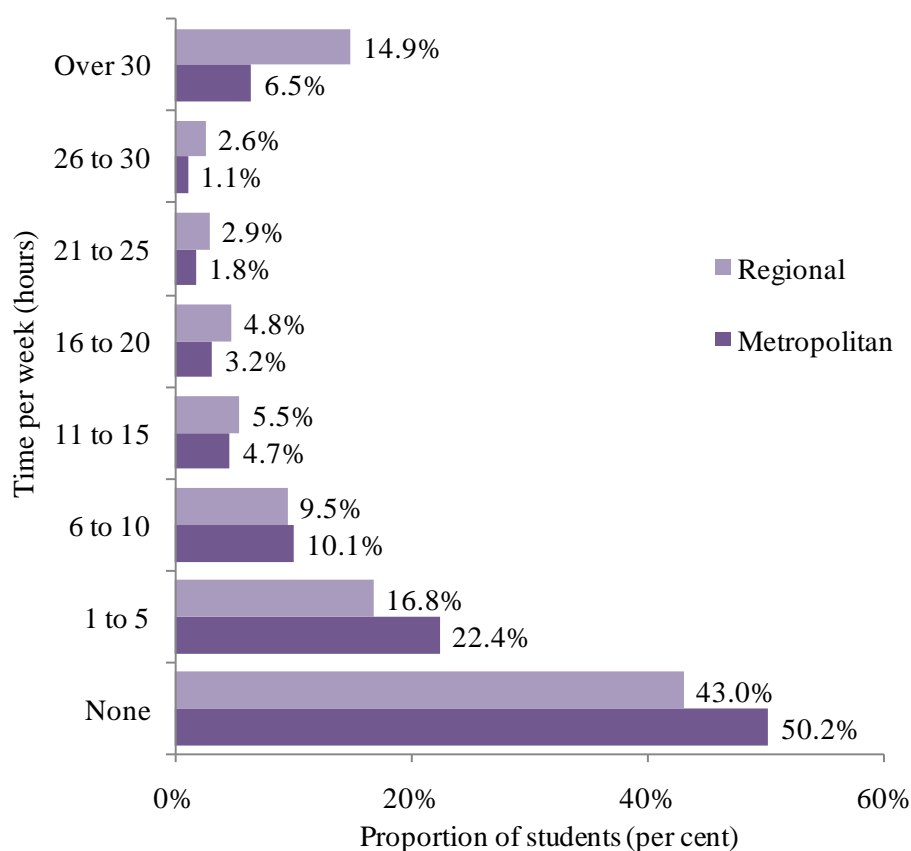


Figure 20: Number of hours spent caring for dependents per week (AUSSE)

Once again, this varies by institution, although as Figure 21 indicates, students at just one regional HEI spend less time per week on average caring for dependents than do those at metropolitan HEIs. While students at metropolitan HEIs spend an average of 2.3 hours per week caring for dependents, students at regional HEIs spend an average of up to 3.9 hours per week on this task. Once again, institutions cannot be identified by name but will be referred to as Regional 1, Regional 2 and so on.

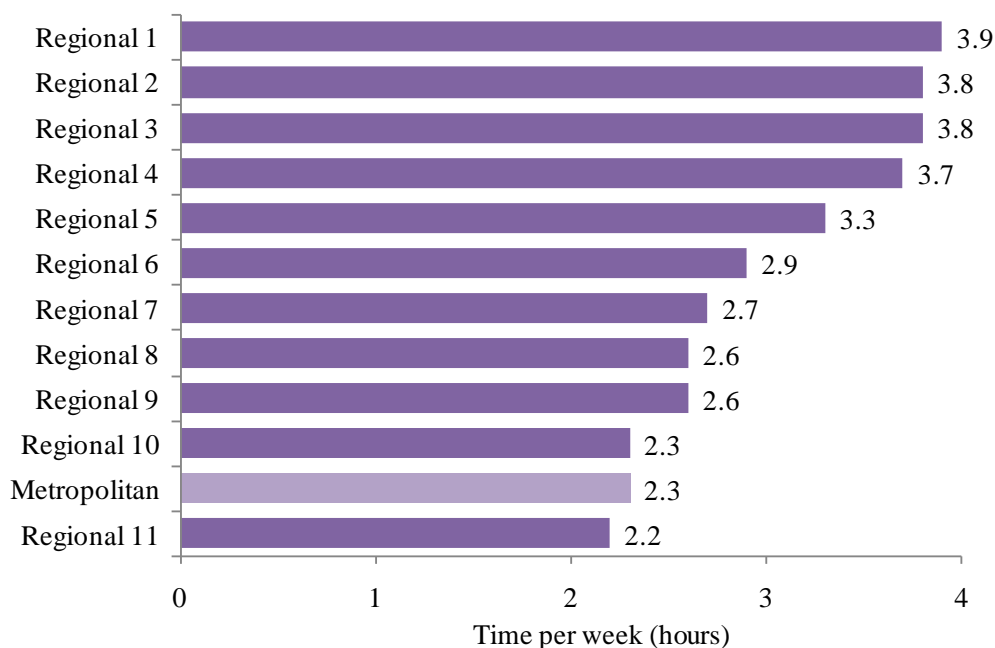


Figure 21: Number of hours spent providing care for dependents per week, by regional institution (AUSSE)

Conclusion

The figures and discussion above have examined several key characteristics of students who are enrolled at HEIs in regional areas of Australia. It is clear that the majority of students who are enrolled at HEIs in regional areas have the following characteristics:

- they originate in regional areas;
- they are enrolled at an HEI in the same state in which they have a permanent address;
- they are more likely than metropolitan students to be female;
- they are significantly older than metropolitan students;
- they are much less likely to be international students than metropolitan students;
- they are more likely to be of an Indigenous origin than metropolitan students;
- they are more likely to be from a low SES group than their metropolitan peers; and
- they spend more time caring for dependents than students at metropolitan HEIs.

Taken together, these characteristics suggest that many students who are enrolled at HEIs in regional areas are from more disadvantaged groups than those who are enrolled at HEIs in metropolitan areas. Subsequently, the amount of support they will require from their institution is greater than that needed by students enrolled at metropolitan HEIs. At the same time, regional HEIs do not host nearly the same proportion of international students, meaning that they are not able to benefit from the substantial fee revenue which these students generate, hence negatively impacting on their financial positions. Moreover, the additional caring responsibilities of students enrolled at regional HEIs mean that they are likely to have different needs to their counterparts at metropolitan institutions. In particular, their need for flexible modes of education, access to childcare facilities and greater financial support to cope with their caring responsibilities put demands on regional HEIs which metropolitan institutions do not face to the same degree.

4 MOTIVATIONS FOR STUDY AT REGIONAL INSTITUTIONS

CHAPTER AIM

- to determine the factors which motivate students in regional areas to enrol in higher education.

KEY CHAPTER FINDINGS

- 31.1% of secondary-school completers in remote areas intend to enrol in higher education;
- 26.4% of students in remote areas report that the lack of an HEI in proximity to their home is a factor which deters them from enrolling in higher education;
- 46.2% of students in remote areas who intend to engage in higher education plan to defer their commencement for one year;
- 79.1% of students in remote areas report that they are deferring in order to save money to pay for their higher education; and
- 52.8% of applications to regional HEIs are received from students in regional areas.

Introduction

When any student chooses to participate in higher education they are making a significant commitment of time and resources in order to achieve a desired outcome. The student's decision involves significant opportunity costs, particularly in terms of the income that they would otherwise have earned from employment, and also causes them to choose not to engage in other forms of education. Given that the student bodies of regional HEIs differ from their equivalent at metropolitan HEIs in so many ways, as the previous chapter made clear, it is possible that their students are motivated to engage in a higher education course for different reasons.

Using data from the Student Choices study, this chapter will investigate their reasons for choosing to enrol at a HEI in more detail. It is important to note that while the Student Choices data divides students into 'Metropolitan', 'Provincial' and 'Remote', this is based on the locations in which they attend secondary school, rather than on the location of the HEI which they go on to enrol at. The findings in the previous chapter indicate, however, that the majority of students at regional HEIs originate in regional areas themselves. Given the dearth of data about why those who enrol at regional HEIs make the choice to do so, it is reasonable to take the motivations of those completing their secondary schooling in regional areas as a proxy.

Intention to study

Participants in the Student Choices study were asked to indicate the activity they intended to do when they finished their secondary education. As Figure 22 illustrates, students in metropolitan areas are significantly more likely to express their intention to participate in a higher education course than their peers in provincial and remote areas, with 62.7 per cent of metropolitan respondents intending to enrol in higher education in comparison to 38.6 per cent in provincial areas and just 31.1 per cent in remote areas.

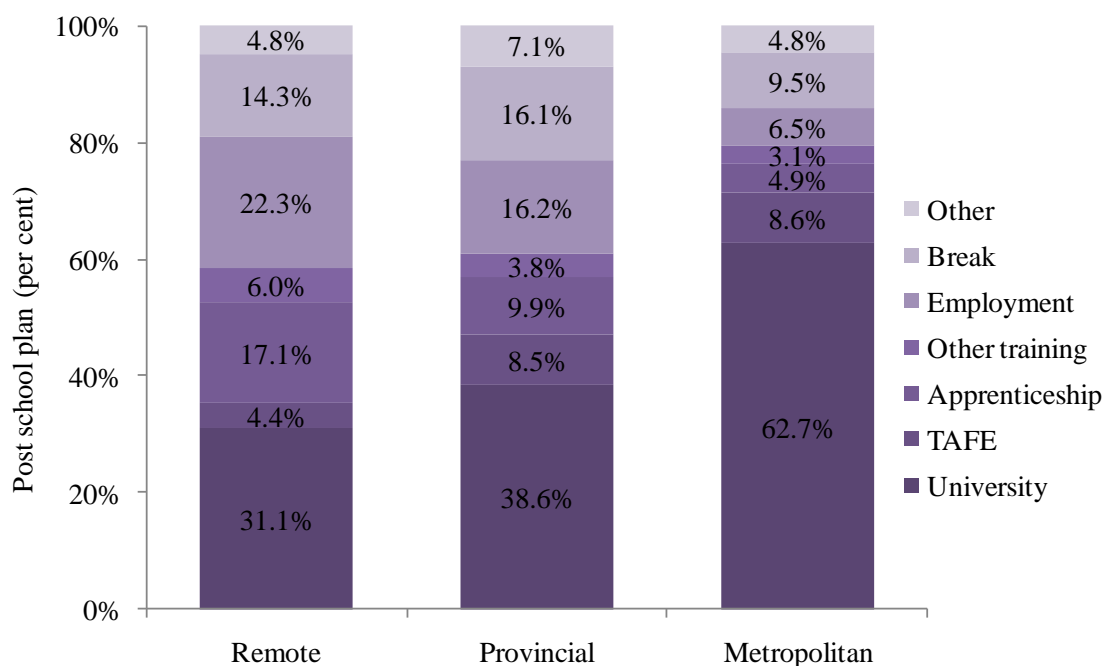


Figure 22: Detailed post-school intentions by location of secondary school (Choices)

Overall, double the proportion of students in metropolitan areas intend to enrol in a higher education course than those in non-metropolitan areas. In contrast, young people in provincial and remote areas are more likely to intend to enrol in VET, to take up an apprenticeship or to become employed than those in metropolitan areas. Indeed, almost three-and-a-half times the proportion of individuals in remote areas than in metropolitan areas intend to move directly into employment after they conclude their secondary education.

The decision about whether or not to engage in higher education is not made lightly, and it is likely that many individuals decide on their post-school activities long before they reach the last year of their secondary education. As Figure 23 indicates, however, young people in metropolitan areas are likely to decide what they plan to do after they complete secondary school earlier than their provincial and remote counterparts. Indeed, 19.6 per cent of metropolitan respondents report having made the decision in primary school, in contrast to 10.4 per cent of provincial respondents and just 6.1 per cent of remote respondents.

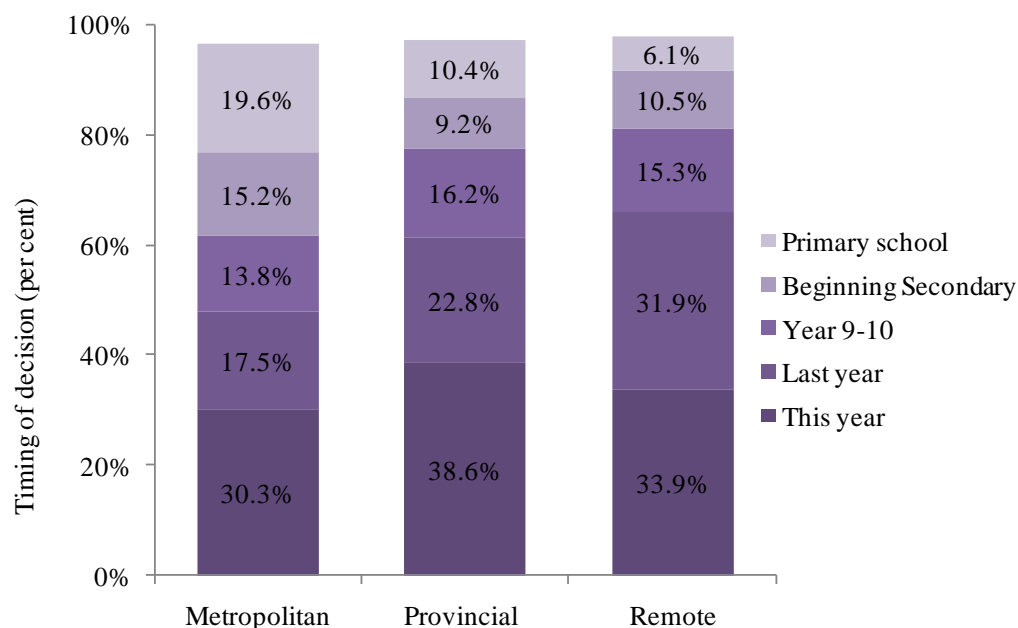


Figure 23: Timing of post-school plans, by location of secondary school (Choices)

This finding suggests a greater influence of parental expectations on young people in metropolitan areas than on their peers in non-metropolitan areas and reflects a comment made to the *Review of Regional Loading* that in many regional areas “there is a lack of interaction or even knowledge of teaching role models; student role models; or graduate role models” (Curtin University, 2010: 3).

Participants in the Student Choices study were given a set of statements about higher education study and asked to indicate the extent to which they agreed with each one. Their responses give a clear indication of their attitudes towards higher education and the extent to which they differ depending on where an individual lives.

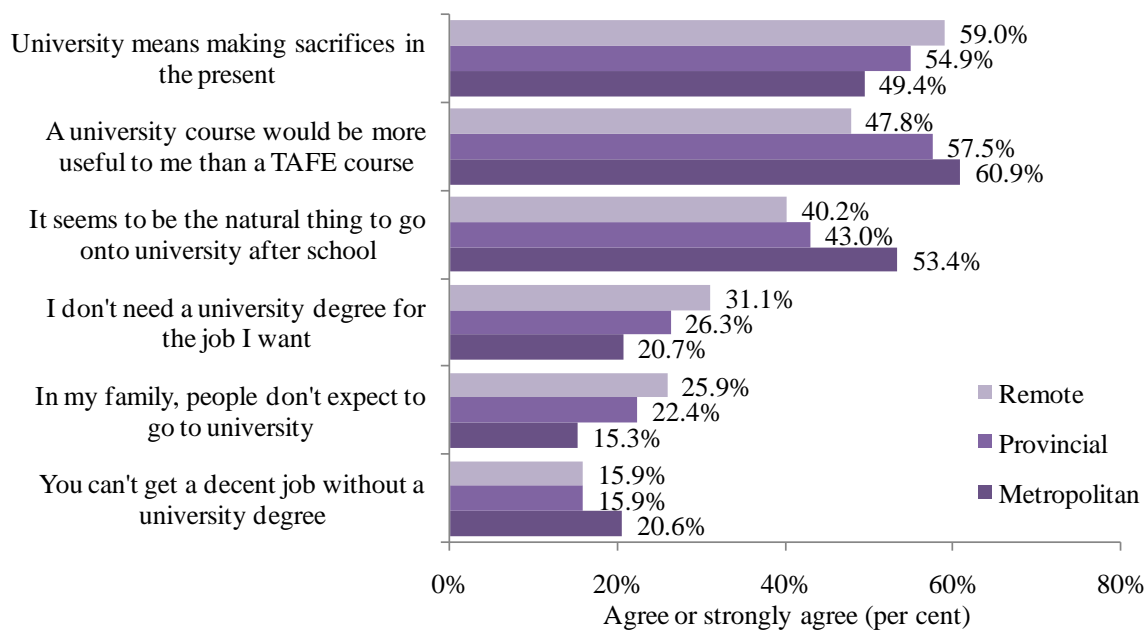


Figure 24: Attitude to higher education study, by location of secondary school (Choices)

As Figure 24 indicates, greater proportions of metropolitan than provincial or remote respondents either agree or strongly agree that a higher education course would be more valuable to them than a TAFE course, that a higher education feels like the ‘natural thing to do’ after completing their secondary education and that a higher education is necessary in order to gain a ‘decent job’. In contrast, greater proportions of remote and provincial students than metropolitan students either agree or strongly agree that a higher education course would involve sacrifices, that a higher education course is not required for the employment they desire and that their family does not expect them to engage in higher education. These findings suggest contrasting mindsets and approaches towards higher education between young people in metropolitan and non-metropolitan areas, which reflect observations made in submissions by institutions to the *Review of Regional Loading* about lower aspirations among young people in regional areas to undertake higher education studies than their metropolitan counterparts.

Factors impeding intention to study

Beyond differences in the desire which students have to undertake a higher education after completing their secondary schooling, it is likely that some young people would like to participate in a higher education course but are unable to do so for a range of reasons. Responses from participants in the Student Choices study, shown in Figure 25, indicate that young people in remote and provincial areas are much more likely than their peers in metropolitan areas to feel that they are unable to engage in higher education due to the cost involved, travel times and the need to find employment.

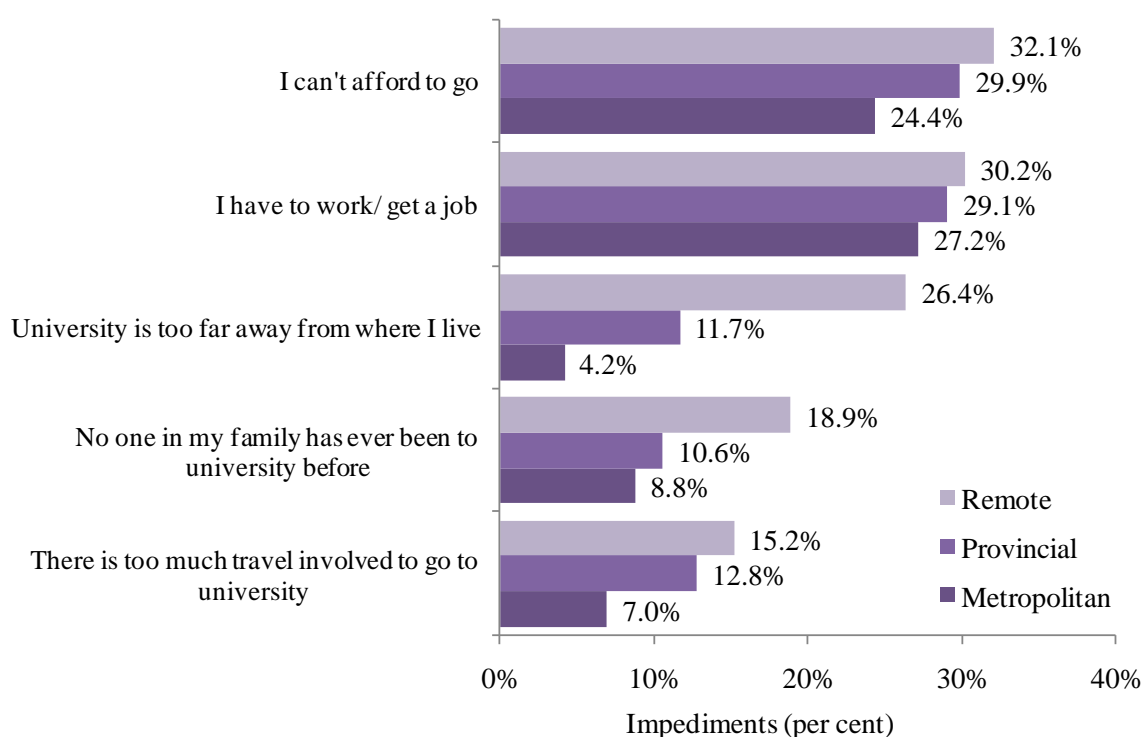


Figure 25: Factors impeding higher education participation, by location of secondary school (Choices)

In addition, while 18.9 per cent of remote respondents report that no other members of their family have undertaken a higher education course, this is the case for 10.6 per cent of those in provincial areas and just 8.8 per cent of those in metropolitan areas. Once again, family expectations are clearly significant. The most marked contrast between young

people in remote areas and those in other areas is the issue associated with the distance between their home and a HEI. While 26.4 per cent of remote respondents cite this as a factor which impedes their ability to engage in a higher education, this is mentioned by 11.7 per cent of respondents in provincial areas and just 4.2 per cent of respondents in metropolitan areas.

It is clear that the proximity of a HEI is a critical factor in influencing higher education participation, and that the lack of an accessible HEI is a major impediment. Many HEIs raised this issue in their submissions to the *Review of Regional Loading*, sentiments summarized in one submission which states “the impact of closing what are essentially loss-making regional campuses has long been debated. However ... most of the on campus students would not go to University as they cannot afford to go to a metropolitan university” (CQUniversity, 2010, 6). The submission from James Cook University goes further, suggesting that “wherever there is a regional campus in Australia, the surrounding region features higher levels of university education attainment ... access in regional areas to a university campus has worked to bring non-traditional students to participate in higher education” (James Cook University, 2010, 6).

Deferral

While the analysis to this point has considered the activities which young people plan to engage in directly after completing their secondary education, it is well known that a large proportion of young people take some time away from study before commencing higher education. Figure 26 indicates the proportion who intend to enrol in higher education immediately and the proportion who intend to enrol in higher education in the following year. While just 19.6 per cent of metropolitan respondents plan to defer enrolling in a higher education until the following year, this is the case for 40.0 per cent of provincial respondents and 46.2 per cent of remote respondents.

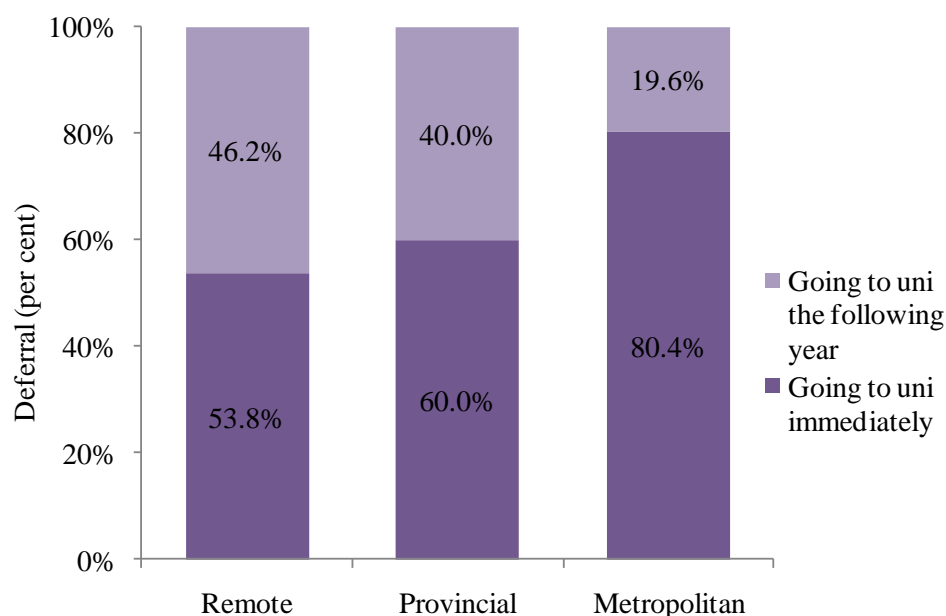


Figure 26: Deferral intentions, by location of secondary school (Choices)

Clearly, deferral is more common among young people in non-metropolitan areas than in metropolitan ones. In their submission to the *Review of Regional Loading*, the University of Ballarat suggests that “the closer prospective students live to a regional university, the less likely they are to defer an enrolment offer ... [which] supports the hypothesis that

regional students obliged to move from their homes in order to accept a placement offer are deferring at greater rates than students who can remain at home (University of Ballarat, 2010, 18).

This raises a question about the purpose of deferring higher education. It is likely that some students wish to take a gap year in order to have a break from study or to travel. As Figure 27 highlights, having a break from study is the reason given by approximately 60 per cent of respondents from all areas. Metropolitan respondents, however, are much more likely to cite a desire to travel than their counterparts in non-metropolitan regions, and are also more likely to cite the urge to gain ‘real world’ experience.

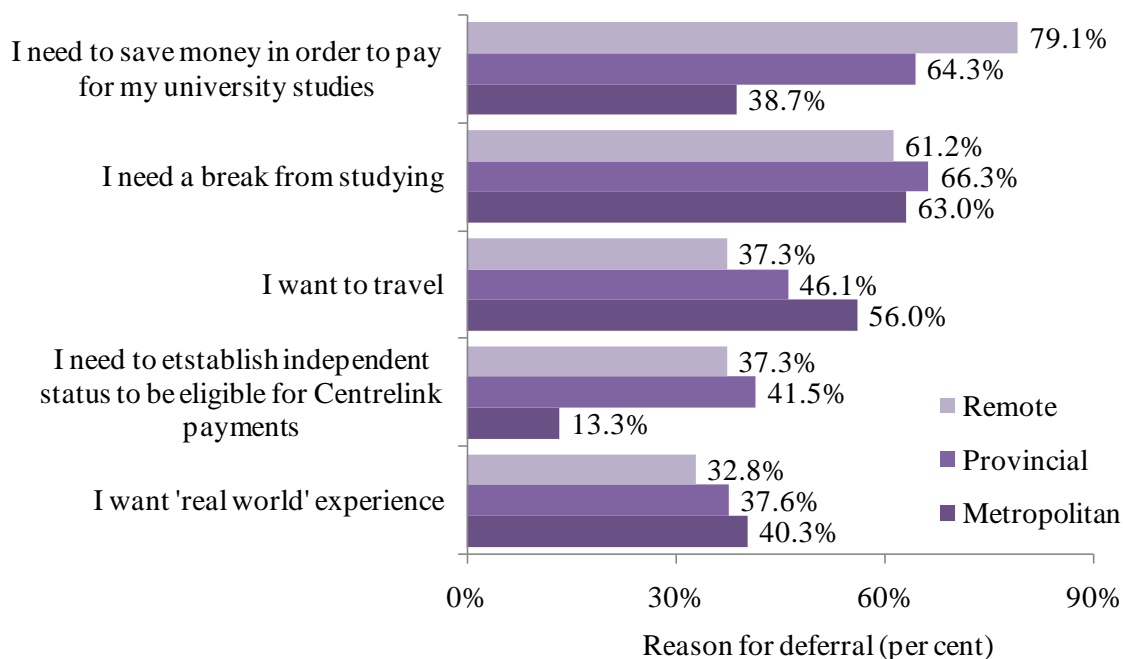


Figure 27: Reasons for deferral, by location of secondary school (Choices)

In contrast, young people in remote and provincial areas are significantly more likely than those in metropolitan areas to report that they need to save money in order to pay for their higher education studies, with this mentioned as a factor by 79.1 per cent of remote students and 64.3 per cent of provincial students in contrast to just 38.7 per cent of metropolitan students. Moreover, while 37.3 per cent of remote students and 41.5 per cent of provincial students report that they need to establish independent status in order to be eligible for Centrelink payments, this is only the case for 13.3 per cent of metropolitan students. It is clear that the financial burden of engaging in higher education is felt much more acutely by young people in regional areas of Australia than by those in urban areas. This is one of the factors which lead to higher average ages of students at HEIs in regional areas, as outlined in the previous chapter. As one submission to the *Review of Regional Loading* confirms, students from regional areas “often make use of the ‘gap year’ to establish Youth Allowance independence to help defray the substantial cost of moving to a metropolitan or regional centre to study” (Universities Australia, 2010, 9).

