



MINISTRY OF EDUCATION

Te Tāhuhu o te Mātauranga

The outcomes of tertiary education for Pasifika graduates

*What Pasifika graduates earn and
do after their tertiary education*

This report forms part of a series called *Beyond Tertiary Study*.

Topics covered by the series include how graduates' earnings change over time, labour market outcomes, education and economic growth, and qualifications and income.

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SUMMARY

This report looks at the earnings and outcomes for young Pasifika and non-Pasifika who complete a qualification in the New Zealand tertiary education system. It replicates the methodology of *Moving on up – what young people earn after their tertiary education* (Mahoney et al, 2013) to examine differences in incomes and employment rates for different types of qualifications by ethnic group.

KEY FINDINGS

Earnings

- The returns to study were generally higher for young Pasifika graduates than for young non-Pasifika graduates. That is, Pasifika graduates earned more compared to the national Pasifika workforce than non-Pasifika graduates compared to the non-Pasifika workforce. This means that gaining a tertiary qualification is a means of reducing or eliminating disparities in earnings between Pasifika and non-Pasifika
- Pasifika graduates' earnings growth was generally a little higher across five years after study than non-Pasifika graduates. The exception to this was graduates of level 8 and level 9 (masters) qualifications, whose earnings growth was lower than non-Pasifika graduates'
- When we compare the earnings of young Pasifika graduates with the earnings of other graduates, at the same level, we find no single general pattern:
 - For lower level qualifications (certificates at levels 1 to 3) young Pasifika graduates earned less than similar non-Pasifika graduates one year after study, but median earnings grew faster in subsequent years and so earnings were nearly on a par in year five
 - Young Pasifika level 4 certificates and level 5 to 7 diploma graduates' first year earnings were close to young non-Pasifika graduates' median earnings, and remained close over the next five years
 - Young bachelors and level 7 graduate certificate or diploma graduates' earnings were the closest between groups of all qualification levels in the years after study. There was a negligible difference in all years at bachelors level. Pasifika graduates earned slightly more than non-Pasifika graduates five years after completing a graduate certificate or diploma
 - Pasifika level 8 and level 9 (masters degree) graduates earned significantly more than non-Pasifika graduates one year after study, but earnings fell behind non-Pasifika graduates' in subsequent years
- Pasifika graduates earned the most after completing a bachelors degree in *medical studies* (\$107,500), 98 percent of equivalent non-Pasifika graduates' median earnings. They earned more than non-Pasifika bachelors degree graduates in *nursing* (22 percent more), *law* (10 percent more), *political science and policy studies* (6 percent more) and *teacher education and accountancy* (2 percent more)

Destinations

- One year after completing their qualifications, young Pasifika with bachelors degrees, level 7 graduate certificates and diplomas and level 8 qualifications had very similar outcomes to similar graduates of other ethnic groups
- For young graduates of qualifications at lower levels, destinations differed chiefly in that Pasifika graduates' employment rates were lower than non-Pasifika graduates' rates. And further study and benefit receipt rates were correspondingly higher among young Pasifika graduates than among young non-Pasifika graduates
- By five years after study young Pasifika graduates with qualifications at bachelors level or above were more likely to be in employment than equivalent non-Pasifika graduates. Pasifika graduates

of lower level qualifications continued to be less likely to be in employment than non-Pasifika graduates and more likely to be on a benefit or in further study, although the latter was mostly confined to level 1 to 3 certificate graduates

- Young Pasifika graduates were less likely to be overseas, and more likely to be on a benefit, especially after completing qualifications at lower levels
- At bachelors degree level, Pasifika *education* graduates were most likely to be in employment after five years (69 percent) followed by *society and culture* (61 percent) and *health* (60 percent). Narrow fields with high employment rates (where these could be reported) included *teacher education* (70 percent), *medical studies* (83 percent), *accountancy* (80 percent), *language and literature* (71 percent) and *visual arts and crafts* (72 percent)

INTRODUCTION

This paper reports on an analysis of data on outcomes of tertiary study for young Pasifika. It uses the *Moving On Up* model (Mahoney et al, 2013), to determine the outcomes and earnings of young Pasifika who complete provider-based tertiary education in New Zealand up to five years after they leave study.

It provides a reference for policy makers, government and researchers interested in the dynamics of the labour market and the role of education in providing skills to individuals and the wider economy. It shows clear differences in labour market activity and earnings after tertiary study, illustrating how different groups of students seek different opportunities and how employers seek and reward skills acquisition. This information can be used to inform further research and policy development.

As with *Moving On Up*, this paper provides a set of measures that prospective tertiary students can use to assess future study choices. Prospective students can now see more clearly what recent young graduates have earned and what they did after study, and see how that varies between various study options, such as qualification level and field of study.

1 THE EMPLOYMENT OUTCOMES OF TERTIARY EDUCATION

1.1 Why look at employment outcomes of tertiary education for Pasifika and non- Pasifika?¹

This report fulfils a number of objectives. It examines the post-study outcomes for young domestic students who complete a qualification from a New Zealand tertiary education provider. It extends the methodology of an earlier report (Mahoney et al, 2013) to look at differences in outcomes and earnings between different ethnic groups, specifically between Pasifika and non-Pasifika graduates after study.

It is important for policy makers to know how well different groups succeed in tertiary education, as it is a primary driver of wealth and social well-being creation for individuals, as well as an important source of skills required to enable an efficient and adaptive labour market, which is essential to support a successful market economy.

1.2 How we analyse the employment outcomes of tertiary education

We use data from Statistics New Zealand's Integrated Data Infrastructure (IDI) to look at the outcomes of tertiary education. This dataset is managed by Statistics New Zealand and links together each individual's tertiary education enrolment and completions data to data on (among others):

- earnings and income (from Inland Revenue)
- welfare benefits (from the Ministry of Social Development)
- border crossings (from Immigration New Zealand)

This dataset is updated periodically so that it is longitudinal – that is, we can see education outcomes from year to year in the data.

The IDI is managed under strict confidentiality rules by Statistics New Zealand that guarantee the privacy of the data. These rules protect people and businesses from identification.

From the IDI data, we can:

- look at whether a person with a particular educational qualification is in employment, is overseas, has returned to study or is on a benefit
- for those in work, find out how much they are earning
- relate these outcomes to the characteristics of people – gender, ethnicity, age, type of study, student loans and allowance use, prior school achievements etc.

In this report, we look at the destinations and earnings of young New Zealand students who complete a tertiary qualification. We are interested in:

Earnings

For those graduates who are in New Zealand and in employment:

- What is their median earnings? What is the range of earnings for the majority of graduates?

¹ Students are defined as Pasifika if they indicated Pasifika ethnic affiliation at any point during their tertiary education on enrolment materials. Non-Pasifika students are defined as any person who never indicated Pasifika ethnic affiliation during their tertiary education. Cook Islands Māori students are defined as non-Pasifika students in this report as they have been included as Māori in the companion report 'The outcomes of tertiary education for Māori graduates'.

