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ABSTRACT

Indigenous enrolments in higher education have risen consistently in recent years, though Indigenous students are still proportionally under-represented in Australian institutions of higher education. A close examination of recent enrolment and completion data reveals that Indigenous students are far more likely to enrol in the post-Dawkins 'new universities' and are less likely to be found at the pre-Dawkins 'research universities' than are non-Australian students. Indigenous students are also over-represented in enabling and non-award courses and under-represented in higher degree courses. Most Indigenous higher education completions are in the fields of arts and education, while Indigenous completions in business, engineering and science are low in comparison to non-Indigenous completions. It is suggested that these patterns arise not only from a history of educational disadvantage and a variety of structural obstacles, but they are also shaped by a range of culturally-based evaluations and individual choices regarding appropriate and valuable courses of study.

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Expansion of Indigenous enrolment and increases in participation in Australian higher education paralleled a massive restructuring of higher education institutions under Commonwealth Minister John Dawkins. These changes in the late 1980s and early 1990s, often referred to collectively as the Dawkin's Revolution, were underpinned by federal Labor Government policies responsible for economic restructuring in many industrial sectors. A major plank in the policy platform of that period, detailed in *A Fair Chance for All: Higher Education That's Within Everyone's Reach* (Department of Employment, Education and Training (DEET) 1990) was equity and access. The equity plank fitted well with the Labor Government's earlier social justice policy, *Towards a Fairer Australia: Social Justice Under Labor* (Department of Finance and Department of Prime Minister and Cabinet 1989), that sought to make more explicit the linkages between the Government's social and economic policies. These two policy themes emerged again when the Labor Government announced the signing of the National Aboriginal and Torres Strait Islander Education Policy in 1989 (DEET 1993) with its emphasis on involvement, access, participation and outcomes.

These policies were instrumental in increasing enrolments of Indigenous students in higher education, and no doubt credit is due to those who constructed and implemented those policies. It would be a mistake, however, to yield to the temptation to assume that, because some progress has been made, disadvantage has disappeared. It is important to monitor closely the nature of those increasing enrolments in comparison to other Australians, to determine exactly how many Indigenous students there are, the nature of their enrolments, the places they enrol, their courses of study and their patterns of completion. Providing an up-to-date assessment of those patterns is the first aim of this paper. The paper also aims to examine some of the key assumptions of human capital theory, the pervasive theoretical orientation that underpins the social, education and economic policies of the recent past, as they pertain to Indigenous Australians. It should be stressed that the paper is not intended to test the applicability of human capital theory to the Indigenous context, but to explore the context where human capital investments in education are most visible: in the higher education sector. Ultimately, this paper aims to reveal the current patterns of Indigenous participation in higher education and to explore issues about cultural and individual choice that should be taken into account in evaluating successes and failures and determining future policy directions. The paper concludes with reflection on a range of policy issues that emerge from this research.

Indigenous participation and human capital theory

In essence, human capital theory is an economic theory related to investment and development of human capital through education that

suggests that such investment yields dividends to both the individual and society. This is a view that is now so pervasive as to be considered common sense in most countries.

The roots of human capital theory are deeper than commonly assumed and go back at least as far as 1691 when Sir William Petty calculated the monetary value of human labourers (Kiker 1971). Yet, the theory which underpins so much of contemporary education policy in Australia and abroad began to take a coherent shape only in the late 1950s. It emerged in the post-World War II era as Western economies concerned themselves with development (and redevelopment) while simultaneously grappling with a shift from the optimism of the post-war years to the anxieties of the cold war era (Organisation for Economic Co-operation and Development 1996).

Contemporary human capital theory as applied to higher education emerged in the writings of economists Schultz (1963), Becker (1975) and Mincer (1962). This early construction of the model was essentially an optimistic one built upon the seemingly simple and verifiable correlation between education and income. Though ensuing research has shown the correlation to be more complex than initially thought, it remains the rationale of government investment in education as a means of furthering economic growth across the developed (and much of the developing) world. As Chapman and Pope (1992: 276) have noted, education is the leaven of human capital.

At the core of human capital theory are two assumptions: education enhances the cognitive skills of the individual, thereby increasing productivity in employment, and greater productivity increases individual earnings. Yet economists point out that the benefits of public funding of education accrue not only to the individual but to the wider community as well. Indeed, it is often argued that if government investment in education paid no dividend to society, if the benefits of the investment were absorbed fully by the individual, there would be no reason for government to support education (Brennan 1988). The benefits in question are referred to by economists as private and social returns, and attempts to gauge the size of those returns are referred to in the literature as measurements of rates of return. Calculating private rates of return are relatively straightforward, argue most economists, and include, for example, weighing extra earnings gained from educational credentials against the various costs of tuition and time out of the work force while enrolled in study. Social rates of return, on the other hand, are widely acknowledged as being much more problematic in terms of measurement (Blaug 1987; Junankar and Liu 1996).

The human capital framework is integral to Australian education policy and much has been written by Australian economists about human capital

investment in terms of higher education, most recently in the context of discussions of tertiary education fees (Brennan 1988; Chapman and Chia 1989). Such discussions, underpinned by human capital theory, were prominent in theoretical and ideological debates related to market reforms during the Dawkins higher education restructuring of the late 1980s (Marginson 1993: 50).

