



MINISTRY OF EDUCATION

Te Tāhuhu o te Mātauranga

Hei titiro anō i te whāinga

*Māori achievement in bachelors degrees
revisited*

This report forms part of a series called *Learners in tertiary education*.
Other topics covered by the series include access, pathways, support, participation, retention and qualification completions.

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Hei titiro anō i te whāinga – Māori achievement in bachelors degrees revisited

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1 Key findings

This paper updates *Te whai i ngā taumata atakura – supporting Māori achievement in bachelors degrees* (Earle, 2007), using improved tertiary enrolment data and National Certificate of Educational Achievement (NCEA) results. This paper looks at Māori students entering degree study within one or two years of leaving school, and Māori students entering degree study for the first time as an adult (aged 25 to 39).

From school to degree study

- The number of Māori moving from school to degree study is increasing. However, participation rates for Maori aged 18 to 19 in degrees have only increased slightly and remain at less than half the rate for all students. Māori students have the lowest rate of progression from school to tertiary of any ethnic group.
- School performance has the largest association with the success of Māori school leavers in their first year of degree study. Success in first-year study has the largest association with continuing after the first year. Continued success in courses has the largest association with qualification completion.
- Māori students enter degree study, on average, with lower school qualifications and lower NCEA results than their non-Māori peers. Māori students who had the same level of performance in NCEA as non-Māori did slightly less well on average in their first-year degree studies.
- The type of institution attended affects the average performance of Māori students, once factors such as school performance are controlled for. After controlling for other factors, Māori school leavers who study at universities with a higher proportion of degree and above students are less likely to pass 75 percent or more of their first-year courses than Māori school leavers at other institutions. However, Māori students who are successful at these institutions are more likely to continue in study and complete a qualification than Māori at other institutions.
- Māori school leavers who have completed at least three years of equivalent full-time degree study are less likely to have gained a qualification than other Māori students if they have: failed several courses, and/or switched between degree programmes, and/or studied part-time.

Entering degree study for the first time as an adult

- The number of Māori students entering degree study for the first time between the ages of 25 and 39 has continued to decrease, as it has for all students in this age group.
- For Māori students in this age group, both their major subject of enrolment and their school qualifications have strong associations with their first-year success. Having higher levels of school qualification is particularly important for success in extramural studies.
- Māori students in this age group who study full-time, full-year in their first year are more likely than other Māori students in the same age group to pass most of their first-year courses, return to study and complete a qualification.

-
- Studying at an institution of technology and polytechnic is also associated with greater chances of first-year success, continuing in study and completing a qualification, once other factors including school qualifications and subject are controlled for.
 - Māori students in this age group who have attended a low decile school are slightly less likely to pass most of their first-year courses. This indicates a continuing effect of school and community background on educational performance.
 - Māori students studying nursing are more likely to return to study and complete than Māori in other fields of study, once other factors are controlled for.

Supporting Māori achievement in bachelors degrees

- Recent literature suggests a combination of approaches is required to raise Māori achievement in secondary school and tertiary education. A key theme is the need for educational institutions and teachers to move away from a deficit model, which locates Māori underachievement in the shortcomings of the student, to a view that considers the ways in which support, environment and teaching practice can be improved to build and enhance the learning of all students.
- Key themes from the literature as to how to enhance outcomes for Māori and non-Māori students include:
 - The institution and teachers engage effectively with students and understand their learning needs and aspirations.
 - Families and whānau are welcome and encouraged in their support for their students.
 - Support, orientation and advice are provided in a timely manner to students.
 - Teachers work alongside students and are focused on the success of all students.
 - Students have access to a range of learning supports, including space to organise their own learning groups in their own way.
 - Cultural diversity is welcomed and valued.
 - Discrimination and racism on campus are not tolerated.

2 Discussion

A key theme in this report is that Māori students are likely to do less well in first-year degree studies than non-Māori students with similar levels of previous achievement. The findings in this report show that when Māori students are compared with non-Māori students with the same level of school performance, their first-year degree performance is lower. This is confirmed by Scott (2008). This differential is compounded by Māori students entering degree studies with lower average school achievement.

A similar pattern was found with regard to school performance by Hodgen (2007), in examining the effects of maternal qualifications and family income on key competencies of 16 year olds. Hodgen found that in numeracy, literacy, 'thinking and learning' and 'focus and responsibility' Māori students scored lower than Pākehā and Asian students, even once maternal qualifications and family income were controlled for. That is, Māori students performed less well than their peers even when the major influences of parental education and family resources had been taken into account. Lock and Gibson's (2008) analysis of test score data for 15 year olds also came up with similar findings.

These findings beg further explanation. If Māori students are performing less well than non-Māori students with the same abilities and similar family background, then the question must be asked as to what is making the difference. Recent literature from schools and tertiary education suggests a combination of factors is at play. In particular, the literature suggests the need for educational institutions and teachers to move away from a deficit model, which locates Māori underachievement in the short-comings of the student, to a view that considers the ways in which support, environment and teaching practice can be improved to build and enhance the learning of all students.