- How does a graduate's earnings change over the first five years post study²?

Destinations

For all young graduates:

- What percentage is in further study over the five years after finishing a tertiary qualification?
- What percentage is in employment?
- What percentage is on a benefit?
- What percentage is overseas?
- What percentage is missing from the labour market?

It is well known that the outcomes of tertiary education depend on the level of the qualification. Outcomes are also heavily dependent on the field of study. So in this report, we present data on outcomes, broken down by level and field of study.

1.3 The data and the methodology used in this report

This section gives a short overview of some of the data and analytical methodology used in the report. Chapter 11 sets this information out in much greater detail.

Ethnic group

Ethnic group of individuals is derived from all tertiary education SAC-funded (or equivalent) records held within the IDI. Individuals were identified as belonging to the 'Pasifika' group used in this report on a total response basis, that is, on the basis of a single or multiple or all tertiary education records indicating Pasifika ethnicity. Individuals were assigned to the 'Non-Pasifika' group used in this report if they have never indicated Pasifika ethnicity in the tertiary education records held in the IDI (note non-Pasifika includes Cook Islands Māori as they have been included as Māori in the companion report 'The outcomes of tertiary education for Māori graduates').

Outcomes for young graduates

The data in this report gives the earnings and destinations over the first five years after graduates complete a qualification.

We report the outcomes only for 'young' graduates. For each type of qualification, we set an age range that means we are looking only at those who start that qualification and move to completion before undertaking substantial time in the workforce. We restrict the analysis to young graduates because part of the aim of the analysis is to support the decision-making of young people. If we mixed the outcomes of young graduates with the outcomes for people who undertake tertiary study after substantial work experience, we would be unable to separate the effects of the qualification from the effects of the work experience.

Table 1 shows the age ranges for graduates who meet the criteria for being a 'young' graduate.

Table 1

Age ranges for consideration as a 'young' graduate

Qualification type	Length of qualification – in full-time equivalent years	Highest age on completion to be considered a 'young' graduate
Doctorate	Four years	29
Masters	Two years	27
Level 8 bachelors honours and pg dip or cert	One year	26
Level 7 graduate certificate or diploma	One year	26

² The first five years post study is the period over which the graduate's formal education has the greatest impact. As time goes on, the influence of a qualification is complemented by the effects of the person's work experience.

Qualification type	Length of qualification – in full-time equivalent years	Highest age on completion to be considered a 'young' graduate
Bachelors degrees	Three years	24
	Longer than three years	24 plus 1 for each year beyond three years
Diplomas at levels 5-7	Two years	23
Certificates at level 4	One year	21
Certificates at levels 1 to3	One year	21

Source: Ministry of Education

Domestic students

We report outcomes and earnings for domestic students only, excluding any international students. We do this because we have no information about the prior qualifications, labour market experience or earnings of international students, so we can be less certain of associating outcomes to New Zealand study experiences for international students.

Field of study

Field of study classification

We use the New Zealand Standard Classification of Education (or NZSCED) to classify people's study into various fields of study. NZSCED has three levels of classification – broad field of study, narrow field and detailed field.

People graduating in more than one field of study are counted in each of the fields of study. The number of students in each narrow field of study may not sum to the broad field of study total. This is because students can be enrolled in multiple narrow fields of study.

Narrow and broad fields of study

Most of our analysis is by broad field of study because if we divide our population of graduates too finely, we end up having to suppress more data because it breaches the Statistics New Zealand confidentiality limits. Chapters 3 to 9 of this report look at earnings by *broad* field of study. There are differences between narrow fields of study that are not apparent when we look at data on broad field. The broad field of *natural and physical sciences* for example contains narrow fields of *mathematical sciences*, *chemical sciences*, *physics and astronomy*, *earth sciences* and *biological sciences*. The tables in Chapter 10 of this report give detail of outcomes by narrow field of study, in fields where there are enough graduates to enable us to report without breaching the Statistics New Zealand confidentiality requirements.

How we classify a graduate's field of study

For each graduate, we look at the range of courses passed and we examine the field of study for each course. We then infer that graduate's specialisation(s) by looking at the highest level courses done and working out which fields of study represent a 'substantial' amount of study. It is important to note that this may not agree with the provider's understanding of the field(s) of study in which that person specialised. Nor may it agree with the graduate's understanding. Rather, it reflects what is on that student's transcript.³

One consequence of this is that we report on some fields where it is commonly assumed there is only one provider – *veterinary studies* is an example. It is usually assumed that anyone specialising in that field at bachelors level has done the Bachelor of Veterinary Science degree taught at Massey University. In fact there are three providers whose bachelors graduates are represented in that field. Only the Massey Bachelor of Veterinary Science graduates are recognised as veterinarians. But some graduates at other providers have completed bachelors degrees with a substantial amount of higher level courses in veterinary studies.

³ The method used is set out in Scott D (2008) *Trends in fields of study of bachelors degree graduates in New Zealand* Ministry of Education.

Access to the data

Access to the IDI data used in this study was provided by Statistics New Zealand in accordance with security and confidentiality provisions of the Statistics Act 1975 and secrecy provisions of the Tax Administration Act 1994.

The results presented in this study are the work of the authors, not Statistics New Zealand.

Confidentialisation

The results in this paper have been confidentialised to protect individuals and businesses from identification. All counts in tables have been randomly rounded using Generalised Random Rounding (GRR). This may result in a total not agreeing with the sum of individual items shown in the table.

We aggregated data from two cohorts of graduates in order to increase the numbers in the sample and hence, to ensure more data could meet Statistics New Zealand's confidentiality requirements.

Cells marked 'C..' represent numbers suppressed as not meeting Statistics New Zealand's dataset confidentiality requirements. This includes suppression of blank cells in line with Statistics New Zealand's confidentiality rules.

Earnings data

All earnings reported are gross earnings.

Earnings are reported only for graduates for whom we deem work is their main activity, in each year independently post-graduation. See Chapter 11 for more information on how main activity in each year post-study is derived.

Adjusting the data for changes in national wage rates

The data on earnings is for the tax years ending 31 March 2010 and 2011. Where appropriate, earnings have been converted to 2011 dollars using the Labour Cost Index. Earnings data shown in this report is otherwise as actually observed in Inland Revenue Department (IRD) data, and there has been no further adjustment.

Part-time vs. full-time work

IRD employment data does not contain information on the number of hours worked. This means that there will be an understatement of the earnings potential of a field of study if, for example, a substantial proportion of the graduates in that field work on a part-time basis.

No occupation information

IRD employment data does not contain information on the occupations in which people are employed. We can only show the field of study that graduates studied and readers should note employees may be working in any industry and any occupation, not just those implied by the field of study classification.

