



Department of
Education,
Science and Training

Indigenous students' aspirations: Dreams, perceptions and realities

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05/01

Evaluations and Investigations Programme

© Commonwealth of Australia 2005
ISBN 0 642 77360 2 (Internet copy)

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This report is funded under the Evaluations and Investigations Programme (EIP) of the Department of Education, Science and Training. EIP projects are cooperative ventures in areas of interest common to researchers, institutions and the Commonwealth.

The views expressed in this report do not necessarily reflect the views of the Department of Education, Science and Training.

Executive summary

Project purpose

The investigation had three overarching purposes as defined within the Department of Education, Science and Training project brief:

1. To conduct research on the opinions of Indigenous Australian school students about:

- the relevance to their life goals of their current studies and of further studies, either at technical and further education (TAFE) or university
- whether they distinguish between desired goals and attainable goals, and the level of accuracy of their knowledge about any prerequisite education
- barriers they may face in completing their school education and participating in further education
- their preferences for further education and the basis of those preferences
- the advice they have received with regard to education and their future employment or careers from their schools (teachers, career advisors), family, friends and community
- their views as to the benefit of school, vocational education and training and higher education to their community and to their family
- the impact of self-concept on their aspirations.

A further purpose was a comparison of the information gathered about Indigenous school students with similar data from a control group of non-Indigenous students.

2. To conduct related research on the opinions of parents of Indigenous school students about:

- the usefulness of vocational and higher education to their children's later employment and community life
- the barriers they perceive to their children's success in both vocational and higher education
- whether they consider their personal experiences and desires have influenced their children's aspirations.

3. To conduct related research on advice provided by career advisors to Indigenous school students on their post-school options in order to:

- identify career advisors' perceptions of the nature, sources and usefulness of career advice sought by and delivered to Indigenous students
- identify career advisors' perceptions of the nature of Indigenous students' aspirations.

Aims

To address the above purposes the study aimed to:

1. Identify Indigenous secondary school students' aspirations
2. Elucidate the relation of key variables considered to Indigenous students' aspirations

3. Identify Indigenous students' perceptions of the relevance of their current studies and of further education in achieving their aspirations, and compare Indigenous students' perceptions with non-Indigenous students' perceptions
4. Identify Indigenous students' preferences for further education in regard to vocational education and higher education and the basis of those preferences
5. Identify the key sources (teachers, career advisors, family, friends, community) and the quality of advice Indigenous students receive with regard to education and their future employment/careers
6. Test whether Indigenous students' aspirations are significantly different from non-Indigenous students' aspirations
7. Test whether the pattern of relations between students' aspirations and correlate variables differ significantly for Indigenous and non-Indigenous students
8. Test whether Indigenous students distinguish between desirable goals and attainable goals and the level of accuracy of their knowledge about realistic prerequisite requirements to attain desired goals (for example, education, training, work experience). Compare the pattern of results for Indigenous students with the results for non-Indigenous students
9. Elucidate Indigenous students' perceptions of any barriers they may face in completing their school education and participating in further education, and Indigenous students' perceptions of the benefits of schooling, vocational education and higher education for their community and family. Compare the findings for Indigenous students with the results for non-Indigenous students
10. Identify the perceptions held by parents of Indigenous students in relation to: the value of further education to their children's later employment and community life; the sources and quality of career advice their children receive; the barriers to their children's success; and whether their personal experiences of education serve to impact positively/negatively on their children's aspirations.

Overview of the research design

The study was based on a blend of quantitative and qualitative research methods, and consisted of three key phases. Phase 1 involved Indigenous and non-Indigenous secondary students from urban and rural regions in relation to a survey (see Appendix 1) to ascertain students' self-perceptions in relation to the study goals. The survey contained both numeric and narrative responses, and therefore generated a blend of quantitative and qualitative data. The key strengths of this component of the research design were that it enabled:

- access to a large, representative sample size
- sophisticated statistical analyses to provide rigorous, valid and sound interpretations of the key issues articulated in the study aims
- tests of the strength of the relation between a range of key variables on the formulation of various aspects of Indigenous students' aspirations in order to identify key variables that might serve to enhance Indigenous students' aspirations
- valid comparative analyses of the key issues underpinning the aims in the context of comparisons between the different perceptions of Indigenous and non-Indigenous students

- extension and enrichment of the quantitative findings by identifying students' perceptions of additional or more expansive interpretations of central issues by inviting participants to make additional comments of potential significance.

These analyses also contribute to addressing the dearth of empirically sound research studies in the Aboriginal education research literature, identified as a crucial concern by previous Commonwealth-commissioned studies (for example, Bin-Sallik et al. 1994).

Phase 2 involved Indigenous students, non-Indigenous students, and Indigenous parents participating in a focus group interview, and non-Indigenous career advisors participating in an interview to further address the aims of the study from a qualitative research methodology perspective.

Phase 3 involved in-depth interviews with a sample of upper secondary Indigenous students (Years 11 and 12) from diverse geographical regions in New South Wales. Target participants for these interviews were students who had been identified by teachers as being 'solid students'; that is, likely to complete their senior years of secondary school. This was a deliberate focus, based on the recognition that there was much to learn about the successful paths that some Indigenous students are negotiating through school and into further studies and the workplace.

This blend of methodological techniques ensured that the aims of the study were addressed through both rigorous quantitative and qualitative research methods.

Participants

The research design adopted in this investigation selected participants by recruiting Indigenous and non-Indigenous students, career advisors, and parents of Indigenous students from the same schools and geographic regions in the states of Western Australia, Queensland and New South Wales. This sampling design enabled a strong matched research design.

The majority of Indigenous and non-Indigenous secondary school students were aged 14 years and over. Participating parents were parents of Indigenous children participating in the study. The majority of parents of Indigenous students were Indigenous and a small number ($n=4$) were non-Indigenous. Career advisors were drawn from schools participating in the study. A total of 1668 students (517 Indigenous and 1151 non-Indigenous) from urban and rural regions participated in the quantitative component of the study.

From the initial student participant pool, a total of 133 students self-selected to participate in focused group interviews. Focused group interviews were conducted in each of the three states with both Indigenous ($n=79$) and non-Indigenous students ($n=54$). These interviews were conducted at both urban and rural schools in each state. In addition, 37 parents of Indigenous students from the participating schools participated in five focus group discussions, and five career advisors from participating schools participated in focused interviews. In addition, nine in-depth interviews were conducted with Indigenous students in Years 11 and 12, derived from eight schools located in urban and rural New South Wales.

Key results: Phase 1 student survey quantitative data

The results based on the survey instrument are enlightening (see Chapter 3). Significantly more, in statistical terms, Indigenous students in this study aspired to leaving school early by

comparison with non-Indigenous students (Aim 1, Aim 6). Significantly more Indigenous students aspired to go to technical and further education (TAFE) institutes by comparison with non-Indigenous students, and significantly more non-Indigenous students aspired to go to university by comparison with Indigenous students (Aim 4). Indigenous students tended, therefore, to set their schooling and post-schooling aspirations at lower levels compared with their non-Indigenous peers.