Lock and Gibson (2008) found that family factors, student opinions and school factors had the biggest explained contribution to the differences in test scores between Māori and Pākehā 15 year olds. However, a third was not explained by variables collected in the data set.

Bishop et al (2001) found that at years 9 and 10 there were marked differences between Māori students' and their teachers' perceptions of their learning. The teachers interviewed saw Māori students' deficiencies as major barriers to progress. In contrast, students identified a combination of structural and cultural relationship barriers as limiting their progress.

Bishop et al (2007) reported on the results of professional development based on the team's original research. These results reinforced that "when Māori students have good relationships with their teachers, they are able to thrive at school". Good relationships require teachers to move away from a deficit approach to a strengths-based appreciation of students, based on sound and supportive relationships. This approach appears to be successful with all students.

Wylie et al (2008) noted that there is a strong overlap between maternal qualifications and ethnicity, with Māori students more likely to come from families with low maternal educational qualifications. The study found that, at 16, Māori students had somewhat lower school attendance levels and somewhat lower school engagement than Pākehā and Asian students. They were also less likely to be taking traditional academic subjects and be more dissatisfied with their subject mix. Māori students were more likely to say that they had quite often got behind in their school work, and were more likely to have been hassled about their culture, to have got into trouble at school and to be participating in risky behaviours. They were less likely to have been praised for achievement, and teachers gave Māori students lower ratings for their overall ability.

Parents of Māori students were more likely to wish that their child had more guidance on subjects and more likely to rate teachers' support for their child's learning and well-being as low. Parents were less satisfied with their child's progress, while maintaining similar levels of aspiration for their children as parents of Pākehā and Asian students.

Nikora et al (2002) provided a review of literature recruitment and retention of Māori students in tertiary education institutions. They identified a number of structural factors that impact on Māori student success in tertiary institutions. Where Māori students are first generation tertiary students, they can be faced with greater challenges of settling into an environment with which their whānau is unfamiliar. As minority students, they can be faced with overt racism and discrimination on campus. They can experience alienation within the culture of the institution, as well as separation from their own family and cultural base. Nikora et al noted that much of the existing literature points to the need for students to adapt to the institutional environment, rather than the environment changing to meet the needs of students.

Prebble et al (2004) emphasised the need both for support systems that help students to integrate into an institution and for the institution to adapt to meet the needs of diverse students. In reviewing available evidence, Prebble et al found that a range of institutional, teaching and student support improvements can enhance student outcomes. Improvements to the culture of the institution are also important to support the needs of a diversity of students. These improvements are summarised in Rivers (2005).

Across Bishop et al (2007), Nikora et al (2002) and Prebble et al (2004) there are some key themes as to how to enhance outcomes for students, which are equally applicable to Māori and non-Māori students:

- The institution and teachers engage effectively with students and understand their learning needs and aspirations.
- Families and whānau are welcome and encouraged in their support for their students.
- Support, orientation and advice are provided in a timely manner to students.
- Teachers work alongside students and are focused on the success of all students
- Students have access to a range of learning supports, including space to organise their own learning groups in their own way.
- Cultural diversity is welcomed and valued.
- Discrimination and racism on campus are not tolerated.

3 Introduction

This paper updates *Te whai i ngā taumata atakura – supporting Māori achievement in bachelors degrees*, published by the Ministry of Education with support from Te Tapuae o Rehua (Earle, 2007).

Since the regression models for the original study were run, two data improvements have been made. The matching of students in the Ministry of Education's statistical dataset has been improved and rerun, eliminating the need for the provisional rematch used for the original models. The Ministry, with the assistance of the New Zealand Qualifications Authority, has also created a dataset that links NCEA results with tertiary enrolment data at a unit record level. There are sufficient years in this dataset to rerun the under-20-year-old first-year pass rate and return to study models using this linked data.

Also, an extra year of data is now available for each of the models. This is particularly significant for the completion models, which had previously included only one cohort of students.

This paper provides the key findings from the revised regression models. As with the original study, the models explain part of the differences in results between individuals. Adding in NCEA results improved the explanatory power of the first-year pass rates model by a small margin. Other factors, such as attitude, motivation and quality of instruction are not captured in these models and may have as much or more influence than the factors captured within the models. The models are briefly described below. A fuller description of the models and results for each effect is also available.

3.1 From school to degree study

The original models looked at Māori first-year degree students aged under 20, including those who had a gap between school and degree study. The three original models have been rerun using the revised tertiary dataset, covering:

- first-year pass rates for degree students enrolling from 2002 to 2006 inclusive (explained 15 percent of variance)
- return to study in the period from 2003 to 2006 for first-year degree students enrolled from 2002 to 2005 (explained 37 percent of variance)
- completion of a bachelors degree for students who enrolled in their first year in 2001 or 2002 and had completed at least the equivalent of three years' full-time study¹ towards a three-year degree (explained 44 percent of variance).