Limitations of the analysis

We have not attempted an econometric study or a detailed statistical examination of the factors associated with post study destinations and earnings. While administrative data covers all the relevant population, the gaps referred to above – especially the lack of occupation data and data on the hours of work - mean that we cannot control for some important explanatory variables required are missing. So this analysis cannot (and does not attempt to) explain why there are differences between Pasifika and non-Pasifika earnings and destinations after study.

More information on data and methodology

More information about the IDI dataset, how it is managed and the means of protecting privacy and detail on the indicators and measures we have developed are in chapter 11 of this report.

2 THE EMPLOYMENT OUTCOMES OF TERTIARY EDUCATION

This chapter looks at the destinations and earnings of young domestic students who completed a tertiary education qualification at a provider in New Zealand, and compares outcomes and earnings at each qualification level by ethnic group. Subsequent chapters examine differences by broad and narrow fields of study at each qualification level.

From previous analyses, we already know that⁴:

- The higher the level of qualification completed, the higher the earnings of young graduates over the first five or six years post completion.
- Five years after leaving study, most young graduates will be earning above the national median earnings
- Graduate employment rates increase with the level of qualification gained.
- Completing a higher level qualification is associated with lower incidence of benefit receipt and labour market inactivity in each year
- Overall, after leaving study, young male graduates earn more than similar female graduates with the same level of qualification
- The return⁵ for gaining a qualification is greater for young female graduates than for similar male graduates.
- The returns on gaining a qualification for Māori graduates are higher than for the whole population. That is, the difference in earnings between Māori graduates and all Māori is greater than across the whole population.

This paper reinforces those findings for young Pasifika graduates. In addition it finds:

Earnings

- The earnings premium for young Pasifika who completed tertiary qualifications was greater than for non-Pasifika. In the case of young Pasifika graduates, the earnings lift above the national median wages for all Pasifika was greater than the corresponding lift for non-Pasifika graduates' were for non-Pasifika. This reflects that national median earnings for Pasifika are lower in general than for non-Pasifika.
- This suggests that gaining a tertiary education qualification is an important means of countering the disparities in earnings between young Pasifika and young people of other ethnic groups. And higher qualifications work best to reduce or eliminate disparities.
 - Young Pasifika graduates' first year median income from earnings was lower than non-Pasifika at lower levels.
 - But at bachelors and graduate diploma/certificate level, the earnings of young Pasifika graduates were approximately equal to the earnings of similar graduates of other ethnicities.
 - And the median earnings was above non-Pasifika graduates' earnings at higher levels
- Earnings were closest between young Pasifika graduates and similar graduates of other ethnicities, both immediately after study and after five years, for bachelors level and level 7 graduate certificate or diploma qualification graduates. At lower levels, Pasifika earned slightly less compared to non-Pasifika.

⁴ Mahoney et al, 2013, Mahoney 2011, Scott, 2009, Mahoney, forthcoming

⁵ Return in this context is not intended to imply economic return in the formal sense, rather it shows a crude measure of earnings gain between graduates and all people earning incomes from employment.

Destinations

- Year one destinations were similar between ethnic groups with a few exceptions. Young Pasifika diploma 5 to 7 and certificate level 1 to 3 graduates were less likely to be in employment than non-Pasifika, and were more likely in further study, on a benefit or out of the labour market
- By year five after study, Pasifika graduates' employment rates had caught up to non-Pasifika graduates' and surpassed them for higher level qualifications. Pasifika graduates were less likely to be overseas than non-Pasifika graduates, especially at higher levels, and more likely to be in further study.

The panel plot (figure 1 below) shows the employment earnings trajectories for graduates by qualification level and ethnic group. Median earnings of Pasifika and non-Pasifika graduates are mostly indistinguishable between the diploma levels and to level 8 honours, post graduate certificate and diploma level.

Pasifika graduates' earnings are a little below non-Pasifika level 1 to 4 certificate graduates' in some years after study, but converge with them by year six. Additional variability in Pasifika masters degree graduates' earnings is due to smaller numbers of Pasifika graduates compared to non-Pasifika graduates, so it is difficult to draw conclusions at this level.

Upper quartile earnings follow a similar pattern. Pasifika graduates' lower quartile earnings are above non-Pasifika graduates' after completing diploma, bachelors and level 8 honours, post graduate certificate and diploma level qualifications. Year one lower quartile earnings are a little below non-Pasifika graduates' in the first few years after completing a level 1 to 4 certificate, but by year five they have converged.

Figure 1

Panel plot of employment earnings trajectory of young domestic graduates to six years after study, by qualification level and ethnic group