The danger of deferral, however, is that young people who are capable of engaging in a higher education will not take up any offers in the following year and may never go on to gain a higher education qualification at all. This represents a loss of potential skills to regional communities and is of considerable concern. Data from submissions to the *Review of Regional Loading* confirms the higher rates of deferral among students in regional and

remote areas. For example, the University of South Australia reports that the 2009 deferral rate among urban students was 12.8 per cent, in comparison to 30.0 per cent in regional areas and 28.6 per cent in remote areas (University of South Australia, 2010, 4). As they confirm, “we know that once students defer, their subsequent take-up of a university place is less likely” (University of South Australia, 2010, 4).

Choice of institution

Once young people have made the decision to engage in a higher education, the next important decision is the choice of institution. Data from the Offers and Acceptances database illustrates very clear patterns in terms of the HEI which young people apply to. Applicants are classified in terms of the region in which they attend secondary school, and the HEIs to which they apply are referred to as regional if they are solely located in regional areas (see Appendix 2). As Figure 28 indicates, 47.2 per cent of the applicants to regional HEIs attend secondary school in non-metropolitan areas, while this is only the case for 19.7 per cent of applicants to metropolitan HEIs. While some young people in regional areas clearly intend to move to cities in order to engage in a higher education, others plan to remain in a regional area. Interestingly, young people from cities do not restrict themselves to urban HEIs but also apply to HEIs in regional areas.

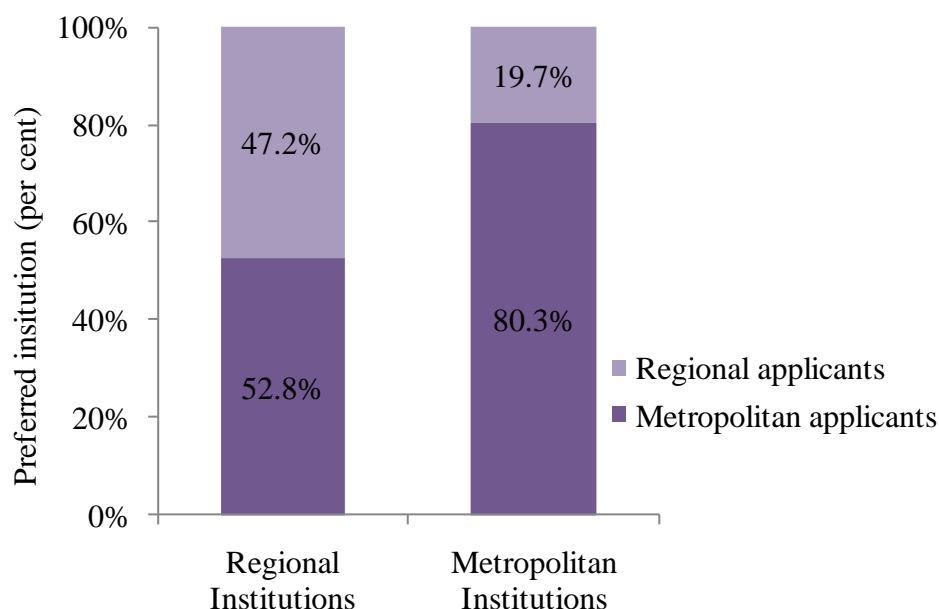


Figure 28: Preferred institution, by location of secondary school and location of HEI (Offers)

As the previous chapter made clear, the majority of students apply to HEIs in the same state in which they reside. This means that the choice to apply to a HEI in either a metropolitan area or a regional area will be highly influenced by the availability of HEIs in close proximity to a student’s home address. In one submission to the *Review of Regional Loading* makes clear, those regional areas with a HEI campus have higher rates of participation in higher education, and campuses on which a “broad range of available courses [are offered] compared to locations with small or single course campuses” also encourage higher participation rates among the surrounding populations (Charles Sturt University, 2010, 14).

Figure 29 indicates the proportions of applicants to individual regional HEIs who originate in either regional areas in the same state, the metropolitan centre of that state or regional

areas in another state. Half of all regional HEIs receive more than 70 per cent of their applications from people in a regional area of the same state, with Charles Darwin and Charles Sturt universities receiving at least 10 per cent of their applications from people in a regional area of another state.

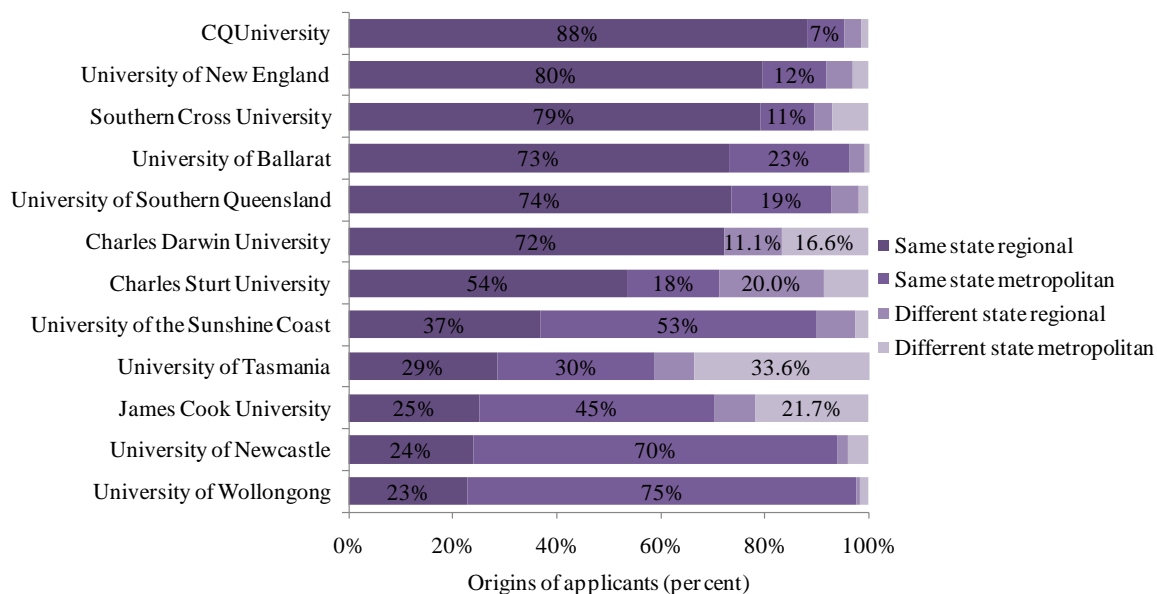


Figure 29: Regions of origin of applicants, by location of secondary school (Offers)

Other regional HEIs, particularly those which are in close proximity to large cities, such as the University of the Sunshine Coast, receive a significant proportion of their applications from young people in metropolitan areas (although it should be noted that in this analysis Wollongong, Newcastle and Cairns are defined as metropolitan areas). Finally, some regional HEIs, such as Tasmania and James Cook universities, receive relatively large proportions of applications from metropolitan areas in other states.

The patterns indicated above inevitably lead to questions about the factors which motivate individuals to choose one HEI over another and the sources of information that they use in order to make their decision. Participants in the Student Choices study were asked to indicate the information which they had used to choose the HEI to which they had applied. Figure 30 illustrates the relative importance of seven sources of information for individuals in remote, provincial and metropolitan areas of Australia. It is clear that young people in metropolitan areas are much more likely than those in non-metropolitan areas to attend an Open Day at an HEI, to attend an information fair and to make an individual visit. Clearly proximity allows these activities to take place. In contrast, individuals in remote areas are very unlikely to attend an Open Day or visit an institution, relying more on other sources of information such as the Good Universities Guide or their school careers advisor.

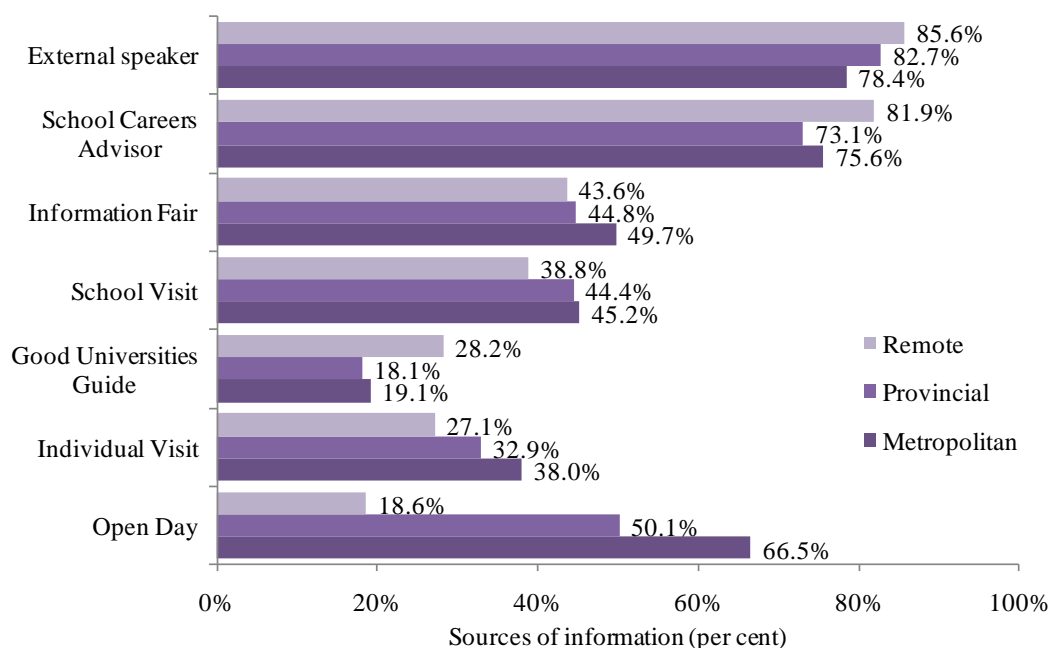


Figure 30: Sources of information, by location of secondary school (Choices)

The factors which individuals in different regions deem to be most significant in their choice of HEI also vary significantly. As Figure 31 indicates, metropolitan students are much more likely than those in provincial and remote areas to be influenced by the ease of access to an institution and by the ability to continue to live at home during their studies.

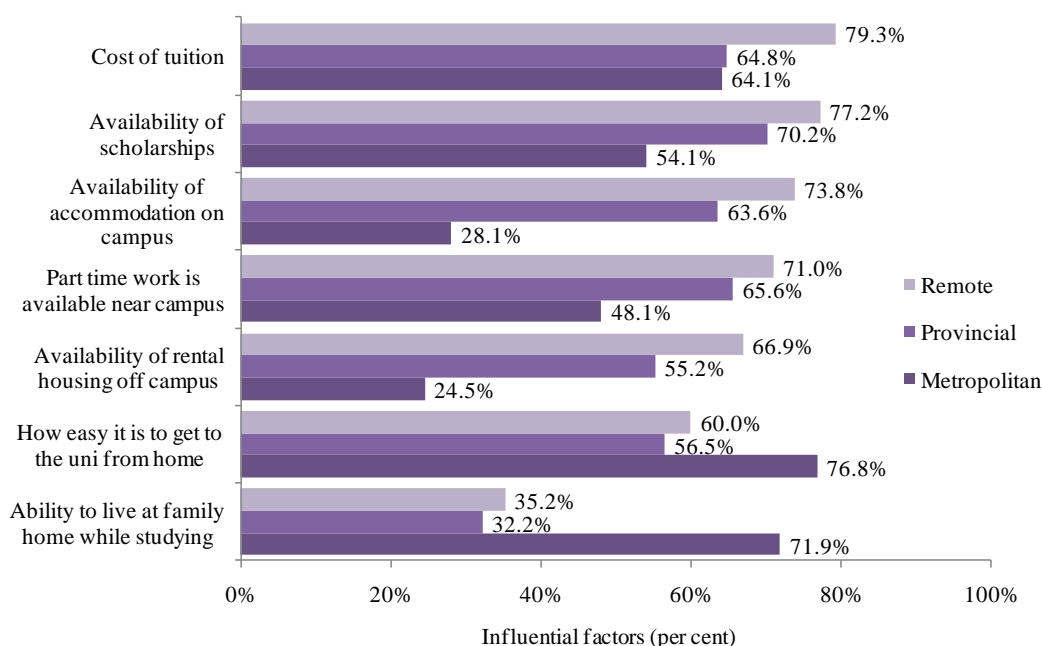


Figure 31: Influential factors in institution choice, by location of secondary school (Choices)

While these factors are far less significant for individuals in provincial and remote areas, they are more likely to be influenced by financial factors, including the cost of tuition, availability of scholarships and the ability to gain part-time work near the campus, as well as by the availability of accommodation both on and off campus. It is clear that while metropolitan students focus on keeping the cost of higher education down by remaining in

the family home, provincial and remote students are more focused on ways to support themselves financially as they live either on or close-to the campus of their HEI.

The importance of cost factors is reflected by a comment to the *Review of Regional Loading* that “the principal financial impact on rural and regional students attending metropolitan senior secondary and tertiary education institutions is in the physical relocation which must be undertaken, and in the associated living away from home costs. These costs can be substantial, with annual living costs for a student living away from home conservatively estimated at \$20,000 pa” (University of Tasmania, 2010, 4). Subsequently, as another submission states, “cost has been identified by Charles Sturt University as one of the major factors in the decision making of rural and regional students about whether to go to university and which university they attend” (Charles Sturt University, 2010, 22). In order to achieve the ideal situation expressed by Universities Australia as one in which students are not “prohibited by personal financial circumstances from attending an Australian university irrespective of its location” (Universities Australia, 2010, 1), further financial support for students in regional areas is needed.

Conclusion

When the data analysis in this chapter is brought together, it is possible to gain a nuanced view of the decisions of students to enrol in a regional HEI. First, it is clear that students in regional areas are much less likely to plan to move into higher education after completing their secondary education than those in cities, instead moving into employment or vocational education. This appears to be due to a combination of factors, including differing parental expectations, perceptions about the most useful type of tertiary education for desired employment outcomes and concerns about the level of sacrifice that a higher education requires.

Second, those students in regional areas who do wish to pursue higher education are more likely than their metropolitan peers to defer the commencement of their course. The critical factors in this decision appear to be financial, particularly the need to become independent in order to qualify for Centrelink payments. Moreover, those individuals in regional areas who would like to undertake higher education but feel they cannot, are principally deterred by costs and the pressure to find employment, in addition to the distance from a HEI.

Third, when those young people in regional areas who do decide to undertake higher education are making choices about which institution to select, they are much more likely than their metropolitan peers to be influenced by financial issues, such as the ability to gain part-time work and the cost of tuition. They are also strongly influenced by the availability of accommodation on or near the HEI, unable as many of them are to remain in the family home as metropolitan students plan to do.

Overall, it is clear that the cost of enrolling at an HEI is a much more pressing concern for students in regional areas of Australia than it is in metropolitan areas. This includes the need which many individuals feel they have to move directly into employment, the higher rates of deferral of a higher education in order to prepare for the financial costs involved and the factors which motivate individuals in their choice of institution. It would seem that greater financial support for students in regional areas would have a significant impact not only on their own rates of participation in higher education but also on the ability of regional HEIs to attract sustainable numbers of students.

5 STUDY CHARACTERISTICS OF STUDENTS AT REGIONAL INSTITUTIONS

CHAPTER AIM

- to determine the study characteristics of students who are enrolled at regional HEIs.

KEY CHAPTER FINDINGS

- 61.8% of students enrolled at HEI campuses in very remote areas are enrolled on a part-time basis;
- 78.2% of students enrolled at HEI campuses in very remote areas are enrolled on a distance mode, with a further 13.0% enrolled on a mixed mode;
- 6.0% of students enrolling at HEI campuses in remote areas transition straight from secondary education while 24.4% are admitted as mature age students and 6.1% receive credit for prior higher education study;
- 28.0% of students enrolled at HEI campuses in remote areas are enrolled in the field of Education and 25.9% are enrolled in the field of health; and
- 56.0% of students enrolled at HEI campuses in remote areas are enrolled in bachelor degrees.

Introduction

This section considers the ways in which students who are enrolled at regional HEIs participate in their studies. It looks at proportions who enrol on a full-time or part-time basis, their modes of attendance, any credit for previous study which they receive from the HEI they are enrolled at and the educational pathways they take to gain a higher education qualification.

Full-time / part-time

When individuals are enrolled at a HEI a range of factors including their financial commitments and caring responsibilities will determine whether or not they attend on a full-time or part-time basis. As Figure 32 shows, 27.1 per cent of students who are enrolled at HEI campuses in state capital cities are enrolled on a part-time basis, with this proportion rising as high as 61.8 per cent of those enrolled at HEI campuses in very remote areas.

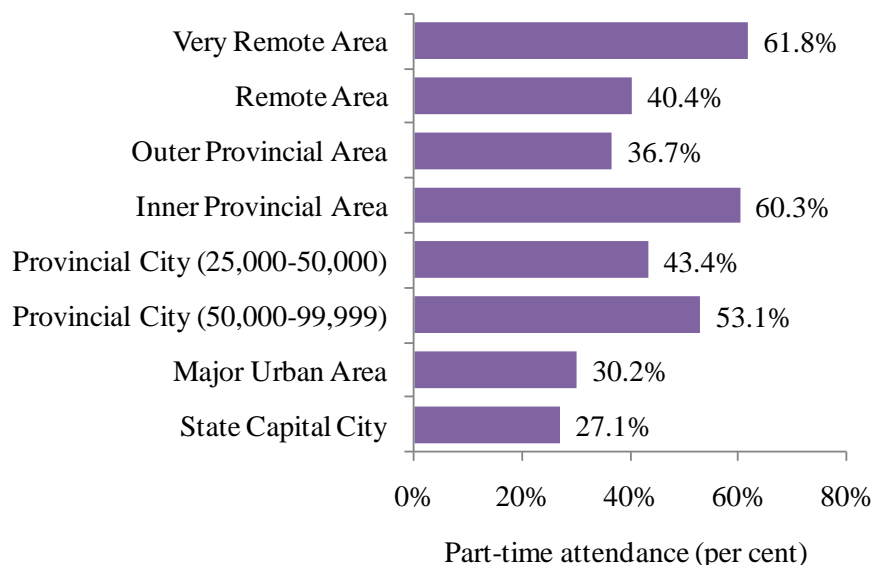


Figure 32: Part-time attendance by location of HEI (HESC)

When these figures are broken down by institution, and just those institutions with campuses in regional areas are considered, as in Figure 33, it is clear that while some regional HEIs do have large proportions of students enrolled on a full-time basis, the majority have a smaller proportion enrolled on a full-time basis than their metropolitan counterparts. It should be noted that the proportion of international students will exert a significant influence on these figures as visa restrictions require them to attend on a full-time basis. Nevertheless, it is obvious that some institutions, such as New England, Charles Sturt and Southern Queensland universities are dominated by part-time students. This is likely to have an impact on the way in which they function and the pressures placed on teaching staff.

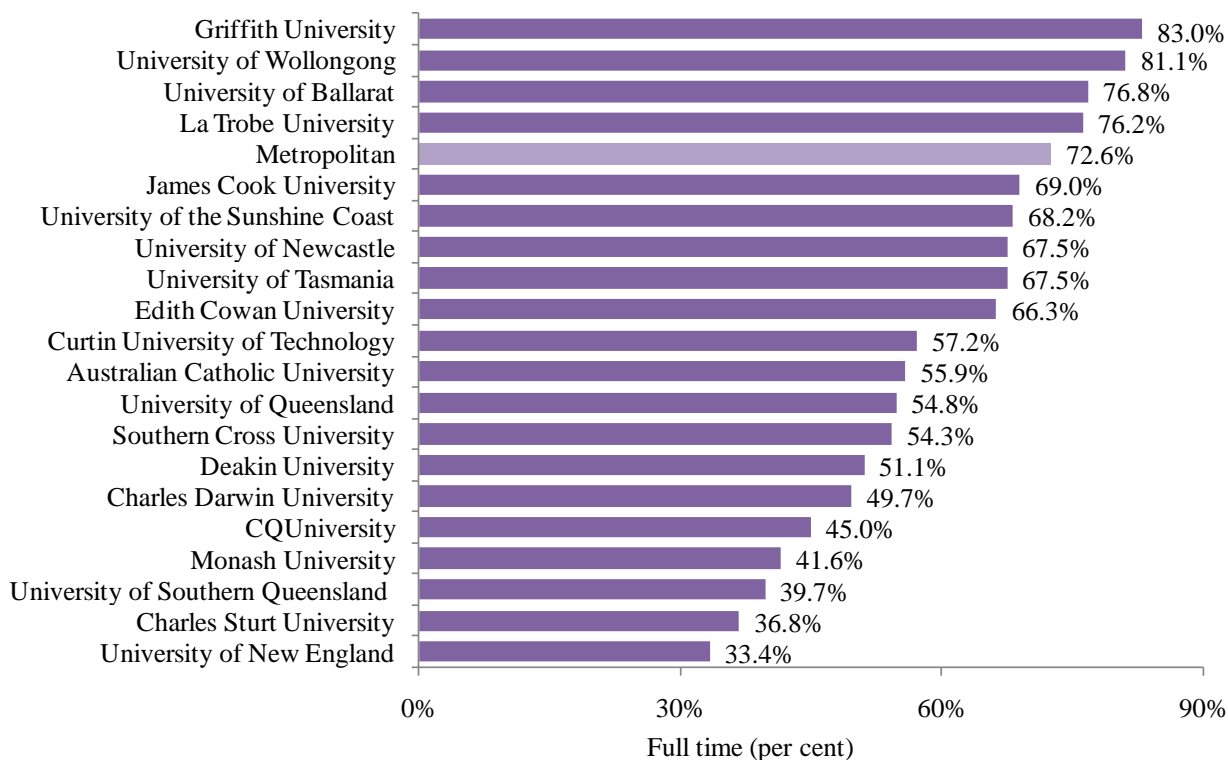


Figure 33: Full-time students by institution regional campus (HESC)

On-campus / distance modes

Beyond whether a student attends on a full-time or part-time basis, they also have the choice to complete their higher education studies either on campus (an internal mode), in a distance mode or by combining these two options.

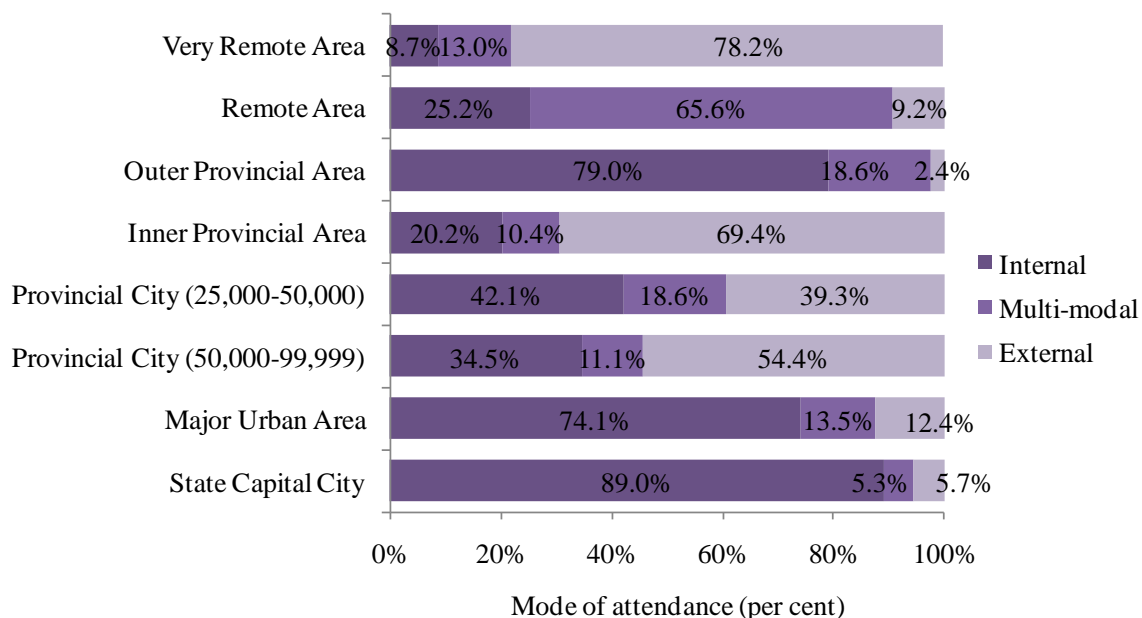


Figure 34: Mode of attendance by region of institution campus (HESC)

Figure 34 indicates the proportions of students who are enrolled at an HEI by each mode, broken down into the area in which the campus they are enrolled at is located.

It is clear that those students at HEI campuses in state capital cities are more likely to enrol on an on-campus mode than students in any other areas, with just 2.4 per cent of students at HEI campuses in state capital cities enrolled in a distance mode of education. In contrast, 78.2 per cent of students at HEI campuses in very remote areas are enrolled in a distance mode of education, with a further 13.0 per cent enrolled on a mixed-mode basis and just 8.7 per cent enrolled in an on-campus mode.

When these figures are broken down by institution, it is clear that while the proportions of students at some regional HEIs such as Ballarat University, and who are enrolled in external or multi-modal modes of attendance are minimal, just six regional HEIs have smaller proportions of external or multi-modal students than metropolitan institutions.

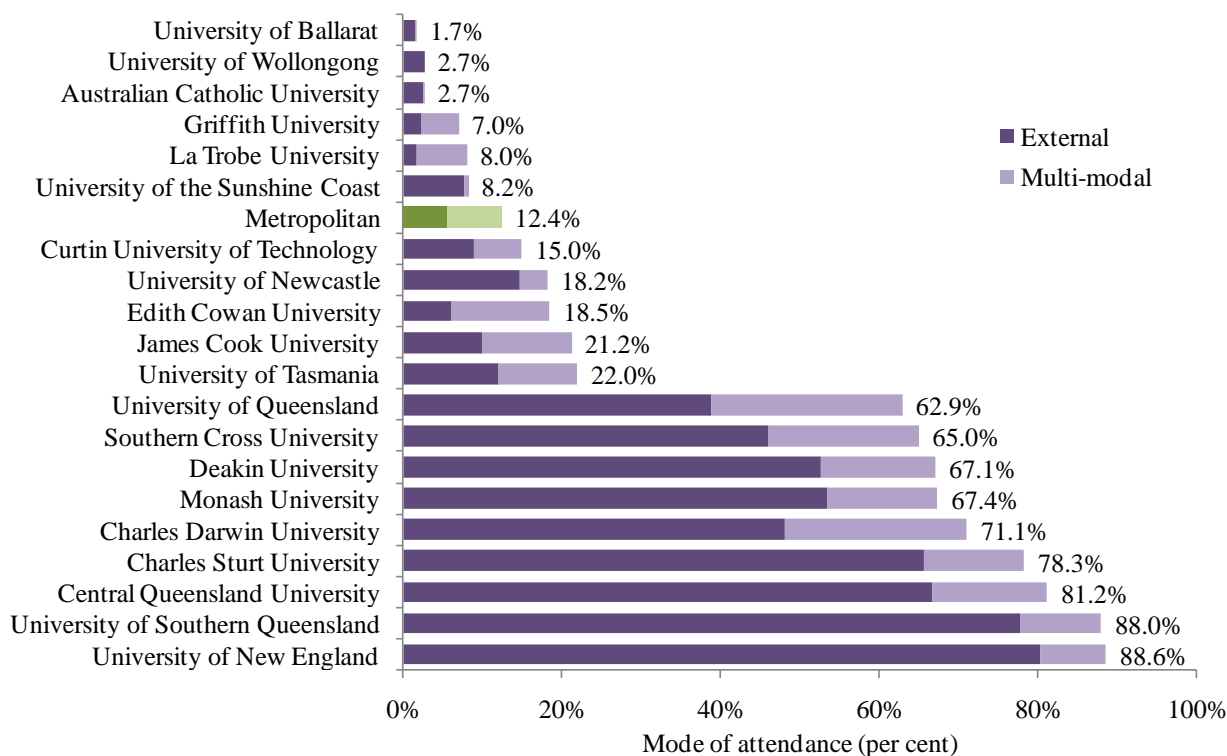


Figure 35: Mode of attendance by regional campus of HEI (HESC)

In contrast, students enrolled on a distance or multi-modal basis comprise more than 80 per cent of students at the regional campuses of HEIs such as New England, Southern Queensland and Central Queensland universities. This naturally has a powerful impact on the activities of HEIs, requiring them to have excellent methods of communication with students and to have teaching staff who are trained in the delivery of courses by distance mode. In one submission to the *Review of Regional Loading*, it is reported that external modes of study are used by students “to help balance family, career and education” (Charles Darwin University, 2010, 10). Any assumptions that these students do not use campus resources, however, would be flawed with the same submission reporting that “a large percentage of external students regularly attend the campus, both for face-to-face educational activities (eg, tutorials) and to access learning resources” (Charles Darwin University, 2010, 10).

