

The age at which Indigenous Australians undertake qualifications: A descriptive analysis

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Reducing disparities in education outcomes between Indigenous and non-Indigenous Australians is one of the main ways in which the relative disadvantage Indigenous Australians face will be overcome. Relative and absolute participation rates in all forms of education have improved, however they are still unacceptably low. Those Indigenous Australians who do undertake post-school education do so for the most part at a later age than the non-Indigenous population.

This paper gives a descriptive analysis of the age at which Indigenous Australians are currently undertaking education, and the age at which Indigenous Australians obtained their qualifications in the past, making comparisons where appropriate with the non-Indigenous population. It also examines how certain characteristics of students vary across different age groups.

Introduction

Finishing high-school and/or obtaining qualifications improves a person's income and employment prospects. Card (2001) gives a summary of the evidence for this from the overseas literature, Borland (2002) has information on Australia and Junankar and Liu (2003) give estimates for the Indigenous population. Furthermore, education may lead to more than just better economic outcomes. Wolfe and Haveman (2001) list a number of possible non-market and social effects of education. These include a positive association between an individual's education and:

- schooling of their children
- efficiency of their choices, including consumer choices
- outcomes of individuals in their neighbourhood
- ability to plan fertility decisions, and
- their health outcomes and their children's health outcomes.

The flipside of these potential benefits of education is that a subgroup of the population who has substantially lower average levels of education is likely to be disadvantaged across many outcomes. Furthermore, until education disparities are reduced, disparities in other outcomes are also likely to remain. This is perhaps no better demonstrated than by the Indigenous population of Australia.

Indigenous Australians are the descendants of the original inhabitants of the Australian mainland, the island of Tasmania and the Torres Strait Islands to the north of Cape York. Although there is a good deal of conjecture, it is estimated that, at the time of European colonisation in 1788, around 300,000 to 1 million people inhabited the varying climates of what was eventually to become Australia (ATSIC 1998). With the introduction of European diseases and an ever expanding and encroaching non-Indigenous set of colonies and then nation, the size of the Indigenous population fell quite dramatically. Indeed, over 200 years later, with the current population of Australia over 20 million people, the Indigenous

population is only just returning to be close to the estimated pre-colonisation numbers – 460,140 at the last census in 2001 – or 2.4% of the total population (ABS 2003).

Like Indigenous populations the world over, Indigenous Australians have not fared as well across a number of outcomes as the colonising population or later waves of migrants that have come to Australia. Furthermore, despite a general recognition of the disadvantages faced by Indigenous Australians, this relative situation has not improved substantially in the last 20–30 years. This can be demonstrated by the following table taken from Altman, Biddle and Hunter (2004). Here, the ratio of Indigenous to non-Indigenous outcomes is presented at 10-yearly intervals (where available) from 1971 to 2001.

Table 1: Ratio of selected Indigenous to non-Indigenous outcomes – 1971 to 2001

Variable	1971	1981	1991	2001
Unemployment rate (% labour force)	5.44	4.22	2.70	2.79
Employment to population ratio (% adults)	0.73	0.61	0.66	0.71
Labour force participation rate (% adults)	0.78	0.77	0.84	0.82
Full-time employment (% adults)	0.68	0.44	0.56	0.57
Private-sector employment (% adults)	0.65	0.42	0.50	0.48
Median income in \$2001 – Individual	n.a.	0.55	0.62	0.56
Median income in \$2001 – Household	n.a.	0.72	0.77	0.78
Home owner or purchasing (% population)	0.37	0.27	0.27	0.37
Household size	1.33	1.32	1.38	1.31
Population aged over 55 years (%)	0.43	0.34	0.31	0.31
Never attended school (% adults)	39.32	14.42	5.21	3.14
15–24 year olds attending educational institution (% of non-secondary students)	n.a.	0.38	0.35	0.43
Post-school qualification (% adults)	0.13	0.18	0.30	0.44

Source: Altman, Biddle and Hunter (2004) using the Census of Population and Housing from applicable year.

Looking at the figures for 2001, the unemployment rate for Indigenous Australians is more than two and a half times higher than that of the non-Indigenous population, average individual income only a little over a half and the percent of people who own or are buying their own home under two-fifths. Some of the relative outcomes have improved, whereas others have stagnated or even worsened (for example, the percent of adults in full-time employment).