These models used students' self-reported highest school qualification. For school leavers, this information may be collected prior to the award of their final school qualification and therefore tends to understate their school achievement. It also doesn't provide any information on how well the student did within the qualification. That is, did they just scrape through or 'pass with flying colours'?

NCEA introduced a new set of secondary school qualifications as of 2002, replacing the previous system of qualifications. By 2004, all senior secondary students leaving school had had the

¹ The threshold used for inclusion in the model was the completion of more than 2.9 EFTS at degree level.

chance to go through all three levels of the new NCEA system. The results for all students undertaking NCEA are collected by the New Zealand Qualifications Authority and made available to the Ministry for analytical purposes. It is possible to directly link NCEA results with tertiary education enrolments and completions through the use of the national student number.

NCEA provides an improved measure of highest school qualification of tertiary students. Using the NCEA data, rather than school qualifications collected by tertiary providers, the actual highest school qualification can be used and levels and combinations of qualifications can be more finely distinguished.

The NCEA data also provides an opportunity to look at the relative performance of students across subjects, using their results in achievement standards. A measure of achievement, called the 'expected percentile', has been developed for analytical purposes. The expected percentile estimates the relative performance of students in each year and for each level of NCEA by aggregating their results across achievement standards within each subject. The resulting measure is a continuous variable that estimates the performance of a student relative to their peers on a scale from 0 to 100. A fuller description of this measure can be found in Ussher (2008) and Scott (2008).

Two new models were added using NCEA results linked to tertiary results:

- First-year pass rates for degree students who left school in 2004 and 2005 and enrolled in degree study in 2005 and 2006. This includes students who left school in 2004 and had a gap year before enrolling in 2006 (explained 23 percent of variance).
- Return to study for first-year degree students enrolled in 2005 and whether they returned in 2006 (explained 34 percent of variance).

3.2 Entering degree study for the first time as an adult

The original study looked at first-time, first-year degree students who started degree study between the ages of 25 and 39. This age group was chosen to represent students who had been out of school for about 10 or more years but were still in the early to middle period of their working life.

As with the younger students, three models were rerun using the revised tertiary data:

- First-year pass rates for degree students enrolling from 2002 to 2006 inclusive (explained 22 percent of variance)
- Return to study in the period from 2003 to 2006 for first-year degree students enrolled from 2002 to 2005 (explained 34 percent of variance)
- Completion of a bachelors degree for students who enrolled in their first year in 2001 or 2002 and had completed at least the equivalent of three years' full-time study towards a three-year degree (explained 54 percent of variance).

4 From school to degree study

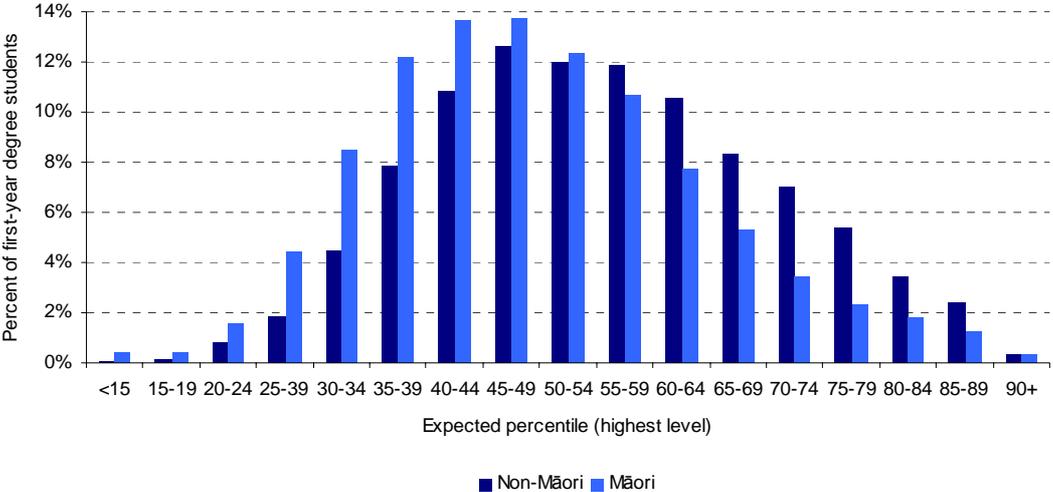
4.1 How well did Māori degree students achieve at school?

The first question to examine is how well Māori who enter degree studies have achieved at school relative to their non-Māori peers. The NCEA data shows that, on average, Māori are starting degree studies with a lower level of school achievement.

Māori were more likely to enter degree-level studies without having attained the NCEA university entrance requirements. Twenty-four percent of Māori first-year degree students who had finished school in 2004 or 2005 did not have university entrance, compared with 16 percent of non-Māori. Similarly, Māori students were less likely to have achieved a level 3 NCEA qualification, with 75 percent of Māori having their highest qualification at this level, compared with 85 percent of non-Māori.