Despite all the best efforts of institutions to support them, however, significant onus falls on those individual students who participate in distance education. As one submission to the *Review of Regional Loading* suggests, such students “are required to be highly motivated and independent learners in order to be successful, which may be challenging for those who have not had prior exposure to higher education elsewhere” (University of Tasmania, 2010, 3). Moreover, the ability of institutions to give distance students any kind of local support is “limited if there is not a physical presence in the region” (University of Tasmania, 2010, 3).

As HEIs update their courses to include online options, increasing proportions of students do some or all of their study online. As Figure 36 shows, 81.1 per cent of students who are enrolled at metropolitan HEIs study either completely or partially online, with the proportion much higher among students enrolled at the majority of regional HEIs. Confidentiality agreements prevent the identification of individual HEIs by name and they will thus be referred to as ‘Regional 1’, ‘Regional 2’ and so on. While the average

percentage of students enrolled at regional HEIs and who study either completely or partially online is 86.9 per cent, this varies between 76.5 and 96.8 per cent, with greater percentages at all but three regional HEIs completing either some or all of their study online.

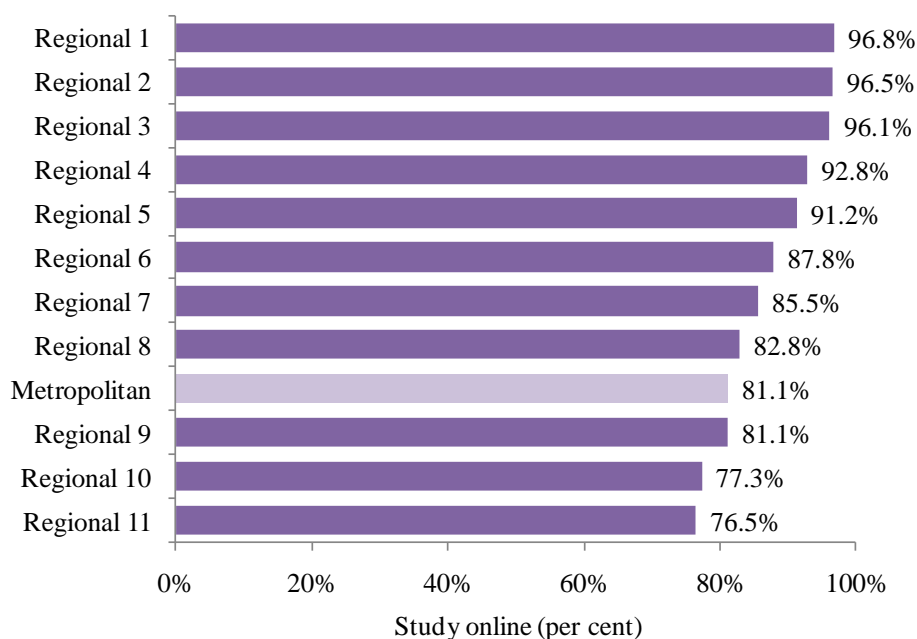


Figure 36: Proportion of subjects either completely or partly online by regional HEI (AUSSE)

Prior study

While much attention is paid to students who transition from secondary schools to higher education, many students do not follow this pathway into higher education. As Figure 37 indicates, large proportions of students are admitted to HEIs after having done VET studies, other higher education studies or as mature age students. While students transitioning from secondary education make up 30.4 per cent of enrolling students at HEI campuses in outer provincial areas, 28.9 per cent of students at HEI campuses in state capital cities and 24.7 per cent of students at HEI campuses in major urban areas, they comprise just 6.0 per cent of enrolling students at HEI campuses in remote areas and 8.5 per cent of students at HEI campuses in inner provincial areas. In contrast, enrolment in HEIs at campuses in remote areas include 24.4 per cent of individuals admitted on mature age entry provisions and approximately 11.0 per cent of enrolments at HEI campuses in outer and inner provincial areas are comprised of those who have completed a VET course.

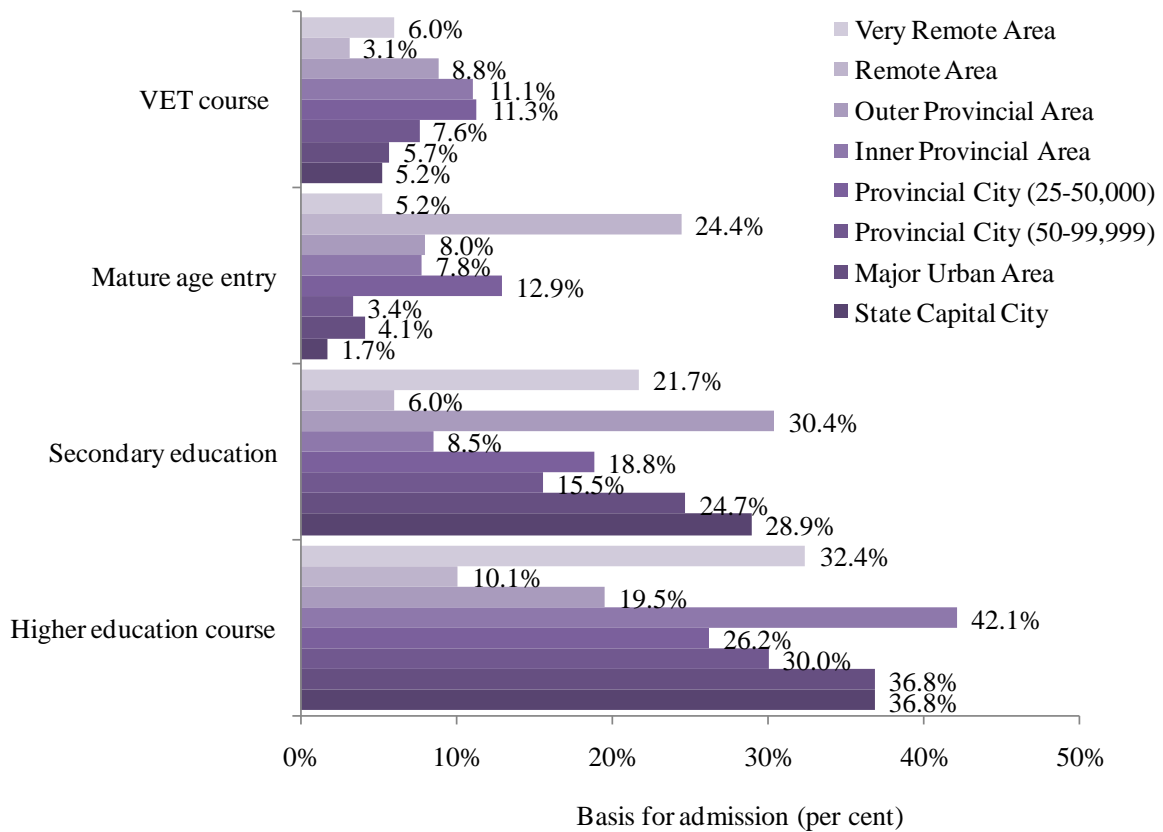


Figure 37: Basis for admission by region of HEI campus (HEIMs)

Many of the students who enrol in HEIs on the basis of prior studies are given credits for their previous achievements. As Figure 38 indicates, between 0.3 and 1.6 per cent of students receive credit for previous TAFE study while up to 0.7 per cent receive credit for previous higher education study. Interestingly, credit for previous higher education study is most common among students who enrol at HEI campuses in remote areas while credit for prior TAFE study is most common among students who enrol at HEI campuses in provincial cities (50-99,999).

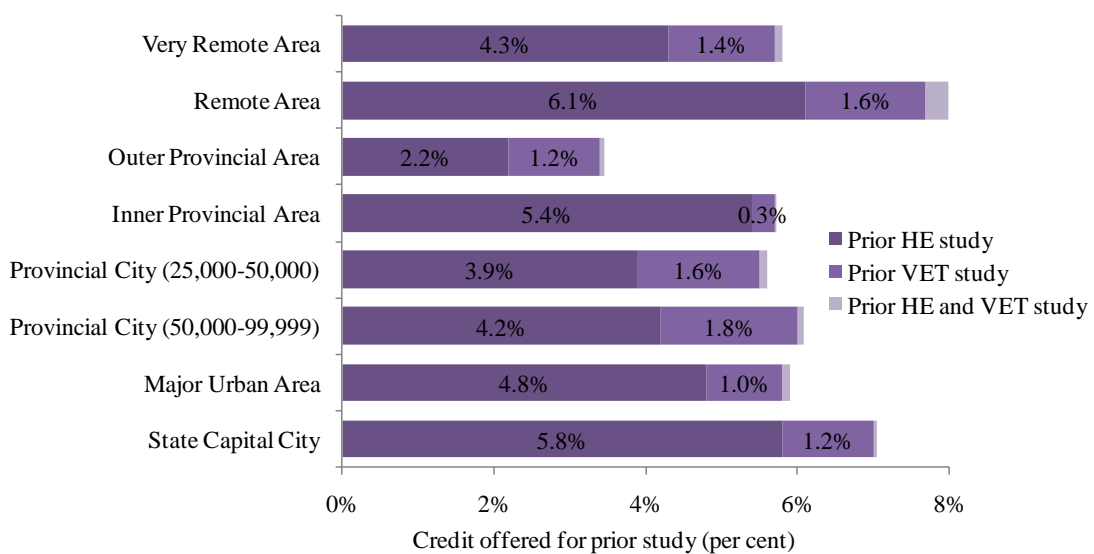


Figure 38: Credit for prior study by region of HEI campus (HESC)

If students who are offered credit for prior TAFE study are broken down by the regional HEI campus which they are enrolled at, it becomes clear that this practice is much more common in some institutions than in others. Figure 39 indicates that six regional HEIs offer credit for Diploma or Certificate IV studies to smaller proportions of their students than do metropolitan HEIs.

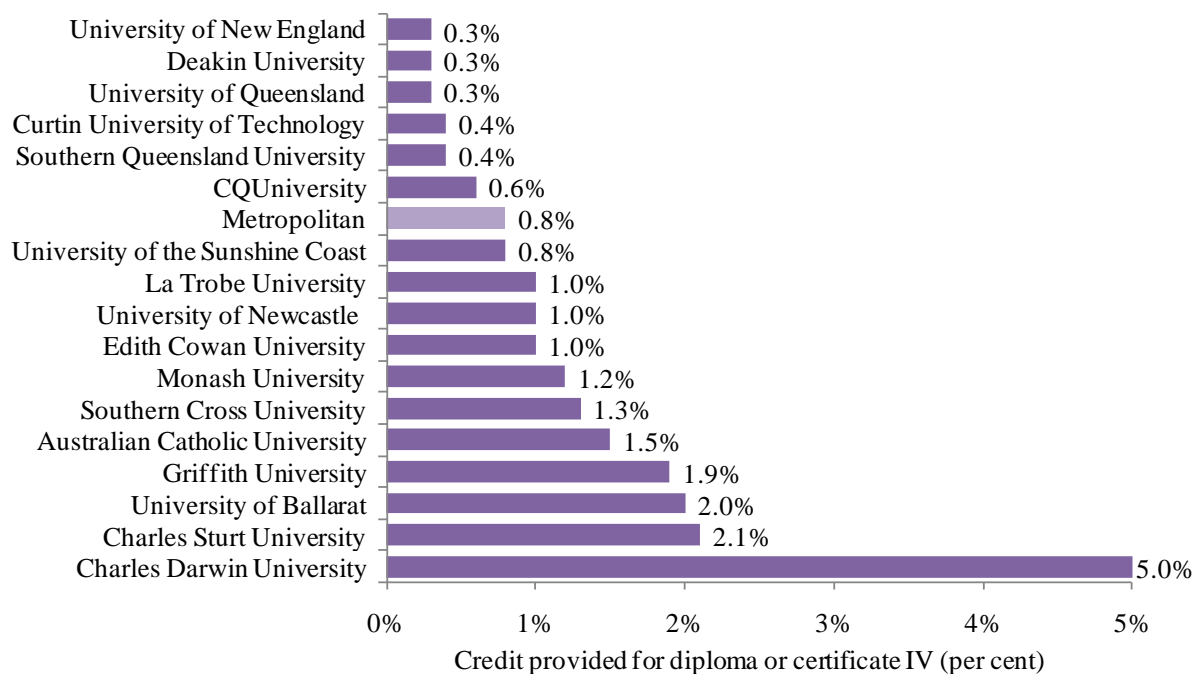


Figure 39: Proportions of students who receive credit for diploma or certificate IV studies, by regional HEI campus (HESC)

Nevertheless, all other regional HEIs offer credits for Diploma and Certificate IV studies to greater proportions of their students than do metropolitan HEIs, with the proportion rising to 2.1 per cent at Charles Sturt and 5.0 per cent at Charles Darwin universities.

Given that a student's prior experience of study will determine their preparedness for higher education and the resources which HEIs need to expend in order to ensure that students are able to cope with the demands of their course, the variations in proportions of students who come into HEIs via various pathways is significant.

Field of study

In any consideration of regional higher education it is essential to understand the most popular fields of study which students choose to engage in and to highlight any differences depending on location. Figure 40 considers the four most popular fields of study and the proportion of students who are enrolled in each one at by the location of the HEI campus at which they are enrolled. Management and commerce is the most popular area among students enrolled at HEI campuses in very remote areas, provincial cities, state capital cities and major urban areas. In contrast, health is the most popular field of education in among students enrolled at HEI campuses in outer provincial areas, education among those enrolled at HEI campuses in remote areas and society and culture among those enrolled at HEI campuses in inner provincial areas.

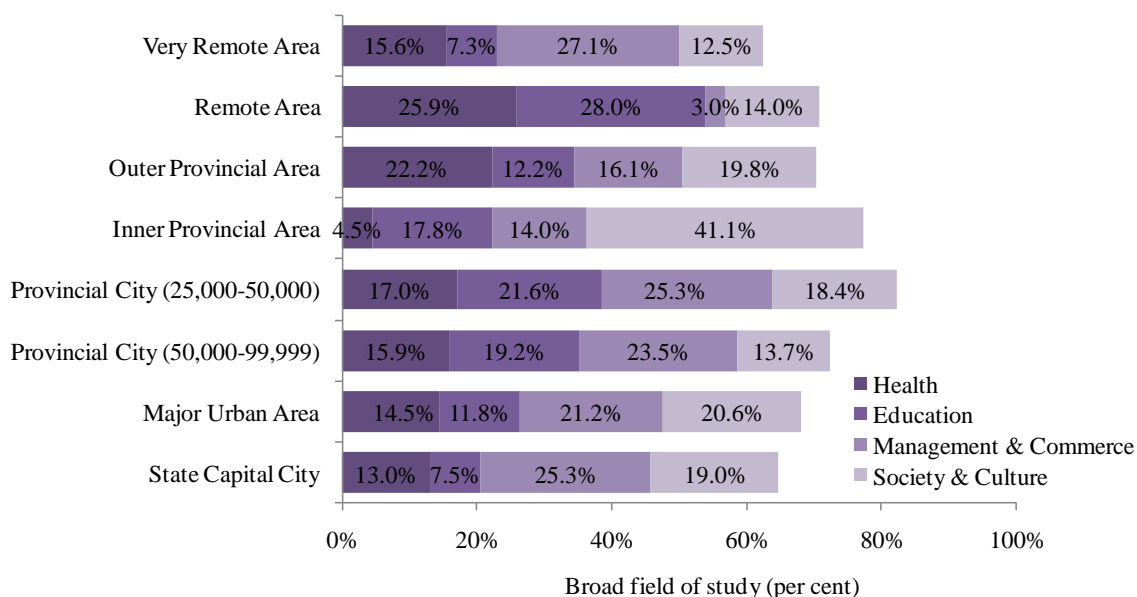


Figure 40: The four most popular broad fields of study by region of HEI Campus (HESC)

In many regional areas, the dominant economic sectors are agriculture and mining. It is therefore worth investigating the proportion of students enrolled at HEI campuses in regional areas who are enrolled in fields of study that would equip them for careers in these areas. The regional campuses of two particular HEIs have very high proportions of students enrolled in one or more of these areas. 90.1 per cent of students enrolled at the regional campuses of the University of Queensland are enrolled in the agriculture and environment area, while at the regional campuses of Curtin University, 35.6 per cent of students are enrolled in the engineering area and 30.3 per cent are enrolled in the agriculture and environment area. These are not shown in Figure 40 in order to allow other proportions to be highlighted.

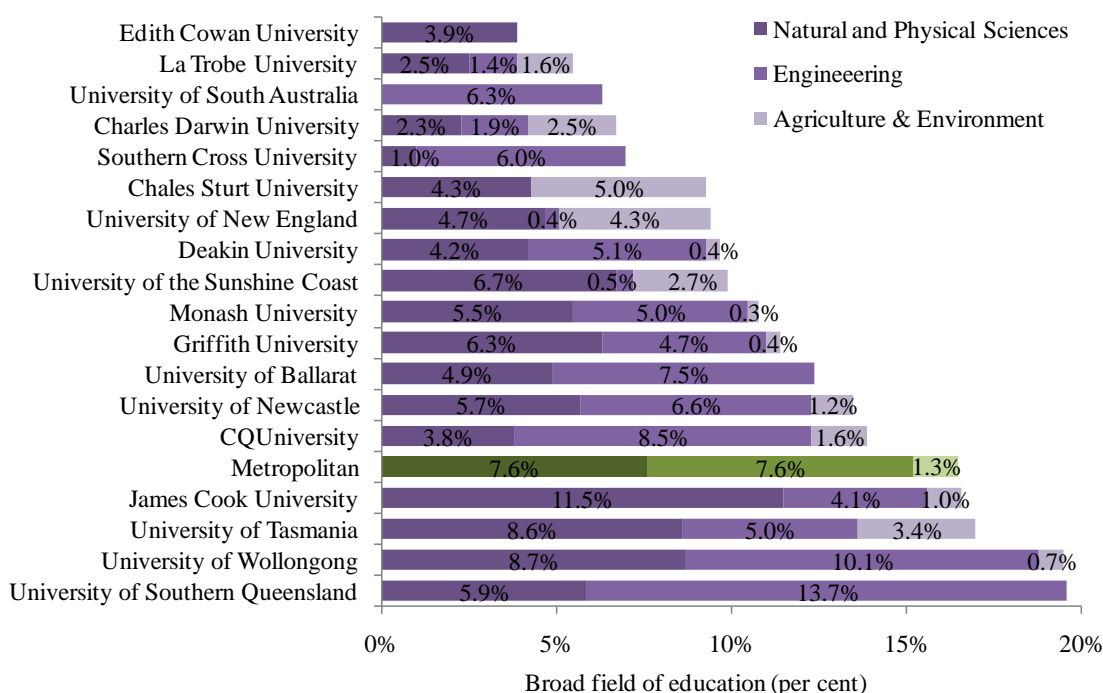


Figure 41: Broad field of education by regional campus of HEI (HESC)

Beyond these two institutions, less than 20 per cent of students are enrolled in agriculture and environment, engineering or natural and physical sciences. Figure 41 indicates the proportions of students enrolled in each of these three areas at regional campuses of HEIs. Proportions enrolled in the natural and physical sciences area vary from 11.5 per cent at James Cook University to just 1.0 per cent at Southern Cross University. 13.7 per cent of students at Southern Queensland University are enrolled in the field of engineering, while no students are enrolled in this area at Charles Sturt or Edith Cowan universities. Agriculture and environment students are most dominant at Charles Sturt University, where they comprise 5.0 per cent of students, while there are no students in this area at Southern Cross, Southern Queensland, Ballarat or Edith Cowan universities. Just James Cook, Tasmania, Wollongong and Southern Queensland universities have more students enrolled in these three areas than is the average for metropolitan HEIs.

Level of study

The level at which students study is another important factor in educational provision. Figure 42 shows the five most common levels of study by the region in which the HEI campus that students are enrolled at is located. While bachelor degrees dominate in every institution, they vary between 55.0 per cent and 80.7 per cent of all enrolments. 26.6 per cent of students enrolled at HEI campuses in remote areas are enrolled in enabling courses, while among those enrolled at campuses in state capital cities they make up just 0.7 per cent students. In contrast, greater proportions of students who are enrolled at HEI campuses in state capital cities and major urban areas than in other areas are enrolled in doctorates by research.

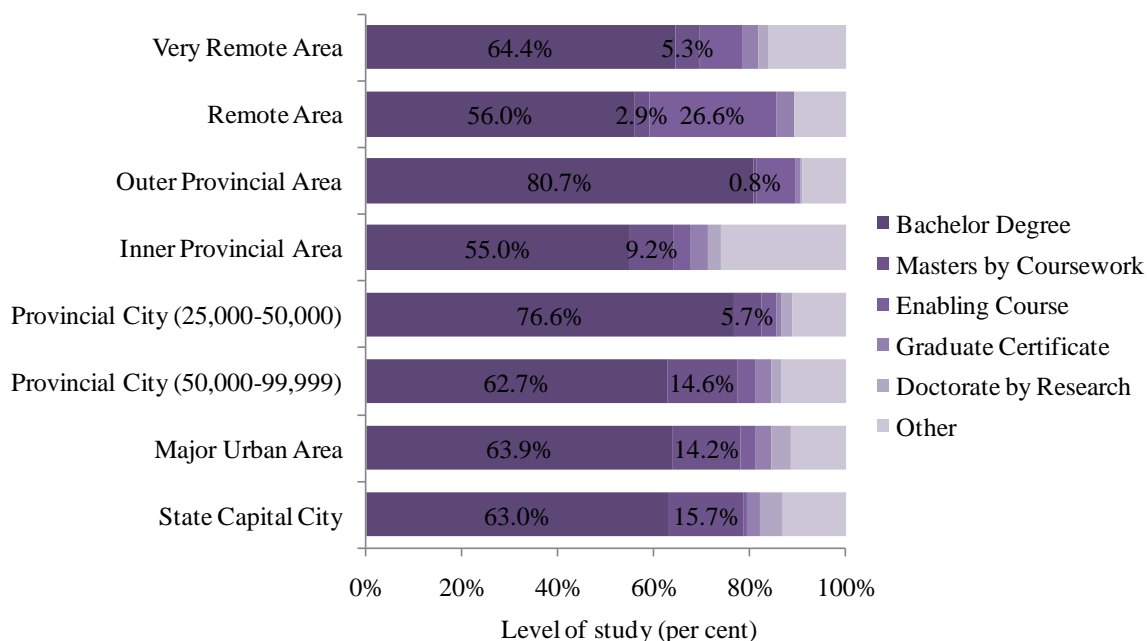


Figure 42: Most common levels of study by location of campus (HESC)

If enrolments by level are looked at by regional institution, other patterns become apparent. Removing bachelor degree students from the analysis, the large proportion of masters by coursework students at particular institutions is highlighted. As Figure 43 indicates, proportions of masters by coursework students vary from 2.1 per cent at La Trobe University’s regional campuses to 22.7 per cent at Southern Queensland University.

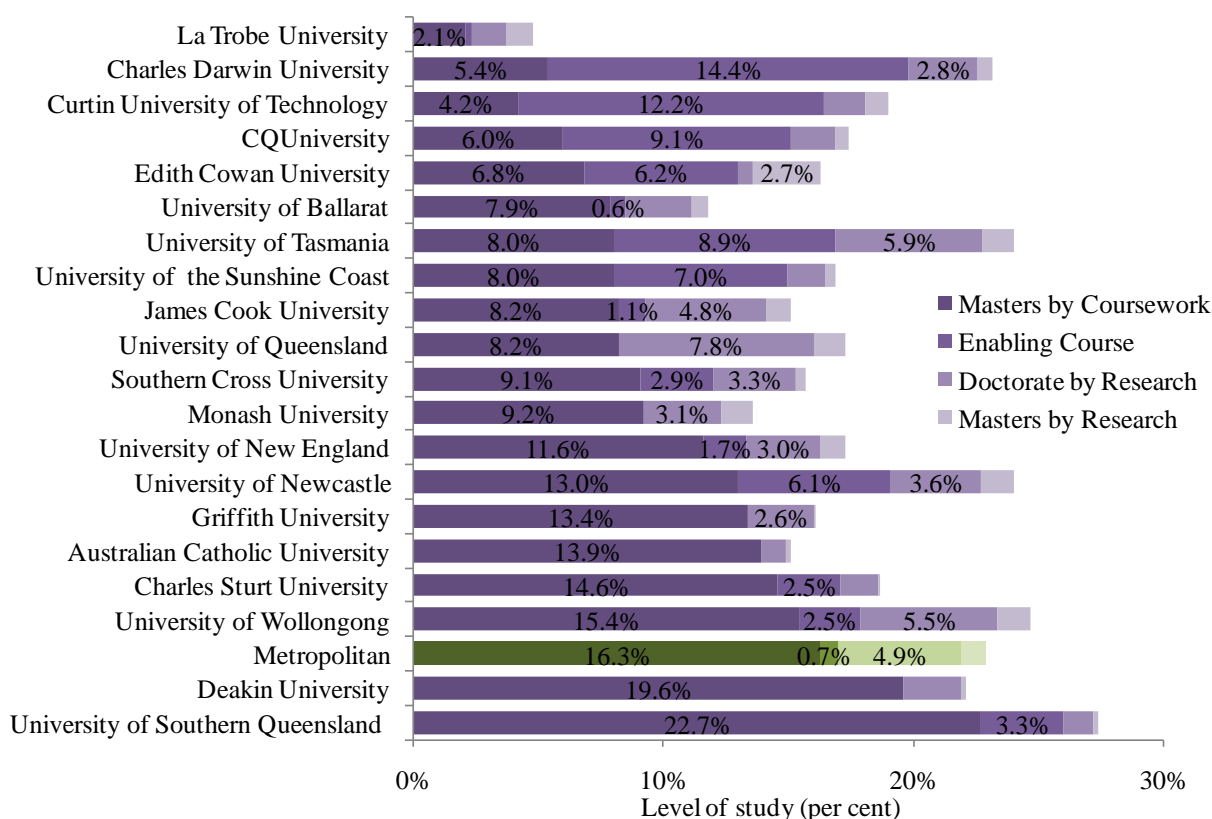


Figure 43: Level of study by institution regional campus (HESC)

Other than Deakin and Southern Queensland universities, proportions of masters by coursework students are lower in regional HEIs than in metropolitan ones. Figure 43 also highlights the relatively great proportions of students enrolled in enabling courses at Charles Darwin, Curtin, Central Queensland and Tasmania universities, much greater than the average of 0.7 per cent at metropolitan HEIs.