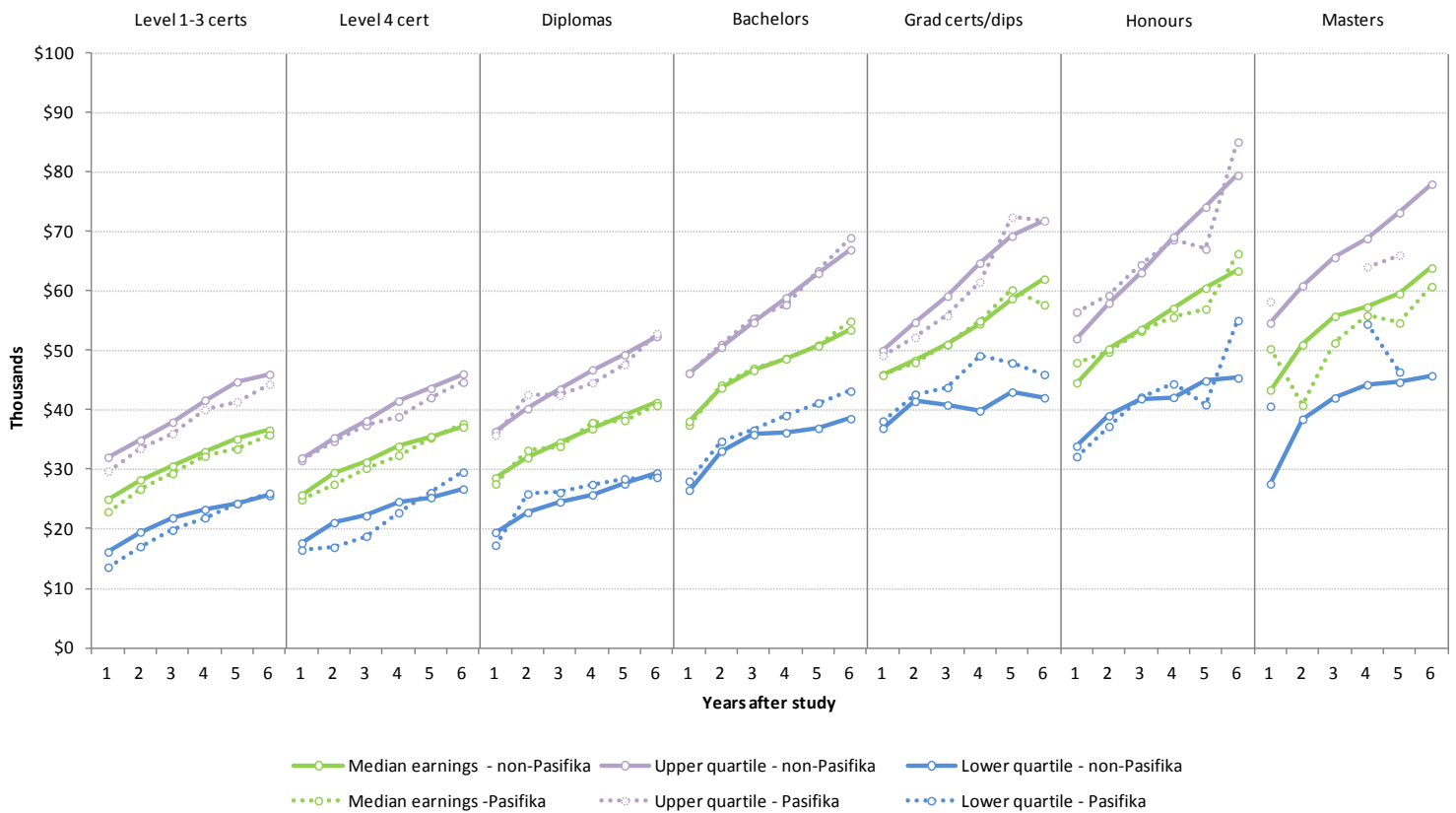


Figure 2 shows the earnings from employment of Pasifika and non-Pasifika graduates two and five years after study by qualification level. We cannot report results for doctoral completers due to small numbers of Pasifika graduates, meaning that this qualification level did not reach the required confidentiality threshold to enable Statistics New Zealand to release information on it. The masters degree category reached the confidentiality threshold so we can publish comparisons, but because numbers of Pasifika graduates are small compared to non-Pasifika, their results are much more variable. So comparisons should be treated with caution at masters degree level.

Earnings were fairly equal at two years between Pasifika and non-Pasifika graduates across most qualification levels except at the masters degree level. After five years, Pasifika graduates' earnings were generally similar to non-Pasifika graduates', but were lower than non-Pasifika graduates' earnings at level 8 or above.

Figure 2

Median earnings of young domestic completers two years (left) and five years (right) after study, by ethnic group and qualification level

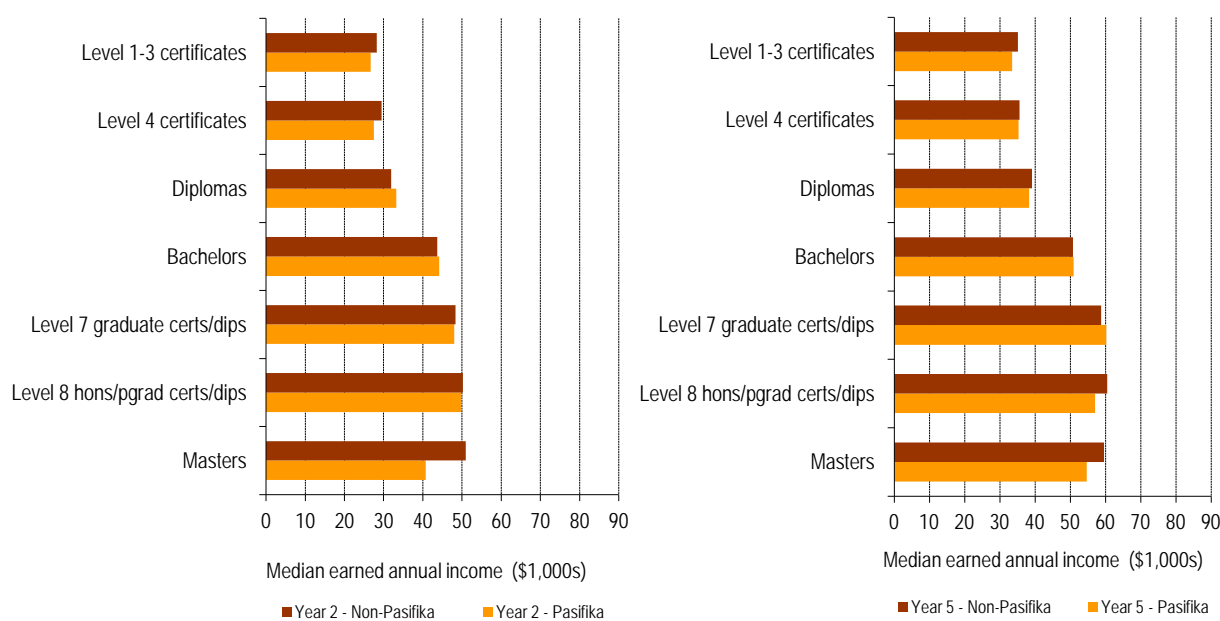


Figure 3 shows Pasifika graduates' median earnings as a proportion of non-Pasifika graduates' median earnings one, two and five years after study.

Pasifika graduates' earnings from employment tended to increase relative to non-Pasifika graduates' with the passage of time after study, except for level 8 and masters degree graduates where it declined with time.

Although they improved compared with non-Pasifika over time, young Pasifika level 1 to 4 qualification graduates' earnings did not match or exceed equivalent non-Pasifika graduates' earnings by year five after study.

At higher qualification levels, Pasifika graduates' earnings did meet or exceed non-Pasifika graduates by year five if they completed a diploma or above level qualification. For example, Pasifika level 7 graduate certificate and diploma completers reached 103 percent of equivalent non-Pasifika graduates' median earnings in year five after study.

At postgraduate levels, Pasifika graduates' median earnings was relatively high, exceeding non-Pasifika graduates' earnings in year one, but fell behind in subsequent years. Level 8 honours and post-graduate certificate and diploma completers' median earnings was 108 percent of equivalent non-Pasifika graduates' earnings in year one after study, but declined to 94 percent in year five. The relatively low numbers of Pasifika graduates at these levels may be contributing to the variability of the data, so the results should be treated with some caution.