Indigenous students' ratings of the importance of attending school, getting good grades, and contributing to society and community were significantly higher than ratings by non-Indigenous students. No significant differences were present for the importance of: getting a job, completing school, and supporting a family, indicating that both groups hold these values. While Indigenous and non-Indigenous students both perceived schooling and university to be useful for helping them to achieve their aspirations, Indigenous students perceived TAFE to be more useful to helping them to achieve their aspirations compared with non-Indigenous students (Aim 1, Aim 6).

An aspiration shared by Indigenous and non-Indigenous students is getting their desired job. However, Indigenous students, by comparison with non-Indigenous students, were less likely to know much about what sort of job they would like or what sorts of further education and training were available to them after they left school. Hence the knowledge base underpinning post-schooling preferences for Indigenous students is significantly weaker than that of non-Indigenous students (Aim 8).

Indigenous and non-Indigenous students shared similar confidence levels in regard to completing school, getting the type of job they want, and being able to support a family. The results also indicated that Indigenous students feel significantly more confident in being able to make a contribution to society and their community by comparison with non-Indigenous students. In addition, Indigenous students from rural regions compared with Indigenous students from urban regions reported significantly higher confidence levels in regard to making a contribution to society and their community.

Indigenous and non-Indigenous students' ratings of family and teacher perceptions were related to the extent that they believed they (their families and teachers) had confidence in their achieving their aspirations. Indigenous students in particular, felt that their teachers were confident that they (the students) would be able to achieve their job aspirations. However, these results need to be juxtaposed with those above, in that students' perceptions of teacher confidence are related to the low aspirations set by Indigenous students themselves: student perceptions of teacher confidence ratings are high because students' aspirations are set at low levels and are thus more easily achievable. This finding is also important as it offers further support for the validity of the results.

The results indicated that Indigenous students value most school subjects as more useful in helping to achieve their schooling aspirations and entry into TAFE compared with non-Indigenous students, with the exception of English subjects which were valued equally by both Indigenous and non-Indigenous students. Indigenous students, compared with non-Indigenous students perceived science, physical education, art and music, and social science to be more useful for helping them with university, compared with non-Indigenous students. Both Indigenous and non-Indigenous students valued maths and English equally as subjects useful for helping them with university. These results suggest that Indigenous students consider schooling relevant to post-schooling options but tend not to discriminate between the relevance of some subjects over others, as do non-Indigenous students (Aim 3).

Family and friends were the most frequently consulted sources for career advice for both Indigenous and non-Indigenous students. This is of concern in regard to Indigenous students, given that many Indigenous families historically have not been able to access appropriate education. Consequently, their educational and career opportunities and experiences have been limited. Indigenous peers may also have limited understanding and experience of potential options for further education and thus have difficulty in providing informed advice. Government organisations were identified by students as providing them with a small amount of career advice, and only community organisations and media were rated as lower sources of advice than governments. Indigenous students, by comparison with non-Indigenous students, reported that they more often got advice from a range of sources. However, the amount of advice even Indigenous students reported receiving from most sources was very little, with the exception of family where advice was sought often. Thus, while Indigenous students report receiving more frequent advice from a wide range of sources by comparison with non-Indigenous students (with the exception of the media), the actual amount of advice that they receive from most sources with the exception of family is 'a little'. In regard to career advice, Indigenous students rated advice from family and friends as the most useful source, similarly valued as a useful source by non-Indigenous students. The advice Indigenous students found least useful was advice from the media, other community organisations and Centrelink.

Significant main effects were present for the usefulness of advice from family, members of their community, other community members, TAFE, career expos, Centrelink, and government organisations. In particular, Indigenous students, by comparison with non-Indigenous students, particularly perceive advice from the family to be significantly more useful. However, no significant differences were present for the usefulness of advice from teachers, career advisors, TV and radio, newspapers, and universities. Notwithstanding, the mean scores assigned to the usefulness of all sources of advice, with the exception of advice from family, suggest overall, that the quality of advice received is often only somewhat useful. Nevertheless, it is important to note that the amount and quality of career education advice received by Indigenous students is dubious and over-reliant on familial relationships. Ideally, Indigenous students should have the capacity to access a diversity of high-quality advice (Aim 5).

The findings also perhaps suggest that Indigenous students may experience difficulty in identifying relevant sources of information and evaluating the usefulness of information received, given that their ratings of the amount and usefulness of advice from a range of sources were higher than those of non-Indigenous students, who may be more selective in this area, and better positioned to evaluate the usefulness of advice received.

In relation to potential barriers (Aim 9), Indigenous students identified a lack of family support as a key barrier to their achieving their aspirations, followed by the amount of career advice they had been given, their knowledge of what further education or job training they needed to pursue their goals, and their academic achievement. School absences were seen as the least significant barrier to their future. Non-Indigenous students also saw a lack of family support as a key barrier but the mean score assigned to this variable was lower than for Indigenous students. For non-Indigenous students their record of achievement at school was seen as the next barrier. These results suggest that, while lack of family support is a barrier for both Indigenous and non-Indigenous students, for Indigenous students, the next highly rated barriers relate to the amount of career advice they receive and their knowledge of the further education and training required; that is, information to assist them in planning their careers. Given that both Indigenous and non-Indigenous students (but attracting higher

ratings from Indigenous students) saw lack of family support as a key barrier, the amount of support and encouragement students perceive that they are receiving from family may limit students from achieving their aspirations.

Indigenous students compared with non-Indigenous students rated nine potential barriers with significantly higher scores in regard to limiting or preventing them from achieving their goals. Given the strength of these significant effects, it is useful to summarise some of the key findings here.

- A total of 52.7% of Indigenous students reported that the lack of support and encouragement they get from their family will substantially limit or prevent them from achieving their aspirations; 39% of non-Indigenous students also responded in the same manner. Overall, 43.2% of the combined student sample reported that family support would limit or prevent them from achieving their aspirations. This finding suggests that lack of family support is a key barrier to Indigenous students achieving their aspirations and is also of concern to many non-Indigenous students.
- A total of 42.1% of Indigenous students perceived that the amount of career advice they had been given in relation to achieving their aspirations would limit or prevent them from achieving their aspirations to a significant extent. In addition, 42.1% of Indigenous students also reported that their knowledge of what further education or job training was required to achieve their goals would limit or prevent them from achieving their goals after leaving school 'a great deal', whereas 28.4% of non-Indigenous students responded in the same manner. These findings suggest that many Indigenous students are not receiving adequate quality career education advice.
- A total of 31.2% of Indigenous students reported that their school achievement would limit or prevent them from achieving their aspirations 'a great deal' by comparison with 26.6% of non-Indigenous students. These findings reflect the educational disadvantage that Indigenous students experience and point to the need to ensure that Indigenous students' educational attainments are commensurate with those of their non-Indigenous peers.
- A total of 36.9% of Indigenous students reported that access to further education facilities in their local area would limit or stop them from achieving their goals after leaving school 'a great deal'. In comparison, 27.2% of non-Indigenous students (27.2%) responded in this manner.
- A total of 62% of Indigenous students reported that employer attitudes may limit their aspirations, by contrast with 42.9% of non-Indigenous students' ratings for these variables.
- A total of 29.6% of Indigenous students reported that the available job opportunities in the local area would limit or prevent them from achieving their goals after leaving school 'a great deal'; 21.9% of non-Indigenous students responded similarly.
- A total of 29.5% of Indigenous students reported that the lack of support and encouragement they receive from their teachers would significantly limit or prevent them from achieving their goals after leaving school 'a great deal'. In comparison, 17.3% also reported this. These findings suggest that more Indigenous students perceive that the amount of support and encouragement they receive from teachers might limit or stop them from achieving their aspirations.