A further pattern which Figure 43 displays is that doctorate by research (PhD) students make up larger proportions of the study bodies at Tasmania, Queensland, James Cook and Wollongong universities than at metropolitan HEIs but that their proportions are very small at other regional institutions, including the regional campuses of Edith Cowan, the Australian Catholic and Southern Queensland universities. Overall, this chart gives an indication of the complex patterns of students who are enrolled at regional institutions, with any generalisations difficult to make.

Participation in work placements

One of the educational activities which has been proven to both enhance the preparedness of students for employment and also to increase their engagement with their higher education studies (Barraket et al., 2009) is internships and work placements. Data from the Australasian Survey of Student Engagement, shown in Figure 44, indicates that those Australian students who are enrolled at regional HEIs are marginally more likely to have done industry placements or work experience than those who are enrolled at metropolitan HEIs, while the latter group are more likely to plan to do such an activity than their counterparts in regional areas.

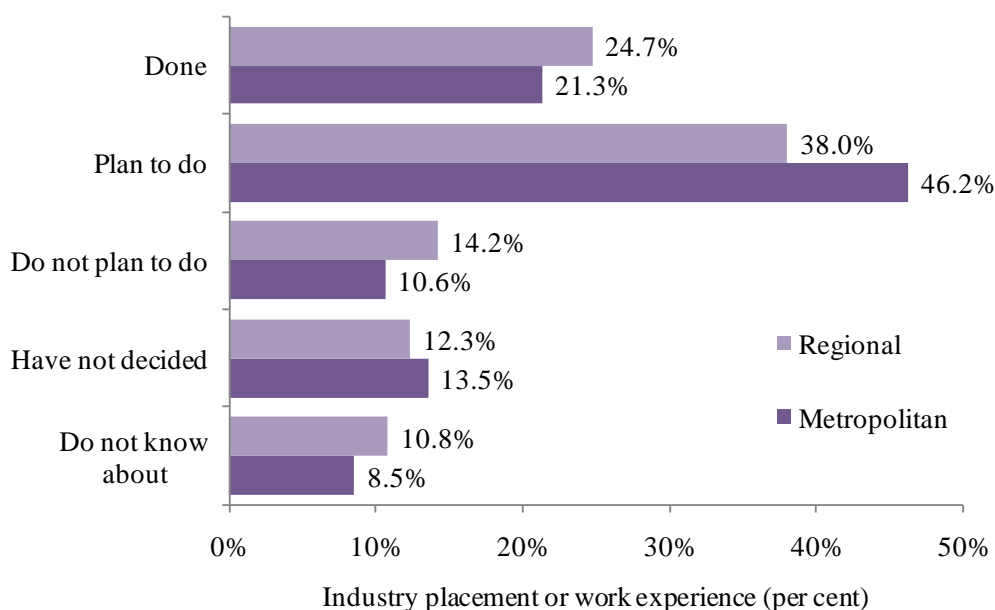


Figure 44: Participation in industry placements or work experience, by location of HEI (AUSSE)

When this data is broken down by institution (Figure 45), it is clear that students who are enrolled at the majority of regional HEIs are more likely to have done an industry placement or work experience than their metropolitan counterparts. While it is possible to identify data from students at individual HEIs in the AUSSE data, confidentiality requirements do not allow them to be named. They will therefore be referred to as ‘Regional 1’, ‘Regional 2’ and so on.

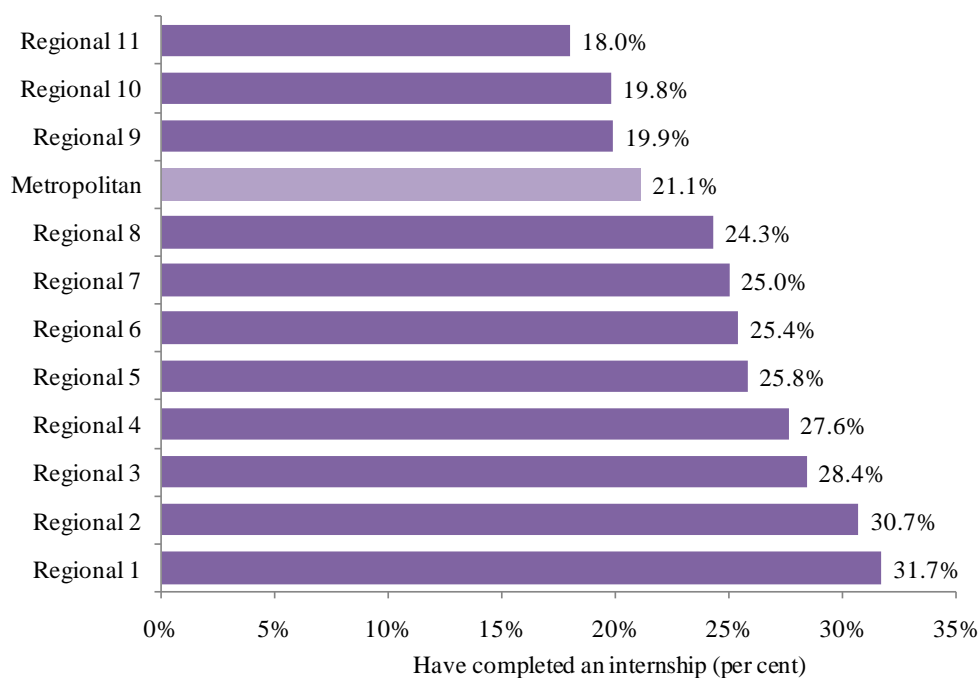


Figure 45: Participation in Industry placement or work experience by institution (AUSSE)

The highest proportion of students who report having done one of these activities is 31.7 per cent. While it is possible to see the proportions of students who are engaged in industry placements or work experience, the data does not indicate where. This is of great importance when considering regional higher education, as one submission to the *Review of Regional Loading* makes clear:

“Community connections can be encouraged by ensuring students who have practicum, clinical or work placements as part of their study are given the opportunity to undertake these in their home community; by incorporating more work- and project-based learning into a broader range of awards so that students have the opportunity to undertake these tasks in regional and rural areas ... This, in turn, would support the retention of graduating students within those communities” (University of Tasmania, 2010, 3).

Conclusion

Bringing together evidence in this chapter helps build a picture of how students who are enrolled at regional HEIs participate in higher education. In comparison with their counterparts at metropolitan HEIs, they are more likely to be enrolled on a part-time basis, are more likely to participate via a distance or multi-modal mode of education, and are more likely to enrol in a higher education as a mature-age student or via a VET course. In terms of credit for prior studies, students who are enrolled at HEIs in regional areas are more likely to gain credit for prior TAFE study than students who are enrolled at metropolitan HEIs, but less likely to be given credit for prior higher education studies.

The areas of study that students are most likely to enrol in varies according to the degree of remoteness of the area in which their HEI is located, although the fields of management and commerce, health, education and society and culture dominate overall. Interestingly, students who are enrolled at all but four regional HEIs are less likely than those who are enrolled at metropolitan HEIs to be enrolled in the fields of natural and physical sciences, engineering or agriculture and environment.

If level is considered, it is clear that while bachelor degree students are the largest group at HEIs regardless of the degree of remoteness, students who are enrolled at HEIs in regional areas are more likely than their metropolitan peers to be enrolled in enabling courses and less likely to be enrolled in doctorates by research and masters by coursework degrees. Finally, students who are enrolled at the majority of regional HEIs are more likely to have done a work placement or internship than their metropolitan counterparts.

6 STUDENT EXPERIENCES AT REGIONAL HIGHER EDUCATION INSTITUTIONS

CHAPTER AIM

- to determine the experiences of students who are enrolled at regional HEIs.

KEY CHAPTER FINDINGS

- 51.8% of students at regional HEIs rate their overall education experience as good while 24.8% rate it as excellent;
- 5 years after course completion, 48.6% of those who were enrolled at regional HEIs report that their course prepared them for employment either 'quite a bit' or 'very much';
- 6 months after course completion, 87.5% of those who were enrolled in research degrees at regional HEIs report that they were satisfied with the quality of their course;
- 6 months after course completion, 67.6% of those who were enrolled in coursework degrees at regional HEIs report that they were satisfied with the quality of their course; and
- 64.3% of students at regional HEIs report that their course is enabling them to acquire job-related or work-related skills.

Introduction

Once students have both made the decision to engage in a higher education, selected the institution which suits their needs and commenced their course, they are more likely to persist with their studies if they are satisfied with their course. At the same time, they are more likely to gain a useful education if their courses are well taught, they are engaged with their studies and they feel supported by the institution. Finally, they are more likely to be able to transition successfully into employment if they participate in work-related learning activities. This chapter integrates data from the Graduate Pathways Survey (GPS), the Graduate Destinations Survey (GDS) and Australasian Survey of Student Engagement (AUSSE) to consider these factors. Once again, it is important to note that confidentiality agreements prevent the identification of individual institutions by name. It is also important to note that the labels 'metropolitan' and 'regional' refer to institutions which are solely located in either regional or metropolitan areas (see Appendix 2). They do not denote the places of usual residence of students.

Satisfaction

Respondents to the AUSSE, who were either in the first or last year of their degrees, were asked to rate their entire educational experience. As Figure 46 indicates, very similar proportions of students at regional and metropolitan HEIs rated their educational experience as either 'good' or 'excellent' (where a margin of error of ± 5), although students at regional HEIs are slightly more likely to rate their education as just 'poor' or 'fair'.



Figure 46: Rating of entire educational experience by location of HEI (AUSSE)

If these figures are broken down by institution, as shown in Figure 47, it is clear that students at three regional HEIs evaluate their higher educational experience more positively than metropolitan students while students at other regional HEIs evaluate their educational experiences less positively. While it is possible to identify data from students at individual HEIs in the AUSSE data, confidentiality requirements do not allow them to be named. They will therefore be referred to as ‘Regional 1’, ‘Regional 2’ and so on.

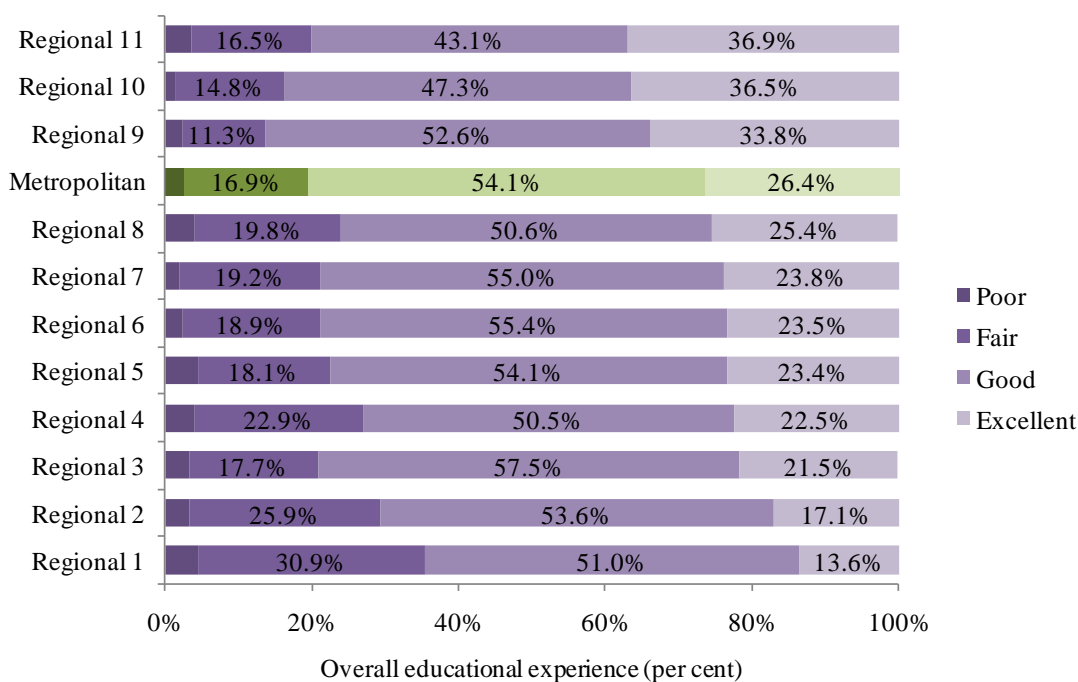


Figure 47: Rating of overall educational experience by regional institution (AUSSE)

In another study, respondents to the Graduate Destinations Survey (GDS), who had completed coursework degrees within the previous six months, were asked to indicate the extent to which they agreed with the statement ‘overall I was satisfied with the quality of

this course'. As Figure 48 makes clear, satisfaction levels of students at regional and metropolitan HEIs are very similar, with 67.6 per cent of students from regional HEIs and 69.1 per cent of students from metropolitan HEIs either agreeing or strongly agreeing with the statement.

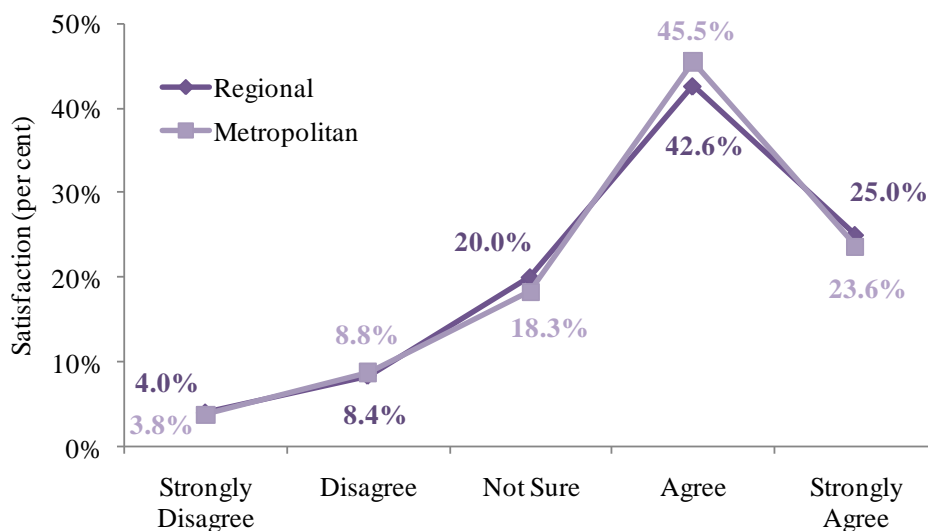


Figure 48: Course satisfaction, coursework students by location of HEI (GDS)

Similarly, research students were asked the same question and, as Figure 49 indicates, very similar proportions agreed with this statement, with 87.5 per cent of students at regional HEIs and 84.7 per cent of students at metropolitan HEIs either agreeing or strongly agreeing that they were satisfied with the quality of their courses.

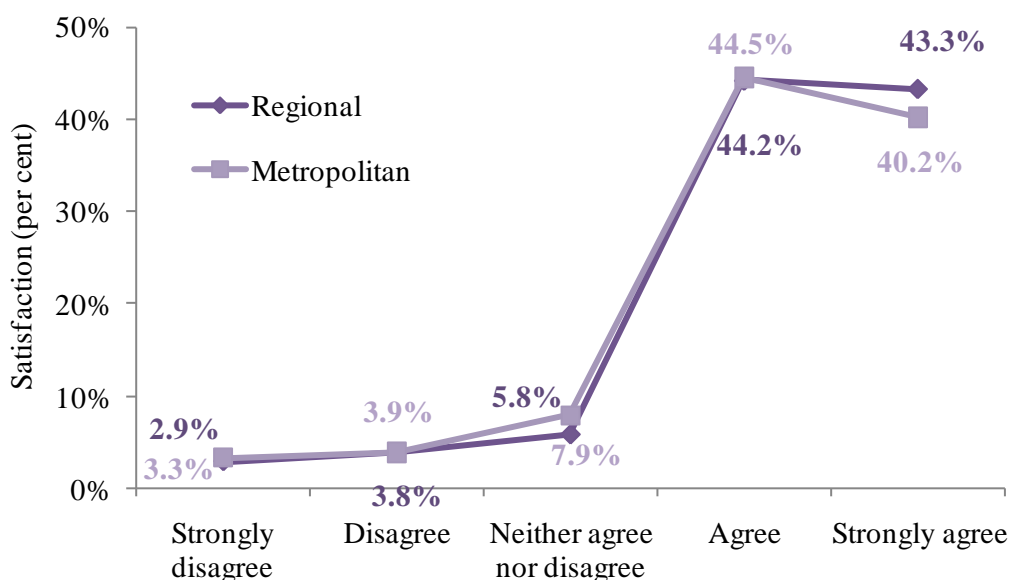


Figure 49: Overall satisfaction, research students by location of HEI (GDS)

Taking a longer-term perspective, the Graduate Pathways Survey surveyed individuals five years after they had completed their courses. Participants were asked to indicate the extent to which they felt their course had prepared them for their future careers at one, three and

five years after completion. As Figure 50 indicates, those who had completed courses at regional HEIs were more likely than those who had completed courses at metropolitan HEIs to feel that their courses had prepared them for employment either ‘quite a bit’ or ‘very much’ at each of the two-yearly intervals.

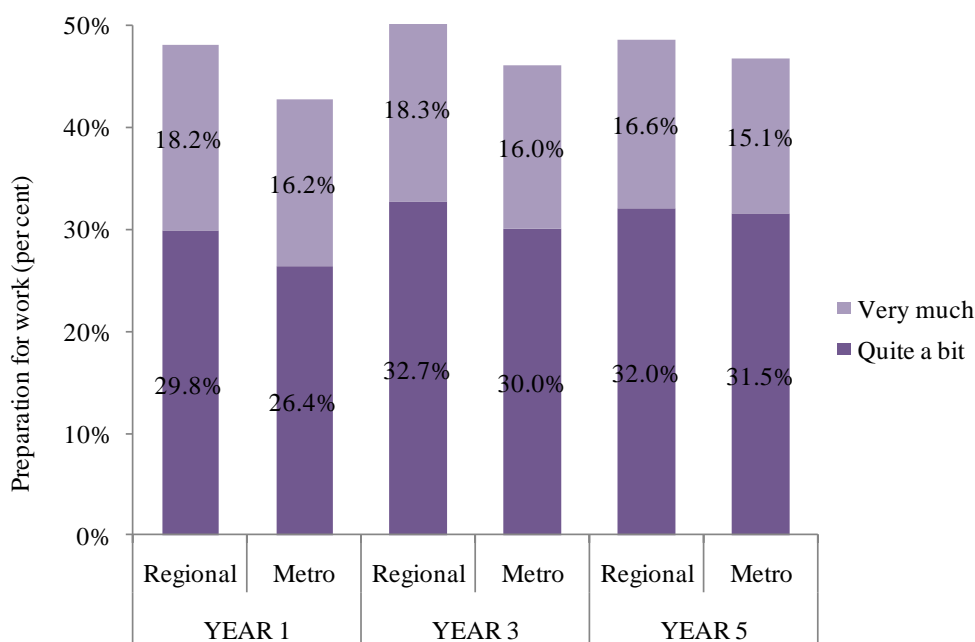


Figure 50: Degree preparation for employment by location of HEI (GPS)

For example, 5 years after completing their courses, 48.6 per cent of those who had been enrolled at regional HEIs felt that their degrees had prepared them for employment either ‘quite a bit’ or ‘very much’, while this was the case for just 46.6 per cent of those who had been enrolled at metropolitan HEIs.

Engagement

Beyond satisfaction, it is also important that students are engaged in optimal learning activities and are given all the opportunities they need to succeed with their studies. The AUSSE and the GPS ask participants to report on a variety of aspects of their learning. Figure 51 indicates the proportion of students who feel that their courses have improved particular aspects either ‘quite a bit’ or ‘very much’. While there are not very large differences between individuals who had completed courses at either regional or metropolitan HEIs, some patterns are discernable.

Individuals who completed courses at regional HEIs are more likely than those who completed courses at metropolitan HEIs to feel that their course has made them aware of social contexts and challenges and given them an ability to contribute to their communities. At the same time, they are more likely to have a good orientation towards employment, having gained appropriate knowledge and skills and having a good awareness of their industry. Moreover, they feel more strongly that their course both helped them to use computing and information technology and helped them to write clearly and effectively. In contrast, those who completed courses at regional HEIs are less likely than those who completed courses at metropolitan HEIs to feel that their ability to think critically, to speak clearly and effectively, to work in teams and to understand themselves has been improved by their course.

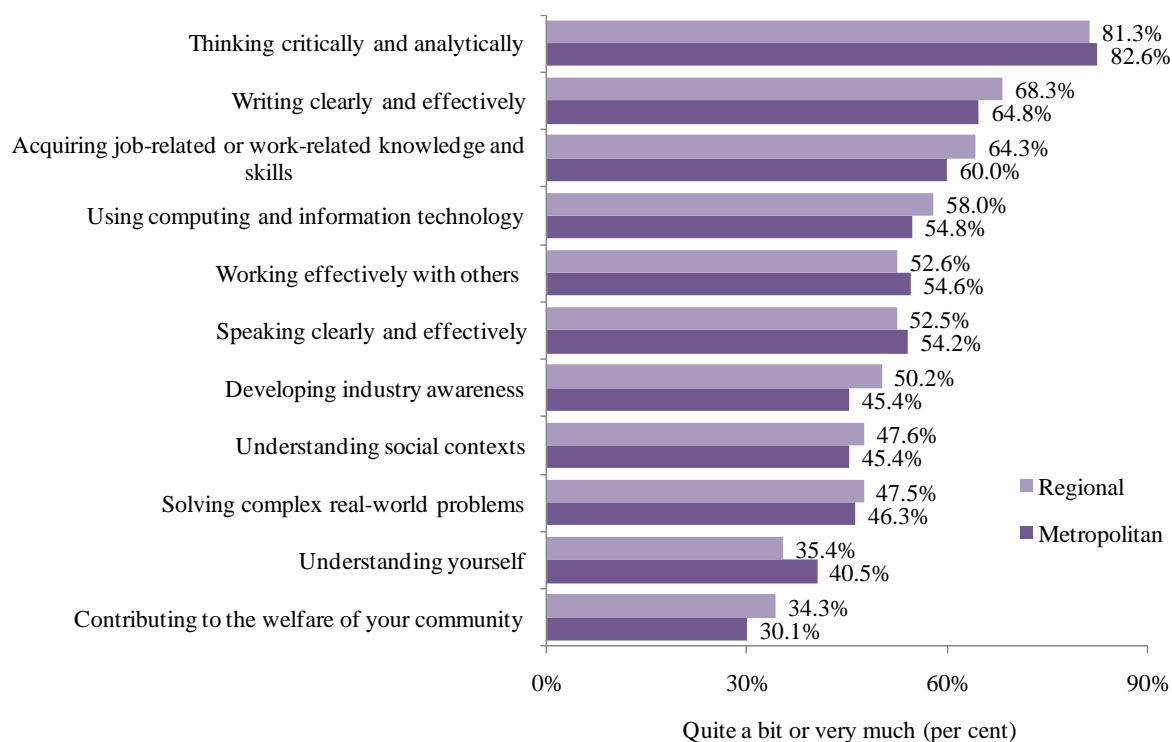


Figure 51: Impact of higher education on skills and attributes by location of HEI (GPS)

The AUSSE measures the perceptions of current higher education students about their studies. Synthesis of a number of individual items enables a clear overview of their degree of engagement and learning outcomes in a number of key areas. Figure 52 shows the engagement and outcome scores for students enrolled in regional and metropolitan HEIs. It is clear that students enrolled at regional HEIs are more likely to report that their course integrates employment-focused work experiences into their study (work integrated learning). The same students, however, are less likely than their metropolitan peers to feel that they are prepared to participate in the workforce (career readiness), that they are actively constructing knowledge (active learning), that they are participating in broadening educational activities (enriching educational experiences) and that they are forming general forms of individual and social development (general development outcomes). On all other measures the differences in responses between students at regional and metropolitan HEIs are negligible.

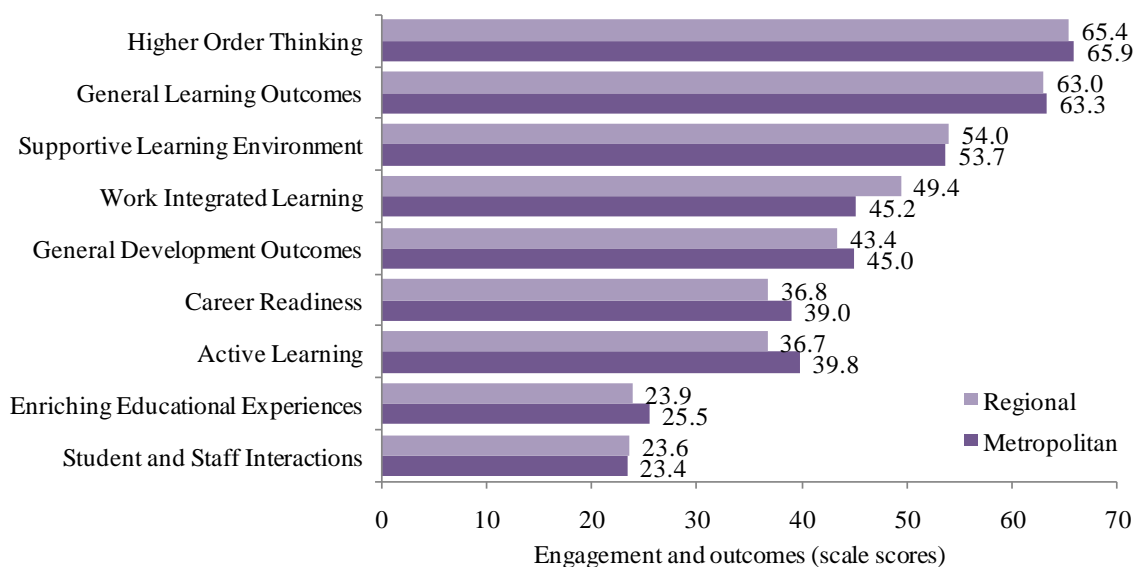


Figure 52: Engagement and outcomes scores by location of HEI (AUSSE)

Conclusion

A synthesis of data on the satisfaction and engagement of students at regional HEIs with their studies presents a rather unclear picture. In general, the degree of satisfaction with their studies of students at regional and metropolitan HEIs is very similar, although there are clearly differences by institution. The similarity in satisfaction holds true for students who are currently enrolled in a higher education, who completed their courses six months ago and who completed their courses five years ago, indicating a very stable pattern. Those who completed courses at regional institutions, however, are more likely than those who completed courses at metropolitan institutions to report that their studies had prepared them for employment.

The extent to which students feel that their higher education studies improved a range of factors, from the ability to write clearly to an awareness of social contexts, is also very similar among students who are enrolled at regional and metropolitan HEIs. Data from the AUSSE suggests that regional students are slightly more likely to feel that their course integrates employment-focused work experiences into their study but slightly less likely to feel that they are prepared to participate in the workforce than their metropolitan counterparts. This is somewhat contradictory and suggests that different institutions are providing their students with different educational experiences with varying degrees of success.

7 FURTHER STUDY OUTCOMES AT REGIONAL INSTITUTIONS

CHAPTER AIM

- to determine further study outcomes for those who were enrolled at regional HEIs.