The extension of human capital theory to policy discussions of the economic status of Australia's Indigenous people is supported by research that shows quite clearly a correlation between education and employment for Indigenous Australians (Jones 1991; Ross 1991; Australian Bureau of Statistics and the Centre for Aboriginal Economic Policy Research (ABS/CAEPR) 1996). Closer examinations of this relationship, for example, in attempts to calculate private rates of return for Indigenous Australians, are relatively recent. Chapman (1991: 138) showed that increases in the number of years of secondary education for Indigenous males had only a 'modest influence on relative incomes'. Daly and Liu (1995) confirmed Chapman's findings, yet showed that when post-secondary education is considered, it is apparent that investment in higher education pays an income dividend for Indigenous people. A recent study by Junankar and Liu (1996) explored social rates of return to education in Australia; the authors argue that the social rates of return for Indigenous Australians are higher than for non-Indigenous Australians.

According to the tenets of human capital theory, one would assume that Indigenous Australians will be making choices about education that are economically sound and that will yield pecuniary benefits for individual students. Yet, a close look at patterns of Indigenous participation in higher education suggests this may not be the case.

Patterns in Indigenous participation in higher education

Indigenous participation in higher education has increased in recent years, but it follows a different trajectory from that of other Australians. This section of the paper examines the most recent data on Indigenous participation in higher education and depicts enrolment patterns over time, by State, by sex and by institution. It also portrays Indigenous enrolments by level of course and field of study. The section concludes with a description of completion patterns.

Enrolments

Indigenous participation in higher education has steadily increased in recent years (Table 1). Between 1988 and 1996, enrolments grew by 171 per cent (from 2,565 to 6,956). This expansion in Indigenous participation mirrored an increase in higher education enrolments in general, though the increase for non-Indigenous students was less dramatic. Over the same

period, enrolments for non-Indigenous students increased by 49 per cent (from 420,850 to 627,138). In terms of the percentage of the total population of all enrolled students, Indigenous students increased from 0.63 per cent to 1.10 per cent during this same period. Even in light of the fact that the Indigenous population is a comparatively young one, it is still well away from reaching proportional representation in higher education.

Table 1. Enrolments of Indigenous and non-Indigenous students, 1988-96.

Year	Indigenous students	Non-Indigenous students	Indigenous students as a proportion of all students
1988	2,565	418,285	0.63
1989	3,307	437,769	0.80
1990	3,607	481,466	0.79
1991	4,807	529,731	0.96
1992	5,105	554,260	0.98
1993	5,578	570,039	1.05
1994	6,264	579,132	1.07
1995	6,805	597,372	1.12
1996	6,956	627,138	1.10

Source: Department of Employment, Education, Training and Youth Affairs (DEETYA), Higher Education Student Data Collection.

Type of enrolment by sex

Until 1988, enrolments of non-Indigenous male students in Australian higher education institutions exceeded non-Indigenous female enrolments. From 1988 until the present time, however, that pattern has been reversed and females have outnumbered male students. In 1996, 54 per cent of non-Indigenous students were female compared to 46 per cent for males (Table 2). Among Indigenous students in 1996 an over-representation of female students is even more marked, at 63 per cent female to 37 per cent male. This ratio is almost certainly partly a function of higher rates of secondary attrition among Indigenous males, but other factors may also be significant (Commonwealth of Australia 1994: 25).

The distribution of Indigenous students in the various types of enrolment (external, full-time, and part-time) is broadly similar to that of non-Indigenous students, though there is a somewhat higher proportion of Indigenous students who are enrolled as external students (16 per cent compared to 13 per cent for non-Indigenous students), and slightly lower proportion of part-time Indigenous students (23 per cent compared to 28 percent for non-Indigenous students). The higher proportion of external enrolments probably reflects the impact of special programs in some

capital city institutions that provide distance learning for Indigenous students in rural areas.

When comparing the distribution of students by type of enrolment according to sex for each group, there is virtually no difference between males and females for non-Indigenous students. Small differences are apparent, however, among the Indigenous students. For this group, slightly more women are enrolled as external students (21 per cent compared to 16 per cent of men) and slightly more men are enrolled as full-time students (61 per cent compared to 56 per cent of women).

Table 2. Indigenous and non-Indigenous higher education students, by type of enrolment and sex, 1996.

	Indigenous		Non-Indigenous	
	Number	Per cent	Number	Per cent
Males				
external	418	16	36,515	13
full-time	1,582	61	170,098	59
part-time	604	23	80,655	28
Sub-total	2,604	37	287,268	46
Females				
external	898	21	47,257	14
full-time	2,449	56	198,187	58
part-time	1,005	23	94,426	28
Sub-total	4,352	63	339,870	54
Total	6,956	100	627,138	100

Source: DEETYA, Higher Education Student Data Collection.

Distribution by State/Territory

The geographical distribution of non-Indigenous higher education students in 1996 roughly mirrors the distribution of the total population. New South Wales and Victoria, for example, are the most populous States and together they account for about 58 per cent of all higher education students. Yet the distribution of Indigenous higher education students across the various States and Territories differs somewhat from the distribution of the Indigenous population in general (Table 3). The proportion of Indigenous higher education students is slightly higher in New South Wales, Victoria, Western Australia, South Australia and the Australian Capital Territory. The proportion of Indigenous higher education students is lower than the expected distribution based on population for the Northern Territory, Queensland and Tasmania.

Table 3. Indigenous and non-Indigenous higher education enrolments, by State/Territory, 1996.