Māori students going into degree studies had also achieved a lower expected percentile in their highest level of NCEA than their non-Māori peers. For Māori first-year degree students who had finished school in 2004 or 2005, the mean expected percentile was 48 percent, compared with 54 percent for non-Māori.² The distribution for Māori students was also more heavily weighted to the lower end, as shown in Figure 4.1.

Figure 4.1: Distributions of expected percentile at highest level of NCEA for first-year degree students



Note: Results are for students who finished school in 2004 or 2005 and entered degree study in 2005 or 2006.

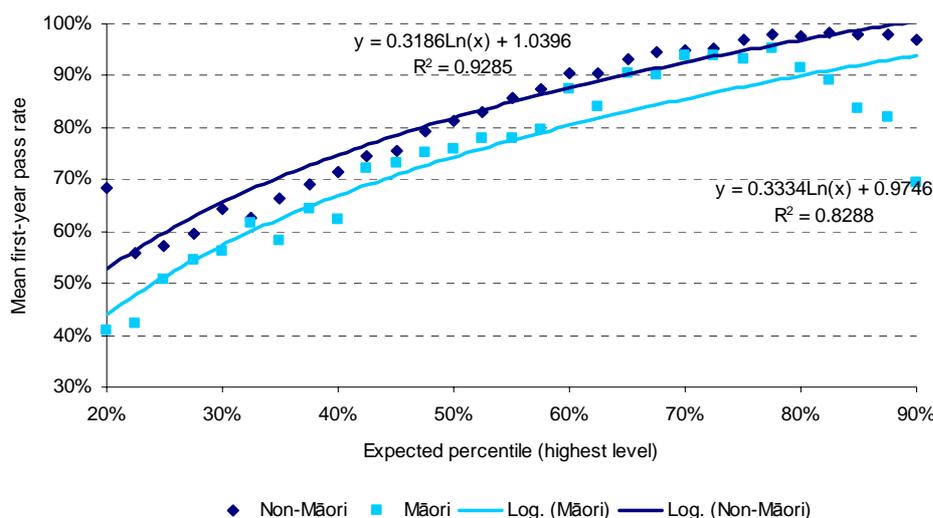
4.2 How does school achievement influence tertiary achievement?

Scott (2008) demonstrated that the mean pass rate of first-year degree students with the same expected percentile in NCEA Level 3 achievement standards was strongly related to their expected percentile. This relationship is best described using a logarithmic curve, which means the effect diminishes as expected percentile increases.

² A one-way analysis of variance showed this difference in means to be statistically significant with a p-value of <.0001. Welch's ANOVA was used, as the assumption of equal variance was rejected by the Levene's test for homogeneity of variance.

The data used for this revised study shows a similar relationship using the expected percentile for the highest level of NCEA achievement standards studied at school. It also shows that while the nature of the relationship is generally similar for Māori and non-Māori, there are two major differences. The first is that Māori with the same expected percentile will have an average pass rate that is 7.6 percent lower than that of non-Māori.³ The second is that there may be a drop in first-year performance for Māori first-year students who performed very well at school, that is with expected percentiles of greater than 80 percent. The numbers at this level are too small to provide any conclusive findings at this stage.

Figure 4.2: Expected percentile at highest level of NCEA by average first-year degree course pass rate



Note: Students enrolled in only one or two courses are excluded. Analysis is limited to expected percentiles in the range from 20 to 90 percent. Outside this range there are too few observations for meaningful interpretation. Results are for students who finished school in 2004 or 2005 and entered degree study in 2005 or 2006.

Scott (2008) also looked at the correlation between expected percentiles at each level of NCEA study and individual course pass rates for 2004 school leavers. He found a moderate correlation at each level, with the level 3 expected percentile having the strongest correlation. The same analysis was run on the dataset for this study which contains results for 2005 and 2004 school leavers, with a comparison of Māori and non-Māori.

Table 4.1: Correlation coefficients between NCEA expected percentile and first-year degree course pass rate

| Expected percentile for achievement standards at: | Māori | Non-Māori |
|---|-------|-----------|
| Level 1 | 0.35 | 0.38 |
| Level 2 | 0.37 | 0.39 |
| Level 3 | 0.30 | 0.40 |
| Highest level | 0.33 | 0.39 |

Note: The correlations were determined using Pearson's correlation. A coefficient of 1 means the values are completely related and a value of 0 means there is no relationship.

Table 4.1 shows that the correlations for non-Māori are similar to those reported by Scott for all students, although with slightly less differentiation between levels.⁴ However, for Māori students the correlations are lower at each level, with level 2 having the strongest correlation to first-year

³ A two-way analysis of variance using log of expected pass rate and Māori vs non-Māori showed that the mean pass rate for Māori is 7.57 percent lower than for non-Māori. This difference had a p-value of 0.0162.

⁴ This difference may be due to including 'gap year' students in the current study, who are not included in Scott's study.