Figure 3

Pasifika graduates' median earnings as a percentage of non-Pasifika graduates' median earnings one, two and five years after study, by qualification level

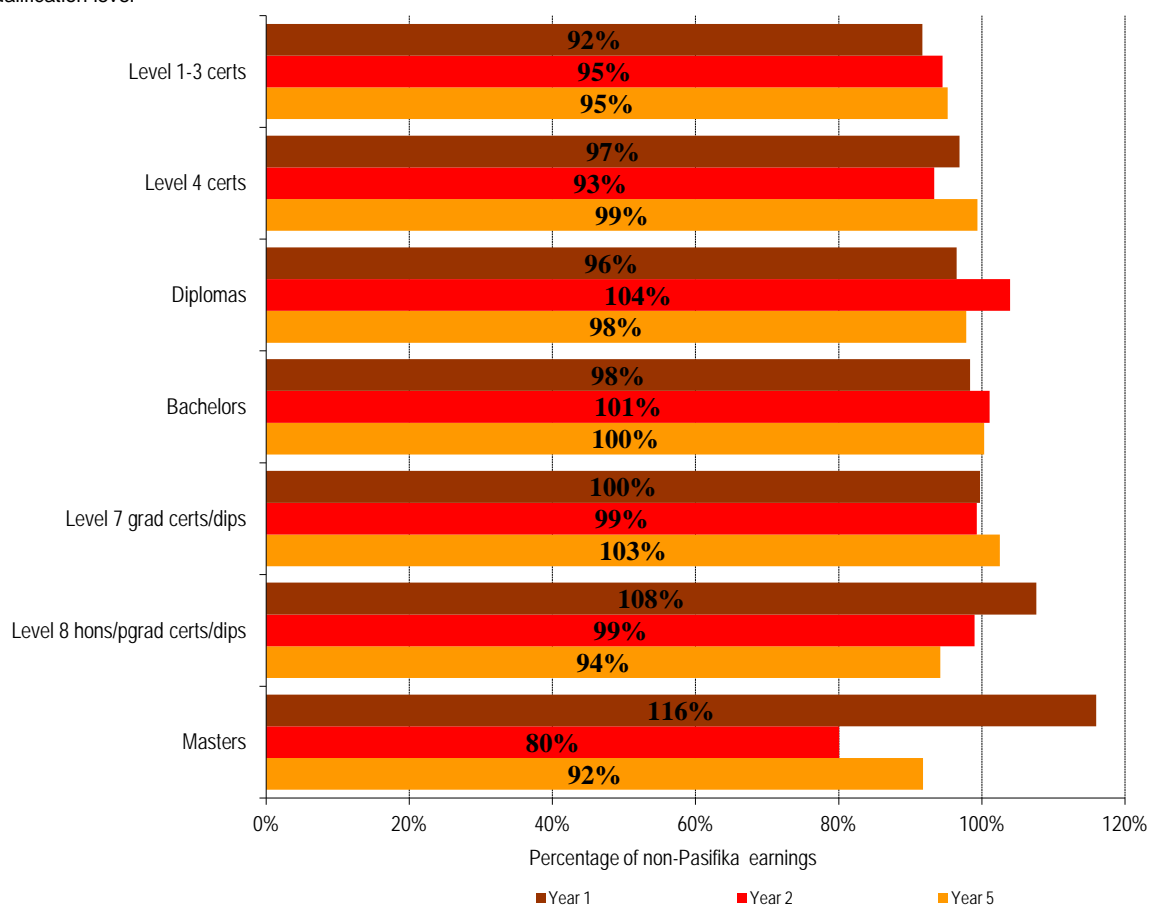


Table 2 shows the lower quartile, median and upper quartile earnings of young qualification completers one, two and five years after study by ethnic group. Pasifika graduates' upper quartile earnings relative to non-Pasifika graduates' upper quartile earnings did not change between year one and year five for bachelors degree or lower level qualifications graduates.

Pasifika level 8 and masters degree graduates' upper quartile earnings decreased by over 15 percentage points relative to non-Pasifika graduates' earnings between year one and five, to 90 percent of non-Pasifika graduates' earnings. Level 7 graduate certificate or diploma qualification graduates' earnings increased relative to non-Pasifika graduates' earnings between year one and five, from 98 percent to 105 percent. Otherwise upper quartile earnings stayed at approximately the same level relative to non-Pasifika graduates' upper quartile earnings.

Pasifika graduates' lower quartile earnings increased relative to non-Pasifika graduates' at level 7 or below. The relative increase was greater for lower level qualifications: 16 percentage points for level 1 to 3 certificate holders, 10 points for level 4 certificate holders, 14 points for diploma holders, 6 points for bachelors degree holders and 8 points for level 7 qualification holders. Pasifika graduates' lower quartile earnings decreased relative to non-Pasifika graduates' earnings between year one and five for level 8 and masters degree holders, by 4 percentage points and 43 points respectively.

Table 2

Median and quartile annual earnings of young domestic graduates, one, two and five years after study by ethnic group and qualification level

Level of study	Measure	Pasifika - Years after study			Non-Pasifika - Years after study			Pasifika earnings as a percentage of non-Pasifika earnings %		
		One	Two	Five	One	Two	Five	One	Two	Five
Masters degree	Upper quartile	\$58,226	C..	\$66,023	\$54,609	\$60,855	\$73,145	107	n/a	90
	Median	\$50,280	\$40,781	\$54,619	\$43,363	\$50,940	\$59,516	116	80	92
	Lower quartile	\$40,627	C..	\$46,386	\$27,587	\$38,440	\$44,660	147	n/a	104
Bachelors honours /pg dip or cert	Upper quartile	\$56,459	\$59,244	\$67,033	\$51,994	\$57,958	\$74,080	109	102	90
	Median	\$47,952	\$49,731	\$56,965	\$44,567	\$50,244	\$60,474	108	99	94
	Lower quartile	\$32,169	\$37,246	\$40,878	\$33,922	\$39,019	\$44,890	95	95	91
Graduate cert or diploma	Upper quartile	\$49,139	\$52,192	\$72,415	\$49,992	\$54,719	\$69,213	98	95	105
	Median	\$45,830	\$47,986	\$60,188	\$45,948	\$48,323	\$58,716	100	99	103
	Lower quartile	\$38,150	\$42,633	\$47,910	\$36,922	\$41,447	\$42,995	103	103	111
Bachelors degree	Upper quartile	\$46,182	\$51,018	\$63,379	\$46,168	\$50,556	\$62,984	100	101	101
	Median	\$37,461	\$44,172	\$50,902	\$38,097	\$43,695	\$50,731	98	101	100
	Lower quartile	\$28,051	\$34,725	\$41,185	\$26,520	\$33,085	\$36,916	106	105	112
Diploma	Upper quartile	\$35,759	\$42,576	\$47,652	\$36,383	\$40,218	\$49,279	98	106	97
	Median	\$27,575	\$33,217	\$38,248	\$28,586	\$31,958	\$39,110	96	104	98
	Lower quartile	\$17,271	\$25,883	\$28,413	\$19,424	\$22,769	\$27,572	89	114	103
Certificate at level 4	Upper quartile	\$31,499	\$34,740	\$42,073	\$31,922	\$35,315	\$43,630	99	98	96
	Median	\$24,911	\$27,525	\$35,314	\$25,714	\$29,488	\$35,531	97	93	99
	Lower quartile	\$16,458	\$16,921	\$26,110	\$17,638	\$21,072	\$25,283	93	80	103
Certificate at levels 1 to 3	Upper quartile	\$29,723	\$33,508	\$41,386	\$32,049	\$34,880	\$44,722	93	96	93
	Median	\$22,902	\$26,711	\$33,431	\$24,980	\$28,260	\$35,102	92	95	95
	Lower quartile	\$13,580	\$17,051	\$24,278	\$16,134	\$19,490	\$24,276	84	87	100

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'C..' denotes the value has been suppressed for confidentiality purposes. Refer to Chapter 11 for full notes.