	Indigenous		Non-Indigenous	
	Number	Per cent	Number	Per cent
New South Wales	1,875	27.0	193,365	30.8
Victoria	637	9.2	174,401	27.8
Queensland	1,379	19.8	106,796	17.0
Western Australia	1,020	14.7	60,334	9.6
South Australia	537	7.7	47,382	7.6
Tasmania	218	3.1	12,543	2.0
Northern Territory	989	14.2	3,987	0.6
Australian Capital Territory	160	2.3	19,833	3.2
ACU[a]	141	2.0	8,497	1.4
Total	6,956	100.0	627,138	100.0

a. ACU refers to the multi-campus Australian Catholic University system.

Source: DEETYA, Higher Education Student Data Collection.

Enrolment by institution

A closer look at the details of Indigenous higher education enrolments by institution contributes to an understanding of the nature of that participation. An examination of the Australian higher education institutions with the ten highest Indigenous enrolments in 1995 reveals that these institutions are predominantly 'post-Dawkins' universities (Table 4).

Table 4. The ten Australian higher education institutions with the highest Indigenous enrolments, 1996.

	Indigenous		Non-Indigenous	
	Number	Per cent	Number	Per cent
Batchelor College	794	(11.4)	0	(0.0)
Edith Cowan University	456	(6.6)	18,002	(2.9)
Curtin University of Technology	401	(5.8)	20,839	(3.3)
James Cook University	385	(5.5)	7,566	(1.2)
University of South Australia	365	(5.2)	22,824	(3.6)
Charles Sturt University	289	(4.2)	19,834	(3.2)
University of Western Sydney	288	(4.1)	24,709	(3.9)
University of Technology, Sydney	226	(3.2)	21,171	(3.4)
Queensland University of Technology	217	(3.1)	28,638	(4.6)
Central Queensland University	212	(3.0)	9,868	(1.6)
Total	3,633	(52.2)	173,451	(27.7)

Source: DEETYA, Higher Education Student Data Collection.

Only one of the ten (James Cook University) was classed as a university before the Dawkin's Revolution, eight are former colleges of advanced education or institutes of technology, and Batchelor College, with by far the highest enrolment, is a specialist tertiary institution offering both higher education and TAFE courses. Batchelor is not classified by DEETYA as a university, yet it has the largest Indigenous higher education enrolment in the country. Over one in ten (11.4 per cent) of Indigenous higher education students in Australia attended this institution in 1995; also of note is the fact that Batchelor's students were all Indigenous. Taken as a group, the ten institutions accounted for over half (52.2 per cent) of the country's Indigenous enrolments. Only about one-quarter (27.7 per cent) of non-Indigenous higher education students were enrolled in this same set of institutions.

In recent years, a number of the pre-Dawkin's Revolution universities have formed an interest group variously described as the 'Great 8' or the 'Group of 8'. These institutions identify themselves as sharing a common history and tradition as research universities; though they are careful in how they portray themselves, it is clear they view themselves as higher status than the 'new' universities which emerged from the old teachers' colleges and technical institutes during the Dawkins era. It is interesting to examine Indigenous enrolments in what are arguably the high status Australian institutions of higher education (Table 5). While over 30.5 per cent of non-Indigenous higher education students attend these traditional research universities, only 15.6 per cent of Indigenous students do so.

Table 5. Indigenous and non-Indigenous enrolments at the 'Great 8' universities, 1996.

	Indigenous		Non-Indigenous	
	Number	Per cent	Number	Per cent
The Australian National University	81	1.2	9,844	1.6
Monash University	194	2.8	39,322	6.3
University of Adelaide	127	1.8	13,520	2.2
University of Melbourne	118	1.7	31,381	5.0
University of New South Wales	100	1.4	27,248	4.3
University of Sydney	210	3.0	30,159	4.8
University of Queensland	157	2.2	26,250	4.2
University of Western Australia	107	1.5	13,025	2.1
Total	1094	15.6	190,749	30.5

Source: DEETYA, Higher Education Student Data Collection.

These enrolment patterns suggest that Indigenous students are enrolling according to different criteria than are non-Indigenous students;

specifically, they are far more likely to be attending 'new universities' (former colleges of advanced education and institutes of technology) and far less likely to attend the traditional 'high status' research universities.