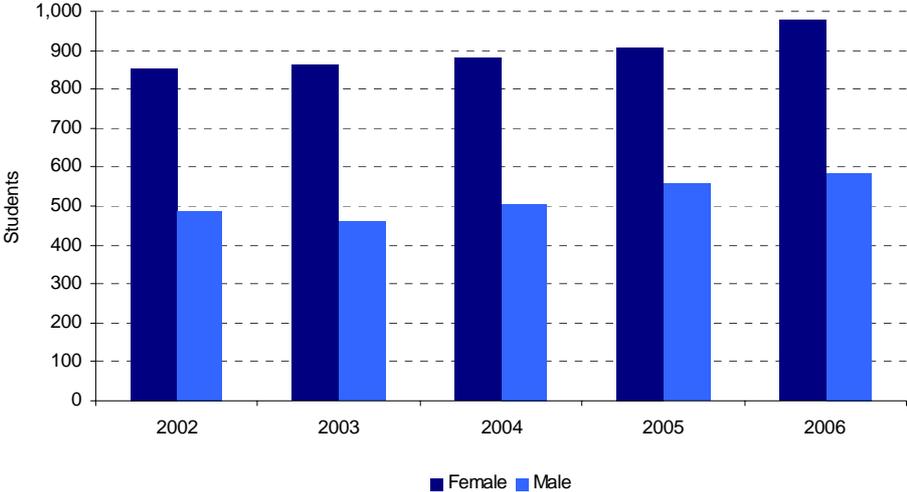
pass rates. This suggests an area of further investigation into the performance of Māori students within NCEA and its relationship to tertiary performance.

4.3 Moving from school to degree study

In 2006, there were 1,560 first-year Māori students aged under 20 in bachelors degrees. The number of Māori students aged under 20 has been steadily increasing since 2002 by an average of 4 percent per year. The participation rate⁵ in bachelors degrees for Māori aged 18-19 has increased from 8.7 percent in 2002 to 9.6 percent in 2006. Over the same period the participation rate for all students in this age group increased from 21.6 to 23.1 percent.

Just under 40 percent of Māori first-year degree students aged under 20 are male. Most of these students (81 percent in 2006) study at universities, with the next largest group studying at institutes of technology and polytechnics (12 percent). Three-quarters of the students went into degree study directly from school. Around 17 percent studied in a lower-level tertiary qualification beforehand and 6 percent were in the workforce between school and degree study.

Figure 4.3: Māori first-time, first-year students aged under 20 by gender



Ussher (2007) noted that Māori students who left school in 2004 were less likely to move into degree studies than students in other ethnic groups, including Pasifika, who had the same level of qualification. He found that of those students leaving with a university entrance qualification, 70 percent of Māori went on to degree study within two years, compared with 77 percent of Pasifika, 81 percent of Asian and 82 percent of European students.

4.4 First-year pass rates

As noted in the original study, Māori students moving from school to tertiary are less likely to pass all of their courses than non-Māori. Scott (2008) showed that this disparity remains, even once all other measurable factors were controlled for.

The new model using matched NCEA results shows that for Māori students, their level of performance at school, as measured by the expected percentile, has the largest association with their success in their first-year studies. The model shows that for Māori a 5 percent increase in

⁵ This is the number of students enrolled in bachelors degrees as a proportion of the total population.

expected percentile will result in about a 6 percent increase in the probability of passing 75 percent or more of first-year courses.

The subject of degree study was the second most important factor. Once school performance of students is controlled for using the expected percentile, there were few differences across most subjects. The exceptions were information technology, where Māori students were less likely than Māori students in other subjects to pass 75 percent or more of their first-year courses, and education and graphic design, where Māori students were more likely than Māori students in other subjects to pass 75 percent or more.

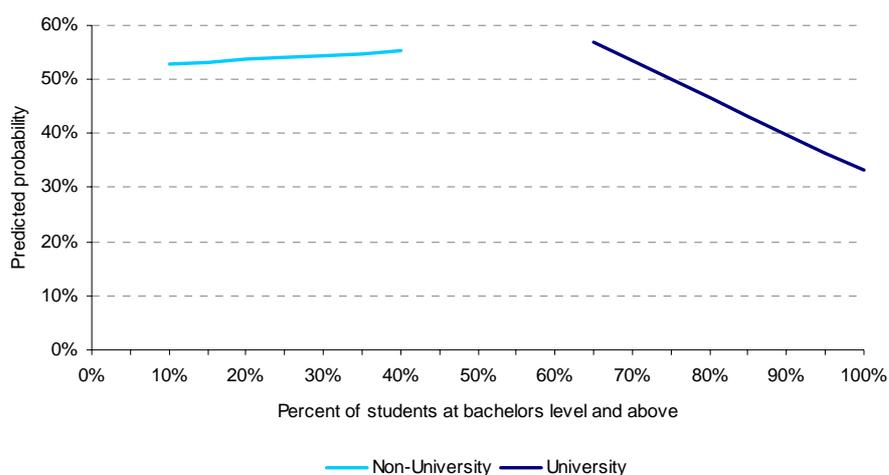
The differences shown in the original study between specialist and generic qualifications were no longer apparent once school performance was more fully controlled for. This supports the supposition made in the earlier study that higher rates of success in specialist qualifications were likely to be due to the higher ability of students entering these subjects.