KEY CHAPTER FINDINGS

- 20.8% of those who complete courses at regional HEIs have enrolled in further study within 6 months of the completion of their first course;
- 58.2% of those who complete courses at regional HEIs and undertake further study on a full-time basis are aged under 25, while those undertaking further study on a part-time basis tend to be older;
- 28.9% of those who complete courses at regional HEIs go on to further study in bachelor degrees while 28.7% go on to masters degrees by coursework;
- 36.4% of those who complete courses in agriculture and environment at regional HEIs go on to further study in the same area while 18.2% go on to further study in education; and
- 68.5% of those who complete courses at regional HEIs go on to further study at regional HEIs.

Introduction

If the presence of HEI campuses in regional areas is to contribute to sustainable regional development, it is essential that a significant proportion of those who study there remain in regional areas once they complete their studies, either for further study or for employment. This chapter will consider the proportion of students who remain in regional areas in order to undertake further study, their characteristics, the kinds of study they engage in and whether or not they remain at the same HEI. The following chapter will investigate similar aspects in relation to their employment outcomes. In order to ascertain a picture of what individuals do directly after their studies, data from the Graduate Destinations Survey (GDS) is used. This was administered to individuals 4 - 6 months after they had completed their courses. In order to provide a longer-term perspective, data from the Graduate Pathways Survey (GPS) is also reported on. This was administered to individuals 5 years after they had completed their studies and includes their perceptions at 1, 3 and 5 years post course completion. 'Regional' and 'metropolitan' refer to the area in which the HEI which students are enrolled at (see Appendix 2) is located. They do not indicate the area in which an individual is living unless explicitly stated.

Percentage moving on to further study

Data from the GDS indicates that less than one-quarter of individuals are enrolled in further study 6 months after they have completed their previous courses. As Figure 53 shows, those who complete courses at regional HEIs are less likely than those who complete courses at metropolitan HEIs to move directly into further study, with just 20.8 per cent engaged in further studies compared to 24.9 per cent of their metropolitan counterparts. It is also clear that those who complete courses at regional HEIs and engage in further study are more likely than those who complete courses at metropolitan HEIs to do so on a part-time basis.

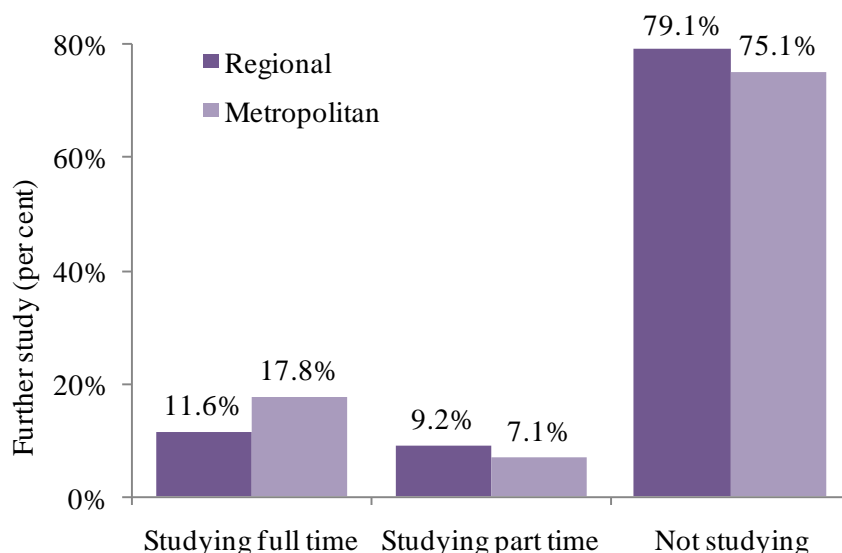


Figure 53: Further study patterns by location of prior HEI (GDS)

Taking a longer-term perspective, data from the GPS indicates that the pattern is more complicated than that which is shown on the GDS. As Figure 54 demonstrates, at one year after completing their studies, those who were enrolled at regional HEIs are more likely than those who were enrolled at metropolitan HEIs to be engaged in further study. In conjunction with the evidence from the GDS, this suggests that those who study at regional HEIs and move into further study are more likely to take a gap in between the two if they have studied at regional HEIs.

Figure 54 also shows that at three years after course completion, 24.1 per cent of those who were enrolled at regional HEIs are engaged in further study, while this is the case for 25.2 per cent of those who were enrolled at metropolitan HEIs.

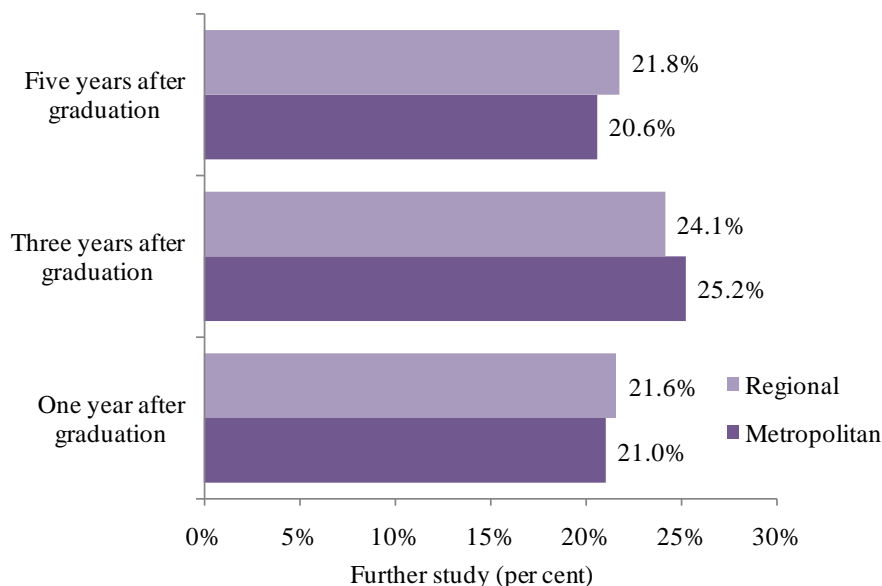


Figure 54: Further study at 1, 3 and 5 years by location of prior HEI (GPS)

Overall, while it is possible to discern some differences between those who were enrolled at regional and metropolitan HEIs in terms of their future engagement in further study, the patterns indicate that very similar proportions enrol in further study at some point between

6 months and 5 years after they complete their prior course. At five years after course completion, however, the pattern has reversed, with 21.8 per cent of those who were enrolled at regional HEIs engaged in further study in comparison with 20.6 per cent of those who were enrolled at metropolitan HEIs.

Characteristics of those in further study

In terms of those who complete courses at regional HEIs and do move on to further study, there are few differences in terms of gender or other characteristics, with the only factor of any significance being age. Data from the GDS indicates that those studying full time within six months of completing a prior course at a regional HEI are much more likely than those not studying to be aged under 25. As Figure 55 indicates, 58.2 per cent of those who are studying full-time within six months of completing a prior course at a regional HEI are aged under 25, in comparison to 21 per cent of those who are studying part-time and 34.6 per cent of those who are not studying. Interestingly, 30.7 per cent of those who are studying part-time within six months of completing their previous course are aged between 40 and 54, with another 26.2 per cent aged between 30 and 39. In comparison with those who completed courses at metropolitan HEIs and are enrolled in part-time study six months later, those studying part-time in regional areas tend to be much older. It is clear that younger individuals are more likely to enrol in further study on a full-time basis and older individuals are more likely to enrol in further study on a part-time basis.

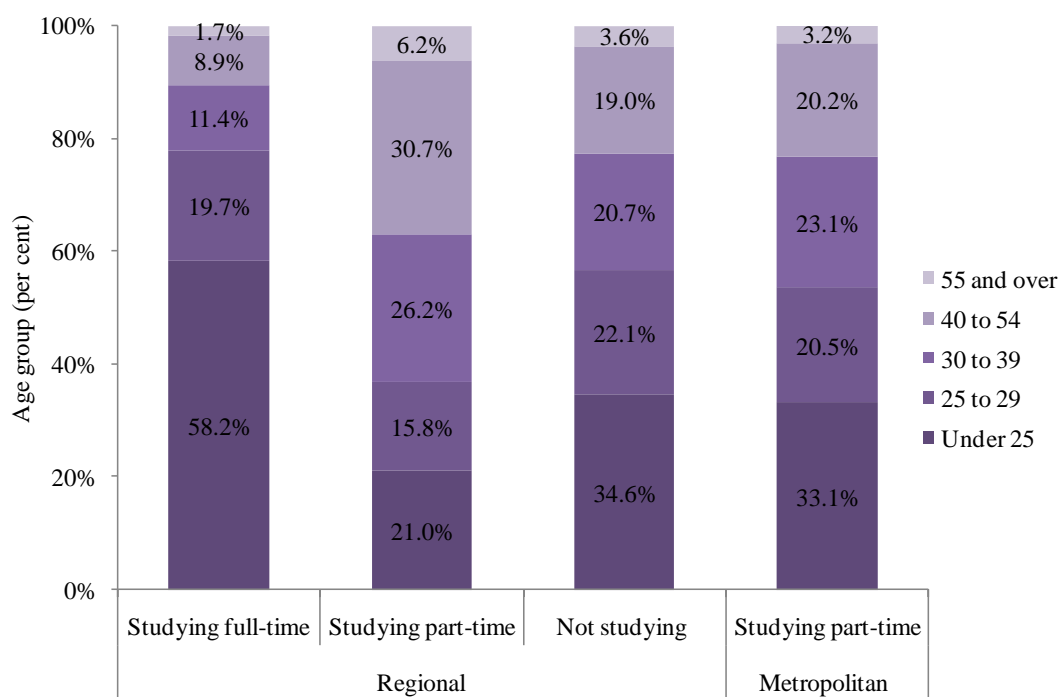


Figure 55: Age groups of those undertaking further study, by location of prior HEI (GDS)

Using data from the GPS, and looking at individuals at one, three and five years after completing a course at a regional HEI, there are some discernable differences between those who undertake further study and those who do not in terms of their age. As Figure 56 indicates, younger students who have completed courses at regional HEIs are more likely to undertake study than older students at one three and five years after study.

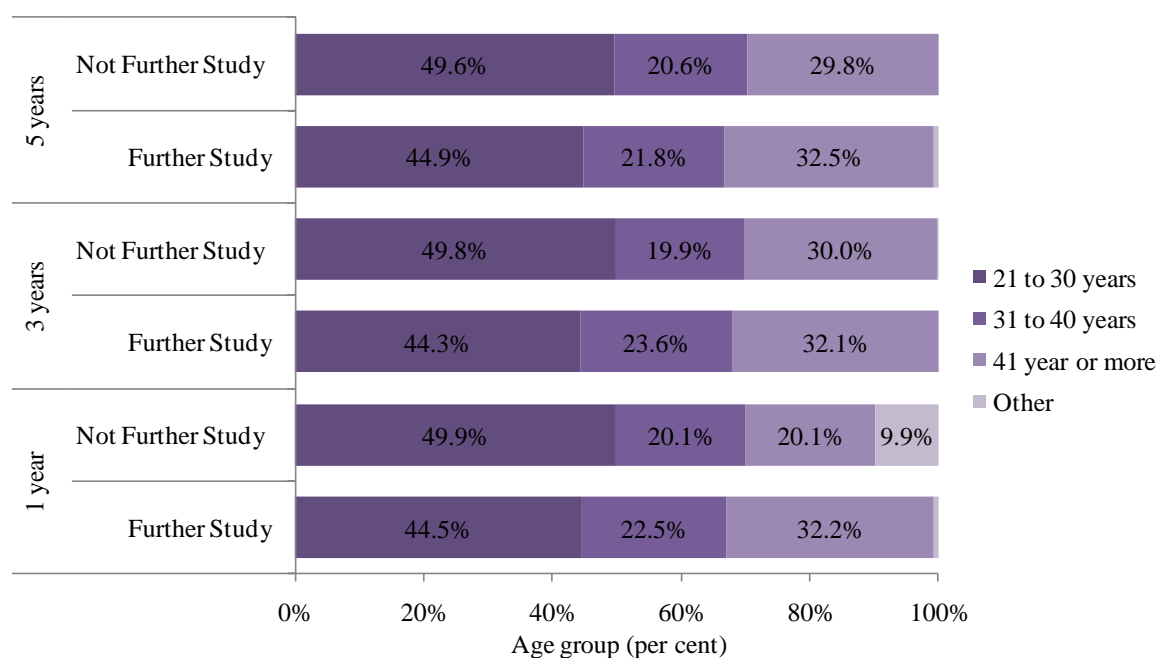


Figure 56: Age group and further study status and 1, 3 and 5 years of those who completed prior courses at regional HEIs (GPS)

There are also differences in the gender of those who go on to further study at the three different stages. As Figure 57 indicates, males comprise 42.2 per cent of those who undertake further study at one year after course completion, in comparison with 35.9 per cent of those who do not undertake further study at that stage. A very similar pattern is shown at three years after course completion. At five years after course completion, however, individuals who undertake further study are almost equally as likely to be male as those who do not undertake further study. Overall, there are clearly fluctuations in the likelihood that men and women will undertake further study at different stages after completing a course at a regional HEI.

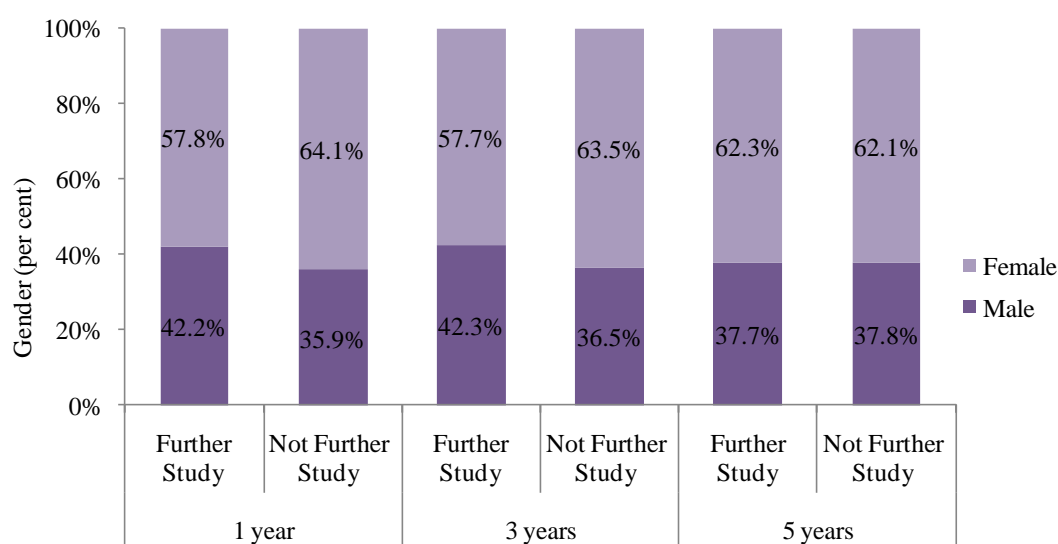


Figure 57: Gender and further study status at 1, 3 and 5 years of those who completed prior courses at regional HEIs (GPS)

Types of further study

Data from the Graduate Destinations Survey (GDS) (Figure 58) indicates that those individuals who complete courses at regional HEIs and go on to further study are less likely to enrol in a masters degree by coursework or a bachelors degree than individuals who have completed courses at metropolitan HEIs.

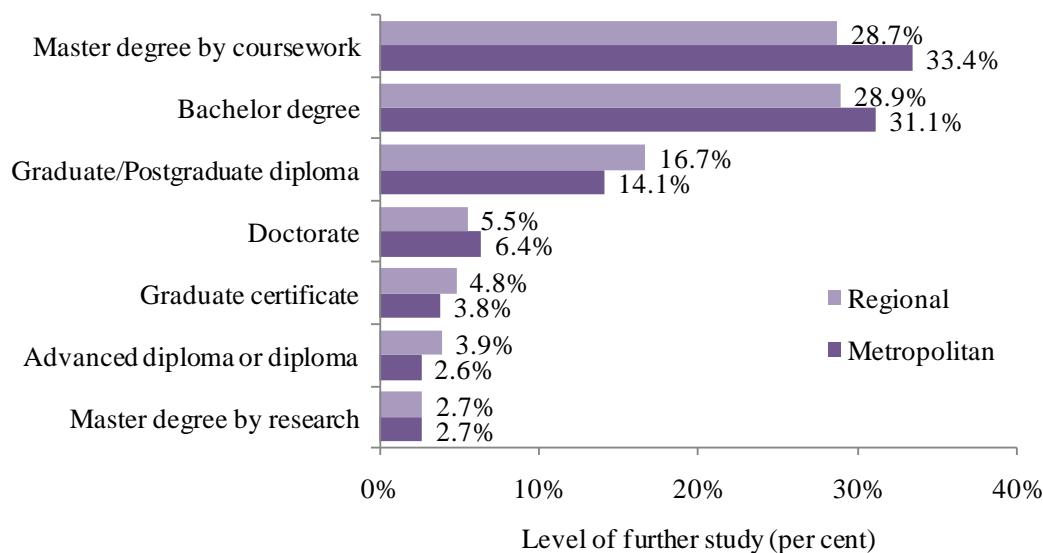


Figure 58: Level of further study by location of prior HEI (GDS)

In contrast, those from regional HEIs are more likely to enrol in graduate or post-graduate diplomas, other awards courses and advanced diplomas than those who complete courses at metropolitan HEIs.

Data from the GDS also makes clear that those who have completed courses at a regional HEI are more than twice as likely as those who have completed courses at a metropolitan HEI to be enrolled in further studies in an external or distance mode of attendance and 25 per cent less likely to be enrolled in an on-campus mode. This continues the pattern found during their previous course.

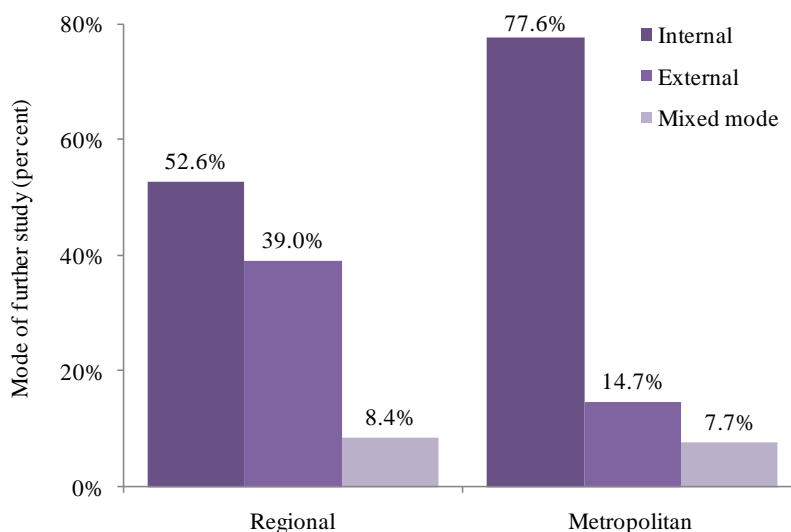


Figure 59: Mode of further study by location of prior HEI (GDS)

Similarity of subject

The similarity of the subject in which those individuals who undertake further study enrol to the subject of their further study is worthy of consideration. Figure 60 shows that those who study in the areas of engineering, information technology, natural and physical sciences or health and who complete courses at regional HEIs are more likely than those who complete courses at metropolitan HEIs to undertake further study in the same broad field. Those who complete courses in engineering at regional HEIs are 10.9 per cent more likely than those who complete courses in engineering at metropolitan HEIs to undertake further studies in engineering. Similarly, those who complete courses in information technology at regional HEIs are 5.3 per cent more likely than those who complete courses in engineering information technology at metropolitan HEIs to undertake further studies in information technology. For natural and physical sciences and health the differences are not as great, at 2.5 and 2.1 per cent respectively, but are still significant.

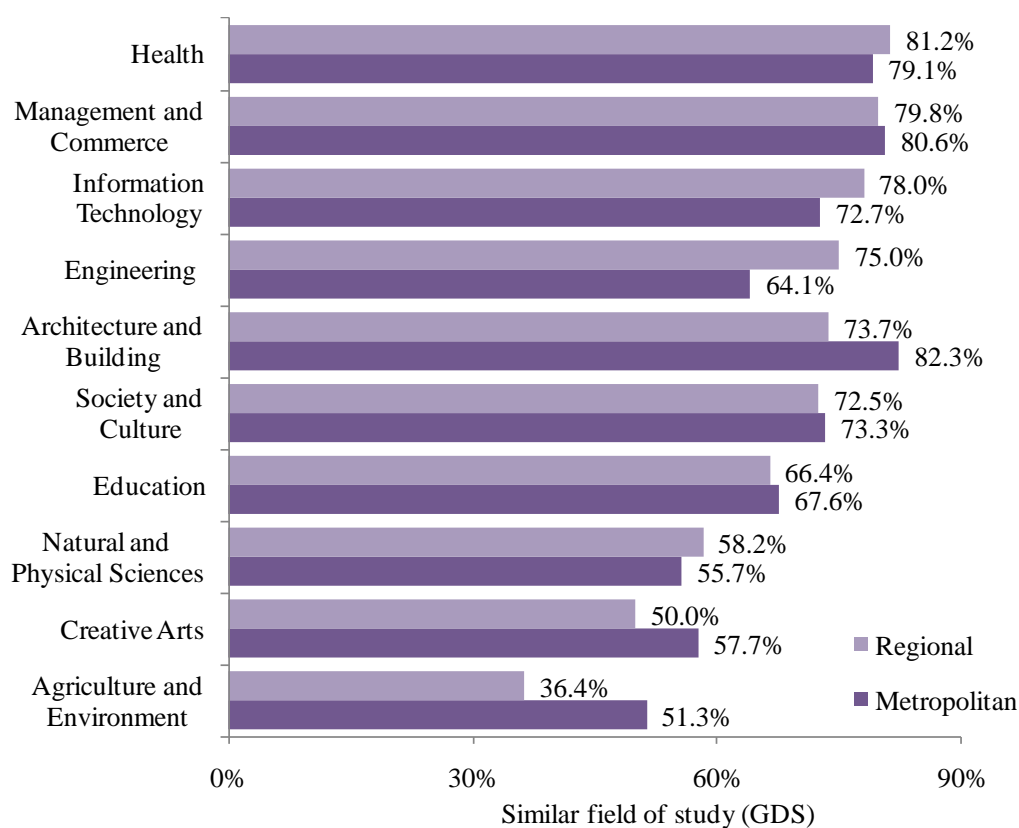


Figure 60: Similarity of further study to earlier study by location of prior HEI (GDS)

In contrast, those who complete courses in other areas are less likely to go on to further study in a similar area if they have completed courses at a regional HEI than if they have completed courses at a metropolitan HEI. The contrast is particularly marked for those who study agriculture and environmental studies. While 51.3 per cent of those who complete courses in this field of study at a metropolitan HEI and go on to further study stay in the same field, this is only the case for 36.4 per cent of those who complete courses at regional HEIs. Similar patterns can be seen for other fields of study such as architecture and building, where the difference is 8.6 per cent, and creative arts, where the difference is 7.7 per cent. The enormous difference found among those who have completed courses in agriculture and environmental studies, however, is not paralleled.

This is an interesting finding in that it suggests that students who study subjects which are arguably most closely aligned with the needs of regional Australia are less likely to continue to study these subjects at the graduate level if they have been enrolled at a regional HEI. This may be partly a reflection of degree classification. 19.5 per cent of those who complete courses in agriculture and environmental studies at regional HEIs and who do further studies, enrol in natural and physical sciences, which could easily be the broad field of education under which further studies in agriculture and environmental studies are classified. If we consider the proportions of those who complete courses in each area and which move on to further studies in education, however, another explanation comes to light.

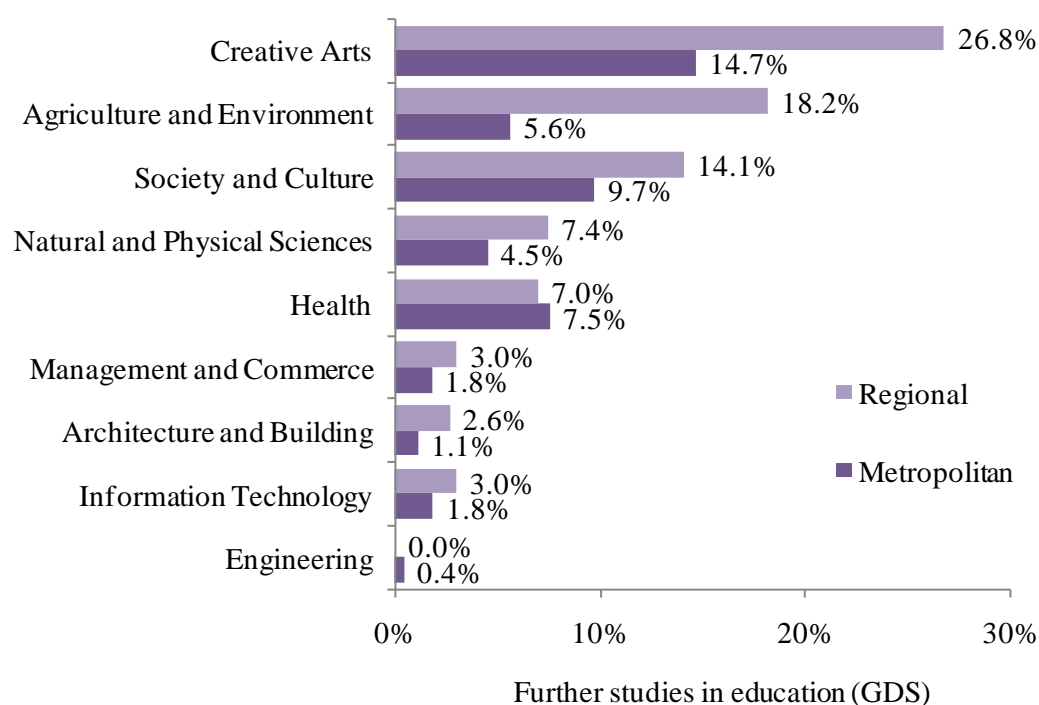


Figure 61: Further studies in education by previous area of study and location of prior HEI (GDS)

As Figure 61 makes clear, 18.2 per cent of those who have studied agriculture and environmental studies at regional HEIs go on to further studies in education, in contrast to just 5.6 per cent of their counterparts from metropolitan HEIs, more than triple the rate. A similarly pronounced pattern is seen for those who have studied creative arts, with a difference of 12.1 per cent. While greater proportions of those who complete courses at regional HEIs in all areas other than health and engineering do go on to study education than those who complete courses at metropolitan HEIs, differences are less marked than in the case of agriculture and environmental studies and creative arts.

Institution for further study

Figure 62 indicates that of those individuals who complete courses at a regional HEI and move on to further study within the first six months after finishing, the majority (68.5 per cent) undertake their further studies at a regional HEI, with just 14.5 per cent moving to a metropolitan HEI. A further 17.0 per cent move to a private college, a TAFE or an unnamed educational institution. This is in marked contrast with those individuals who complete courses at a metropolitan HEI and move onto further study within the first six months after graduation. 83.6 per cent of this group undertake their further education at a

metropolitan HEI. It is likely that those individuals who undertake both undergraduate and further study at a regional HEI actually remain at the same institution, although some may move from one regional institution to another. It is clear that when individuals study at a regional HEI, they are highly likely to remain in a regional area if they decide to undertake further education.