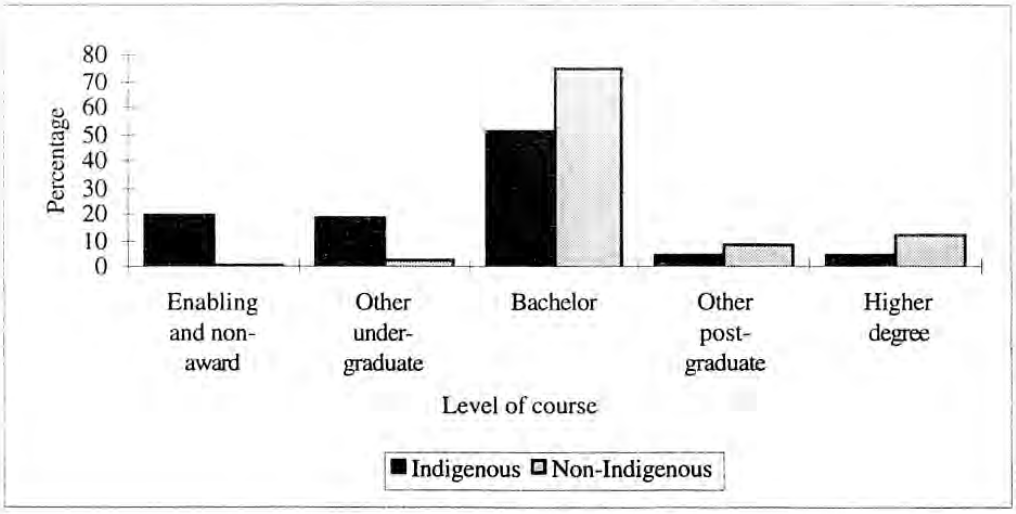
Commencing students

The Commonwealth tracks students according to a wide range of variables including enrolment status. At the broadest level are 'all students'. This status includes, for example, any student who is enrolled and does not differentiate new students from continuing students. Similarly, it does not exclude students who are enrolled 'but not currently attending classes'. A focus on 'commencing students' provides an important insight into the nature of Indigenous participation in higher education. Roughly 52 per cent (3,624) of all Indigenous higher education students were commencing students in 1996, while only 40.1 per cent (257,572) of the general student population were commencing study in that same year (DEETYA, Higher Education Student Data Collection). This difference might be attributable to a combination of several factors: Indigenous students complete their studies at a lower rate, they drop out of study at a higher rate, and/or they enrol in one- and two-year diploma courses at a higher rate than the general population.[1]

Level of course

For both Indigenous and non-Indigenous higher education students, the majority are enrolled in courses leading to Bachelor degrees, yet the proportions are quite different (see Figure 1 and Appendix Table A1). Over three out of four non-Indigenous students (75.1 per cent) are enrolled in Bachelor courses, but just over half the Indigenous students (51.3 per cent) are similarly enrolled.

Figure 1. Indigenous and non-Indigenous higher education enrolments, by level of course, 1996.



Yet there are even more distinct differences between Indigenous and non-Indigenous higher education students in terms of the other levels of course enrolment. When compared to non-Indigenous students, proportionately less than half the Indigenous students are enrolled for higher degree or other postgraduate qualifications (9.2 per cent versus 21.0 per cent). Even more stark is the contrast in 'other undergraduate' and 'enabling/non-award' courses. The 'other undergraduate' courses include one-year associate diploma courses and two-year diploma courses, while 'enabling' courses are non-credit bridging courses intended to assist students gain the skills necessary for full credit higher education courses. 'Non-award' courses include specialty courses for which no formal credit is provided. While only 2.6 per cent of non-Indigenous students are enrolled in 'other undergraduate' courses, 19.4 per cent of Indigenous students are so enrolled. Similarly, though only about 1.4 per cent of non-Indigenous students are enrolled in 'enabling' or 'non-award' courses (non-credit general and bridging courses), 20.1 per cent of Indigenous students (1,399) are so enrolled. Thus, according to the level of course, nearly two out of five (39.5 per cent) of Indigenous students enrolled in higher education courses in 1996 are undertaking study that would not even have been classed as university level before the institutional changes of the late 1980s that gave university status to colleges of advanced education and institutes of technology.

Figure 2. Indigenous and non-Indigenous higher education enrolments in higher degree and enabling/non-award courses, 1989-96.