Although the above table shows that educational participation has improved through time, there are still substantial gaps in the relative education levels of Indigenous and non-Indigenous Australians. As quantified in the following two tables, all types of education are less common for Indigenous Australians, but it is especially the case for the education types that are most likely to have a substantial effect on education outcomes, that is bachelor or post-graduate degrees from a university.

In these tables (presented for those 15 years and older who are not currently at school and separately for males and females), the Indigenous and non-Indigenous populations are broken down, firstly, by whether or not they finished high school, and secondly, by the type of non-school qualifications they have (if any). The last two cells of the bottom line give the proportion of the population who have finished Year 12.

Table 2a: Post-school qualifications by Year 12 completion – Males 15 plus not at school

Qualification	Not Finished Year 12		Finished Year 12	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
No qualification	83.5	61.4	62.3	39.4
Certificate	14.2	34.1	19.2	17.2
Diploma	1.4	3.1	6.3	10.7
Bachelor degree	< 1	< 1	9.5	24.1
Graduate diploma	< 1	< 1	1.2	2.6
Master degree	< 1	< 1	1.2	4.2
Doctorate	< 1	< 1	< 1	1.8
Total proportion			17.4	42.8

Source: Customised data from the 2001 census

Table 2b: Post-school qualifications by Year 12 completion – Females 15 plus not at school

Qualification	Not Finished Year 12		Finished Year 12	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
No qualification	88.7	82.9	64.2	42.8
Certificate	7.0	10.9	13.1	10.1
Diploma	2.7	3.7	8.1	13.4
Bachelor degree	1.3	2.1	11.8	25.7
Graduate diploma	< 1	< 1	1.8	4.3
Master degree	< 1	< 1	1.0	3.0
Doctorate	< 1	< 1	< 1	< 1
Total proportion			19.8	43.3

Source: Customised data from the 2001 census

Indigenous Australians are less likely to have completed Year 12 (the two cells in the last line of the tables), with the difference slightly higher for males than females. Furthermore, for both females and males, Indigenous Australians are much less likely to have all types of post-school qualifications than non-Indigenous Australians. This disparity is especially true for those who did not finish Year 12. In addition, of those with at least some non-school qualification, Indigenous Australians are much more likely to have a certificate or diploma, as distinct from a degree or higher.

As is recognised by all levels of government within Australia, until the education disparities experienced by Indigenous Australians outlined in Tables 2a and 2b are overcome, the disparities in other socio-economic outcomes presented in Table 1 are going to remain the same, or catch up only slowly at best.

The way in which governments can best impact on education levels into the future is through the number of students at each point in time, as well as their rate of completion. That is, the stock of education (education levels) is mainly increased by the flow of education (the number of students). As this paper will later show, the most traditional source for this flow of education, or the time when most individuals gain their qualifications, is quite soon after leaving high school. However, there is still considerable variation across the population, with a not insubstantial minority of students being in their 30s and 40s.

The focus of the remainder of this paper is the age at which Indigenous Australians undertake post-school education. The next section looks at the current patterns of attendance and how certain characteristics vary by a student's age. The section that follows examines the ages at which the Indigenous population who are alive today completed their qualifications in the past. The final section concludes the paper with a brief summary and a discussion of the implications of the results.

To analyse the learning paths of Indigenous Australians, this paper uses the 2001 Census of Population and Housing (the Census). Carried out by the Australian Bureau of Statistics (the ABS), the Census has educational information on most Australians who were in the country at the time, with information corresponding to the week before the Census was carried out on 7 August. ABS (2003) has more information on the Census, especially with regard to enumeration of the Indigenous population.

There are a number of positives and negatives when it comes to using the Census to undertake such an analysis. Importantly, there is almost complete coverage of the Australian population with a large enough size to get detailed information by age, Indigenous status and year of qualification. There is no other data set which allows such breakdowns, especially all three at once.

Current students

It is important to have a detailed understanding of the ages of the current student population and how this might vary by population sub-group. The first reason for this is the provision of educational services and support. If a student population is made up of a relatively old population, then the curriculum and teaching style might need to be changed accordingly and income support may need to be differentially targeted (that is, less reliance on parental income as a means test). Furthermore, things like childcare and part-time options become more relevant than, say, sporting facilities.

A second reason for studying learning paths is that doing so may shed light on reasons for overall low participation rates. That is, if it is the case that attendance rates for youth and young adults are relatively low compared with older adults, then certain factors may be more important in pulling/pushing Indigenous Australians away from education.