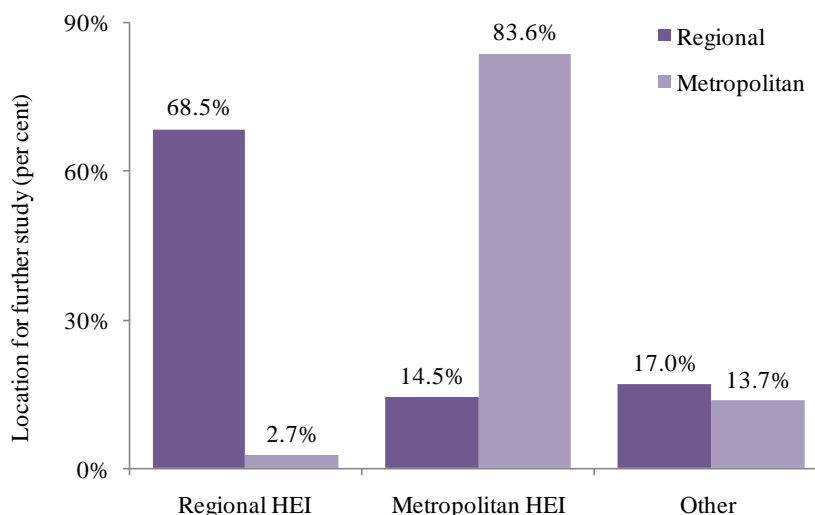


Figure 62: Location of institutions for further study by location of prior HEI (GDS)

This is confirmed in Figure 63 which shows that between 46.3 and 80.6 per cent of those individuals who complete courses at a regional HEI remain at the same institution for further study. While it is possible to identify data from students at individual HEIs in the AUSSE data, confidentiality requirements do not allow them to be named. They will therefore be referred to as ‘Regional 1’, ‘Regional 2’ and so on.

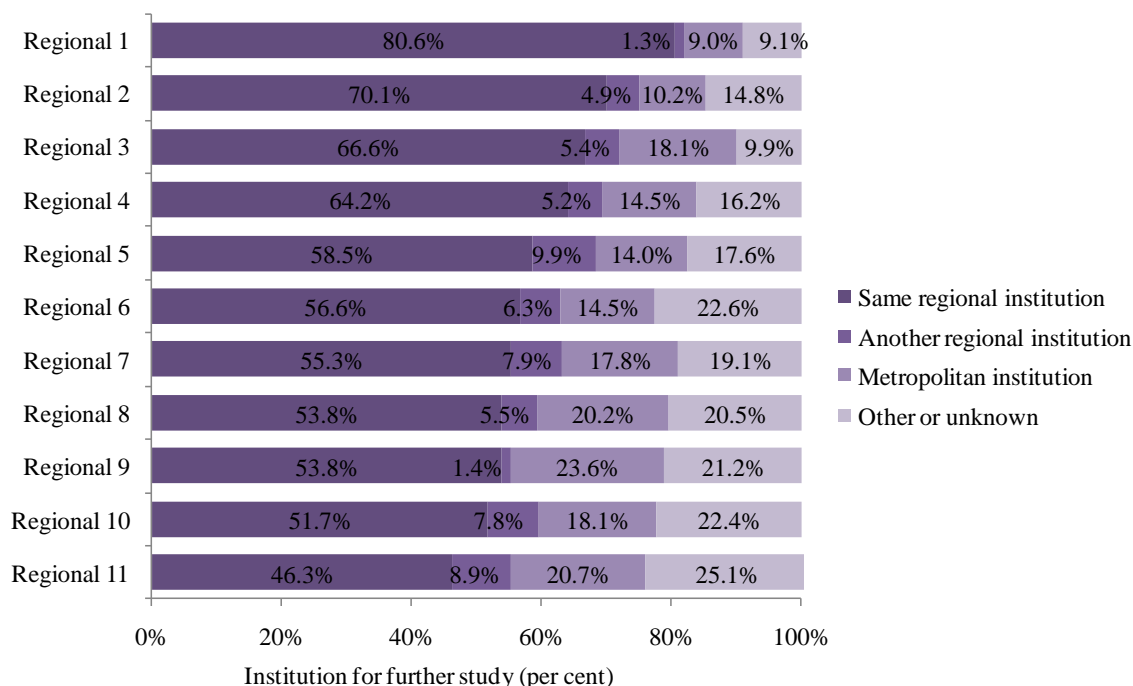


Figure 63: Location for further study by institution of prior study (GDS)

Beyond continuing at the same institution for further study, Figure 63 also makes clear that up to 10 per cent of those who complete courses at regional HEIs and then move on to further study enrol at another regional HEI. This trans-regional move is chosen by between 1.3 per cent and 9.9 per cent of students. In contrast to the majority those who complete courses at regional HEIs and who go on to further study at the same, or other, regional HEIs, an average of 16.4 per cent move to metropolitan HEIs in order to undertake further study, with between 9.0 per cent and 23.6 per cent of students taking up this option.

Conclusion

The data presented in this chapter suggests that those who complete courses at regional HEIs are less likely than those who complete courses at metropolitan HEIs to move directly into further study and, when they do so, to enrol on a part-time basis. One year after they complete their studies, however, the same individuals are actually more likely than those who were enrolled at metropolitan HEIs to be engaged in further study. Given the evidence discussed in previous chapters about greater financial concerns among students in regional areas, this may indicate the need for students who complete courses at regional HEIs to earn sufficient income before being able to commence another course. On a longer time scale it becomes apparent that very similar proportions of those who complete courses at regional and metropolitan HEIs enrol in further study within five years of completing their first course.

Younger individuals who complete courses at regional HEIs are more likely to undertake further study than their older peers and to do so on a full-time basis. Males are more likely than females to go directly on to further study, and this remains the case until five years after completion. Nevertheless, the dominance of women in regional HEIs means that they continue to comprise a higher proportion of those students who go on to further study overall. Individuals who complete courses at regional HEIs are more likely to enrol in graduate and post-graduate diplomas and advanced diplomas and less likely to enrol in masters degrees by coursework or bachelor honours degrees than those who complete courses at metropolitan HEIs. They are also more than twice as likely as their metropolitan counterparts to enrol in their further studies on an external or distance mode.

Those who complete courses at regional HEIs are more likely than those who do so at metropolitan HEIs to undertake further study in the same broad field if they have some subjects and less if they have studied others. The most interesting finding is that those who study agriculture and environmental studies at regional HEIs are much less likely than those who study the same subjects at metropolitan HEIs to go on to further study in the same area. Instead, a large proportion go on to further studies in education. Most of those who complete courses at regional HEIs and go on to further study do so at regional HEIs, with the majority remaining at the same institution and others moving to another regional HEI. Just 14.5 per cent move to metropolitan HEIs for further studies.

8 EMPLOYMENT OUTCOMES FOR STUDENTS AT REGIONAL INSTITUTIONS

CHAPTER AIM

- to determine employment outcomes of those enrolled at regional HEIs.

KEY CHAPTER FINDINGS

- 58.0% of coursework students and 51.6% of research students who complete their studies at regional HEIs have gained a permanent or open-ended contract within six months of finishing their course;
- 57.0% of coursework students and 60.8% research students who complete their studies at regional are engaged in full-time work within six months of finishing their course;
- 29.4% of students who study at regional HEIs are employed as education professionals at 5 years after course completion;
- 65.7% of students who study at regional HEIs remain in regional areas for employment 5 years after course completion; and
- 5 years after course completion, students who attended regional HEIs and have remained in regional areas are earning a median annual salary of \$58,000.

Introduction

As the previous section has made clear, those who complete their studies at regional HEIs and go on to further study tend to remain in regional areas in order to do so, either at the same institution or another regional HEI. Using the same data, this chapter will examine the employment outcomes for those who complete their studies at regional HEIs in order to uncover whether a similar pattern can be detected for employment.

Working situation

Data from the Graduate Destinations Survey (GDS) indicates that within six months of completing their studies, individuals from regional HEIs are more likely than those who have studied at metropolitan HEIs to have obtained a permanent or open-ended contract. This is true both for those who have completed a coursework degree and those who have completed a research degree. As Figure 64 indicates, 58.0 per cent of coursework students and 51.6 per cent of research students who have completed their studies at regional HEIs have gained a permanent or open-ended contract within six months of finishing, in comparison to 53.8 per cent and 44.4 per cent, respectively, of those who completed their studies at metropolitan HEIs.

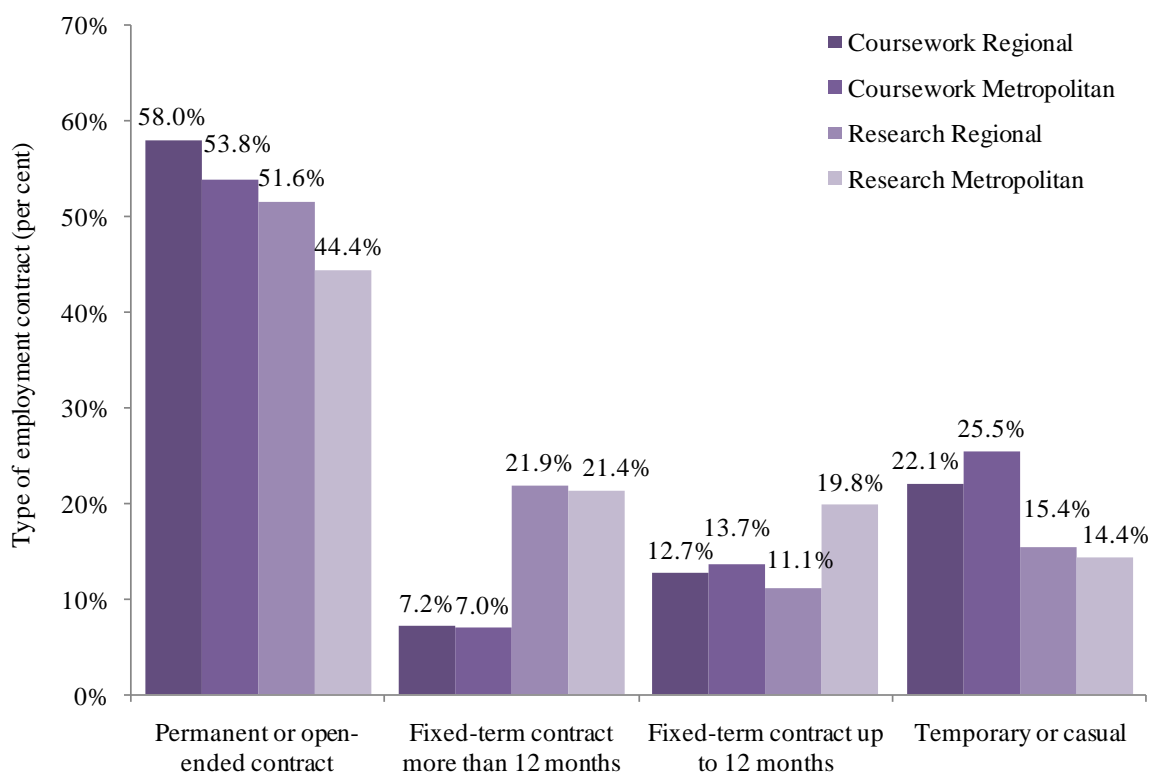


Figure 64: Employment outcomes for coursework and research students, by location of HEI attended (GDS)

At the same time, greater proportions of those who were enrolled at regional HEIs are in full-time employment within six months of completion than those who were enrolled at metropolitan HEIs. As Figure 65 shows, however, this is only the case for those who complete coursework studies, with 5.7 per cent more regional coursework completers but 2.0 per cent fewer regional research completers than their metropolitan counterparts employed on a full time basis within six months of finishing their courses.

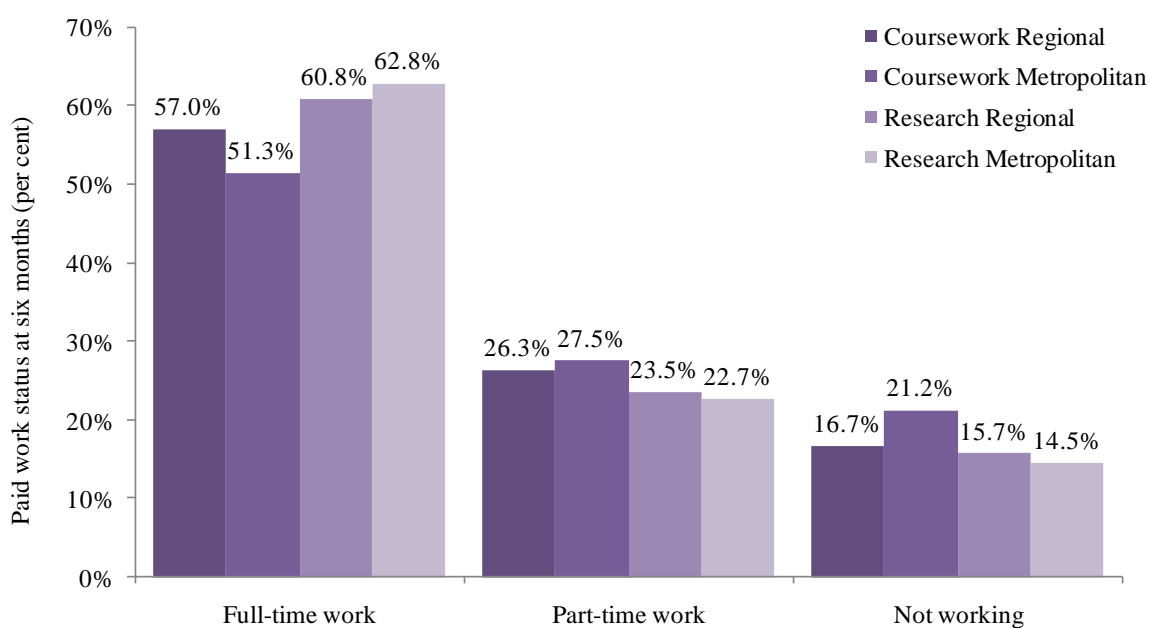


Figure 65: Paid work status at six months, by location of HEI attended (GDS)

Taking a longer-term perspective, data from the Graduate Pathways Survey (GPS) makes clear that those who complete courses at regional HEIs are equally as likely as those who complete courses at metropolitan HEIs to be employed on a full-time basis within one year of completing their studies, but are less likely than those who complete courses at metropolitan HEIs to be employed on a full-time basis at three and five years after completing their studies.

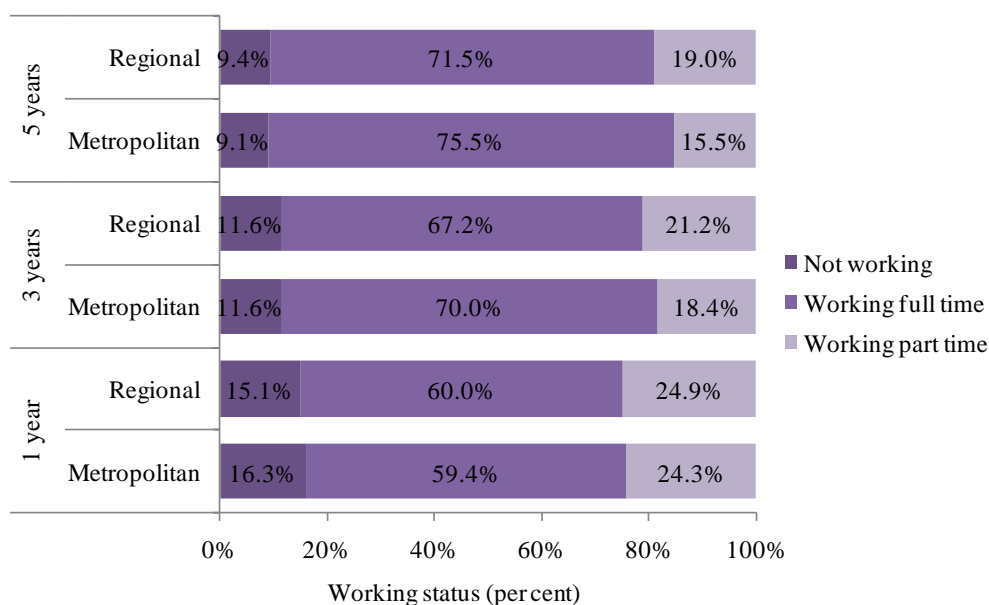


Figure 66: Employment status at 1, 3 and 5 years after graduation by location of HEI attended (GPS)

As Figure 66 highlights, 71.5 per cent of those who complete courses at regional HEIs are working full-time at five years after course completion, in comparison to 75.5 per cent of those who complete courses at metropolitan HEIs. This difference may be partly explained by the greater proportion of females who are enrolled at regional than metropolitan HEIs.

Preparation for employment

In Figure 50 above it was clear that individuals who study at regional HEIs feel that their studies are better able to prepare them for employment than do those who study at metropolitan HEIs and that this is true at one, three and five years after completing their courses. Equally, a greater proportion of those who complete courses at metropolitan HEIs feel that their employability and skills are 'excellent' at one, three and five years after course completion. Figure 67 shows this pattern, highlighting that 2.9 per cent more of those who complete courses at regional than metropolitan HEIs one year after completion feel that their employability and skills are 'excellent', with a difference of 2.4 per cent at three years and 0.4 per cent at five years.

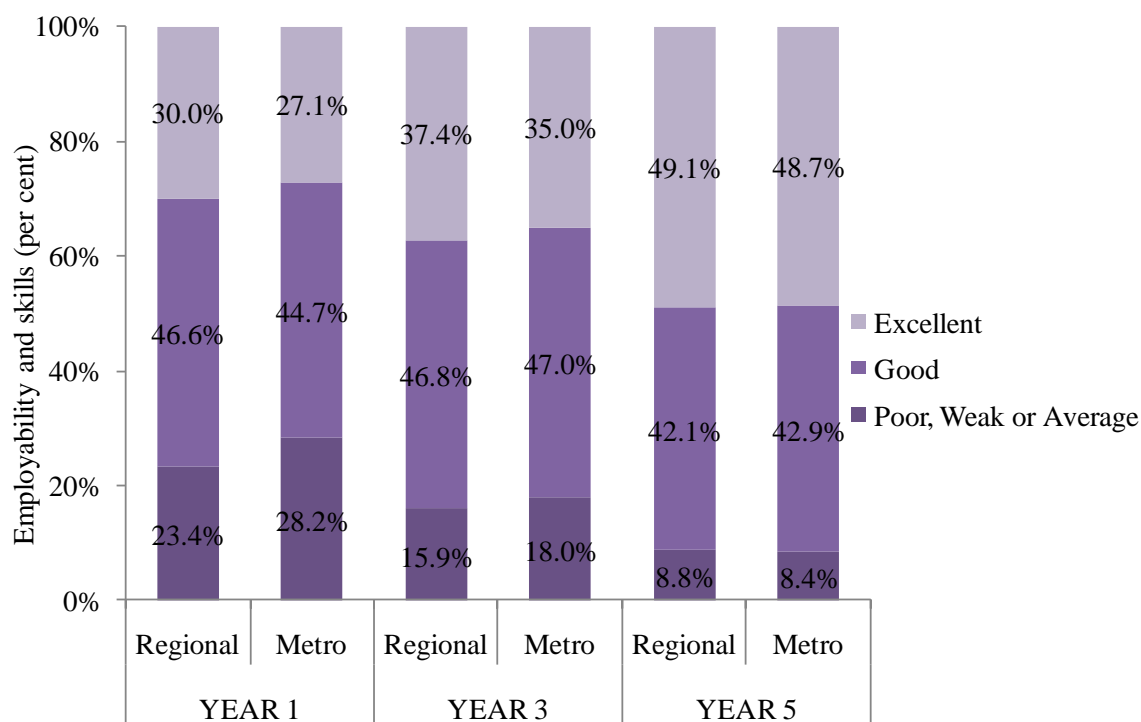


Figure 67: Employability and skills at 1, 3 and 5 years by location of HEI attended (GPS)

Types of employment

In terms of the kinds of employment to which those who complete courses at regional HEIs transition, Figure 68 investigates the employment status of those who completed their studies at regional and metropolitan HEIs and were in employment five years after graduation. Those who completed their education at regional HEIs are broken into two groups: those who studied at regional HEIS and have remained in regional areas (regional-regional) and those who studied at regional HEIS and have moved to metropolitan areas (regional – metropolitan). They are compared with those who completed studies at metropolitan HEIs (metropolitan).

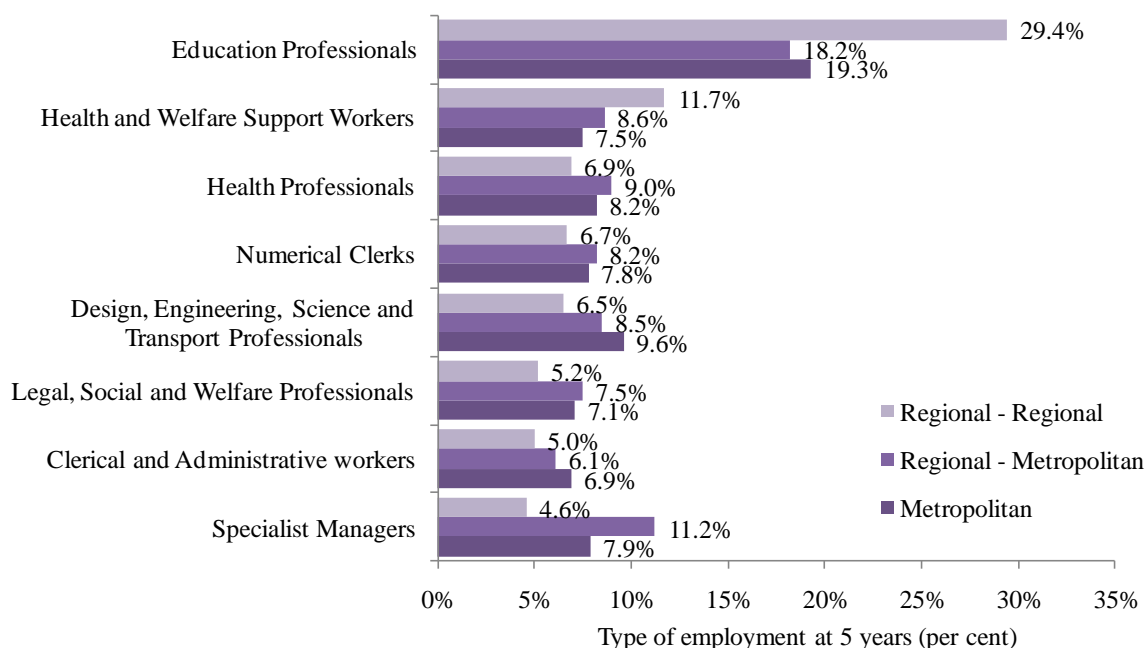


Figure 68: Employment type at five years after course completion (GPS)

As Figure 68 makes clear, 11.2 per cent more of those who completed their studies at regional HEIs and remain in regional areas are employed as educational professionals than those who completed their studies at regional HEIs and have moved to metropolitan areas. A similar pattern, although less pronounced, is seen for health and welfare support workers. Smaller proportions of individuals who completed their studies at regional HEIs and remain in regional areas are engaged in all other types of employment.

Characteristics of those who remain in regional areas

Five years after completing their courses, the majority of those who were enrolled at regional HEIs and are working are still living in regional areas. As Figure 69 indicates, 65.7 per cent of such individuals are living in regional areas, with just 34.3 having moved to metropolitan areas. In contrast, 84.4 per cent of those who were enrolled at metropolitan HEIs are still living in metropolitan areas, with just 15.6 per cent having moved to regional areas.

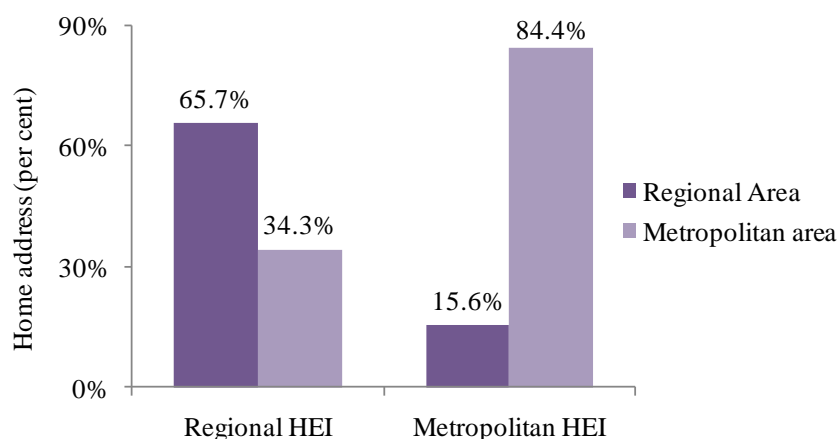


Figure 69: Home address five years after course completion by location of HEI attended (GPS)

These figures support data from Charles Sturt University's submission to the *Review of Regional Loading* (2010) which indicates that 73 per cent of all on-campus graduate students with a regional home location take up initial employment in a regional location, most usually the regional centre where they grew up.

Those who were enrolled at regional HEIs and have remained in regional areas for employment have slightly different characteristics to those who have moved to metropolitan areas for employment 5 years after course completion. While almost identical proportions are female, those remaining in regional areas are slightly less likely to have Australian citizenship (a difference of 1.8 per cent) and slightly less likely to be of Aboriginal or Torres Straits Islander Origin (a difference of 0.5 per cent). As Figure 70 indicates, those that remain in regional areas are slightly more likely to be older, with 47.3 per cent aged under 31 years in comparison to 50.4 per cent of those who have moved to a metropolitan area.

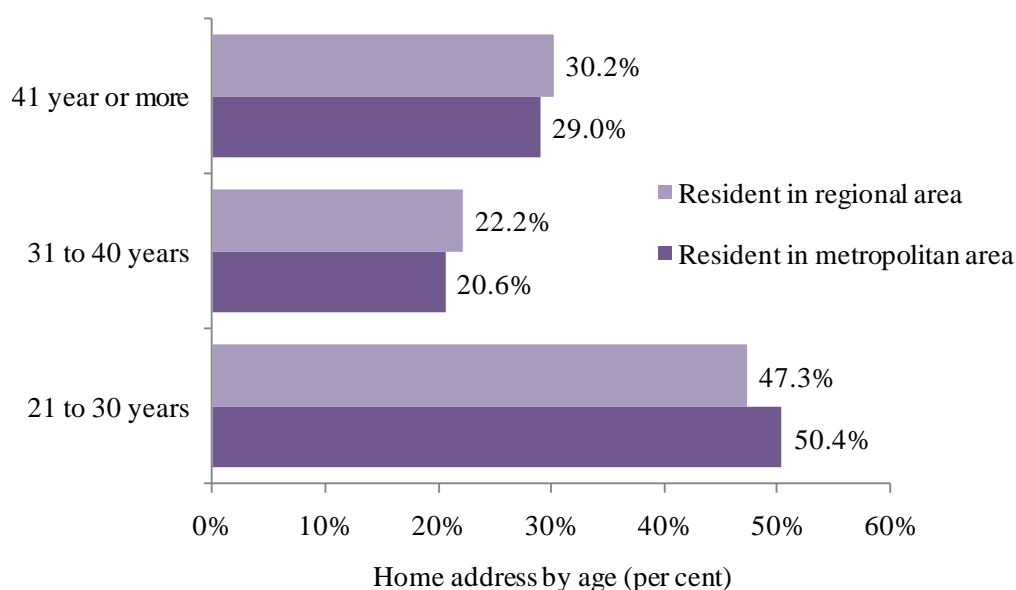


Figure 70: Age Group of regional graduates in employment at five years by place of residence (GPS)

The most significant difference, however, is found if we look at the location in which individuals attended primary school. As Figure 71 indicates, 81.3 per cent of those who attended primary school in a regional area and then went on to study at a regional HEI have remained in a regional area for employment five years after finishing their course. In contrast, just 43.3 per cent of those who attended a primary school in a capital city and then studied at a regional HEI have remained in a regional area for employment.