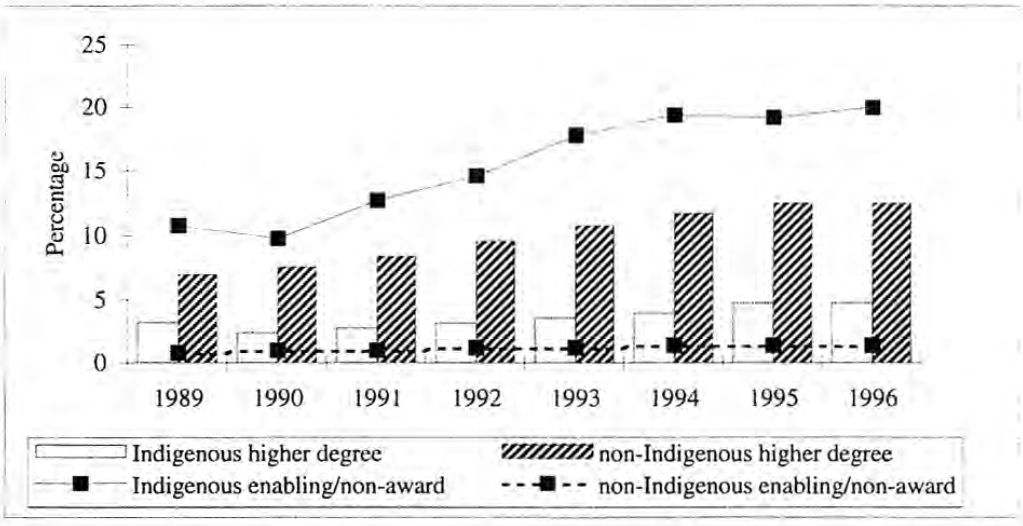


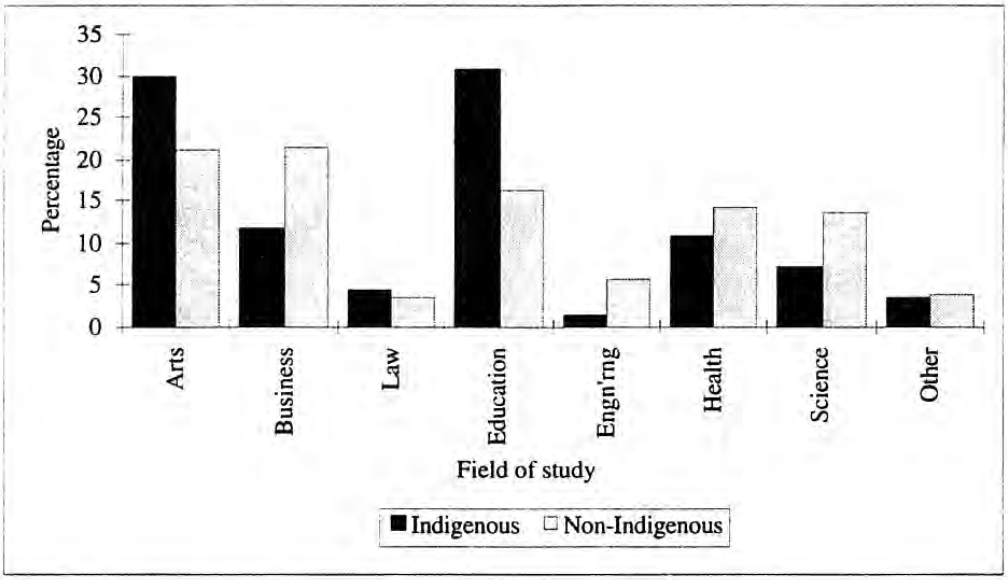
Figure 2 contrasts these patterns of enrolment for higher degrees and enabling courses over the years 1989-96. While there was strong growth in higher degree enrolments for all non-Indigenous students, there was little growth in this course among Indigenous students. Among non-Indigenous

students, enabling course enrolments were stagnant; Indigenous enrolments in enabling courses rose steeply until 1994 when they decreased slightly.

Course completions

In 1995, the year for which the most recent data are available, 863 Indigenous Australians completed higher education courses of study. Comparisons between the higher education completions of Indigenous and other Australians reveal that proportionally, Indigenous students differ in their choices of field of study. While caution must be exercised in comparing completion patterns (remembering, for example, that a large proportion of Indigenous students are enrolled in one-year or two-year diploma courses), it is clear that important differences exist. Furthermore, as shown in Figure 3 (and Appendix Table A2), Indigenous students are over-represented in the fields of arts and education and under-represented in business, engineering, science and, to a lesser degree, health.

Figure 3. Indigenous and non-Indigenous higher education completions, by field of study, 1995.



A closer look at these completions reveals interesting patterns. Nearly one-third (265) of all Indigenous completions were in the field of education, and another third (259) were in arts (unpublished data from the DEETYA Higher Education Student Data Collection. Of those arts completions, the highest concentration of Indigenous graduates, 72 students and 28 per cent of all completions, was in Aboriginal studies. Over half (39) of these Aboriginal studies completions were one- or two-year diploma courses.

Indigenous students lagged markedly behind non-Indigenous ones in terms of postgraduate completions. For example, among the 863 completions in

1995, about 0.8 per cent were research degrees (four PhD and three MA) while another 40 (4.6 per cent) were MA by coursework degrees. In comparison, about 3 per cent of the completions of non-Indigenous students were research degrees (56 higher doctorates, 2,431 PhD and 1,744 MA). Among non-Indigenous students, 8.7 per cent of all degrees were MA by coursework (12,234). Clearly, while Indigenous participation in higher education has increased, Indigenous people are markedly over-represented at the lowest end of the course continuum and under-represented at the upper levels.

These various patterns of enrolment, course choice and completion strongly suggest that the experience of Indigenous students differs significantly from that of their non-Indigenous peers. This pattern is particularly difficult to interpret in terms of human capital theory, the economic framework within which contemporary Australian education policy has been built. In the section that follows, the paper will explore the issue of human capital investment as it applies to Indigenous Australians, focusing in particular on factors affecting individual choices about participation in higher education that may help to explain the patterns portrayed above.

Indigenous participation, capital and choice

Human capital theory is often said to be the most influential economic theory of education, but there are others who argue convincingly that human capital development and investment has more to do with sociology than economics (Yeatman 1990: 103). One of the problems with human capital theory as a tool for developing and evaluating education policy is that it is based in large part on assumptions about rational choice and optimising behaviour. In addition, the economic analysis of investment in education focuses almost exclusively on the aggregate population. Yet, decisions, both economically rational and non-rational, are made and actions initiated by individuals. This is certainly no news to economists, but it is problematic when dealing with a population as small as that of Indigenous Australians in higher education. It is crucial for developing effective education policy for Indigenous Australians that policy discussions be informed not only by an understanding of broad trends among the wider Indigenous population but also by examination of factors affecting choices for individuals, especially if those choices differ in some way from the mainstream.

According to human capital theory, individuals make decisions in order to maximise their private rates of return. Yet, when the patterns of Indigenous participation in higher education are examined closely, it appears that most individuals are not making the sorts of decisions that would most benefit

them. For example, as close adherents to human capitalist theory, Indigenous Australians should be making rational decisions to enrol in universities wherein they would maximise income. Moreover, they should be enrolling in fields of study that pay well. They also should be enrolling in greater numbers, completing their studies more quickly and continuing to higher levels of study. In general, however, this is not what is happening. Admittedly, many Indigenous students require assistance in developing study skills when they first enrol to study. This is a legacy of history and location but most significantly part of the understandable process of catching up as a result of lack of opportunity. Yet Indigenous students have yet to reach enrolment levels that mirror their proportion in the wider community and those who are enrolled tend to study in low-paying fields such as arts and education, while they are under-represented in the high-paying ones such as engineering or medicine. In addition, they take longer to complete their studies than do other Australians and they tend to enrol in lower levels of study. One might wonder why the pattern is so consistent. Do Indigenous Australians, in the terminology of human capital theory, not want to increase their private rates of return? Certainly those who enrol in tertiary education are making choices, but why do those choices not fit with what we expect according to the principles of the theory that has long been the foundation of Australian education policy?