- A total of 22.1% of Indigenous students reported that school absences would limit or stop them from achieving their goals after leaving school ‘a great deal’. In comparison, 13.8% non-Indigenous students provided this response.

The consistency of statistically significant effects across all of these variables and the strength of these effects demonstrate that Indigenous students by contrast with non-Indigenous students anticipate many barriers in the process of attempting to achieve their aspirations.

Indigenous students were found to have statistically significant lower academic (school, maths, verbal) self-concepts. This is of particular concern, given that academic achievement and other desirable educational outcomes are predicated upon positive academic self-concept.

Results based on a series of multiple regression analyses were able to disentangle some correlates of students’ aspirations (Aim 1, Aim 7). Academic self-concept was found to have a relation to schooling aspirations and future aspirations, whereby a positive academic self-concept is related to wanting to stay on longer at school and wanting to undertake further education. The extent to which parents value schooling and further education had a relation to schooling aspirations and future aspirations: positive parental values are related to wanting to stay on longer at school and wanting to undertake further education. Socioeconomic status was also found to have a relation to schooling aspirations and future aspirations, in that higher socioeconomic status is related to wanting to stay on longer at school and wanting to undertake further education.

Absences from school were negatively related to schooling aspirations, while students’ enjoyment of school and perceptions of their teachers’ ratings of their ability were positively related. Enjoyment of school and students’ perceptions of their teachers’ ratings of their achievement, were also related positively to future aspirations.

The results above were also examined to determine to whether significant differences were present for Indigenous and non-Indigenous students who resided in urban and rural regions. Comparisons of Indigenous students from rural and urban areas revealed no significant differences. In contrast, an interesting pattern of results emerged for comparisons of non-Indigenous urban and rural students: urban non-Indigenous students were found to have higher aspirations in a number of areas compared with their non-Indigenous rural peers, and were more confident than their rural peers in regard to finishing school, obtaining a job, and supporting a family. They did not differ in regard to the extent of their confidence in being able to contribute to society. Non-Indigenous students from urban regions also perceived that their parents had more confidence in their getting a job compared with their rural peers, and perceived that their teachers had more confidence in their being able to achieve their schooling and job aspirations. Non-Indigenous urban students compared with non-Indigenous rural students also considered that attending TAFE and university would help them to achieve their career aspirations. Non-Indigenous students from urban areas by comparison with their rural counterparts, also valued all school subjects, with the exception of physical education, to help them achieve their schooling goals, to assist them at TAFE, and valued English and social science subjects to help them achieve at university.

Hence the survey findings make a contribution to elucidating the aims of the study and provide a firm foundation for generating implications of potentially potent practical and social significance (see Chapter 7).

Key results: Phase 1 student survey qualitative data

The open-ended comments (see Chapter 4) recorded on the survey support the findings based on the quantitative data generated by the survey, confirming the validity of the findings presented in Chapter 3. The results of the survey also enrich the study findings by eliciting further information in relation to a number of the aims of the study.

In relation to Aim 1, this component of the study found that Indigenous students are more likely to have lower aspirations in regard to their post-schooling life. While non-Indigenous students had a more complete understanding of the relevance of their academic choices in relation to their further education and training, Indigenous students found it more difficult to identify the relevance of their academic choices.

The survey data also highlighted that Indigenous students relied upon friends and family more to provide career advice, compared with their non-Indigenous counterparts. Indigenous students were also more likely to not have an alternative choice if their first further study, training or career preferences could not be attained. Indigenous students identified that they did not receive advice as often, nor as complete and useful, as their non-Indigenous counterparts.

Indigenous students were also more likely to identify social barriers as impacting upon their aspirations. Interpersonal relationships and employment issues were also identified by Indigenous students as barriers to attaining their goals.

Indigenous students were more likely than non-Indigenous students to have lower aspirations in regard to further education and training and generally nominated as a first preference employment options requiring minimal post-school training and education. Indigenous students, by comparison with non-Indigenous students, identified more social barriers impacting on their attaining their goals and less understanding about how to achieve these goals. Their aspirations were more likely to be unrealistic and they were more likely to believe getting a job was more important than further education and training. Indigenous students were also more likely to believe that their parents did not recognise the importance of education or obtaining employment.

The lack of educational and employment aspirations, multiple social barriers, lack of parental support, and appropriate advice at an appropriate time identified in this component of the study seem to negate the possibility of Indigenous students attaining outcomes comparable to their non-Indigenous counterparts.

Key results: Phase 2 student, parent and career advisor-focused interviews

These results, based upon interviews with students, parents and teachers, both echo and extend the findings of the survey results.

Indigenous students by comparison with non-Indigenous students were more likely to have a preference for going to TAFE rather than university, were less likely to have identified a second preference for post-schooling options, and were more likely to want to begin having a family earlier by comparison with non-Indigenous students. Since the majority of Indigenous students could not identify a second post-schooling preference, it is likely that many of them will experience difficulty imagining and shaping their preferred future if their first preference is not realised. Goals shared by Indigenous and non-Indigenous students included:

completing high school; undertaking some form of post-schooling training and/or education; obtaining employment; having some form of long-term relationship and a family; acquiring a house; and acquiring other forms of material assets.

Indigenous students were pessimistic about completing high school and seemed to perceive that external forces outside their control would largely determine their futures. Skilled labour or semi-professional careers were the more likely choices of Indigenous males, with females more likely to identify semi-professional to professional careers. In some instances, Indigenous students wanted to work in jobs that would result in helping their own people, other Indigenous people or the broader community.

These comparisons demonstrated that Indigenous students were less likely to have some form of structured plan to undertake further education and training, and have alternative preferences for career choices than their non-Indigenous counterparts. Indigenous students were more likely to: be motivated to work for altruistic reasons rather than for financial rewards; enter into serious relationships and have children at a younger age; return to their communities after undertaking post-school options; and have a cultural attachment that is actively maintained through continued contact with their communities. Indigenous students were also less likely to have a plan or some form of strategy to work towards achieving their goals.

While many Indigenous students were aware of requirements for university and TAFE courses, a significant proportion were not aware of the relevance of specific school subjects to their further study and career choices. Overall, Indigenous students lacked basic knowledge about requirements for particular ambitions and many students reported that they did not know at all how to go about achieving their goals. While all students were able to identify a career choice and at least the further education path associated with such choices, in general, they were unable to recognise the actual requirements for entry into further education courses. Indigenous students' preferences were also skewed in favour of non-university further education and training. While it is important to recognise the important role and success of TAFE in providing significant training and further education opportunities for Indigenous students, the continued tendency for Indigenous students to choose TAFE-based further education and training programs has the potential to create over-representation of Indigenous people in skilled labour and semi-professional professions. This in itself may not be a cause for concern, but if this trend continues, then the likelihood that Indigenous people will continue to be under-represented in university-trained professional careers is high.