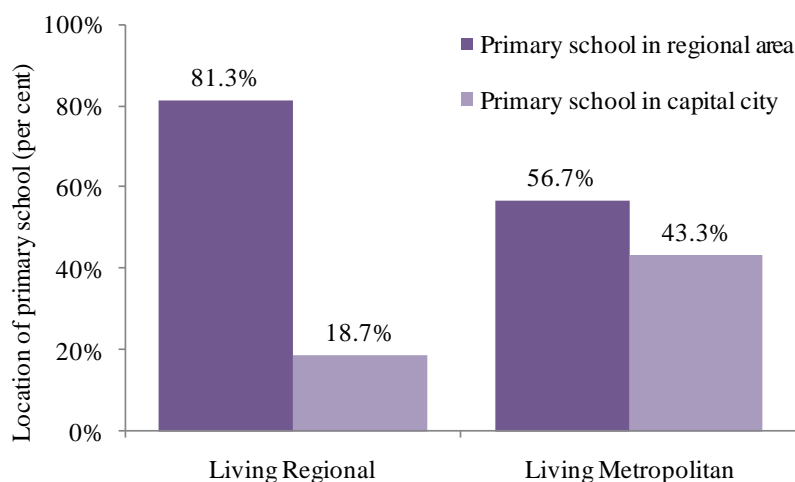


Figure 71: Location of primary school of those who attended regional institutions by place of residence at five years after course completion (GPS)

These findings reflect suggestions from HEIs who contributed to the *Review of Regional Loading* that the majority of students who study at regional HEIs both originate in regional areas and stay in regional areas after finishing their studies (James Cook University, 2010), whether or not they study by distance mode or internal mode (University of New England, 2010).

Satisfaction with employment

Those who study at regional HEIs and then remain in regional areas for employment have very similar levels of satisfaction with their employment five years after completing their courses as those who study at regional HEIs and move to metropolitan institutions, and those who study at metropolitan institutions.

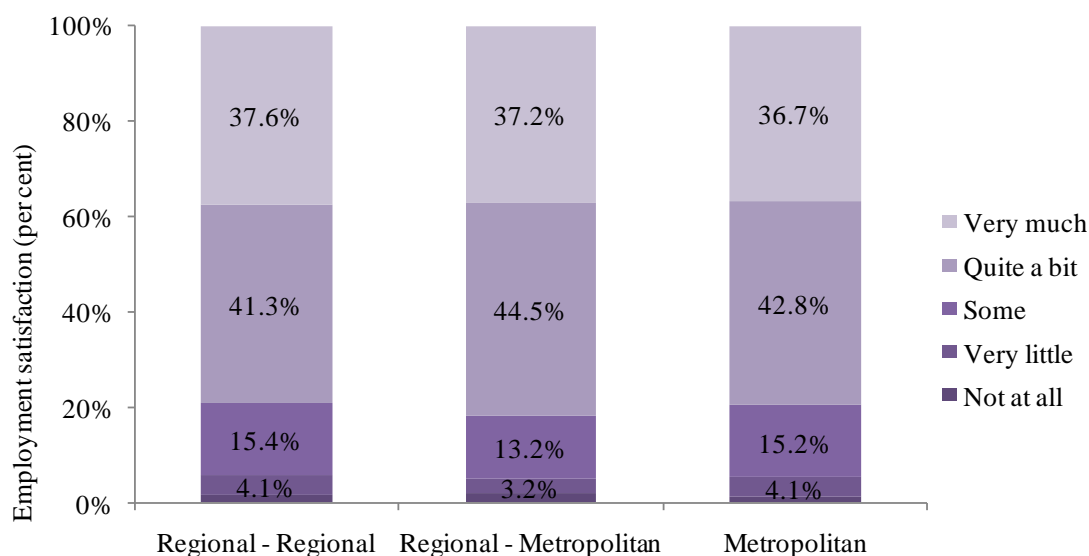


Figure 72: Employment satisfaction at five years (GPS)

As Figure 72 shows, 37.6 per cent of those who study at regional HEIs and remain in regional areas are 'very much' satisfied with their employment, while this is the case for 37.2 per cent of those who study at regional HEIs and move to metropolitan areas and 36.7 per cent of those who study at metropolitan HEIs.

Work patterns of those who remain in regional areas

Those who study at regional HEIs and remain in regional areas for employment at five years after their course completion are less likely than those who study at regional HEIs and move to metropolitan areas to be working full-time. As Figure 73 shows, 86.2 per cent of those who move to metropolitan areas are working full time, compared to just 75.2 per cent of those who have remained in regional areas.

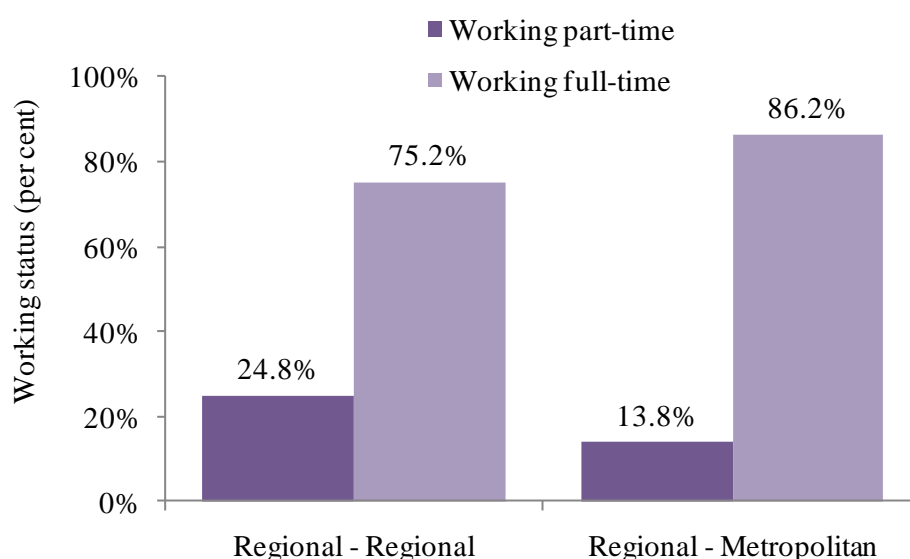


Figure 73: Working status at five years, course completers from regional HEIs (GPS)

As a consequence, those who study at regional HEIs and remain in regional areas work an average of 37.4 hours per week and those who study at regional HEIs and move to metropolitan areas work an average of 40 hours per week. There are quite large differences in median salary between those who study at regional HEIs and remain in regional areas for employment, those who study at regional HEIs and move to metropolitan areas and those who study at metropolitan HEIs. Figure 74 indicates the median salary of those in employment at one, three and five years after finishing their course.



Figure 74: Median annual salary at one, three and five years (GPS)

One year after course completion, there is a difference of just \$2,000 in the median salaries of those who study at regional HEIs and remain in regional areas, those who study at regional HEIs and move to metropolitan areas and those who study at metropolitan HEIs. After three years the gap is still just \$2,000. At five years, however, there is a \$7,000 gap between those who study at regional HEIs and remain in regional areas and are earning a median income of \$58,000 per annum, those who study in metropolitan areas and who are earning \$60,000 per annum and those who study at regional HEIs and move to metropolitan areas and are earning \$65,000 per annum.

Figure 75 indicates median annual salaries at five years after course completion per industry for each of these three groups, and highlights some interesting patterns. It is important to note, however, that some of the sample sizes are very small and this reduces the ability to generalise from this data. Industries with less than 50 respondents have been removed from the analysis due to the very small sample sizes reducing the ability to generalise, leaving 15 industry areas.

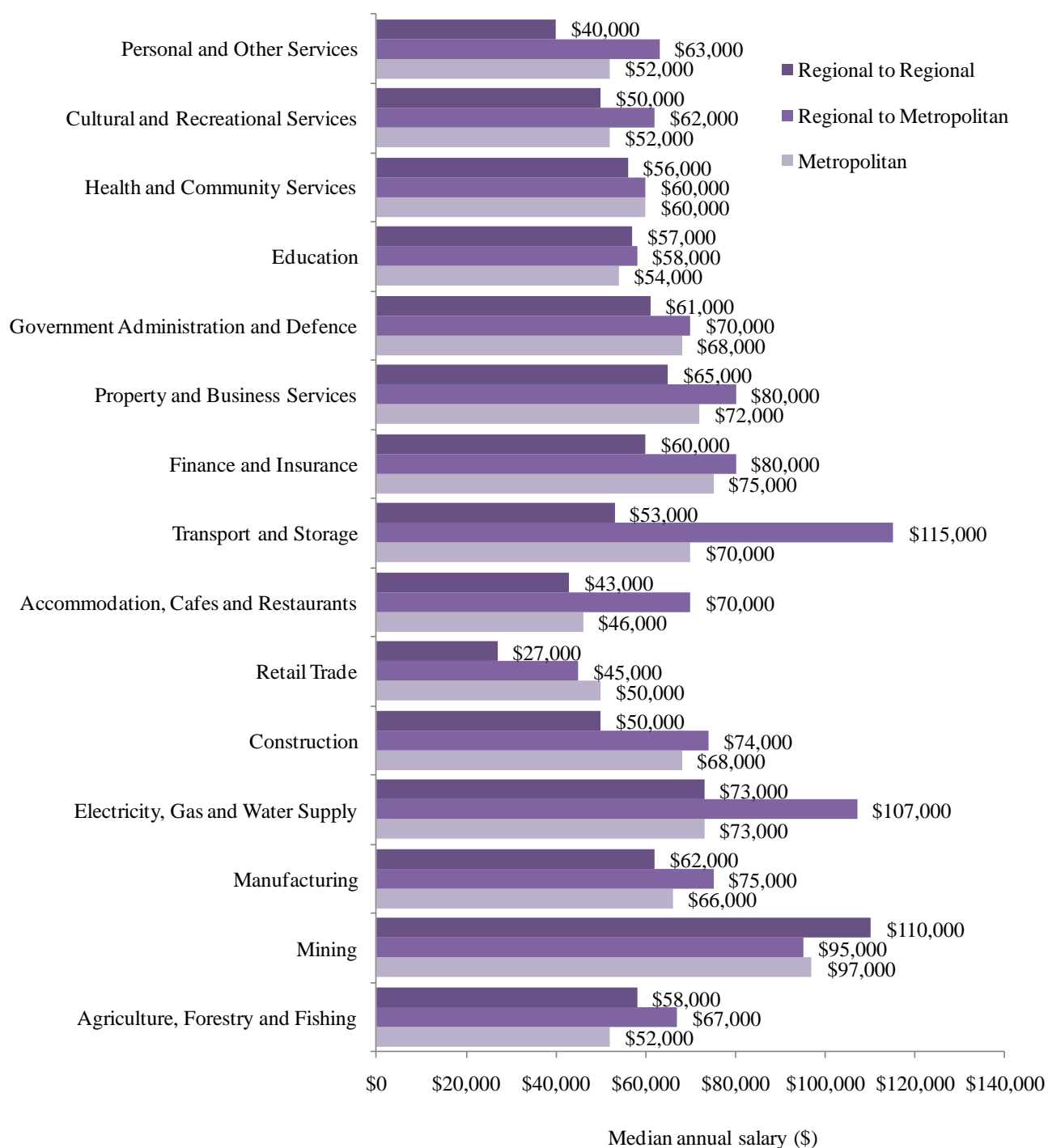


Figure 75: Median annual salary by industry (GPS)

The first clear pattern is that those who study at regional HEIS and move to metropolitan areas for employment have higher median annual salaries than those who study at regional HEIS and remain in regional areas for employment or who study at metropolitan HEIs in 12 of the 15 industry areas. This advantage is most marked in the transport and storage industry in which those who study at regional HEIS and move to metropolitan areas earn a median annual salary of \$115,000 while those who study at regional HEIS and remain in regional areas earn a median annual salary of just \$53,000 and those who study at metropolitan HEIs earn \$70,000. There is also a very large difference in the electricity, gas and water supply industry.

The second clear pattern is that those study at regional HEIs and remain in regional areas earn lower salaries than both other groups in all but three of the industry areas. This pattern is most marked in the retail trade, in which those who study at regional HEIs and remain in regional areas earn approximately \$18,000 less than both those groups in metropolitan areas, and in the construction industry, in which those who study at regional HEIs and remain in regional areas earn between \$18,000 and \$24,000 less than those in metropolitan areas. The most obvious exception to this pattern is found in the mining industry, in which those who study at regional HEIs and remain in regional areas earn a median annual salary of \$110,000, more than \$13,000 above the median annual salaries of those who work in metropolitan areas.

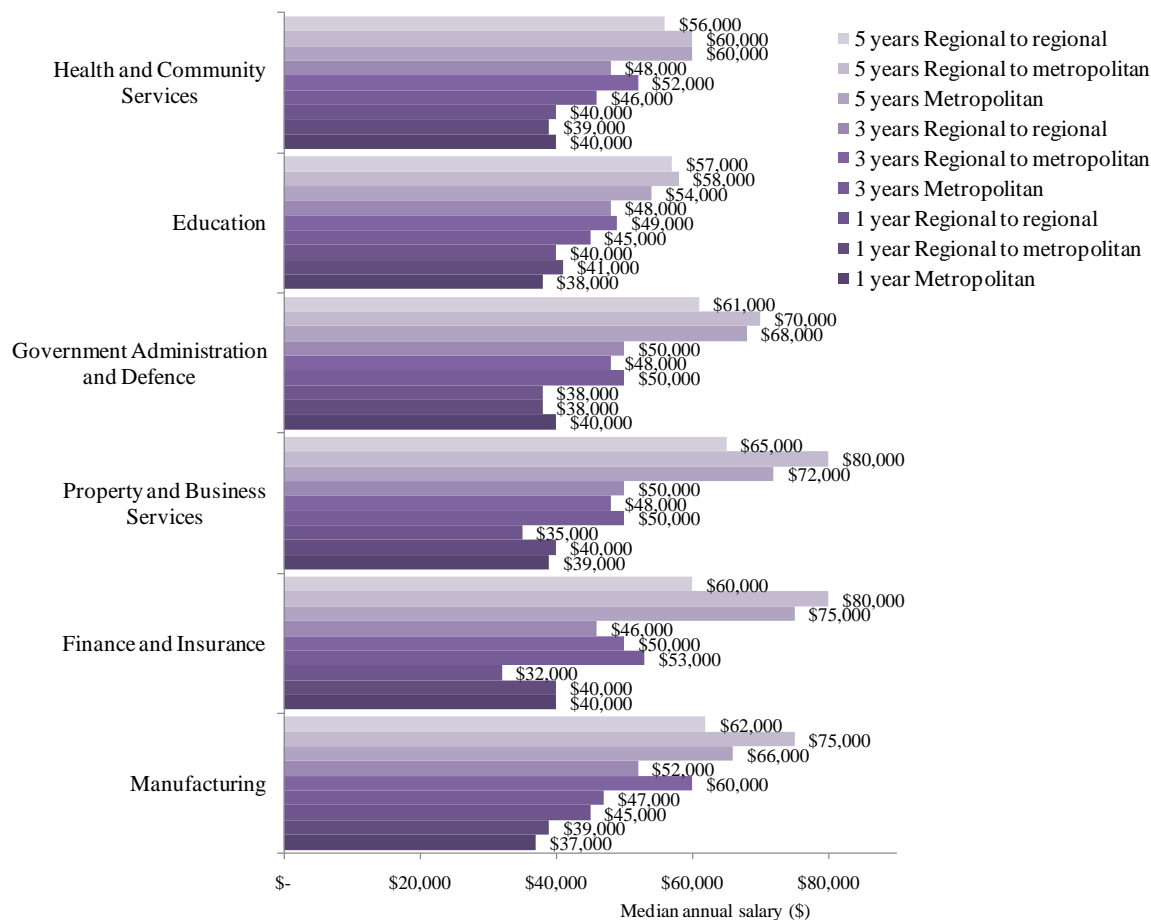


Figure 76: Median annual salaries at 1, 3 and 5 years (GPS)

When industries which employ more than 1,000 respondents are considered, it is possible to view the development of salary differentials over a five year period. As Figure 76 shows, one year after completing their studies those study at regional HEIs and remain in regional areas for employment earn very similar salaries to both those who study at regional HEIs and move to metropolitan areas for employment and those who study at metropolitan HEIs in almost all industries.

An exception to this pattern is found in two industries. In finance and insurance, those who study at regional HEIs and remain in regional areas one year after completing their course earn \$8,000 less than those in the same industry in metropolitan areas. Conversely, those who study at regional HEIs and remain in regional areas in the manufacturing industry earn \$6,000 more than those in metropolitan areas.

Three years after completing their courses, those who study at regional and metropolitan HEIs, regardless of whether they remain in regional areas, are earning very similar salaries in all industries other than finance and insurance and the manufacturing industry. In the finance and insurance industry, those who study at regional HEIs and work in regional areas have a median annual salary of \$46,000, compared to median annual salaries of \$50,000 for those who study at regional HEIs and move to metropolitan areas and \$53,000 for those who study at metropolitan HEIs. In the manufacturing industry, those who study at regional HEIs and move to metropolitan areas have a median annual salary of \$60,000, in comparison to \$52,000 for those who study at regional HEIs remain in regional areas and just \$47,000 for those who study at metropolitan HEIs. Overall, salary levels of those from metropolitan and regional HEIs, and regardless of whether they remain in regional areas, are very similar in the majority of industries at one and three years after course completion.

At five years, however, differences are significantly more marked, with those who study at regional HEIs and remain in regional areas falling behind their peers in all industry areas other than education, where those who study at metropolitan HEIs earn up to \$4,000 less than those who study at regional HEIs. In the health and community services industry, moreover, differences in salaries are very small. In the government, industry and defence industry, those who study at regional HEIs and remain in regional areas earn a median annual salary of \$61,000, in comparison to salaries of \$68,000 for those who study at metropolitan HEIs and \$70,000 for those who study at regional HEIs and move to metropolitan areas for employment. The same pattern is found among individuals working in the property and business services, finance and insurance and manufacturing industries, with those who remain in regional areas lagging behind their peers. In the finance and insurance industry this pattern is most pronounced, with those who study at regional HEIs and remain in regional areas earning \$20,000 less than those who study at regional HEIs and move to metropolitan areas and \$15,000 less than those who study at metropolitan HEIs.

It is not clear why those who study at regional HEIs and move to metropolitan areas earn more than the other two groups. It is possible that those who move to metropolitan areas are more likely to be engaged in higher earning professions, or are more likely to be working full time than the other two groups but there is no evidence to support this assertion. While salaries of those who remain in regional areas are below those of individuals in metropolitan areas, it should be remembered that costs of living (particularly accommodation costs) tend to be lower in regional areas.

It is important to note that data has only been collected from individuals up to five years after completing their studies and it would be interesting to know whether differences in annual salaries grow more or less pronounced over a longer period of time.

Similarity of fields of employment to fields of study

Those who study at regional HEIs and work in regional areas assess the connection between their degree and employment slightly differently to those who study at regional HEIs and move to metropolitan areas for work or who study at metropolitan HEIs. As Figure 77 makes clear, 47.0 per cent of those who remain in regional areas for employment feel that their degree is 'very much' connected to their work, in contrast to 42.9 per cent of those who study at regional HEIs and move to metropolitan areas for employment and 41.3 per cent of those who study at metropolitan HEIs.

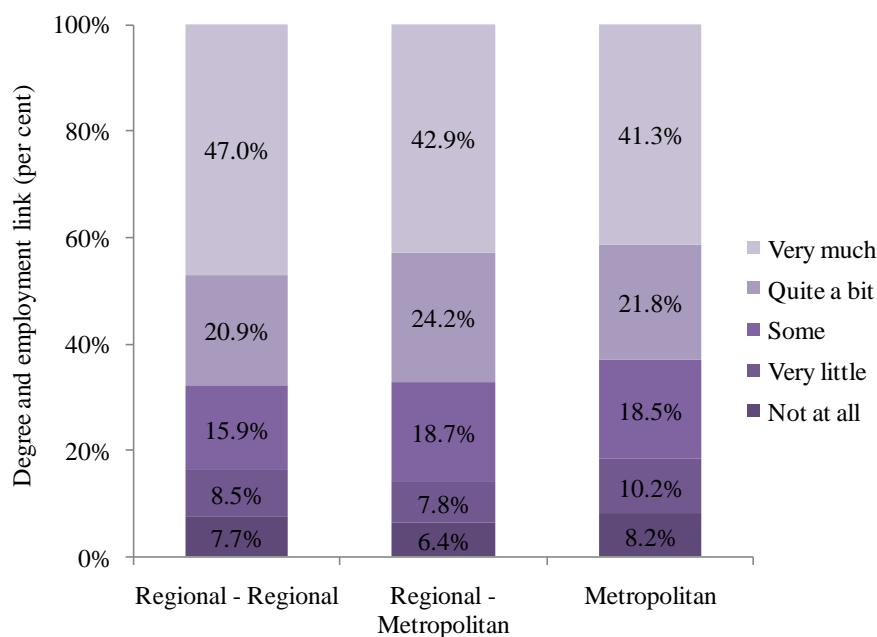


Figure 77: Connection between degree and employment at five years (GPS)

Conclusion

By synthesising all the available data, it is possible to gain a clear picture of the employment outcomes of those who study at regional HEIs. Within six months of completing their courses, those who study at regional HEIs are more likely than those who study at metropolitan HEIs to have obtained a permanent or open-ended contract and to be in full-time employment. In the longer term, however, those who study at regional HEIs are less likely than those who study at metropolitan HEIs to be employed on a full-time basis. This is likely to be a reflection of the higher proportion of females enrolled at regional HEIs.

Those who study at regional HEIs feel that their studies prepare them for employment better than those who study at metropolitan HEIs, and are more likely to feel that their employability and skills are ‘excellent’. Five years after completing their courses, the majority of those who were enrolled at regional HEIs and are working are still living in regional areas, with just over one-third having moved to metropolitan areas. 25 per cent more of those who remain in regional areas for employment attended primary school in a regional area than those who move to a metropolitan area, suggesting that students who originate in regional areas and then enrol in regional HEIs are the group most likely to remain in regional areas after their courses.

Those who remain in regional areas for employment five years after completing their courses are significantly more likely to be employed as educational professionals or health and welfare support workers than those who complete their studies at regional HEIs and move to metropolitan areas for employment. They are also more likely than others to report that their current employment is very similar to their degrees. They have very similar levels of satisfaction with their employment five years after completing their courses as those who study at metropolitan HEIs or those who study at regional HEIs and then move to metropolitan areas. While those who study at regional HEIs and remain in regional areas five years after graduation earn an average of \$7,000 less than those who study at regional HEIs and move to metropolitan areas, this difference may be offset by lower costs of living in regional areas.

9 PREDICTING WHO WILL REMAIN IN A REGIONAL AREA

CHAPTER AIM

- to determine which factors make it more likely that graduates from regional institutions remain in regional areas 5 years after graduation

KEY CHAPTER FINDINGS

- attending a primary school in a regional area makes it more likely that individuals will remain in a regional area after graduation;
- individuals with a low or medium socio-economic status are more likely to remain in a regional area than those with a high socio-economic status;
- those who work part-time are more likely to remain in a regional area than those who work full-time; and
- attending an independent high school increases the likelihood that individuals will remain in a regional area after graduation.

Introduction

As the previous section has made clear, those who complete their studies at regional HEIs tend to remain in regional areas, whether to study or to work. The final section of this report considers a range of factors to determine which of them make it more likely that an individual who attends a regional institution remains in a regional area after graduation.

Regression model

2,213 respondents to the GPS report having attended a regional HEI. Using data from those 1,644 (74.3 per cent) of respondents for whom there is detailed information about a range of background characteristics, a regression analysis was conducted to indicate the impact of a range of variables on the likelihood of a graduate being located in a regional area 5 years after graduation, independent of the influence of any other of these factors.

The regression model used in this analysis included the following key variables:

- Gender;
- Age;
- Occupation type;
- Industry of occupation;
- Employment status (i.e. part-time or full-time)
- Field of study;
- Region where graduate attended primary school;
- Socioeconomic status of residential location during primary school;
- School sector in final year of schooling;
- Family member attendance at university; and
- Highest educational qualification achieved.

Results of regression analysis

It is important to note that the total number of cases analysed here is relatively small in statistical terms and this means that it would not be advisable to make very broad assumptions based on the findings below. Nevertheless, some overall patterns can be seen.

The results of this analysis highlight the statistically significant impact of four particular variables on whether a graduate is living in a regional area 5 years after completing their studies. These variables are: socioeconomic status during primary school; area of primary school attendance; employment status; and sector of school attended during the final year of schooling.

The standardised regression coefficients from the model described above are detailed for these statistically significant variables in Figure 78.

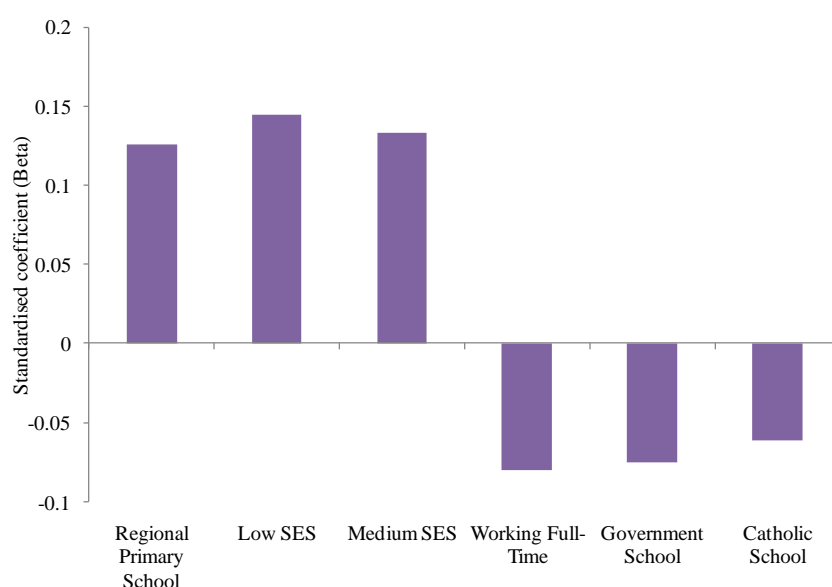


Figure 78: Significant results from regression analysis (standardised regression coefficients)

[Model summary: Dependent variable Living in Regional Area, R Squ=0.109, SEE= 0.456, n=1,644]
[Population: Graduates from Regional Universities]

Interpretation of results

In terms of these four factors, their influences on whether or not a regional graduate remained in a regional area were found to be as follows:

- those who had lived in a regional area while attending primary school were more likely than those who had lived in an urban areas while attending primary school to remain in a regional area;
- those with a low or medium socio-economic status were more likely to remain in a regional area than those with a high socio-economic status;
- those who were working full-time were less likely to remain in a regional area than those who were working part-time; and
- those who had attended either a government or Catholic high school were less likely to remain in a regional area than those who had attended an independent high school.

The figures show that the impact of the SES and the location in which an individual had lived during primary school are larger than those for the working or school sector variables, indicating that these two factors are the most important in this context.

These results must, however, be read with a great deal of caution. First, while these factors do have an effect independent of other variables, and these effects are statistically significant, they are not particularly large. The maximum measure of effect is ± 1 , therefore effects of just 0.15 or -0.1 are relatively small. Nevertheless, it is possible to see that the size of the effect of SES and primary school are greater than the other effects.

Second, while socio-economic status (SES) does indicate an effect, SES is based on postcode during primary school. This is not a nuanced way to measure SES and obscures variations within postcodes. Another way of looking at an individual's SES is to investigate whether or not they are the first in their whole family to attend a higher education institution. Individuals for whom this is the case tend to be from a lower SES than those for whom it is not true. In the regression analysis, however, this factor did not indicate an effect on whether or not an individual would remain in a regional area. Therefore, while SES may play a role in determining whether someone remains in a regional area, the magnitude of this effect is unclear.