Highest school qualification still had an effect in the model, even once expected percentile was controlled for. Students with NCEA Level 3 or above were much more likely to succeed than those with lower-level qualifications, including students who had achieved the university entrance requirements but not a level 3 qualification.

The new model also showed that Māori students who studied at a non-university provider generally had better pass rates than students studying at universities, once other factors were controlled for. A similar finding was reported for all students in Scott (2008).

A more detailed picture can be provided by looking at the proportion of students at the provider at bachelors level and above. This provides a measure of the intensity of degree-level and above provision. At non-university providers, there was a slight increase in success at providers with a greater proportion of students at bachelors level and above. The opposite was the case at universities. That is, the greater the proportion of students at bachelors level and above, the less likely Māori first-year students were to pass 75 percent or more of their courses.

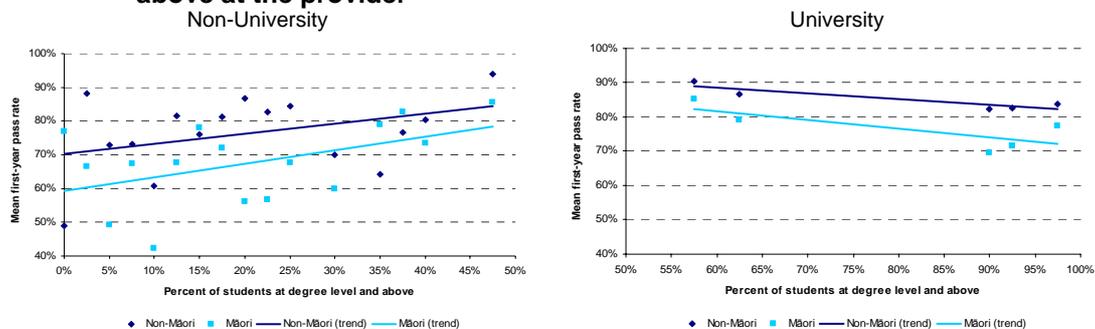
Figure 4.4: Predicted probabilities of Māori students passing 75 percent or more of first-year degree courses by percent of students at bachelors level and above at the provider



Comparing mean pass rates for Māori and non-Māori with the percentage of students at bachelors level and above at universities and other providers shows a similar pattern. At non-university providers, the mean pass rate increased for both Māori and non-Māori with the percentage of

students at bachelors level and above, with Māori pass rates being slightly lower.⁶ At universities, there was a fairly flat relationship for non-Māori students, but a decreasing relationship for Māori students.⁷ Alternatively, the universities could be read as having two clusters, with the left-hand cluster having a smaller difference between Māori and non-Māori students than the right-hand one.

Figure 4.5: Mean first-year pass rate by percentage of students at bachelors level and above at the provider



Note: Results are for students who finished school in 2004 or 2005 and entered degree study in 2005 or 2006. The percentage of students at bachelors level and above is grouped into bands of 2.5 percent to calculate the mean pass rates. This means that some institutions are combined within one observation.

These findings suggest that degree students at providers other than universities may benefit from the presence of a greater proportion of degree and above students. However, this may not hold at universities, particularly for Māori students. Several possible effects may be occurring. Universities with below-degree-level students may be providing better support to Māori students. Also, universities with mostly degree and above students may have a greater focus on supporting postgraduate students than on supporting first-year degree students. In addition, these universities may set higher standards for their first-year degree courses and have higher expectations of students to take responsibility for their own performance.

The new model also showed that the small group of Māori students who go overseas between school and degree studies do considerably better in their first year, even once their school performance has been controlled for. No significant differences were found between students going directly from school and those taking a break within New Zealand, including undertaking lower-level study.

Students who attended Māori boarding schools were shown to be less likely to pass 75 percent or more of their first-year courses than students from other schools, once qualifications and NCEA results were controlled for. Students from kura kaupapa Māori were somewhat less likely than other Māori students to pass all of their courses. Scott (2008) also noted that, for all students, students from single-sex schools and private schools did somewhat less well at first-year degree level than students from other schools, once other factors were controlled for.

⁶ A two-way analysis of variance using percentage of students at bachelors level and above and Māori vs non-Māori at non-university providers found a significant overall positive relationship between percentage of students at bachelors level and above and mean pass rates, and that pass rates for Māori were likely to be 6.1 percent lower than those of non-Māori. However, the difference between Māori and non-Māori was not statistically significant.

⁷ A two-way analysis of variance using percentage of students at bachelors level and above and Māori vs non-Māori at universities found a significant overall negative relationship between percentage of students at bachelors level and above and mean pass rates, and that pass rates for Māori were likely to be 8.9 percent lower than those of non-Māori.