Indigenous students also indicated the possibility of participating in Community Development Employment Programs (CDEP) until an opportunity for advancement somehow presented itself, reflecting a previous finding, in that Indigenous students were unable to demonstrate any knowledge of alternative strategies to assist them in attaining their goals. Some Indigenous rural students also identified the CDEP as the only future option available in their regions.

Significant unemployment has meant that a number of young Indigenous people 'don't see the point' in trying to obtain information about careers or in being motivated to set, let alone achieve goals. However, many students were keen and motivated to undertake further study and training and to obtain employment to work towards their life goals. It is also apparent that career education strategies used by schools are often perceived as either irrelevant or inadequate by Indigenous students. While written forms of communication are a historically accepted communication strategy between schools and parents, over-reliance on written

communication strategies has not been a successful form of communication between schools and Indigenous parents. It seems that a number of career education programs have not been designed to take account of cultural differences and therefore meet the needs of Indigenous students.

While non-Indigenous Australians are able to be more proactive in their approach to obtaining information relevant to their career choices, Indigenous Australians do not have the economic base, historical tradition, or human capital to draw upon. Furthermore, many Indigenous Australians see their employment prospects as being limited, due to a racist employment sector. This has resulted in many Indigenous students not bothering to seek career advice. In addition, the lack of effective communication strategies between schools and Indigenous communities contributes to the disparity between Indigenous and non-Indigenous attitudes towards obtaining appropriate career advice at an appropriate time. Consequently, Indigenous students are less likely to obtain the relevant information at a time appropriate to their career goals. It also seems that a number of career education programs may be weak and not structured to suit Indigenous students and some programs appear to rely solely on students approaching the career advisor for advice rather than being developed to be broad and informative career education programs.

There seem to be two disparate goal-setting approaches adopted by most Indigenous students. Many Indigenous students set unattainable goals. Given that Indigenous students seem to be largely unaware of the requirements of specific courses, this is not surprising. In addition, many Indigenous students also set goals that are clearly attainable but not commensurate with their academic potential. Indigenous students also reported that they have low academic self-concepts. This is problematic in that adaptive self-concepts serve to drive academic striving behaviours and the attainment of realistic goals. Non-Indigenous students, confronted by the possibility of not achieving their goals, respond in an adaptive manner by trying harder. Such striving behaviours are underpinned by their higher academic self-concepts. Good self-concept is a vital key, therefore, in assisting Indigenous students to set and attain aspirations commensurate with their human potential and interests.

Many parents of Indigenous students indicated that they wanted their children to succeed at school but had no idea how to assist them. The majority of parents considered that they did not have the knowledge and experience to assist their children set and attain their goals. They felt that school-based career education should begin early in secondary school and be made more relevant for their children. Parents of Indigenous students did not feel that their own past experiences impacted on their child's education and career goals. However, parents claimed that, due to their past experiences, they felt inadequate in providing academic and career advice and support to their children. Parents of Indigenous students also stated they wanted to ensure that their children strengthened their cultural identity and remain in contact, wherever possible, with their 'mob'. In addition, parents of Indigenous children identified peer pressure and issues such as pregnancy as potential major barriers to their children achieving their aspirations. Parents also identified entrenched racism in the workforce as a major obstacle for their children, but also generally felt that their children had a better chance of overcoming such barriers than had been possible in the past.

Career advisors agreed that, on the whole, Indigenous students have career aspirations similar to their non-Indigenous counterparts, but had not made subject choices to match their ambitions. Career advisors reported that Indigenous students seemed to make their decisions based on what their peers were doing, and as a result, generated unrealistic goals. Career advisors also indicated that they had to approach Indigenous students to offer advice, as

Indigenous students largely seemed to be reluctant to approach them. Career advisors also suggested that parents of Indigenous students often did not provide appropriate advice and support for their children, such that, in some instances, they contributed to the child's unrealistic career choices and expectations. While it is interesting to note that the majority of career advisors interviewed indicated that they tried to do the best for Indigenous students with the limited support and information they had available, some career advisors were overtly prejudiced against Indigenous students.

Career advisors consistently identified unrealistic career choices, peer pressure, low ambition and a lack of knowledge and support as major issues in their attempts to provide advice and support for Indigenous students. Career advisors also indicated that Indigenous students did not identify career strategies at the same age as their non-Indigenous counterparts and were much more likely to be dissuaded by peers from attempting to work toward their goals. Career advisors also indicated that Indigenous students were more likely to have no alternative strategies if their first preferences were not realised, and often received inaccurate advice if advice was received at all. All career advisors indicated that more support and resources were required to enhance career education programs for Indigenous students.

While non-Indigenous students were able to visualise and, in the minority of cases, actually experience some barriers to achieving their aspirations, the majority of Indigenous students experienced multiple barriers on a daily basis, a situation serving to entrench a fatalistic attitude that contributed to Indigenous students not achieving or attempting to achieve their goals. This was further compounded by a perception among Indigenous students interviewed, that racism at school or in the wider community would hamper them from attaining their life goals. Other barriers identified by Indigenous students included: substance abuse; domestic violence; family obligations; poor grades; internal conflict within their own communities; pregnancy; lack of support; peer pressure; and dysfunctional communities.

Key results: Phase 3 in-depth interviews with successful Indigenous students

In-depth interviews were conducted with nine Indigenous students in schools throughout New South Wales. The schools were in different locations and were representative of many of the diverse kinds of community situations in which Indigenous people find themselves: inner-urban, outer-urban, mid-sized coastal town, large inland country city, major rural centre. The interviews were conducted by an Indigenous researcher and followed a semi-structured format. An ethnographic approach was adopted by the research team, with time taken in each school location to identify contextual factors to be considered in the collection and analysis of data. The students chosen for the interviews were those identified by their school as 'solid'; that is, likely to complete their senior years of secondary school. This was a deliberate focus, aimed at exploring the educational, vocational and life aspirations of a sample of students who are part of the minority of Indigenous students remaining at school, despite national trends and statistics. The issues explored during the interviews were consistent with the project's objectives and other quantitative and qualitative data collected for the report.

Data revealed that all of the students faced a variety of challenges within their community and in their educational lives. Racism continued to be a significant factor in their lives. The 'battle' against the 'system' of police, law, education and employment persisted for all of these young people. Mostly this 'battle' was fought against a backdrop of subtle and

relentless racism that affected their daily lives. Occasionally, however, there were serious confrontations.

Despite their considerable difficulties, all of the students displayed a determination not to be beaten by the system and turn out like others in their communities. They identified issues of aimlessness, young parenting, unemployment and drug and alcohol addiction as powerful forces actually holding them at school. That is, they had resolved to resist the significant pressures to drop out and had decided that they wanted to do something with their lives. All of the students received considerable family support in this quest. This was despite the fact that most of their parents had left school early and had few formal qualifications and consequently, were now 'working poor'.

At school the students also faced racism within the curriculum and their dealings with teachers and peers. Since this had been part of their continuing school experiences they had learned just to 'take it' and get on with the main business of completing their own studies as best they could. They all knew that they were in a minority of Indigenous students who had remained at school and they had all seen many of their friends drop out. Again this had appeared to further fuel their determination to get through. Importantly, this decision had not appeared to affect adversely their community peer relationships.