If these aspects are taken into account, however, it is possible to conclude that living in a regional area while attending primary school makes it more likely that an individual will remain in a regional area, suggesting that they have long-term ties to regional communities. Similarly, those with low or medium SES are more likely to stay in regional areas than those with high SES. The reason for this is unclear, but may indicate that high SES groups have greater ties to urban areas.

In contrast, independent of the effects of other factors, those who work full time are less likely to remain in regional areas than those who do not. It is not possible to ascertain reasons for this effect. Nor is it clear why individuals who attend Catholic or government high schools are less likely to remain in regional areas than those who attend independent schools.

While characteristics such as gender, age, area of study, occupation and employment sector do not seem to have an effect, there is no information on other aspects such as family status, whether or not individuals are caring for dependents and so on. This is purely because such questions were not included in the GPS instrument. Moreover, there is no way of knowing the reasons why individuals make the choices that they do about whether or not to remain in a regional area after their studies.

Conclusion

Conducting a regression analysis on a range of variables which might be expected to influence the likelihood that individuals remain in a regional area 5 years after graduation indicates that several factors do make it more likely that someone will remain in a regional area - those with a low or medium SES, who attended a regional primary school, who work part-time and who attended an independent high school. Without further research, the reasons why these factors are influential can only be guessed at, and the relatively small size of the measure of effect of these variables suggests that caution must be taken in the interpretation of the data presented here.

10 CONCLUSIONS AND FUTURE INQUIRY

This research provides a foundation for understanding the characteristics, experiences and outcomes of those students who study at HEIs in regional parts of Australia. The current availability of data and the time constraints on this research mean that there are limitations to the findings discussed here. Nonetheless, the information in this report is important in highlighting the current situation, exploring common patterns and identifying the importance of the contribution of students from regional HEIs to the sustainability of regional areas.

Key findings

Students who enrol at HEIs in regional areas tend to be from more disadvantaged groups than those who enrol at HEIs in metropolitan areas. Subsequently, they have different needs to their counterparts at metropolitan institutions. In particular, their need for flexible modes of education, access to childcare facilities and greater financial support to cope with their caring responsibilities mean that they require different kinds of support from their institutions than those needed by students enrolled at metropolitan HEIs.

Students who live in regional parts of Australia are much less likely to plan to move into higher education after completing their secondary education than those in cities and, when they do so, are more likely to defer the commencement of their courses. While a number of factors influence these outcomes, including parental expectations, perceptions about the best way to achieve desired employment outcomes and distance from an HEI, the difficulty of supporting themselves financially is particularly significant. It would seem that greater financial support for students in regional areas would have a significant impact not only on their own rates of participation in higher education but also on the ability of regional HEIs to attract sustainable numbers of students.

Once they commence their courses, students enrolled at regional HEIs are much more likely than their metropolitan counterparts to enrol on a part-time basis, to participate via a distance or multi-modal mode of education and to enrol as a mature-age student or via a VET course. The most popular areas of study are the same as those among students at metropolitan HEIs, with students at many regional HEIs actually less likely than those who study at metropolitan HEIs to be enrolled in the fields of natural and physical sciences, engineering or agriculture and environment. Students at regional HEIs report similar levels of satisfaction with their studies as those who study at metropolitan HEIs, and they are more likely to report that their studies have prepared them for employment.

When students complete their courses at regional HEIs, they tend to remain in regional areas for further study and employment. Those who undertake further study are more likely than students from metropolitan HEIs to enrol in graduate and post-graduate diplomas and advanced diplomas and less likely to enrol in masters degrees by coursework. They are also more than twice as likely as their metropolitan counterparts to enrol in their further studies by an external or distance mode. Interestingly, those who study agriculture and environmental studies at regional HEIs are much less likely than those who study the same subjects at metropolitan HEIs to go on to further study in the same area, with many moving into further studies in education instead.

Those who remain in regional areas for employment are most likely to have attended primary school in a regional area and feel that their studies prepare them for employment better than those who study at metropolitan HEIs. They are significantly more likely to be

employed as educational professionals or health and welfare support workers than those who completed their studies at regional HEIs and who have moved to metropolitan areas for employment. While those who remain in regional areas have very similar levels of satisfaction with their employment they earn an average of \$7,000 less than those who complete courses at regional HEIs and move to metropolitan areas for employment.

Overall, the findings from this research indicate that HEIs in regional areas of Australia contribute very significantly to the potential for regional communities to ensure that they develop sustainably into the future. They enrol students from surrounding areas and these students tend to remain in those same areas after they complete their courses. While participation rates in higher education are significantly lower in regional than metropolitan areas, one crucial factor is impossible to estimate: we do not know, and cannot predict, the proportion of people in regional areas who would still participate in a higher education if there were no HEI in their local area or, in contrast, the proportion of people in regional areas in which there is not currently a HEI who would participate in a higher education if this situation were to change.

The evidence presented in this report does, however, strongly suggest that having a HEI in reasonably close proximity to home location does increase participation rates in higher education, with the cost of moving to another location in order to undertake a higher education prohibitive for many. This factor may be responsible for the 7.4 per cent difference in participation rates in higher education between individuals in regional and metropolitan areas noted by a recent DEEWR report and which other factors are not able to explain (DEEWR, 2010:16; Battersby, 2010; Harding, 2010). As Battersby suggests “it seems very plausible that the rhetoric of regional universities about making a real difference is, indeed, the case” (2010:16).

Moreover, the report presents clear evidence to suggest that greater financial support for individuals in regional areas would have a significant impact on their higher education participation. Given that the majority of those who study at regional HEIs *do* stay in regional areas after they complete their studies, it is highly likely that relatively straightforward policy changes to increase both provision of HEIs and support for prospective higher education students would contribute to enhanced regional development.

Areas for future research

While the data collections used in this report highlight key findings in relation to higher education participation in regional areas, they are limited in several key ways. Where sample sizes are small it is difficult to contrast the characteristics, experiences and outcomes of students at HEIs in different parts of regional Australia, either between States and Territories or between areas with differing degrees of regionality. Consequently, many important differences are likely to be overlooked. Moreover, the fact that many surveys fail to ask students about the HEI campus they are enrolled at makes this limitation more pronounced.

Such restrictions would only be overcome by conducting a rigorous and detailed survey targeted at students who are enrolled at regional HEIs. This would be able to explore many issues and questions in much more detail than surveys targeted at students who are enrolled at all Australian HEIs, and would be likely to uncover a whole range of nuanced and important findings which less targeted surveys inevitably overlook. One area of interest would be whether there are particular influences in the decisions which young people in regional areas make about their post-secondary school pathways, such as the

impact which dominant employment patterns in their communities have on these choices. A further area of interest would be the composition of households in which students live, their caring responsibilities and their networks of relationships within regional communities. A third focus could be on the patterns of participation of regional students in higher education, such as the proportion of those who are nominally enrolled in distance modes of education but who regularly use campus facilities.

Given findings about the importance of socio-economic status in higher education participation rates (DEEWR, 2010), and the role which parental influences play in determining an individual's status, it would be very useful if HESC collected data about the highest level of education achieved by each parent of individual students. This would enable individual institutions, groups of institutions and the government as a whole to more accurately identify the numbers of students from low socio-economic backgrounds which each HEI hosts, without resorting to making assumptions based on areas in which individuals have a permanent address, a method which is limited. Greater knowledge about the socio-economic status of individual students would significantly enhance the ability to target particular students for support and to track the relative study patterns and success rates of those from a range of backgrounds.

While data collections used in this report have given an indication of employment outcomes for those who study at regional HEIs, it is impossible to ascertain the extent to which such outcomes are predicated on the limited availability of certain professional opportunities and the greater availability of others. For example, if many of those who complete courses in agriculture and environment studies at regional HEIs go on to further studies in education, does this indicate particular attractions in the educational field in regional communities, particular limitations in the agricultural field or a combination of the two?

Finally, while data indicates which students move to metropolitan areas or remain in regional areas for higher education studies and employment, it is not clear why they make these choices. Assumptions can be made about the availability of particular course offerings or the attraction of more highly ranked institutions in metropolitan areas over less highly ranked institutions in regional areas, but these are not supported by an evidence base. If Australia is to find a way to reduce the flow of young people from regional communities to large cities it is essential that all the factors in their decision making are identified and that information is gathered on factors which would influence them to make different choices.

REFERENCES

- Australian Bureau of Statistics. (2009). *4102.0 - Australian Social Trends, 2008*. Canberra: Australian Bureau of Statistics.
- Australian Government. (2009). *Transforming Australia's Higher Education System*. Canberra: Department of Education, Employment and Workplace Relations.
- Barraket, J., Melville, R., Wright, S., Scott, M., Richardson, S., Carey, G., Thornton, S. and Hodge, P. (2009) *Final Report: Engaging with Learning: Understanding the Impact of Practice-Based Learning Exchange*, Sydney: Australian Learning and Teaching Council.
- Battersby, D. (2010). Letter to the Editor. *The Australian*, Wednesday 9 June 2010, 44.
- Bowles, W. and Duncombe, R. (2005). A satellite model for rural and remote social work field education. *Rural Society* 15(3), 284-295.
- Bradley, D., Noonan, P., Nugent, H. & Scales, W. (2008). *Review of Australian Higher Education, Final Report*. Canberra: Department of Education, Employment and Workplace Relations.
- Coates, H., & Edwards, D. (2009). *The 2008 Graduate Pathways Survey: Graduates' education and employment outcomes five years after completion of a bachelor degree at an Australian university*. Canberra: Department of Education, Employment and Workplace Relations.
- AVCC/GCCA. (2001). *Code of Practice for the public disclosure of data from the GCCA's Graduate Destination Survey, Course Experience Questionnaire and Postgraduate Research Experience Questionnaire*. Canberra: Australian Vice-Chancellor's Committee and Graduate Careers Council of Australia.
- Charles Darwin University (2010) *Submission to Review of Regional Loading*, not publicly available.
- Charles Sturt (2010) *Submission to Review of Regional Loading*, not publicly available.
- CQUniversity (2010) *Submission to Review of Regional Loading*, not publicly available.
- Critchley, J., de Wit, D., Khan, M. & Liaw, S. (2007). A required rural health module increases students' interest in rural health careers. *Journal of Rural and Remote Health*, 7, article 688.
- Curtin University (2010) *Submission to Review of Regional Loading*, not publicly available.
- Deakin University (2010) *Submission to Review of Regional Loading*, not publicly available.
- Department of Education, Employment and Workplace Relations. (2010) *Regional Participation: The Role of Socio-Economic Status and Access*. Canberra: Commonwealth of Australia.
- Department of Education, Training and the Arts. (2007). *The Next Step Report on the Destinations of Year 12 Completers in Queensland*. Brisbane: Queensland Department of Education and the Arts.
- Department of Innovation, Universities and Skills. (2008). *A 'New University Challenge' Unlocking Britain's Talent*. London: Crown.

- Edgeworth, K. and Eiseman, J. (2007). Going bush: international student perspectives on living and studying at an Australian rural university campus. *Journal of Research in Rural Education*, 22(9), 1-19.
- Edith Cowan University (2010) *Submission to Review of Regional Loading*, not publicly available.
- Edwards, D. & Marks, G. (2008). *Preliminary Report on University Participation, Access and Entry in Victoria*. Appendix 4 in Victorian Government Submission to Review of Australian Higher Education, Melbourne: Government of Victoria.
- Eley, D. & Baker, P. (2009). The value of a rural medicine rotation on encouraging students toward a rural career: clear benefits from the RUSC program. *Teaching and Learning in Medicine*, 21(3), 220-224.
- Ellis, B., Sawyer, J., Gill, R., Medlin, J., & Wilson, D. (2005). Influences of the learning environment of a regional university campus on its international graduates. *The Australian Educational Researcher*, 32(2), 65-86.
- Ellis, B., Watkinson, J. & Sawyer, J. (2008). Working together to make things happen: new on-campus higher education opportunities in a regional centre. *The Australian Educational Researcher*, 35(3), 71-88.
- Eversole, R. (2001). Keeping youth in communities: education and out-migration in the South West. *Rural Society*, 11(2), 85-98.
- Forbes, L. & Hamilton, J. (2004). Building an international student market: educational-balanced scorecard solutions for regional Australian cities. *International Education Journal*, 5(4), 502-520.
- Griffith University (2010) *Submission to Review of Regional Loading*, not publicly available.
- Harding, S. (2010). Letter to the Editor. *The Australian*, Wednesday 9 June 2010, 44.
- Hays, R., Wronski, I., Veitch, J. & McCloskey, T. (2006). Intern choices for the first graduates of James Cook University. *Medical Journal of Australia*, 184 (2), 94.
- Hillman, K. & Rothman, S. (2007). *Movement of Non-Metropolitan Youth Towards the Cities. LSAY Research Report 50*. Camberwell: Australian Council for Educational Research.
- James Cook University (2010) *Submission to Review of Regional Loading*, not publicly available.
- James, R. (2001). Participation disadvantage in Australian higher education: an analysis of the effects of geographical location and socioeconomic status. *Higher Education*, 42(4), 455-472.
- James, R., Baldwin, G., Coates, H., Krause, K. & McInnis, C. (2004). *Analysis of Equity Groups in Higher Education*, Report for the Department of Education, Science and Training, Melbourne: Centre for the Study of Higher Education.
- James, R., Wyn, J., Baldwin, G., Hepworth, G., McInnis, C. & Stephanou, A. (1999). *Rural and Isolated School Students and their Higher Education Choices: A Re-Examination of Student Location, Socioeconomic Background, and Educational Advantage and Disadvantage*. Canberra: Higher Education Council.
- Jones, A., Oster, R., Pederson, L., Davis, M. & Blumenthal, D. (2000). Influence of a primary care clerkship on medical students' intentions to practice in a rural community. *Journal of Rural Health*, 16(2), 155-161.

- Jones, M., Humphreys, J. & Prideaux, D. (2009) Predicting medical students intentions to take up rural practice after graduation. *Medical Education*, 43(10), 1001-1009.
- Jones, R. (2004). *Geolocation Questions and Coding Index*. Canberra: Ministerial Council on Education, Employment, Training and Youth Affairs.
- Khoo, S. & Ainley, J. (2005). *Attitudes, Intentions and Participation, LSAY Research Report. 41*. Camberwell: Australian Council for Educational Research.
- Krause, K, Hartley, R., James, R., & McInnis, C. (2005). *The first year experience in Australian universities: Findings from a decade of national studies*. Final report of a project funded by the Higher Education Innovation Programme, Department of Education, Science and Training, CSUE. Melbourne: University of Melbourne.
- La Trobe University (2010) *Submission to Review of Regional Loading*, not publicly available.
- Lewis, C., Dickson-Swift, V., Talbot, L. & Snow, P. (2007). Regional tertiary students and living away from home: a priceless experience that costs too much? *Australian Journal of Social Issues*, 42(4), 531-547.
- Long, M., Carpenter, P. & Hayden, M. (1999). *Participation in Education and Training, LSAY Research Report. 13*. Camberwell: Australian Council for Educational Research.
- Lyon, P. McLean, R., Hyde, S. & Hendry, G. (2008). Students' perceptions of clinical attachments across rural and metropolitan settings. *Assessment and Evaluation in Higher Education*, 33(1), 63-73.
- Marks, G., Fleming, N., Long, M. & McMillan, J. (2000). *Patterns of participation in year 12 and higher education in Australia: Trends and issues, LSAY Research Report 17*. Camberwell: Australian Council for Educational Research.
- Mays, H. & Lyons, D. (2006). *A proposal for change to teacher education in and for rural and regional Australia. Making teaching public : reforms in teacher education*. Proceedings of the 34th annual conference, Australian Teacher Education Association, 5-8 July, Fremantle, Western Australia.
- Murdoch University (2010) *Submission to Review of Regional Loading*, not publicly available.
- Organisation for Economic Cooperation and Development. (2007). *Higher education and regions: globally competitive, locally engaged*. Paris: OECD.
- Parliament of Victoria (2006). *Inquiry into Retraining Young People in Rural Towns and Communities*. Melbourne: Government Printer for the State of Victoria.
- Parry, J., Mathers, J., Al-Fares, A., Mohammad, M, Nandakumar, M. and Tsivos, D. (2002). Hostile teaching hospitals and friendly district general hospitals: final year students' views on clinical attachment locations. *Medical Education* 36(12), 1131-141.
- Poh, H. & Townsend, P. (2005). *An exploratory study of international students studying and living in a regional area*. Department of Management Working Paper Series, Melbourne: Monash University.
- Polesel, J. (2009). Deferring a university offer in rural Australia. *Australian Journal of Education*, 53(1), 87-103.

- Polesel, J., Teese, R., Lamb, S., Helme, S., Nicholas, T. & Clarke, K. (2005). *Destination and satisfaction survey of 2004 HSC VET students in New South Wales—Final report*. Sydney: New South Wales Department of Education and Training.
- Potts, A. (2003). The Power of the City in Defining the National and Regional in Education. Reactions against the Urban: Universities in Regional Australia. *Paedagogica Historica*, 39(1/2), 135-152.
- Schmidt, P. (2010). Top students from rural America shun elite colleges. *The Chronicle of Higher Education*, April 30, 2010.
- Southern Cross University (2010) *Submission to Review of Regional Loading*, not publicly available.
- Spencer, R., Cardin, A., Ranmuthugala, G., Somers, G. & Solarsh, B. (2008). Influences on medical students' decisions to study at a rural clinical school. *Australian Journal of Rural Health*, 16 (5), 262–268.
- Stevenson, S., Evans, C., Maclachlan, M., Karmel, T. & Blakers, R. (2001). *Access: Effect of campus proximity and socioeconomic status on university participation rates in regions, Occasional Paper Series 01/C*. Canberra: Department of Education, Science and Training.
- University of Ballarat (2010) *Submission to Review of Regional Loading*, not publicly available.
- University of Newcastle (2010) *Submission to Review of Regional Loading*, not publicly available.
- University of New England (2010) *Submission to Review of Regional Loading*, not publicly available.
- University of Notre Dame (2010) *Submission to Review of Regional Loading*, not publicly available.
- University of South Australia (2010) *Submission to Review of Regional Loading*, not publicly available.
- University of Tasmania (2010) *Submission to Review of Regional Loading*, not publicly available.
- University of the Sunshine Coast (2010) *Submission to Review of Regional Loading*, not publicly available.
- University of Wollongong (2010) *Submission to Review of Regional Loading*, not publicly available.
- Victorian Parliament. (2009). *Inquiry into Geographical Differences in the Rate in which Victorian Students Participate in Higher Education*. Melbourne: Education and Training Committee.
- Wakeford, R. (1983). Undergraduate students' experience in 'peripheral' and 'teaching' hospital compared. *Annals of the Royal College of Surgeons of England* 65(6), 374–77.
- Wilkinson, D., Birks, J., Davies, L., Margolis, S. & Baker, P. (2004). Preliminary evidence from Queensland that rural clinical schools have a positive impact on rural intern choices. *Rural and Remote Health* 4, 340.
- Wilkinson, D., Laven, G., Pratt, N., & Beilby, J. (2003). Impact of undergraduate and postgraduate rural training, and medical school entry criteria on rural practice among

- Australian general practitioners: national study of 2414 doctors. *Medical Education* 37(9), 809–14.
- Winchester, H., Glenn, A., Thomas, P. & Cole, M. (undated). *The Role of Universities in the Regions*. Business Higher Education Roundtable.
<http://www.bhert.com/publications/discussion-papers.html>, accessed 7 June 2010.
- Worley, P., Silagy, C., Prideaux, D., Newble, D. & Jones, A. (2000). The parallel rural community curriculum: an integrated clinical curriculum based in rural general practice. *Medical Education* 34(7), 558–565.
- Yao, L. & Bai, Y. (2008). The sustainability of economic and cultural impacts of international students to regional Australia: the case of Bendigo. *Humanomics*, 24(4), 250-262.

APPENDICES

Appendix 1: Regional institutions

This table indicates all the regional areas in Australia in which at least one higher education institution is located, ordered by the population of the locality and with its ARIA score and accessibility rating given. Common abbreviations for HEIs are used.

Locality	Population	ARIA	Remoteness	Higher Education Institution (s)
Gold Coast	402,647	0	Highly Accessible	Griffith, CQU, SCU, Bond
Newcastle	288,735	0	Highly Accessible	Newcastle, ACU
Central Coast	282,727	0.18	Highly Accessible	Newcastle
Wollongong	234,481	0.19	Highly Accessible	Wollongong, ACU
Sunshine Coast	184,663	0.65	Highly Accessible	SCU, CQU
Geelong	137,223	0.18	Highly Accessible	Deakin
Townsville	128,807	3	Accessible	JCU, ACU
Hobart	128,579	1.21	Highly Accessible	Tasmania, ACU
Cairns	98,346	3	Accessible	JCU, ACU
Toowoomba	95,263	0.29	Highly Accessible	USQ, ACU
Ballarat	78,223	0.27	Highly Accessible	Ballarat, ACU
Bendigo	76,049	0.35	Highly Accessible	La Trobe
Launceston	71,398	1.21	Highly Accessible	Tasmania
Mandurah	67,812	0.47	Highly Accessible	Murdoch
Rockingham	67,522	0.29	Highly Accessible	Murdoch, UWA
Mackay	66,875	3.7	Moderately Accessible	JCU, CQU
Darwin	66,290	3	Accessible	CDU
Rockhampton	60,832	1.49	Highly Accessible	CQU
Bunbury	54,483	1.14	Highly Accessible	ECU
Tweed Heads	51,792	0.17	Highly Accessible	CSU
Bundaberg	46,962	2.07	Accessible	CQU
Wagga Wagga	46,737	1.07	Highly Accessible	CSU, ACU
Albury	43,784	0.72	Highly Accessible	CSU, UWA
Hervey Bay	41,226	1.91	Accessible	USQ
Port Macquarie	39,221	1.64	Highly Accessible	Newcastle
Shepparton	38,770	0.93	Highly Accessible	La Trobe
Orange	31,545	1.62	Highly Accessible	CSU
Dubbo	30,568	2.4	Accessible	CSU, ACU
Mildura	30,017	2.48	Accessible	La Trobe
Wodonga	29,715	0.72	Highly Accessible	La Trobe
Bathurst	28,991	1.26	Highly Accessible	CSU, ACU
Gladstone	28,804	1.7	Highly Accessible	CQU
Kalgoorlie	28,241	3.87	Moderately Accessible	Curtin
Warrnambool	28,148	1.31	Highly Accessible	Deakin
Nowra	27,478	0.67	Highly Accessible	Wollongong

Geraldton	27,420	2.76	Accessible	Curtin, ECU
Lismore	27,071	0.79	Highly Accessible	SCU
Coffs Harbour	26,353	2.08	Accessible	SCU
Albany	25,197	2.69	Accessible	Curtin, ECU
Mount Gambier	23,493	2.24	Accessible	South Australia
Alice Springs	21,621	6	Remote	CDU, Batchelor
Whyalla	21,123	2.45	Accessible	South Australia
Goulburn	20,130	0.59	Highly Accessible	CSU
Armidale	19,483	2.12	Accessible	New England
Burnie	19,161	2.08	Accessible	Tasmania
Mount Isa	18,856	6.02	Remote	JCU
Horsham	14,120	2.83	Accessible	Ballarat
Karratha	11,727	9	Remote	Curtin
Port Hedland	11,556	9	Remote	Curtin
Broome	11,548	9	Remote	ECU, Notre Dame
Bairnsdale	11,285	2.56	Accessible	RMIT
Emerald	11,002	5.06	Moderately Accessible	CQU
Batemans Bay	10,844	1.72	Highly Accessible	Wollongong
Esperance	9,534	7.21	Remote	Curtin
Hamilton	9,377	2.1	Accessible	RMIT
Moss Vale	6,726	0.93	Highly Accessible	Wollongong
Northam	6,006	1.3	Highly Accessible	Curtin
Gatton	5,294	0.59	Highly Accessible	UQ
Churchill	4,592	1.19	Highly Accessible	Monash
Bega	4,534	4.13	Moderately Accessible	Wollongong
Margaret River	4,412	3.03	Accessible	Curtin, ECU
Renmark	4,342	4.22	Moderately Accessible	Flinders
Thursday Island	2,547	12	Very Remote	JCU
Creswick	2,487	0.69	Highly Accessible	Melbourne
Roseworthy	672	0.75	Highly Accessible	Adelaide
Batchelor	480	5.09	Moderately Accessible	Batchelor
Dookie	290	1.53	Highly Accessible	Melbourne

Appendix 2: Classification of Regional and Metropolitan in Graduate Pathways Survey, Graduate Destinations Survey and Australasian Survey of Student Engagement.

The table indicates the institutions which are regarded as ‘regional’ in analyses of data from the GPS, GDS and AUSSE.

Regional	Metropolitan
The University of Ballarat*	The University of Adelaide
Batchelor Institute of Indigenous Tertiary Education*	The Australian Catholic University
Central Queensland University	The Australian National University
Charles Darwin University	The University of Canberra
Charles Sturt University	Curtin University
James Cook University	Deakin University
The University of Newcastle	Edith Cowan University
The University of New England	Flinders University
Southern Cross University	Griffith University
Southern Queensland University	La Trobe University
The University of the Sunshine Coast	Macquarie University
The University of Tasmania	The University of Melbourne
The University of Wollongong	Monash University
	Murdoch University
	The University of New South Wales
	The University of Notre Dame
	The University of Queensland
	Queensland University of Technology
	Royal Melbourne Institute of Technology
	The University of South Australia
	Swinburne Institute of Technology
	The University of Technology Sydney
	Victoria University
	The University of Western Australia
	The University of Western Sydney

* The number of respondents from both the Batchelor Institute of Indigenous Tertiary Education and from Ballarat University was too small to allow responses from these institutions to be analysed, and they are therefore not referred to when figures are broken down by institution.

Appendix 3: Regional campuses of Australian higher education institutions

The table indicates the regional campuses of HEIs in Australia, and the number of students that are enrolled at these regional campuses.

Institution	Campus	Students
Charles Sturt University	Goulburn, Albury, Charles Sturt University, Griffith, Bathurst, Orange, Dubbo	28,602
University of Southern Queensland	Toowoomba, Pinalba	23,815
The University of Newcastle	Newcastle, Tamworth, Taree, Port Macquarie, Fairy Meadow	22,164
University of Wollongong	Wollongong, Berry, Batemans Bay, Bega, Moss Vale	18,338
University of Tasmania	Sandy Bay, Launceston, Beaconsfield, Burnie	17,916
University of New England	Armidale, Coffs Harbour	17,604
Deakin University	Geelong, Warrnambool	15,583
Griffith University	Southport	14,290
James Cook University	Mackay, Townsville, Mount Isa, Thursday Island, Machans Beach	13,333
Southern Cross University	Port Macquarie, Lismore, Tweed Heads, Mount Gambier	11,940
CQUniversity	Southport, Pomona, Bundaberg, Gladstone, Emu Park, Emerald, Mackay Forward	11,691
University of the Sunshine Coast	Buderim	7,082
Charles Darwin University	Casuarina, Palmerston, Alice Springs, Northern Territory University	6,412
University of Ballarat	Geelong, Ballarat, Horsham	6,156
La Trobe University	Mildura, Bendigo, Shepparton, Wodonga	5,708
Bond University	Robina	5,706
Monash University	Churchill	4,025
Australian Catholic University	Katherine, Newcastle, Wollongong, Dickson, Wagga Wagga, Bathurst, Dubbo, Wilcannia, Ballarat, Warragul, Toowoomba, Townsville, Cairns, Hobart	1,514
The University of Queensland	Toowoomba	1,491
Curtin University of Technology	Margaret River, Albany, Northam, Kalgoorlie, Esperance, Geraldton, Karratha, South Hedland	1,184
Edith Cowan University	Bunbury, Katanning, Geraldton, Broome	1,117