Finally, when a person studies may have a strong influence on the likely benefits and costs, as well as the overall success of a person's education. On the one hand, the older a person is, the higher the likely costs of education in terms of income foregone and especially when combined with a lower life expectancy, the less time a person may have to enjoy the benefits of education. On the other hand, by undertaking post-secondary studies as a more mature student, individuals may have better study habits and be more discerning in their choice of subjects and courses. Information on learning paths is therefore essential for undertaking accurate research on the returns to education.

There has been some work examining the age of Indigenous students. Encel (2000) reported that, using administrative data from the (then) Department of Education, Training and Youth Affairs (DETYA), Indigenous university students tend to be around five years older than their non-Indigenous counterparts. This was true for undergraduate and postgraduate students. Similarly Gray, Hunter and Schwab (2000) found, using a cohort analysis of the 1986, 1991 and 1996 Censuses, that non-Indigenous youth had a higher participation rate than Indigenous youth, whereas there was higher participation rates for Indigenous Australians later in their life.

Table 3 presents results for the latest available Census. It gives the median age of both university and TAFE students. The table also gives the median age of non-students aged 15 years or more to compare the results against. The table is broken down first by sex, then by a number of other factors.¹

¹ The median refers to the middle value when the group of numbers are ordered from lowest to highest (or youngest to oldest in this case). Also note that high-school students are not represented anywhere in the table. The median age for this type of student is similar for both the Indigenous and non-Indigenous population with figures available from the author upon request.

Table 3: Median age by educational institution and Indigenous status for non-high school students

	Indigenous			Non-Indigenous		
	University	TAFE	Non-Student	University	TAFE	Non-Student
Male	29	25	32	23	23	43
Female	29	28	33	23	29	44
Employed	30	27	33	25	26	40
Unemployed	25	25	28	21	25	33
Not in the labour force	27	28	33	22	27	60
Full-time student	25	26	n.a.	21	21	n.a.
Part-time student	33	28	n.a.	32	30	n.a.
Married	37	38	40	36	39	48
Never married	24	22	25	21	20	25
Divorced/ separated/widow	41	43	48	41	42	56
Whole population	29	27	32	23	26	44

Source: Customised data from the 2001 Census

Note: Those who didn't respond to individual questions (not including Indigenous status and educational attainment) are only excluded for that particular breakdown.

Looking at the last row of the table which gives data for the whole applicable population, we can see that the median Indigenous university student is about six years older than their non-Indigenous counterpart. This is despite the fact that non-Indigenous Australians are a much older population. Interestingly though, TAFE students are

of roughly the same age for Indigenous and non-Indigenous students (and therefore younger than university students in the Indigenous population, but older for the non-Indigenous population).

Looking at the breakdown of males and females, for the Indigenous and non-Indigenous populations, the median male university student is roughly the same age as his female counterpart. Male TAFE students, however, are younger than female TAFE students – by three years for the Indigenous population and six years for the non-Indigenous population.

Within the labour force status breakdown, the pattern for non-students is reasonably well known. Unemployment is more prevalent amongst the younger population, whereas those not in the labour force are slightly older than those who are employed. Amongst university students, however, there is a slight variation. Broadly speaking, those who are more likely to be supporting themselves (those employed) are older than those who are more likely to be supported (those unemployed or not in the labour force).

Moving on to the full-time/part-time student breakdown, it is not surprising that part-time students are older than full-time students. This is probably because the relative costs of studying (especially the income foregone) is higher for older persons, as are the familial and other responsibilities. That is, older students are likely to have less time available (after work and other responsibilities) to devote to their studies. Interestingly, the gap between part-time and full-time students is much higher for the non-Indigenous rather than Indigenous populations (11 years as opposed to eight years for the respective university student populations, and nine and two years for the TAFE students). Indeed, for university students, those studying part-time are of roughly the same age across Indigenous and non-Indigenous students. This is an important result as it shows the difference in average age between Indigenous and non-Indigenous

university students are driven mainly by the much younger full-time student population amongst non-Indigenous Australians.

Finally, the marital status breakdown shows that, not surprisingly, those students who are married are older than those who were never married, but younger than those who have been divorced/separated/widowed. Here we can see that married Indigenous students are roughly the same age as non-Indigenous students, however for those who are not married, the difference is quite large (especially for university students).