Cultural capital

Many Indigenous students report that higher education institutions are unfamiliar, foreign, and/or hostile to their presence. Historically, there have been small numbers of Indigenous students in higher education, so it is not surprising that many of these same individuals complain of a sense of isolation. Most Indigenous students also struggle with the 'culture' of higher education and many find they lack the skills to participate effectively. This final point is a particularly significant one for understanding patterns of participation in higher education by Indigenous Australians. The bundle of skills and competencies and the contextual confidence required for success in higher education are second nature to the majority of Australian higher education students, yet they are often subtle and sometimes unintelligible to Indigenous students. Many mainstream students come from families where education is valued as a means to economic success and where economic success itself is considered a culturally appropriate goal. Mainstream students are also more likely to have had family members or friends who have participated in higher education and where it is commonly demonstrated that higher education 'pays off' as an investment. This, as I will argue below, cannot always be assumed for Indigenous students.

There are few who still hold to the view that academic success is merely a matter of natural aptitude, and contrary to the calls in some quarters for an end to 'special treatment', educational success for Indigenous students is

more than just a matter of innate ability. There are significant cultural factors that come into play. In his studies of education, anthropologist Bourdieu refers to a set of shared understandings, a body of cultural knowledge and an unspoken familiarity with the rules and assumptions of the educational enterprise that mainstream higher education students carry with them into their studies. He calls this competence 'cultural capital' (Bourdieu 1986). Cultural capital is a sort of informational competence and grounding in the assumptions of the Western educational enterprise that is essential for academic success. Some students, typically those of middle class families whose members are themselves products of this system, arrive with the cultural capital necessary for negotiating the educational experience, complete their studies and emerge with an institutionalised form of cultural capital, an academic qualification. Most Indigenous students, on the other hand, come to education with little or none of the cultural capital that their non-Indigenous peers take for granted. Certainly, Indigenous students bring with them cultural capital, but it is rarely of the sort valued by the mainstream educational system. They bring with them knowledge of, and familiarity with, Indigenous culture and its institutions, but this cultural competence has little currency in systems of higher education. Lacking the cultural competence most valued by the system, many find the cultural assumptions of mainstream higher education puzzling, frustrating and alienating. Accordingly, many Indigenous students feel 'ill at ease', they may not speak 'academic English', they may be unfamiliar with the behaviours and conventions that underpin Western systems of higher education, and they often find the whole experience disconcerting. Lacking the required cultural capital, many arrive for study poorly grounded in the broad cultural assumptions, rules and expectations that mainstream students take for granted and rarely notice.

An examination of the patterns of Indigenous educational participation reveals some of the tension arising from the varying valuations of cultural capital brought about and acquired through education. Clearly, for many Indigenous people, participation in higher education is an attempt to acquire cultural capital that is convertible to economic capital in the dominant economy, but it is worth considering to what degree that same cultural capital is convertible in the Indigenous community. That is, to what degree is higher education valued in Indigenous communities? One way to answer this question is to go beyond the traditional analysis of private or social rates of return and examine the private and social *costs* of participation in higher education for individuals.

To do this requires a refocusing beyond patterns of participation at the population level to a consideration of individual choices and their costs and benefits in cultural terms. While, for many Indigenous students, a university degree is a form of cultural capital, often with great value and currency in the dominant society, that same degree potentially has a

negative value in their home communities. For some Indigenous higher education students it is not always easy to return to the home community with what are perceived to be 'whitefella credentials', and there is, in some places, a very strong suspicion of Indigenous graduates, even in their home communities (Schwab 1991).

In this sense, as Indigenous educationalist McNamara has pointed out, mainstream education poses a complex cultural problem for many Indigenous individuals and their communities:

> Formal education has advanced the individual. The individualisation of what were once communal societies is now widespread. However public perception still clings to the myth of a sharing, caring indigenous society. In our naivety we tend to overlook the fact that education means status and power. In the past two hundred years education has been the mechanism of colonisation. In the last decade it has become the primary vehicle for Aboriginal power over other Aborigines (McNamara 1988: 4).

While often described as a means to an end, as McNamara shows, education is fraught with difficulty and can be perceived by other Indigenous people not only as a tool for change but also for domination. No Indigenous student ever escapes this realisation and all feel the pressures of that perception.

Cultural obstacles

There are a range of obstacles to educational success for Indigenous students. Performing successfully in mainstream higher education requires more than just cultural capital or the desire to obtain it. A number of other things, often taken for granted by those for whom education is expected or assumed, may be difficult for some Indigenous students to obtain. For example, for many Indigenous students who live at home, study and storage space is often a problem because, in comparison to most non-Indigenous households, Indigenous households tend to be more crowded and space is at a premium (Jones 1994). The social traffic is busier and privacy often unavailable; such obstacles present major challenges to those who wish to undertake study. In addition, Indigenous tertiary students are almost always the first ones in the family to enrol in higher education. Consequently, family expectations about what types of support are needed are often very different from the expectations of non-Indigenous families. The alternative, moving away from the family, is a culturally drastic solution even when it is economically viable. Most Indigenous students need more, not less, social support as they contend with a culturally unfamiliar and difficult educational experience.

Attendance is another obstacle for many Indigenous students. Disruptions in attendance invariably interfere with progress and, ultimately, success. As is well known, kinship obligations are often intense for Indigenous people and this affects study time, attendance patterns, focus and energy.