4.5 Return to study

Māori students aged 18 to 19 were less likely to return to degree study after one year than non-Māori students. The first-year retention rate in 2005 for Māori degree students in this age group was 81 percent, compared with 87 percent for all students. Scott (2008) found that Māori students were less likely to remain in degree study after one year than other students, even once other factors were controlled for. Retention rates have been fairly similar for Māori men and women in this age group, with men being slightly more likely to remain in study.

The matched NCEA data was used to create a single-year model of return to study for Māori students who left school in 2004 and studied at degree level in 2005. This model found three statistically significant factors associated with return to study, which were first-year pass rate, degree subject and the percentage of students at degree level and above at the provider. No significant effects were found related to NCEA results. The effect of school performance was fully absorbed by the first-year degree performance.

The original model was also rerun to create a four-year model of Māori degree students under 20 who started study between 2002 and 2005. This model came up with very similar results. The larger population size enabled a few other effects to show as significant. The results of both models are discussed together below.

First-year pass rate is by far the most significant factor associated with return to degree study after one year. Those who passed 75 percent or more of their first-year courses were significantly more likely to continue in study.

The major subject of degree study does have some effect on the chances of returning to study. Both models showed the differences are moderate. In both cases, education students were less likely to return than students in other subjects, even though they had a better chance of passing all of their first-year degree courses.⁸

Both models showed that Māori students who attended providers with a higher proportion of students at degree level and above were more likely to return to study, having controlled for their first-year pass rates.⁹ This is in contrast to the result for first-year pass rates at universities, which decreased as the proportion of students at degree level and above increased. This suggests that while students at universities with a high proportion of degree level and above provision are less likely to pass all of their first-year courses, those who do pass are more likely to continue in their study.

The other effects that came through in the four-year model were that:

- full-time, full-year students were somewhat more likely to continue in study than other students
- having a school qualification at NCEA Level 3 or above slightly improved the chances of continuing in study
- students from larger secondary schools were slightly more likely to continue in study.

⁸ This finding may be confounded by the merger of four colleges of education with universities during this period. It is possible that these changes had a negative effect on retention rates during the period of changeover.

⁹ Interacting this variable with sub-sector in the model rendered both the main effects and the interaction non-significant. Sub-sector was significant in the model if the percentage of students at bachelors level and above was excluded. Both variables are probably picking up a similar effect.

4.6 Completion

Māori students who started study at the age of 18 or 19 were less likely to complete a degree than non-Māori students starting at the same age. Of students in this age group who started in 2002, 52 percent of Māori students had completed by 2006, compared with 65 percent of all students. Māori women in this age group were more likely to complete, at 57 percent, than Māori men, at 43 percent.

The revised model of completion included data for two entry cohorts, whereas the original only included one entry cohort. The model confirmed that total course pass rate was the most significant determinant of completion, with those passing at least 75 percent of their courses being significantly more likely to complete.

The model also showed that students taking more than one degree qualification in the period were less likely to complete any one of the qualifications. Students with more than one qualification include those enrolled concurrently in different degree programmes¹⁰ and students who switch from one programme to another. The model also showed that the greater the number of years a student was enrolled in degree study, the less likely the student was to complete a qualification. In other words, those who fail several courses, switch degree programmes and/or study part-time are less likely to complete successfully, even after completing at least three years of equivalent full-time study.

Students at providers with a greater proportion of provision at postgraduate level were slightly more likely to complete their degree. This reinforces the finding with regard to return to study that students in providers with a higher proportion of provision at degree level and above are likely to be more persistent in their study.

It was also found that students at wānanga were less likely to complete than students in other sub-sectors. There was no significant difference across the other sub-sectors.

¹⁰ However, it excluded registered conjoint degree programmes.

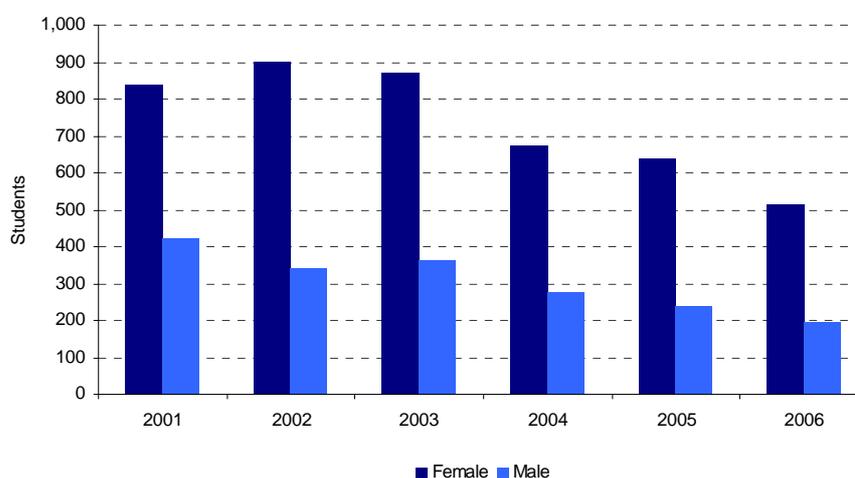
5 Entering degree study for the first time as an adult

This section looks at students aged 25 to 39 who are entering degree-level study for the first time.