Table 3 showed how the average age of students varied. To design policy to take into account the different needs of young and old students, it is equally important to know how a number of social, economic and health characteristics varied across different types of students. In Table 4, four types of individuals are analysed. Excluding high-school students, those who are studying at post-school institutions are broken down into those aged 15 to 29 and those 30 and older. A similar breakdown is done for those not studying. Within each of these age/student status combinations, the proportion who have a given characteristic is given. These characteristics are roughly categorised into three groups: characteristics expected to impact on human capital and readiness to learn, characteristics related to access to education, and characteristics expected to impact on time constraints.

Table 4: Characteristics of students by age

	Student at post-school institution		Not a student	
	Aged 15 to 29	Aged 30 plus	Aged 15 to 29	Aged 30 plus
Finished Year 12	43.7	23.2	23.0	11.7
English main language spoken at home	93.8	92.1	83.2	85.4
Used a computer in last 12 months	82.7	85.4	58.9	42.6
Used the internet in last 12 months	70.7	66.7	42.2	28.7
Lives in a Remote area	13.7	16.7	31.6	28.2
Has a disability or long-term health condition	22.0	39.6	24.0	23.9
Equivalised household income in bottom quintile	36.2	31.8	44.2	42.9
Has perceived transport difficulty	28.9	26.4	33.4	27.7
Is main carer for someone aged 12 or less	19.9	39.2	33.8	31.3
Used child care in last 4 weeks				
(for those who are main carer)	78.3	73.1	0.73	60.0
Participated in sport in last 12 months	68.8	54.5	56.2	37.6
Has high risk alcohol consumption	2.1	2.9	15.1	7.4
Employed	56.3	61.0	46.5	47.0
Arrested in last 5 years	18.5	6.9	25.7	13.3

Source: Customised table from the 2002 National Aboriginal and Torres Strait Islander Social Survey

Note: The variables marked in **bold** are those for which the difference between column 1 and column 2 is significant at the 5% level of significance

Table 4 shows that there are a number of variables for which those students aged 15 to 29 are significantly different from those aged 30 years or older. Older students are much less likely to have finished Year 12 than their younger counterparts and therefore likely to begin their studies with lower literacy and numeracy skills. Older students are much more likely to have a disability or a long-term condition and therefore face physical difficulties in attendance at school.

Younger students are much less likely to be the main carer for someone aged 12 years or less and more likely to have participated in sport in the last 12 months. These differences are likely to lead to different demands for student services at their post-school institution. Finally, young students are much more likely to have been arrested in the last five years. Provision of legal services at their university or TAFE college is therefore much more likely to be of benefit to these students than those aged 30 years or older.

Just as interesting as the variables where there are significant differences are some of the variables where the proportions for the older and younger student populations are not significantly different. Encouragingly, there is no significant difference in the use of either computers or the internet between older and younger students.

Past attendance

The remainder of the empirical results in this paper explore the age at which those who currently have qualifications completed their education. It is important to take a longer term view of past learning experiences to get an idea of the way in which current levels of education have evolved and to put into historical context the current patterns of attendance already presented in this paper. Furthermore, when a person studied may have had a strong influence on the likely benefits and costs of a person's education. Information on how long ago it was that people obtained their highest qualification is also important when looking at skills more generally in the current

population. Depending on the extent to which skills learnt whilst studying are maintained, a person who obtained their qualification some time ago may not be as up-to-date in their skills as someone who obtained their qualifications more recently.

The age of completion of a person's **highest qualification** is given in the following set of figures (however, no information is available on intermediate qualifications). These figures are presented separately for males and females, with a separate figure for people whose highest qualification is a certificate, diploma and degree. As shown in Tables 1 and 2, a very small proportion of the Indigenous population have a post-graduate degree so they are excluded from the analysis. The Indigenous population is represented by a dotted line, the non-Indigenous population an unbroken line.