The frequency of funerals, in particular, has a serious impact on the ability of Indigenous students to maintain adequate attendance and invest the concentration necessary to succeed. Similarly, many Indigenous people participating in higher education must deal with the burden of increased expectations from family and community to a much greater degree than do the majority of students. An Indigenous university student, especially a mature age one, is often expected to maintain some level of political involvement with the local region. An Indigenous higher education student without major commitments to sit on committees or partake in other forms of Indigenous political or social activity is unusual. Such cultural obstacles are significant in shaping decisions to participate in higher education and what to study, but additional cultural factors inevitably arise that may shape individual decisions about appropriate courses of study.

Given the strong ties many Indigenous students feel to their home community, there is often a desire to enrol in courses where individuals can remain in the community once they have completed their diplomas and degrees. For example, though Indigenous people with degrees in high demand areas, such as engineering, would, in theory, have little trouble finding gainful employment, the location of suitable employers is often highly circumscribed. The best alternative may be to undertake a course of study leading to a qualification that can be put to use in the local community. This alternative is often articulated by Indigenous students as a desirable one in that it allows them to return to work within their communities. Indeed, for many students this is conceived of as the only realistic option, both in terms of their desires to 'work with their people' but also in their assessment of the costs and benefits of gaining a qualification for employment that would isolate them and place them in unfamiliar settings, a perception that is widespread. The expectation within such communities is powerful, and failure to live up to these cultural expectations comes at great cost to individuals who may already be stretching the limit by participating in what is, in many ways, a foreign education system (Schwab 1991). Thus, decisions by Indigenous people pertaining to education may have much less to do with individual calculation of private rates of return than with individual calculations of cultural costs.

Some policy implications

It is important to consider carefully the nature of the patterns of Indigenous participation in higher education that are revealed in the data, and not too prematurely celebrate the apparent success of increasing numbers of students. A closer look at those increases reveals significant differences in types of enrolment, levels of enrolment, completion rates and fields of study when Indigenous students are compared to other Australian higher education students. Some of these differences reflect the relatively recent

entry of Indigenous people into the system, but others reflect fundamentally different choices about participation in the system that are based not only on calculations of private rates of return, but on assessments of cultural costs and benefits.

Social, cultural and academic support

It is clear from analysis of current and past Indigenous enrolments that there are significant cultural obstacles for these students. Enclave programs and university student support units appear to have made vital contributions to the increased numbers of students. The forthcoming publication of an evaluation of one such program conducted by the University of South Australia under DEETYA's Evaluation and Investigations Program should provide some of the first hard evidence of the effectiveness of one such program. While there is much anecdotal evidence to support claims of success for a handful of institutions, there has never been a comprehensive collection of data and evaluation of such programs on a national scale. Assuming such programs are of value, and few would doubt they are, some type of national evaluation would be extremely useful in examining the numbers of students who use such programs, the sorts of support students seek, their significance as social and academic support centres, their importance in assisting students to negotiate cultural and institutional barriers and their role in student retention and success. If Indigenous student numbers continue to grow, there will no doubt be calls from some quarters to cut such programs, assuming that success has been attained. Yet, in light of the cultural obstacles faced by Indigenous students who choose to enter higher education, such programs may be essential to their success. Ironically, we have little hard evidence at the local level and none at the national level to evaluate what is anecdotally assumed by many to be a critical ingredient to Indigenous success in higher education.

Block study modes of delivery

One promising strategy for overcoming low involvement in postgraduate courses by Indigenous people is to find more creative structures for the delivery of teaching programs. Field-based research training may be one way to overcome the difficulties experienced by Indigenous students who would otherwise need to leave their communities for up to three years at a time. The National Centre for Epidemiology and Population Health at The Australian National University (NCEPH) is proposing to expand its Master of Applied Epidemiology program to include a stream for Indigenous health professionals. The proposed program would be offered in a block study mode where students participate in short but intensive coursework on campus followed by field-based research. Such approaches would be particularly attractive in that they would allow those students interested in Indigenous community or regional level research issues to align their interests with needs identified by students in consultation with

communities or regions. Similar block study programs have operated at Batchelor College for Indigenous educators for years, and the NCEPH model suggests there is great potential for extension to many other fields and into postgraduate study where Indigenous participation is so low.

Increasing the breadth of field of study

Indigenous students enrol most heavily in the fields of arts (especially in Aboriginal studies) and education. While some of this can be explained by choices of careers that will be seen to be of value to Indigenous communities, the movement of Indigenous students to other fields of study is slow. Policy makers may wish to consider other options to draw in Indigenous students who may be interested in such fields. It should be possible to establish a formal link between a discipline where Indigenous people have been under-represented, such as in engineering and business, and the Aboriginal support unit in the home university. Special programs could be offered to complement existing courses or to introduce potential students to the subject area; summer courses, for example, have proven highly successful in fields such as engineering and computer science. Earmarked scholarships or targeted recruiting might also increase interest among Indigenous students. Similarly, targeted mainstream courses, in business administration, for example, are gaining momentum on some campuses and show great promise. In 1995 there were 11 MA degrees in business administration awarded to Indigenous students, suggesting there is also potential for greater involvement of qualified Indigenous people in designing and delivering such courses.

Focus on completions

A close examination of Indigenous higher education participation data reveals a large gap between the rates of completion of Indigenous and non-Indigenous students. Yet, little is known about the factors that contribute to these differences. While early efforts focused on access and participation by Indigenous students, many institutions are now collecting data on retention and performance. Counts of students retained, or completions by field of study, however, are not very helpful for planning purposes. Some qualitative research on the factors that affect completion rates would be invaluable to policy planners both at the national and institutional levels. This could be a valuable project for one of the newly established Indigenous Higher Education Centres to undertake.