None of the students seemed to have benefited from a strategic careers program within their schools. Rather, they had all made a decision about one future job, rather than decide upon career paths that would open up other opportunities. Once they had made this decision they attempted to match aspirations with subjects and projected Universities Admission Index (UAI) scores. Careers advisors often helped them in these processes with information (for example, pamphlets about their chosen career) or advice about career paths. Unfortunately, many students were discovering that their subject choices were not completely appropriate in realising their aspirations. Moreover, the students had often been disadvantaged by the low expectations that teachers and prospective employers had of the career prospects of Indigenous workers. At other times their difficulties lay in the source of their greatest support. Their families and communities offered remarkable encouragement, but it was support that, because of their own experiences, remained more moral than knowledgeable. It was clear that combinations of uninformed advice (parents and community), and advice applied after a career had been chosen (teachers) were highly inadequate in the fragile school-to-career environment of most Indigenous students. On top of the complex cultural negotiations around community and school relationships, this presented another layer of difficulty that the students had to overcome.

The Indigenous students worked to overcome these complex intersecting difficulties with the same determination that had carried them through their school careers. They displayed tenacity and resourcefulness in finding out about their school-to-work paths. However, the fact that they had succeeded despite the odds raises serious equity issues in relation to students from oppressed, poor and educationally disadvantaged backgrounds being left to their own devices to gather information about their future careers. It follows that these are the kinds of students who need more resources to assist them in matching career aspirations to educational strategies and support. This is a social justice issue of critical proportions.

The students identified a number of barriers that still had to be overcome. The greatest of these was seen to be their final marks. In the same way as many had accepted the cultural difficulties of relationships with Indigenous and non-Indigenous peers and teachers as

something to 'put up with', they now appeared to accept the vagaries and lotteries of their final year.

However, completing school and gaining the 'right' mark did not mean that students perceived an end to their career difficulties. They were all aware that there were other barriers they would continually have to address and overcome. For the students attending the rural high schools in particular, gaining the mark they wanted, generally meant they had to leave their families and communities to go to university or TAFE. This is not a happy prospect for most students, but it is certainly more challenging for Indigenous people to give up cultural support and solidarity to face academic study in a predominantly non-Indigenous institution. It would also inevitably mean financial hardship for the family, and the students were conscious of that.

The interviews with the Indigenous students across the different urban and rural locations revealed much about their school and community experiences and their aspirations for the future. The analysis has to be read in the light of their intention and likelihood of finishing secondary school. They were in the minority in their schools and communities and their success and aspirations were against local, state and national statistics and trends.

Implications of the findings

The final chapter of the report aims to synthesise key findings across the three phases of the study, examine the implications of the findings and propose a number of strategies for addressing these. Potential limitations of the study and some strategies for future research are also suggested.

Students' aspirations (Aim 1, Aim 4, Aim 6)

Significantly, more Indigenous students in this study aspired to leaving school early by comparison with non-Indigenous students. More Indigenous students aspired to go to TAFE by comparison with non-Indigenous students, and more non-Indigenous students aspired to go to university by comparison with Indigenous students. These results show that TAFE courses are valued by Indigenous students for accessing vocational education, and suggest that the TAFE sector has been successful in recruiting and catering to the needs and aspirations of Indigenous students.

That fewer Indigenous students than non-Indigenous aspired to attend university is a matter of concern, since important life opportunities are predicated upon completion of higher education. These results also suggest that universities may need to improve their recruitment strategies. In addition, findings of Phases 1 and 2 of the study also suggest that Indigenous students tend to aspire more frequently to unskilled or semi-skilled occupations by comparison with non-Indigenous students. Hence this study found that participating Indigenous students tended to set their schooling and post-schooling aspirations at lower levels compared with their non-Indigenous peers. As such, these results suggest:

I1. That effective strategies need to be put in place to assist Indigenous students set and attain higher schooling, future education and employment aspirations, including strategies that, in particular, encourage more Indigenous students to aspire, achieve entry and be positioned to successfully complete university.

Results from the survey suggest that both Indigenous and non-Indigenous students equally value the importance of getting a job, completing school, and supporting a family. However,

Indigenous students consider attending school, getting good grades, and contributing to society and community, as more important goals than do their non-Indigenous counterparts, demonstrating that Indigenous students value schooling and are committed to making a contribution to community and society. The latter suggests that harnessing the human capital of Indigenous Australians has the potential to ensure that more working Australians are committed to advancing social issues, and in particular, to addressing community concerns. As such these results suggest that:

I2. Maximising Indigenous students' ability to enter the workforce has the potential to assist in strengthening the number of working Australians committed to addressing critical social issues of our time.

Students' perceptions of relevance of current studies (Aim 3)

The results indicated that Indigenous students value most school subjects as more useful in helping to achieve their schooling aspirations and helping them to gain entry to TAFE compared with non-Indigenous students, with the exception of English subjects, which were equally valued by both groups of students. In regard to the relevance of schooling for gaining entry to university, Indigenous students perceived science, physical education, art and music, and social science to be useful for helping them with university. Both Indigenous and non-Indigenous students equally valued maths and English as useful subjects. These results suggest that Indigenous students consider schooling relevant to post-schooling options but tend not to clearly discriminate between the relevance of specific subjects over others as do non-Indigenous students. These results imply that:

I3 Indigenous students highly value schooling as relevant but would benefit from career advice that enabled them to more readily discern the specific relevance of school subjects as a foundation to achieving their aspirations.

Key sources of advice (Aim 5)

Family and friends were the most frequently consulted sources for career advice for both Indigenous and non-Indigenous students, suggesting that school-based career education is not empowering Australian students to be knowledgeable about diverse further education and career options, nor enabling them to access a variety of sources of advice tailored to their individual needs. These results suggest that:

I4 It is important for education systems to perceive and address career education as a key component of schooling and fundamental to life education.

Furthermore, given that historically many Indigenous families have not been able to access appropriate education, the quality of advice received by Indigenous students from family and friends is unlikely to be commensurate with the quality of advice received by non-Indigenous students from similar sources. The latter is also compounded by participating Indigenous students' lower socioeconomic status which tends to be associated with less access to educational resources at home, including computers and the internet.

Indigenous students by comparison with non-Indigenous students reported that they more often got advice from a range of sources. However, the amount of advice Indigenous students reported receiving from most sources was very little, with the exception of family, where advice was sought often. Taken together these results suggest:

I5 It is particularly important for Indigenous students to have access to accurate career education advice from a wide range of informed sources.

Government organisations were identified by students as providing them with very little career advice, yet it would be reasonable to assume that such organisations would be committed to recruiting Indigenous applicants for both their own organisations and other industry sectors, and therefore more proactive in providing informed career advice, since Indigenous students have less access to computers and the internet. Although an over-reliance on solely internet-based resources may be undesirable, internet-based information is easy to update and is cost-effective. These results suggest that:

I6 Government organisations need to develop strategies for enhancing the quality of career advice available to Indigenous students by synthesising career advice for a diversity of industries in a range of media (for example, websites, printed publications); encouraging career advisors to verbally explain to Indigenous students the availability of these materials and, in particular, how to access internet resources; offering expert verbal advice tailored to individual needs (for example, a free telephone consultation source); and promoting the availability and strategic guides to the use of such resources in an accessible manner to Indigenous students (for example, t-shirts, stickers, bookmarks, posters).