The earnings premium over all national median employment earnings enjoyed by people gaining qualifications is better for non-Pasifika than for Pasifika graduates, although the difference in most cases is small. Table 3 shows the proportion of earnings in one, two and five years after study compared to the national median income for all people in the 2011 tax year, derived from the IDI (\$34,200). After five years, non-Pasifika level 8 and above graduates earned more compared to the national median than Pasifika graduates. At lower levels there was hardly any difference, and for level 1 to 3 certificate completers the difference was 5 percentage points.

Table 3

Median annual earnings of young domestic graduates, one, two and five years after study, as a percentage of the national median income by ethnic group and qualification level

Qualification level	Non-Pasifika - Years after study %			Pasifika - Years after study %		
	One	Two	Five	One	Two	Five
Masters degree	127	149	174	147	119	160
Level 8 bachelors honours, pg dip or cert	130	147	177	140	145	167
Level 7 graduate certificate or diploma	134	141	172	134	140	176
Bachelors degree	111	128	148	110	129	149
Diploma at levels 5-7	84	93	114	81	97	112
Certificate at level 4	75	86	104	73	80	103
Certificate at levels 1 to 3	73	83	103	67	78	98

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'C..' denotes the value has been suppressed for confidentiality purposes. Refer to Chapter 11 for full notes.

The relative return for completing a qualification was better for Pasifika graduates than for non-Pasifika graduates. This is partly because Pasifika generally earn less income from work than non-Pasifika overall. Pasifika qualification completers earned more compared to the Pasifika workforce in the 2011 tax year (\$29,710) than non-Pasifika graduates did compared to the non-Pasifika workforce (\$34,530).

Table 4 compares median earnings in each year to the national median earnings in 2011 for each ethnic group. Non-Pasifika graduates' earnings increased to above the national median income for the non-Pasifika workforce one and two years after study for bachelors and above level, and after more than two years for completers of qualifications at all levels after five years.

Pasifika graduates' earnings were above the Pasifika workforce median earnings in year two after study at diploma level and above and at all levels in year five.

Table 4

Median annual earnings of young domestic graduates, one, two and five years after study, as a percentage of the national median earnings for each ethnic group, by ethnic group and qualification level

Qualification level	Non-Pasifika - Years after study %			Pasifika - Years after study %		
	One	Two	Five	One	Two	Five
Masters degree	126	148	172	169	137	184
Level 8 bachelors honours, pg dip or cert	129	146	175	161	167	192
Level 7 graduate certificate or diploma	133	140	170	154	162	203
Bachelors degree	110	127	147	126	149	171
Diploma at levels 5-7	83	93	113	93	112	129
Certificate at level 4	74	85	103	84	93	119
Certificate at levels 1 to 3	72	82	102	77	90	113

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'C..' denotes the value has been suppressed for confidentiality purposes. Refer to Chapter 11 for full notes.

Table 5 shows the growth of median incomes across one and five years and the average annual median income growth across five years. As discussed, Pasifika masters degree graduates earnings data was more volatile than other levels, partly due to low numbers of graduates at this level.

At all qualification levels except level 8 bachelors degrees with honours or graduate certificates or diplomas, Pasifika graduates' earnings growth was higher than non-Pasifika graduates' across five years. At level 8, Pasifika graduates' earnings growth was approximately half that of non-Pasifika graduates' earnings growth over five years.

The proportion of the total growth over five years that occurred in year one was high for Pasifika graduates compared to non-Pasifika graduates for certificates levels 1 to 3, level 5 to 7 diplomas and bachelors degrees, and higher for non-Pasifika than Pasifika graduates at other levels.

Table 5

Growth in median annual earnings of young domestic graduates, over the first five years after study by ethnic group and qualification level

Qualification level	Pasifika %				Non-Pasifika %				Difference		
	Growth over the first year	Growth over the first five years	Mean annual growth over the first five years	% of growth in year one compared to total over five	Growth over the first year	Growth over the first five years	Mean annual growth over the first five years	% of growth in year one compared to total over five	% point difference in year one growth	% point difference in average growth over five years	% point difference in growth over five years
Masters degree	-19	9	2	-219	17	37	8	47	36	29	6
Level 8 bachelors honours, pg	4	19	4	20	13	36	8	36	9	17	4
Level 7 graduate certificate or	5	31	7	15	5	28	6	19	0	-4	-1
Bachelors degree	18	36	8	50	15	33	7	44	-3	-3	-1
Diploma at levels 5-7	20	39	9	53	12	37	8	32	-9	-2	0
Certificate at level 4	10	42	9	25	15	38	8	38	4	-4	-1
Certificate at levels 1 to 3	17	46	10	36	13	41	9	32	-4	-5	-1

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'C..' denotes the value has been suppressed for confidentiality purposes. Refer to Chapter 11 for full notes.