The number of Māori first-time, first-year degree students in this age group has continued to decrease in 2006, with the number of first-year enrolments decreasing to 710 in 2006, down from 1,259 in 2001. The participation rate for Māori aged 25 to 39 in degrees decreased from 3.9 percent in 2001 to 3.6 percent in 2006, with the participation rate for all students in this age group reducing from 4.1 to 3.6 percent over the same period.

From 2001 to 2005, the proportion entering from lower-level studies increased from 29 to 50 percent. This proportion dropped to 42 percent in 2006, with a higher proportion entering from work. As reported previously, the largest decrease has been at universities. There was also a small decrease from 2005 to 2006 in the number at wānanga.

Figure 5.1: Māori first-time, first-year students aged 25 to 39 by gender



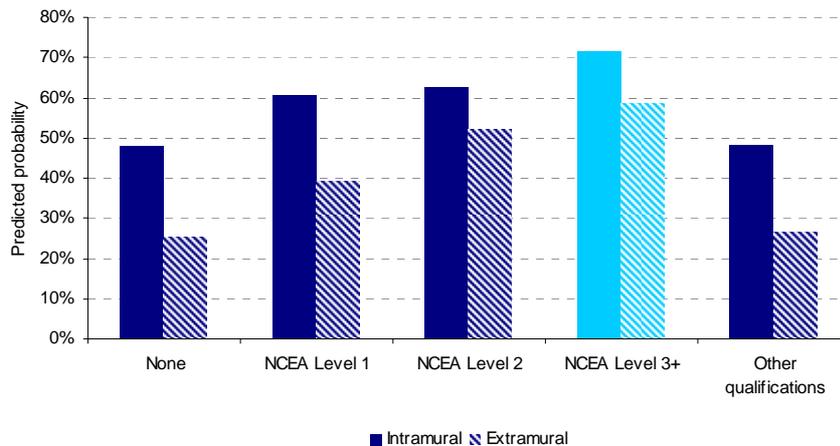
5.1 First-year pass rates

As noted in the original study, Māori students in this age group were less likely than non-Māori to pass all of their first-year courses.

The revised model confirms that the subject of enrolment had the greatest influence on pass rates, in contrast to Māori students entering from school, where school achievement was the biggest factor. However, differences in subjects between sub-sectors were not significant. Students in this age group did noticeably less well in sciences and better in education and visual arts and crafts.

As in the original study, highest school qualification was also a strong factor, especially for extramural students. Those with qualifications below NCEA Level 3 did less well, an effect that was stronger for extramural than intramural students.

Figure 5.2: Predicted probability of passing 75 percent or more of first-year degree courses by highest school qualification and extramural status



Note: Lighter shade indicates the reference group used for calculating the predicted probabilities. See technical paper for more details.

The revised model also showed that, once other factors were controlled for:

- students who were unemployed or in lower-level tertiary study prior to degree study did less well than those who were employed
- students at institutes of technology and polytechnics did better than those at universities and private training establishments, but students studying degrees at wānanga were the least likely to pass most of their first-year courses
- full-time, full-year students did better than other students. Where students were part-time, they did better if they had lighter study loads
- the chances of passing most courses increased with age, when other factors were controlled for
- students who had attended a low decile school were slightly less likely to pass most of their courses.

5.2 Return to study

Māori students in this age group were less likely to return to study after one year than non-Māori students. The first-year retention rate for Māori students aged 25 to 39 in 2005 was 56 percent, compared with 62 percent for all students. The retention rate for Māori men was 51 percent and for Māori women it was 58 percent.

The revised model confirmed that the first-year pass rate had by far the largest influence on return to study, with those passing 75 percent or more of their courses being more likely to return to study.

The revised model also showed that:

- students taking more courses in their first year were more likely to return to study

-
- there were some differences across subjects, with students in management and commerce, sciences, nursing, and architecture, building and engineering being more likely to return
 - sub-sector together with extramural status made a difference. Extramural students at institutes of technology and polytechnics were more likely to return to study than their intramural colleagues. Students at wānanga were less likely to return overall, with extramural students at wānanga being much less likely to return
 - students with a disability were somewhat more likely to return to study.

5.3 Completion

Māori students aged 25 to 39 were less likely to complete a degree than non-Māori. Of students in this age group who started study in 2002, 28 percent of Māori had completed by 2006, compared with 33 percent of all students. Māori women were more likely to complete than Māori men.

In the first study, the only significant factor explaining completion was whether or not students passed at least 75 percent of all their degree courses. This was confirmed in the revised model. With the benefit of an extra year of data, it was also found that:

- students at wānanga were less likely to complete
- students who studied full-time, full-year over the period of their degree studies were more likely to complete
- students who studied nursing were more likely to complete.

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