Accuracy of knowledge (Aim 8)

The most important aspiration shared by Indigenous and non-Indigenous students is actually getting the job they want. However, Indigenous students by comparison with non-Indigenous students were less likely to know much about what sort of job they would like, or what sorts of further education and training they could undertake after they left school. A fundamental finding of this study is therefore that the knowledge base underpinning post-schooling preferences for Indigenous students is significantly weaker than that of non-Indigenous students. The findings also indicate that there is a large discrepancy between desirable and attainable aims for Indigenous students. Indigenous students in this study tended to aspire to attainable goals based upon low aspirations (unskilled, semi-skilled jobs). Of those students who set desirable aims, it was found that they often experienced difficulty in understanding basic prerequisites in attaining their goals, and therefore were not positioned to achieve them. These results suggest that:

I7 Indigenous students need a much stronger knowledge foundation to serve as a basis for shaping and casting achievable aspirations.

Perceptions of barriers (Aim 9)

Indigenous students identified lack of family support as a key barrier to achieving their aspirations. Statistically significant effects were present between ratings of Indigenous and non-Indigenous students in relation to this variable, whereby Indigenous students perceived a lack of family support as a greater barrier compared with non-Indigenous students. It is also important to note that, while lack of family support was perceived as a key barrier, family was also valued as a key source of frequent and useful advice. These results suggest that:

I8 A perceived lack of support and encouragement from family may limit Indigenous students from achieving their aspirations.

In relation to limiting or preventing them from achieving their aspirations, Indigenous students compared with non-Indigenous students rated nine potential barriers with significantly higher scores. These barriers included lack of:

- family support (as discussed above)
- career advice in how to go about achieving their aspirations
- knowledge of what further education or job training was required to achieve their aspirations
- achievement at school
- access to further education facilities in their local area
- positive employer attitudes towards employing Indigenous people
- available job opportunities in the local area
- support and encouragement received from their teachers
- regular school attendance.

The consistency of significant effects across all these variables and the strength of these effects demonstrate that Indigenous students, by contrast with non-Indigenous students, anticipate many barriers in the process of trying to achieve their aspirations. These results suggest that:

I9 A more concerted strategic approach needs to be developed by a diversity of agencies to address barriers Indigenous students perceive as limiting the achievement of their aspirations.

Findings from in-depth interviews with students who were succeeding at school indicated that even these students had to negotiate some of these difficult barriers. However, these successful students had developed a number of adaptive psychological tools to facilitate the achievement of their aspirations in the face of enormous barriers. These psychological tools included the development of resilience, high academic self-concept, and a determination to succeed. These results imply that:

I10 Implementing effective strategies to optimise student resilience, academic self-concept, and determination to succeed would be beneficial for assisting Indigenous students to achieve their aspirations.

Parents' perceptions (Aim 10)

Parents of Indigenous students reported that they experienced difficulty not only in helping students to achieve, but in defining and accessing information helpful to shaping their children's aspirations. It is also important to note that successful students reported that a key factor in their success to date had been the support of their families. Taken together, these findings imply that:

I11 Parents of Indigenous children need better information about career and education options so they can provide better advice to their children.

Relation of correlates to aspirations (Aim 2, Aim 7)

The empirical research based on survey results provides new insights into a number of key variables which have the potential to serve as correlates of schooling and future aspirations. Academic self-concept was found to have an important relation to schooling aspirations and future aspirations, whereby a positive academic self-concept is related to wanting to stay on longer at school and wanting to undertake further education.

It was also found that the self-concept scores in mathematics, English (verbal) and overall self-concept of Indigenous students were statistically significantly lower for non-Indigenous students. Given the established importance of enhancing self-concept as a means to facilitate academic achievement and other desirable educational outcomes (see Chapter 3), it is suggested that:

I12 Enhancing Indigenous students' academic self-concepts needs to be seen as a priority and is fundamental to ensuring that Indigenous students set and attain academic aspirations commensurate with non-Indigenous students.

The extent to which parents value schooling and further education had an important relation to schooling aspirations and future aspirations, whereby positive parental values are related to students' wanting to stay on longer at school and wanting to undertake further education. These results suggest that:

I13 Parents of Indigenous children need to be well informed about their potential influence in shaping their children's future aspirations.

Socioeconomic status was also found to have an important relation to schooling aspirations and future aspirations, such that higher socioeconomic status is related to wanting to remain at school and wanting to undertake further education. This result suggest that:

I14 The broader socioeconomic issues affecting Indigenous families need to be addressed and taken into account in short- and long-term strategies for improving Indigenous aspirations.

Absences from school were negatively related to schooling aspirations, while students' enjoyment of school and perceptions of their teachers' ratings of their ability are positively related. Students' perceptions of their teachers' ratings of their achievement are also related positively to future aspirations. These results suggest that:

I15 So that the aspirations of Indigenous students can be realised, strategies need to be put in place to monitor and address absentee rates, foster and encourage their enjoyment of school, and encourage teachers to acknowledge Indigenous students' achievements.

Finally, the results above were also examined to establish whether significant differences were present for Indigenous and non-Indigenous students who resided in urban and rural regions. In regard to Indigenous students, few significant differences were present. However, an interesting pattern of results emerged for comparisons of non-Indigenous urban and rural students. For example, urban non-Indigenous students were found to have higher aspirations in a number of areas compared with their non-Indigenous rural peers, and were more confident than their rural peers in regard to finishing school, obtaining a job, and supporting a

family. The similarity of results for both groups of Indigenous students may be a reflection of the educational and economic disadvantage Indigenous Australians experience—wherever they are.

Some possible strategies for addressing the implications of the findings

The implications of the study findings summarised above have the potential to facilitate an important turning point in Indigenous education. Translating the implications of the study into action is a vital challenge. The purpose of the following section of the report is to propose a number of points for discussion by the various stakeholders. Some ideas are based upon data generated by the present investigation, others have been proposed by our external advisory board to address key implications, while others are based on our expertise in this area. What is presented therefore is a range of ideas, as opposed to prescriptive strategies, which can be adopted or adapted or even ignored by stakeholders.

We have attempted to synthesise the key implications of the findings. In this way the analysis can become the basis for future action plans.

Strengthening and reconceptualising university recruitment strategies

An implication of the study findings was the need to encourage more Indigenous students to attend university (I1). This study found that Indigenous students were often ill-informed about the subjects they were required to undertake in order to gain entry to a university course of their choice. The study also found that a number of Indigenous students had discovered too late that they were ‘on the wrong track’ in relation to subjects for university entry.

In the context of declining trends in the number of Indigenous students participating in university, these results suggest that there is a need for universities to strengthen and therefore reconceptualise their recruitment strategies. For example, universities could consider proactive career education throughout secondary schooling to ensure that Indigenous students are given access to information on entry requirements, as opposed to recruitment drives in the final years of study. Such a process would ensure that higher numbers of Indigenous students were well informed about entry requirements in the early years of secondary schooling, aspired to go to university, and were successful at both gaining entry and completing university. In addition, it might be useful for universities to consider reconceptualising delivery modes to attract more Indigenous students to higher education. For example, at the University of Western Sydney, block release programs, whereby students attend university courses for block periods during each year, have been found to be a successful delivery mode.