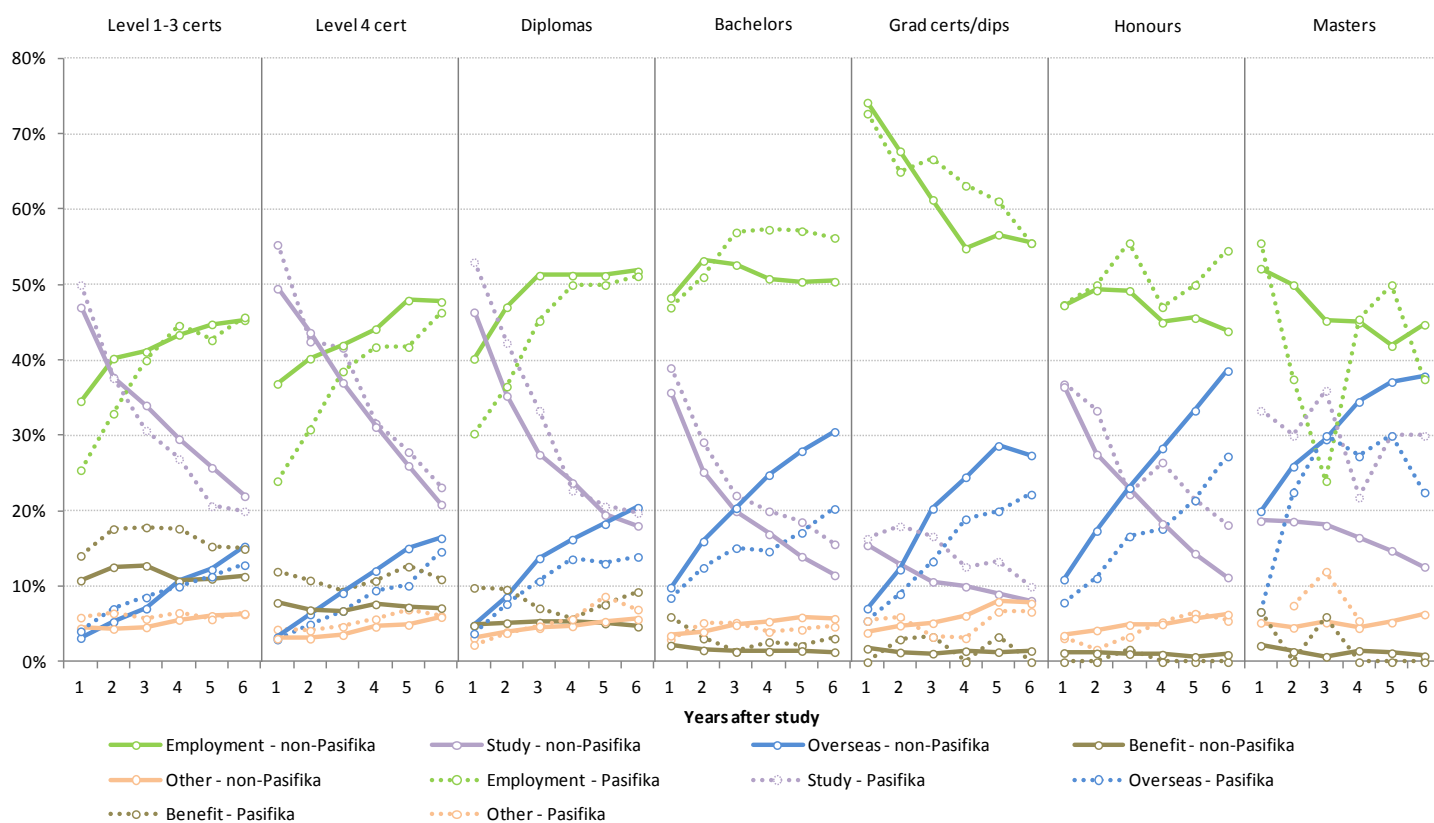
The following tables show destinations of graduates after study. Figure 4 shows the destinations of Pasifika and non-Pasifika graduates in the years after study by qualification level.

Employment rates for below bachelors level graduates tend to be lower for Pasifika graduates than for non-Pasifika graduates, but converge in later years. Pasifika bachelors level up to level 8 honours post graduate diploma and certificate graduates' employment rates exceed non-Pasifika graduates and outstrip them by year three after study. High variability in masters degree rates for Pasifika graduates due to comparatively low numbers makes it difficult to make conclusions about the differences of masters graduates by ethnic group.

Pasifika graduates tend to have higher further study rates than non-Pasifika graduates, except for level 1 to 3 certificate completers. Rates of being overseas are significantly lower for Pasifika graduates of level 4 certificates or above, and the difference between Pasifika and non-Pasifika graduates widens as the level of qualification gained increases.

Welfare benefit receipt is high for Pasifika graduates compared to non-Pasifika graduates after completing qualifications below bachelors degree level, but for bachelors level or above graduates, there is no real difference between ethnic groups.

Figure 4
Post study destinations by qualification level and ethnic group



We already know that employment rates rise with the level of qualification gained at undergraduate level (i.e. Mahoney et al, 2013). Employment rates rise over time partly because a high proportion of young graduates who undertake further study start that in the first year after completion. Further study tends to decline as a main activity as the level of qualification gained increases.

Tables 6 and 7 show the destinations one and five years after study respectively. Year one employment destinations were very similar between Pasifika and non-Pasifika graduates of bachelors levels up to level 8 qualifications. Non-Pasifika diploma 5 to 7 and level 1 to 4 certificate completers were more likely to be in employment than Pasifika graduates, who were more likely to be in further study, or out of the labour market or in multiple categories or on a welfare benefit.

Table 6

Destination of young domestic graduates one year after study by qualification level and ethnic group

Qualification level	Employment (%)		Overseas (%)		Further study (%)		Benefit (%)		Other (%)	
	P	NP	P	NP	P	NP	P	NP	P	NP
Masters degree	56	52	7	20	33	19	7	2	0	5
Level 8 bachelors honours, pg dip /cert	47	47	8	11	37	36	C..	1	3	4
Level 7 graduate certificate or diploma	73	74	5	7	16	15	0	2	5	4
Bachelors degree	47	48	9	10	39	36	6	2	3	3
Diploma at levels 5-7	30	40	4	5	53	46	10	5	2	3
Certificate at level 4	24	37	3	3	55	50	12	8	4	3
Certificate at levels 1 to 3	25	35	4	3	50	47	14	11	6	4

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'P' means Pasifika and 'NP' means non-Pasifika. 'C..' denotes the value has been suppressed for confidentiality purposes. Note rows may not add up to 100 percent due to general random rounding. Refer to Chapter 11 for full notes.

By five years after study, Pasifika graduates of qualifications at bachelors level or above were more likely to be in employment than non-Pasifika graduates. Pasifika diploma 5 to 7 and certificate level 1 to 4 graduates were less likely to be in employment and were more likely to be on a benefit or out of the labour market or in multiple categories.

Pasifika graduates were less likely to be overseas than non-Pasifika graduates, and were more likely to be in further study after completing qualifications at most levels (except after completing a certificate level 1 to 3).

Table 7

Destination of young domestic graduates five years after study by qualification level and ethnic group

Qualification level	Employment (%)		Overseas (%)		Further study (%)		Benefit (%)		Other (%)	
	P	NP	P	NP	P	NP	P	NP	P	NP
Masters degree	50	42	30	37	30	15	0	1	C..	5
Level 8 bachelors honours, pg dip /cert	50	46	21	33	21	14	C..	1	6	6
Level 7 graduate certificate or diploma	61	57	20	29	13	9	3	1	7	8
Bachelors degree	57	50	17	28	19	14	2	1	4	6
Diploma at levels 5-7	50	51	13	18	21	20	8	5	9	5
Certificate at level 4	42	48	10	15	28	26	13	7	7	5
Certificate at levels 1 to 3	43	45	11	12	21	26	15	11	6	6

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'P' means Pasifika and 'NP' means non-Pasifika. 'C..' denotes the value has been suppressed for confidentiality purposes. Note rows may not add up to 100 percent due to general random rounding. Refer to Chapter 11 for full notes.

Figure 5 shows the percentage point change in destinations between year one and year five by qualification level. Pasifika bachelors level and below graduates were proportionally more likely to move into employment than non-Pasifika between years one and five after study, which accounts for why employment rates were much closer between ethnic groups in year five than in year one.

Pasifika graduates were less likely to move into an overseas destination between year one and year five than non-Pasifika, except for masters graduates. Pasifika sub-degree level graduates moved out of

further study at higher rates than non-Pasifika graduates, but at degree level or above, the situation was reversed.

Movements in other categories were negligible or there was a net zero difference between groups.