Figure 2.1

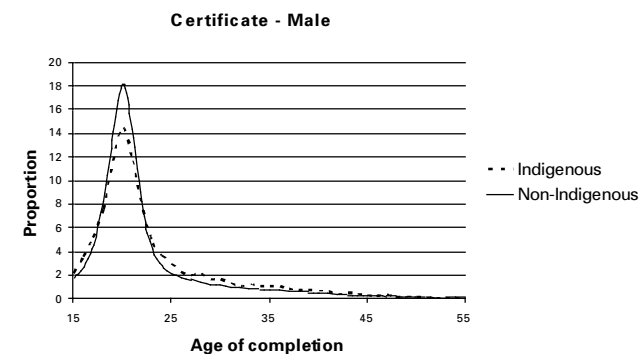


Figure 2.2

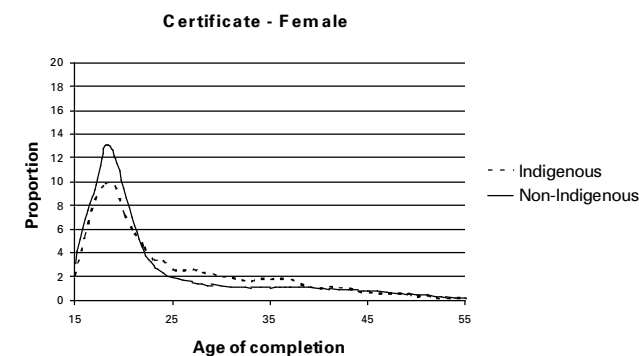


Figure 2.3

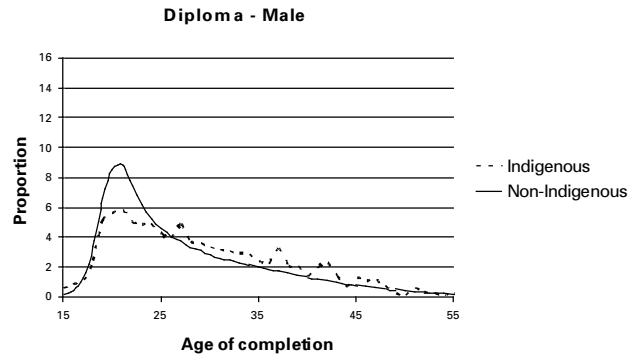


Figure 2.4

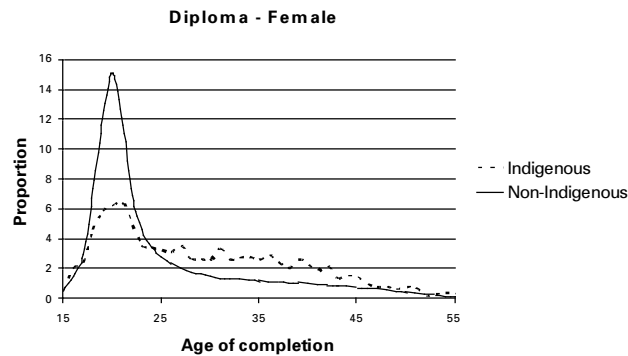


Figure 2.5

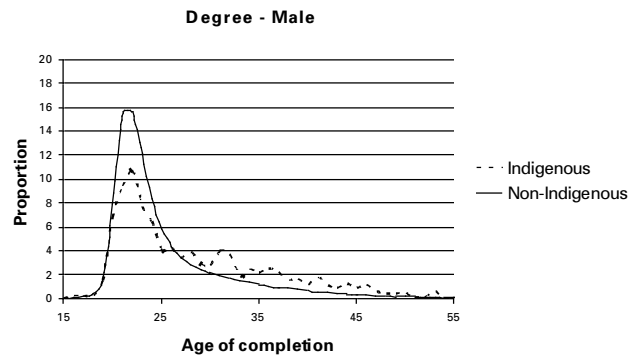
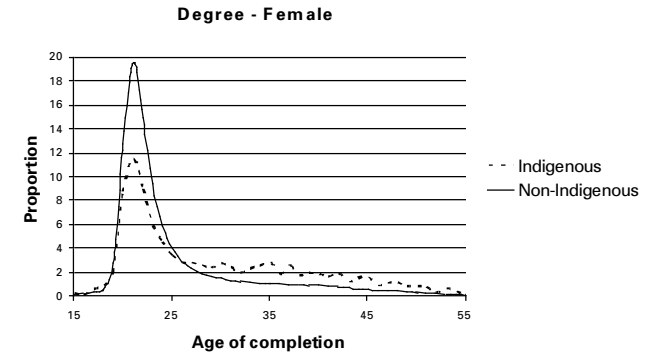


Figure 2.6



Looking at Figure 2.1, we can see that, of those for whom a certificate is their highest non-school qualification, a higher number of Indigenous males completed their qualification at age 15–17 than non-Indigenous males. This possibly reflects the lower high-school completion for this group resulting in non-Indigenous Australians being less likely to have had the chance to obtain non-school qualifications by then. However, between the ages of 18 and 22 for males, and up until age 21 for females, the non-Indigenous proportion is higher.