Strengthening career education in the schooling sector

Underpinning several implications of the study findings is the fundamental need to improve career education in the schooling sector (see I3, I4, I5, I6, I7). To address this need it is suggested that serious consideration be given by education systems to enhancing the ethos, status, place and quality of career education, particularly in the secondary school. This could be accomplished by:

- *Enhancing the place of career education in the schooling curriculum.* Possible strategies include: viewing career education as life education; establishing life/career education as an important national goal of education in Australia; strengthening the place of

life/career education in the Studies of Human Society and Environment Key Learning Area; integrating life/career education perspectives across the curriculum; introducing life/career education in the first year of secondary schooling; and widely disseminating best practice models from a diverse range of Indigenous community settings.

- *Devoting adequate levels of staff to improve career education.* Possible strategies include: ensuring appropriately qualified teachers are allocated adequate time to resource career/life education positions in a full-time capacity; ensuring additional career/life education teaching staff who are preferably Indigenous or informed about Indigenous issues are appointed to areas with high Indigenous populations; and fostering a climate whereby all teachers see career/life education as a key professional responsibility rather than relegating such a vital role, as is often the current case, to one sole teacher who may or may not also be responsible for a teaching load.
- *Developing appropriate curriculum and resources to support teachers.* Possible strategies include: developing materials to ensure valuable teacher time is not wasted on duplicating resources or attempting to source information; establishing a centralised resource position within educational systems to enable teacher access; establishing a formal professional network of career education advisors; providing teachers with up-to-date information on where to direct students for further advice; and providing teachers with ready access to career education curriculum resources.
- *Strengthening the curriculum.* Possible strategies include ensuring the curriculum is designed in such a way as to: fully inform students of the relevance of not just schooling, but also why particular subjects and units of study are required to attain individual students' further education and career aspirations; provide advice on a range of career choices and multiple academic and vocational pathways to exemplify a range of options available to students; provide students with successful role models (for example, a visiting speakers program, videotape/print resources highlighting successful Indigenous role models who describe strategies leading to success).

It is also particularly vital for Indigenous students that a whole-school career education program encourages them to set their aspirations to reach their full potential. This study suggests that some career advice given to some Indigenous students has resulted in their being incorrectly advised, such that they have been unable to achieve their aspirations. The advice appears to have been based on unjustifiable and inappropriate stereotypical expectations.

Facilitating Indigenous student access to accurate career and further education advice

Fundamental to several implications of the study findings is the vital need for Indigenous students to have ready access to accurate career and further education and training advice (see I3, I5, I6). A national website <www.myfuture.edu.au> is now available and contains access to career education information.

However, the results of this study suggest that Indigenous students have less access to computers and to the internet at home by comparison with non-Indigenous students. It would be reasonable to suggest therefore that their ability to navigate internet-based resources may be less developed by comparison with their non-Indigenous peers. Furthermore, the low levels of literacy of Indigenous students may impede their efforts to fully capitalise on the resources available on the internet. Hence we suggest that Indigenous students need access to 'plain English' printed training materials and skilled instructors on how to access this

resource, a resource which should be introduced to Indigenous students through culturally appropriate promotion strategies which take into account the low levels of literacy of Indigenous students in general (for example, via oral training from career advisors, videotape, posters, t-shirts, bumper bar stickers, bookmarks).

Furthermore, it is also suggested that this initiative be expanded to include email queries from Indigenous students to professional career education professionals with a good understanding of Indigenous students' needs. Such a strategy would cost very little to Indigenous students and enable access to a diverse range of career education sources in a cost-effective manner. Given that many Indigenous students find it difficult to access the internet and prefer oral communication, it is also suggested that a national career education hotline be developed specifically to cater to the needs of Indigenous students.

Finally, we suggest that it would be useful to evaluate Indigenous students' knowledge of the existence of the My Future website, their ability to access and navigate it, and their suggestions for improving Indigenous students' knowledge of and access to this website, as well as their ideas for improving the format and accessibility of information on this site. Given that this website has only been recently developed, and promotion of this resource has only begun, this is an issue for future research. Indigenous students could also be asked for their ideas on improving access to quality career education advice.

Optimising Indigenous family support and encouragement

The study findings suggest that family support and encouragement is a vital source of both advice and support for Indigenous students and that a lack of such support can serve as an impediment to setting and achieving aspirations (see I8). Furthermore, parents of Indigenous students participating in focus group interviews expressed a need for information to enable them to assist their children (see I11). In order to optimise family support and encouragement, it is suggested that a positive parenting program for parents of Indigenous students be developed. Such a program might include: information to assist parents of Indigenous students to understand the important influence they have on assisting their children to form and achieve their aspirations; strategies for supporting and encouraging their children; information on how to access key sources of advice; and information on the nature, function and expected outcomes of career education programs in the schooling sector.

Addressing barriers to Indigenous students' achieving their aspirations

Implications of the study findings included the need to develop a concerted approach to addressing barriers identified by Indigenous students and Indigenous parents (see I9, I14). The perceived negative effects of these barriers were some of the strongest findings of the study. The serious nature of these issues was also identified in focus groups with students and parents. It was also found that such issues were common to both urban and rural students. However, they were more pronounced in settings where Indigenous Australians were either segregated from other members of the community in a separate physical location (for example, former mission) or concentrated within a mixed community in a specific pocket. These results reflect the fact that Indigenous Australians are still the most educationally and economically disadvantaged group in Australian society. While it goes beyond the available data to recommend successful strategies to deal with these issues, it is suggested that a 'sick' community cannot and should not be expected to heal itself. In order to develop a more concerted strategic approach to addressing these barriers, it is suggested that: a national forum of providers be convened to develop strategies for a concerted intervention approach;

and that information on successful programs implemented be widely disseminated as best practice models.

Strengthening Indigenous students' psychological tools

The findings in relation to successful Indigenous students suggest that these students have developed adaptive psychological tools to deal with some of the barriers they face (see I10). It is suggested that it would be useful for schools to develop and implement whole-school intervention programs, based on the adaptive strategies of successful students, which attempt to enhance Indigenous students' resilience, academic self-concept, and determination to succeed.

It would also be beneficial to draw upon the available psychological literature to develop such programs (for example, Marsh, Craven & Burnett in press), and vital to fully evaluate the success of such programs by rigorous research to extend theory, research and practice. Given the numbers of barriers Indigenous students face, along with the existence of entrenched racist attitudes in a number of communities, it is also important to ensure that students' psychological wellbeing can be 'shored up' when necessary by external professionals. It is suggested that a counselling helpline be specifically established for Indigenous students to provide an external means of professional support.

Capitalising on the goodwill of Australia's governments, industry and business sector

An implication of the findings is that maximising Indigenous students' potential to enter the workforce could see more members of the workforce being committed to social issues and community concerns (see I2). Given that the Indigenous population is growing and is projected to continue to expand, and the high Indigenous youth unemployment statistics, it is suggested that government organisations should target the employment of Indigenous youth within their organisations as a priority. Moreover, more could be done to capitalise on the goodwill of Australia's government, industry and business sectors. For example, we have been advised that a supermarket chain is testing an Indigenous schooling scholarship scheme in Western Sydney, whereby Indigenous students are allocated scholarships to support their completion of schooling and are also offered part-time employment in the grocery chain. If trials prove to be successful, this chain intends to create a nationwide program. We are also aware that there are a number of small and large businesses who are committed to social justice issues and are interested in attracting Indigenous staff. It is suggested that industry and business organisations be encouraged to develop schemes to capitalise on the human potential of Indigenous youth (for example, schooling and further education scholarship schemes, strategies to increase Indigenous youth employment), and that the availability of such schemes and employment opportunities for Indigenous youth be nationally coordinated, with information available on the My Future website.