Protecting and promoting a range of educational avenues

While only Indigenous people themselves can make decisions about if, when, where and what they choose to study, policy makers may wish to protect the range of choices at a time when they are most likely going to be vulnerable to reduction because of decreases in funds or because they are perceived by some to provide 'special treatment'. Though this paper has focused on participation in higher education, it is important to remember

that Indigenous people participate in other types of post-secondary programs as well. For example, in 1992, Indigenous people between the ages of 15 and 24 years were participating in TAFE programs at a significantly higher rate than other Australians (Commonwealth of Australia 1994: 29), while many others enrol in programs with independent Aboriginal education providers like Tranby College in Sydney and the Institute for Aboriginal Development in Alice Springs. The latter type of institution is sometimes over-shadowed in policy discussions of Indigenous higher education, yet it has a vitally important role in promoting post-secondary education through preparing students for study or as a final educational destination. Even where students choose not to go on to further study in mainstream TAFE or university programs, these independent institutions are crucially important for creating a sense that education is valuable, powerful and a worthwhile investment for Indigenous people.

Since 1989, these independent providers have been entitled to funds from the Commonwealth Indigenous Education Strategic Initiatives Program (IESIP, formerly known by the acronymn AESIP, the Aboriginal Education Strategic Initiatives Program) on a per capita basis as part of the National Aboriginal and Torres Strait Education Policy. If these providers offer vocational education and training programs, they are also eligible for State or Territory training funds. As a result, most of the independent providers now rely on a mixture of supplementary funding from the Commonwealth and varying degrees of support from their home States or Territories. While this has proven effective in some areas, the uncertainty of State and Territory funding leaves some independent providers in precarious funding circumstances. Given the importance of these community-controlled programs to community perceptions of value of education in general, policy makers should consider moving to a funding arrangement where direct, core funding is provided from the Commonwealth. This would, of course, require such providers to follow the reporting and accountability procedures linked to such funds.

Conclusion

Overall, the data presented above appear to suggest that Indigenous students are employing a cultural cost-benefit analysis (that includes both pecuniary and non-pecuniary calculations) in making quite specific choices about their educational trajectories, choices that differ from those of other Australian students. Though, on one level, they are making choices that are 'reasonable', those choices do not appear to be modelled on mainstream cultural assumptions about maximising rates of return. Rather, they appear to be driven, for some, by a lack of previous educational opportunity and a need to catch up and develop the skills and confidence required for university study. Yet the choices also appear to be related to attempts to

minimise cultural costs and acquire cultural capital of value in their own communities. As the data show, Indigenous students tend to do lower level degrees of a practical rather than theoretical nature when they go to university; they tend to do studies 'for their people' in fields such as education, nursing or Aboriginal studies. The knowledge gained in these programs is more easily recognised as having cultural value 'at home'. These are qualifications that align with perceptions of need in the local communities and provide a form of cultural capital valued in those communities. In addition, these fields of study prepare students for employment opportunities that tend to exist in every community, regardless of location, so highly valued employment is often assured.

Looking back over the past 20 years, it is clear that increasing numbers of Indigenous people are gaining familiarity with the mainstream higher education system, and with that is coming, for some students anyway, increasing comfort and confidence with what is in many ways a foreign system; however, disadvantage has certainly not disappeared. In addition, there are profound differences in perceptions of what education is for and the values perceived in different courses of study. Indigenous students ground their choices in education at least in part on evaluations of cultural costs and benefits which may not always align with the calculations of rates of return employed by mainstream students. Awareness of the complex nature of the cultural context of those choices is vital for designing effective Indigenous higher education policies.

Note

1. While it seems likely that all these factors help to explain the relatively higher proportion of commencing students, until recently it has not been possible to test that assumption. A series of specific performance indicators are now being tracked by each university and collated by DEETYA. The Lin Martin indicators focus on measures of Indigenous access, participation, success and retention; these data will soon be publicly available.

Appendix Table A1. Indigenous and non-Indigenous higher education enrolments, by level of course, 1996.

	Indigenous		Non-Indigenous	
	Number	Per cent	Number	Per cent
Higher degree	332	4.8	78,602	12.5
Other postgraduate	306	4.4	53,255	8.5
Bachelor	3,572	51.3	471,182	75.1
Other undergraduate	1,347	19.4	15,614	2.5
Enabling/non-award	1,399	20.1	8,485	1.4
Total	6,956	100.0	627,138	100.00

Source: DEETYA, Higher Education Student Data Collection.

Appendix Table A2. Indigenous and non-Indigenous higher education completions, by field of study, 1995.

	Indigenous		Non-Indigenous	
	Number	Per cent[b]	Number	Per cent
Arts	259	31.1	29,262	21.1
Business	74	9.2	28,692	20.6
Law	28	3.5	5,163	3.7
Education	257	32.1	24,067	17.3
Engineering	12	1.5	7,520	5.4
Health	96	12.0	20,068	14.4
Science	56	7.0	18,712	13.5
Other[a]	28	3.5	5,470	4.0
Total	800	99.9	138,954	100.0

a. Includes agriculture, animal husbandry, architecture, building, and veterinary science.
b. Does not total 100 per cent because of rounding error.

Source: DEETYA, Higher Education Student Data Collection.

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