For both Indigenous and non-Indigenous females, the peak age of completion is aged 18, which is the age at which 9.8% and 13.0% respectively completed their qualification. For males, this peak is slightly older at age 20 with 14.4% of Indigenous and 18.2% of non-Indigenous Australians completing their certificate at this age.

From age 23 and older for males and 22 and older for females, the proportion that obtained their qualification at each age was higher for the Indigenous than the non-Indigenous population. This older age profile of completion is much more pronounced for females; however, for both sexes, Indigenous Australians seem to have had completed their qualifications later than the non-Indigenous population.

This pattern of older attendance is replicated for diplomas, as shown by Figures 2.3 and 2.4. The older age of completion is especially true

for females where, for example, an almost two and a half times higher proportion of non-Indigenous females completed this type of highest qualification at age 20 than their Indigenous counterparts. On the other hand the situation is reversed for 31 year olds, where two and a half times more Indigenous females completed their education at this age.

To put this disparity into perspective, less Indigenous females completed their diploma between the ages of 15 and 24 (40.3%) than between 25 and 40 (44.3%). For non-Indigenous females on the other hand, the corresponding figures are 66.5% and 24.3%.

Looking finally at those for whom a bachelor degree is their highest qualification (which is a much smaller proportion of the Indigenous population), the age of completion is once again older for the Indigenous population and slightly older for males than females.

Nearly one-fifth (19.6%) of non-Indigenous females and 15.6% of non-Indigenous males completed their degrees at age 21. Such an age of completion is akin to leaving school at around age 17 or 18 and then undertaking a three or four year degree. On the other hand, nearly one-fifth of Indigenous Australians completed their degrees at age 36 or older for males and 39 years or older for females. By age 36, however, a little less than eight percent of non-Indigenous males who would eventually complete a bachelor degree were yet to do so, and by aged 39, a little over eight percent of females had not done so.

Another way to consider the past learning experiences of Indigenous Australians is via the number of years between finishing high school and commencing post-school qualifications. To measure this precisely, one would require either longitudinal data (which is not available for Indigenous Australians) or more detailed questions on past education experience (which is also not available and is nonetheless prone to error in recall). Given this lack of information, such measures must therefore be estimated. To do so, this paper

assumes a certain number of years taken to complete each of the three qualifications and high school education. These estimates are then combined with the age at finishing the highest qualification, as presented earlier.

For these estimates, a certificate is assumed to take one year, a diploma two and a bachelor degree four years. Furthermore, if the highest year of school completed was year 9 or below, then the person was assumed to leave school at 15, year 10 at 16, year 11 at 17 and year 12 at 18. So, for example, if an individual reported that they both finished Year 12 and finished their diploma at age 21, then they were assumed to have spent one year not studying. On the other hand, if the individual with the same level of education reported that they finished their diploma at age 20, then they are assumed to have spent no years not studying.

If these assumptions are valid, there are a number of reasons why such a person may have spent time not studying. For example:

- they may have taken a year off to work between high school and post-school study
- they may have taken time off for non-work reasons, which could include raising children (especially for females), travelling or sickness
- they may have undertaken intermediate qualifications (for example, a certificate, **then** a diploma)
- they may have obtained their qualification by studying part-time; in this scenario, the time spent not studying is spread over several years and occurs concurrently with their study years, or
- they may have had to repeat a number of years, either at school or for the post-school qualification; if so, then the year they had to repeat is classed as a year not studying (that is, they were not studying 'effectively').

The information on years spent not studying is summarised in the following table. It gives the estimated median number of years spent not studying for Indigenous and non-Indigenous males and females, broken down by high school completion (rounded to the nearest year).

Table 5: Median estimated years spent not studying

	Indigenous		Non-Indigenous	
	Male	Female	Male	Female
Did not finish Year 12	4	10	3	4
Finished Year 12	3	3	2	2

Generally speaking, females were estimated to spend more time not studying than males, and the Indigenous population was estimated to have spent more time than the non-Indigenous population.

Furthermore, according to Table 5, for both Indigenous and non-Indigenous males and females, those who did not finish school were estimated to spend more time not studying than those who did finish Year 12. However, the figure that stands out most in Table 5 is the estimated time spent not studying for Indigenous females who did not finish Year 12.