Widely disseminating the results of this report

Given the scope of findings and implications arising from this investigation and the need for holistic approaches and common strategies to address Indigenous education issues, it is suggested that the findings of this report be widely disseminated.

Potential limitations and strategic research directions

The above results and implications need to be interpreted in the context of the limitations of the present investigation.

A potential limitation of the present investigation which needs to be taken into account when interpreting the results is that the sampling and logistics involved in the study resulted in more participants being from rural rather than urban areas for the survey component of the research design. However, sample size for both groups was adequate for addressing the aims of the study and for making valid comparisons (by statistically adjusting for the disparate sample size in numbers of participants from urban and rural areas). It is also relevant to emphasise that the participants in the present investigation are not a representative sample of all Indigenous students or all non-Indigenous students, since they are derived from 17 schools in three states. Indeed, the purpose of the sampling design was specifically to obtain two reasonably well-matched groups which differed only in relation to being Indigenous or non-Indigenous. Furthermore, the total sample does represent a large, diverse cross-section of Indigenous and non-Indigenous students with an adequate proportionate sample size from both groups to serve as a valid basis for comparison.

A weakness of the research design is that it is based on cross-sectional as opposed to longitudinal data. While cross-sectional data can elucidate relations between variables, longitudinal data offer the only basis from which causal ordering can be inferred and tested. Therefore a longitudinal research design would have enabled a much more powerful analysis of data and may have elucidated and disentangled further the causal factors and processes impacting on and driving Indigenous students' aspirations, and would have led to more powerful insights.

A key weakness of the current study is also that it is based on a 'one shot study' rather than founded on a systematic body of research in the field. Bin-Sallik et al. (1994) in their review of Indigenous education research noted that much of the literature they reviewed was descriptive (1994, vol.1, p.36); in general 'there is almost no empirical research' (p.7); and 'a noticeable absence in the current literature, of analysis of how "to get things done"' (1994, vol.2, p.19). The authors also pointed out that, even though 13 goals of the National Aboriginal and Torres Strait Islander Education Policy (Commonwealth of Australia 1994, 1995) are related to schooling, they found a very small number of references to the schooling sector.

This absence of quality research in the schooling sector has severely impeded progress in developing theory, research and classroom practice relating to the improvement of Indigenous education in the formative years of schooling. Given that the Bin-Sallik et al. review was undertaken in 1994, it is disconcerting to note that, at the time, they found nationally there was a dearth of research being undertaken in Indigenous education. A decade later this is clearly still the case. While there has been an increase in government-commissioned reports which have produced important findings, even a cursory search of education databases demonstrates that Aboriginal education research is not underpinned by a scholarly body of research findings. Very few researchers have undertaken a sustained program of research in the area.

Of the research that exists, this research typically is characterised by: 'one shot' studies; weak research designs; a lack of empirical research based on large sample sizes; unsophisticated research methodology not based on 'state of the art' methodology; cross-sectional data rather than longitudinal data that would allow stronger tests to identify key variables and evaluate potentially powerful programs for change; and atheoretical approaches. Also of the intervention programs designed, very few have been evaluated by sound empirical research to demonstrate that their stated aims have resulted in the expected outcomes. Theory, research and practice are inextricably intertwined, and neglect in any one area will undermine the

other areas. Hence it is unlikely that desirable outcomes, in this instance, for Indigenous students, will be enhanced unless intervention is firmly founded upon theory and research that demonstrates that such intervention strategies are effective.

It is also unlikely that without government initiatives this situation will improve. For example, it is rare for the Australian Research Council (ARC) to fund Aboriginal education research under either their Linkage or Discovery grants programs. While the ARC under its Indigenous Research Scheme fosters research training for Indigenous researchers, this scheme is primarily designed as a research training scheme for beginning and early career researchers. It is also rare for experienced non-Aboriginal researchers to engage in Aboriginal education research, yet their research programs could be utilised to expedite advances in Aboriginal Education research.

Due to the educational disadvantage they suffer, there is also a paucity of world-class Aboriginal researchers, let alone many world-class Aboriginal researchers whose research interests lie in Aboriginal education, particularly since there is such a multiplicity of other Aboriginal studies issues requiring research. However, Aboriginal researchers bring a wealth of cultural expertise to the research process. Hence it would seem to be desirable to have both non-Indigenous and Indigenous researchers collaborate on research.

Furthermore, despite a dearth of research and the fact that Indigenous Australians remain the most educationally and economically disadvantaged Australians, the recently released national research priorities do not include a specific reference to the need to undertake Indigenous education research. It also needs to be noted that many of the goals of our current educational policies have not resulted in the anticipated outcomes, and have failed Indigenous students. Policies have been dominated by presumed successful strategies based on collective wisdom, as opposed to successful strategies demonstrated by research to result in tangible outcomes and systemic change. Hence the failure of policy can be attributed to a lack of high-quality research generating and underpinning potentially powerful solutions. There is an urgent need to embark on a concerted national program of Indigenous education research to identify the keys to 'breaking the cycle'. Such a research program could evaluate presumed successful strategies, and importantly, draw from a body of established research to generate new solutions that are demonstrated to result in tangible outcomes.

While this study makes a foundational contribution, if the field of Indigenous education is to be advanced, then a concerted national program of research needs to be developed. We advocate the implementation of more rigorous program of research, as the problems identified by Bin-Sallik et al. continue to persist. Hallmark features of a new generation of rigorous Indigenous research could include:

- capitalisation on the best available theory to ensure theoretical and practical advances
- sophisticated research designs
- utilisation of the strongest available 'state of the art' quantitative and qualitative research methodologies
- sophisticated longitudinal research designs
- large-scale empirical studies being seen as a high priority to facilitate the application of sophisticated research methods in the context of large representative sample sizes

- rigorous qualitative research to elucidate and enrich the findings of a vibrant research program
- the development and rigorous evaluation of potentially powerful interventions grounded in theory and research that can make a real difference at local and systemic levels.

Importantly, for these reasons, it is strongly urged that programs of research into Aboriginal education be seen as an urgent national priority. More specifically, the Australian Government needs to consider listing Aboriginal education research as a national research priority area, encouraging the ARC to fund world-class research in this area and developing funding initiatives (for example, similar to the ARC Special Investigator's Scheme), whereby researchers are invited to apply for funds to undertake a concerted program of research into this area over an extended period.

Summary

Indigenous Australians dream of a future where they can get a job that makes a difference to community and social issues. However, their perceptions of what is attainable are limited by external factors which seem to impede Indigenous students from imagining (as a basis for shaping and creating) their preferred futures. As James Wilson-Miller, renowned Aboriginal historian says: 'Australia is far better than it once was for Indigenous people but not as good as it might become'. The findings of this study suggest that there is much work to be done to address Indigenous Australians' perceptions and to make their dreams a reality. It is hoped that the findings of this report will contribute to such an aim.