Although it is not possible to test this using the Census, this quite likely reflects the higher fertility rates for young Indigenous females in this group. Evidence for this can be found in Table 6. Here, the average number of children who were ever born to each Indigenous woman is presented by age group and education combination.

Table 6: Average number of children born by current age and education of mother

	No qualification		Qualification		All women
	No Year 12	Year 12	No Year 12	Year 12	
Aged 15 to 24	0.64	0.42	0.82	0.61	0.62
Aged 25 to 34	2.71	1.72	2.30	1.29	2.34
Aged 35 to 44	3.07	2.95	2.97	2.61	2.99
Aged 45 to 54	3.69	2.85	3.50	4.18	3.64
Aged 55 plus	4.39	2.63	3.18	1.37	4.10
All ages	2.53	1.49	2.54	1.79	2.38

Source: Customised tables from the National Aboriginal and Torres Strait Islander Survey (ABS 2004)

The most relevant columns for the purposes of this paper are the second last and third last columns (that is, with qualifications). These data show that, for each age group, those who did not finish Year 12 have a higher number of children ever born. This is particularly the case for those women around the average age of female TAFE and university students (aged 25 to 34). Caring duties (for one's extended family and community) as well as other family and community obligations may also be explanations for a greater gap between high school education and post-school qualifications.

Summary and conclusions

This paper began by examining the age of the current student population. It was shown that the Indigenous population is older on average than the non-Indigenous population with the difference larger for male university and female TAFE students. This has important implications for providers of education for Indigenous Australians in that Indigenous Australians are going to bring greater life experiences to their post-school qualifications. This ideally should

be taken into account in curriculum design and the structure of support services.

The paper also looked at how a number of characteristics varied by the age of Indigenous students. Older students are less likely to have finished Year 12. Their literacy and numeracy skills may not therefore always be comparable to their younger counterparts. Older students are also more likely to have a disability or long term condition as well being the main carer of someone 12 years and under. They are hence more likely to benefit from the provision of child care and health facilities at their institution. Older students are, however, less likely to have participated in sport in the last 12 months and less likely to have been arrested in the last five years. Encouragingly, there is no significant difference in the use of either computers or the internet between young and old students.

Looking at past patterns of attendance, Indigenous Australians who currently have qualifications were more likely to have obtained them at an older age than the non-Indigenous population. This is especially true for females whose highest qualification is a diploma, and males with a degree. Indigenous Australians spent more years between high school and obtaining qualifications, with the median female who did not complete Year 12 taking ten years to commence a qualification. Figures presented in this paper suggest that higher fertility rates explained some but not all of this difference, reinforcing the need for adequate child care facilities to encourage Indigenous females to return to education and, once there, support them in their completion.

The data in this study can only go so far in answering questions about Indigenous Australians and the age at which they undertake qualifications. They provide considerable information about who, some information about how, but not much about why. Case studies are an important tool in answering such questions as are larger scale surveys that ask current or previous students about their education

or training experiences. The 2004 Survey of Indigenous Vocational Education and Training Students, conducted by the National Centre for Vocational Education Research (NCVER 2005) is one potential source of information that could be exploited in this respect.

Acknowledgements

The author would like to thank Dr. Boyd Hunter and Ms. Aarthi Ayyar, participants at the 3rd Asia Pacific Conference on Continuing Education and Lifelong Learning (Perth, October 2004) and two anonymous referees for comments on a previous version of this paper. This paper was funded in part from the Australian Bureau of Statistics' (ABS) contribution to an Australian Research Council Linkage project, 'Pathways to improved educational attainment for Indigenous Australians: Social and institutional factors underlying school participation' (LP0348733). While the support of the ABS is greatly appreciated, this paper should in no way be attributed to the ABS. Any mistakes or omissions, of course, remain the responsibility of the author.

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Competency-based training: different perceptions in Australia and Germany

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The German dual apprenticeship system has traditionally been viewed as an effective system for generating a highly skilled workforce in the trades, crafts and service sectors. In addition, countries and systems looking to improve their own approaches to vocational education and training (VET) have considered as exemplary the main features of the 'dual system' (that is, two learning sites and shared responsibility between private employers and public vocational schools). Nevertheless, competency-based training (CBT) as it has been implemented in the Anglophone countries has increasingly attracted the attention of public officials, vocational educators and VET researchers in Germany. This attention has been especially focused on the modularisation of curriculum and the importance of vocationalism in education and training systems. Comparative studies of these dual concepts (for example Deissinger 2002, Ertl 2000) have been used to inform