Figure 5

Percentage point destination difference between year one and year five after study by qualification level and ethnic group

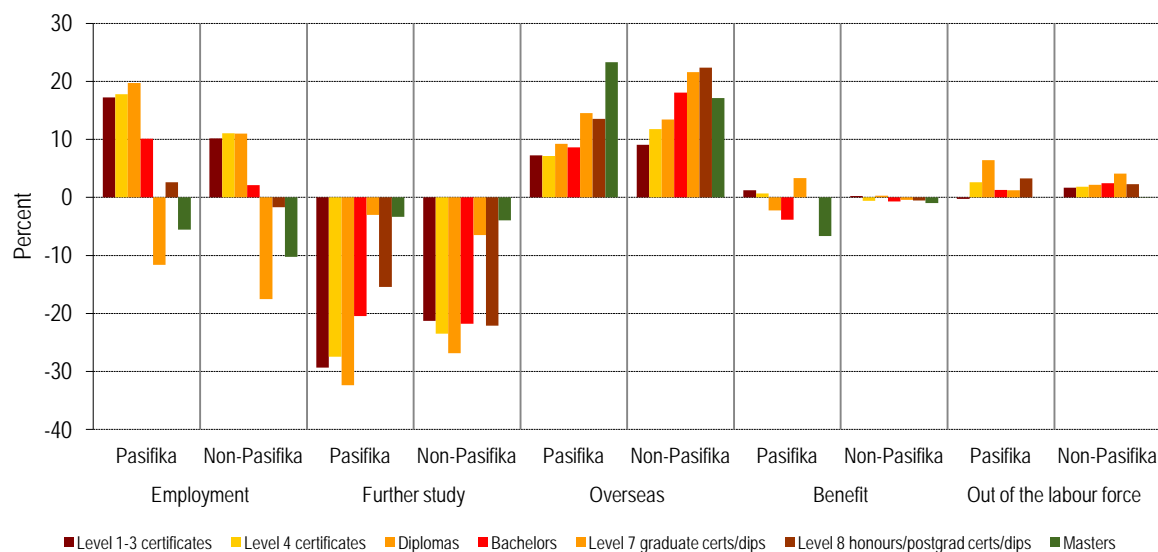


Figure 6 shows the percentage point difference between Pasifika and non-Pasifika graduates in destinations for year one and year five by qualification level. The X axis on the graph represents the destination of non-Pasifika graduates, and the coloured bars above and below the X axis shows the difference between Pasifika and non-Pasifika graduates. Bars below the zero on the Y are negative values, signifying that Pasifika graduates were less likely to be in a destination than non-Pasifika graduates, while bars above the line signify that Pasifika graduates were more likely than non-Pasifika graduates to be in that destination.

Pasifika level 1 to 4, diploma level 5 to 7 and bachelors and graduate certificates / diploma graduates were less likely than non-Pasifika graduates to be in employment in year one after study. By year five, Pasifika sub-degree holders were still less likely to be in employment than non-Pasifika, but to a much lesser extent, and at bachelors degree or above they were now significantly more likely than non-Pasifika to be in employment.

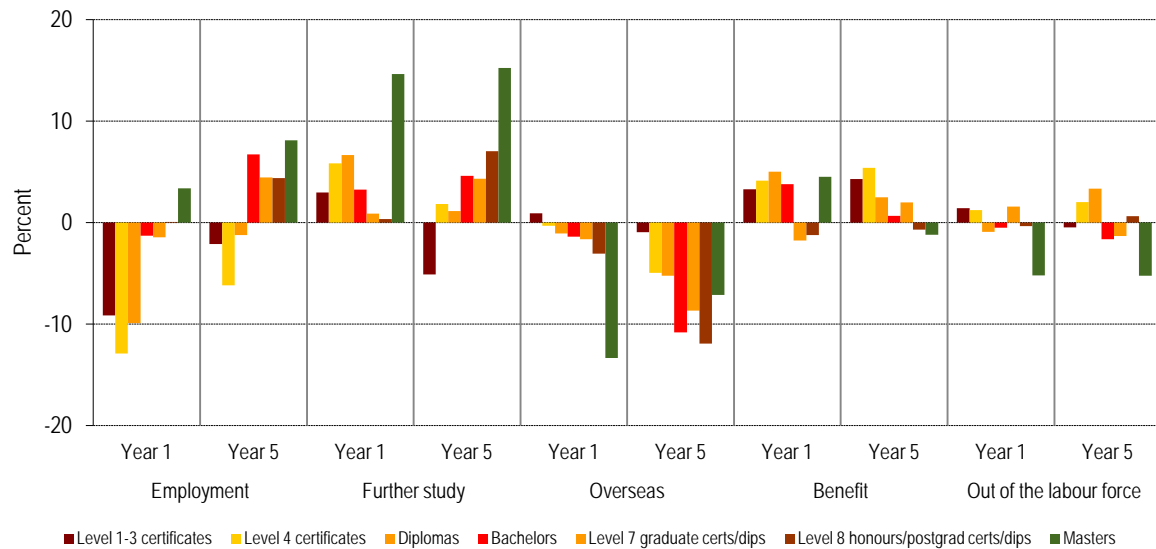
This is partly because non-Pasifika graduates' employment destinations were offset by much higher overseas rates in year five compared to Pasifika graduates (except at masters level).

Pasifika graduates were more likely to be in further study in year one if they completed a bachelors level or below qualification, but in year five if they completed a bachelors or above level qualification (masters degree graduates' further study rates were much higher for Pasifika than non-Pasifika graduates in both years one and five after study).

Pasifika graduates were more likely to be on a benefit than non-Pasifika graduates, but by year five, this was more limited to those who had completed level 1 to 4 certificates.

Figure 6

Percentage point destination difference between Pasifika and non-Pasifika year one and year five after study by qualification level



The following sections provide greater details of earnings and outcomes comparisons for graduates by level of qualification. We were unable to provide further breakdowns for doctorate and masters levels due to small numbers of Pasifika graduates, so our analysis commences with level 8 bachelors with honours and post graduate certificates or diplomas.

3 OUTCOMES FOR YOUNG PEOPLE WHO COMPLETE HONOURS DEGREES AND POSTGRADUATE DIPLOMAS AND CERTIFICATES

3.1 Introduction

This chapter looks at the destinations and earnings of young domestic students who graduated from providers in New Zealand with a qualification at level 8 on the New Zealand Qualifications Framework – a bachelors honours degree or a postgraduate certificate or diploma.

Level 8 qualifications

Each year, between 9,000 and 10,000 students complete a level 8 qualification in the New Zealand tertiary education system, 4 percent are Pasifika and about 35 percent of them ‘young’ domestic students, in the way we define that term in this report. These qualifications are mostly taken by people who have already completed a bachelors degree and who want to extend their qualifications by taking their area of specialisation to a more advanced level.

The majority – about 88 percent – of level 8 qualifications are completed at universities, with about 6 percent completed at polytechnics and 6 percent at private training establishments. For Pasifika, approximately 11 percent gained their qualification at a polytechnic or institute of technology, and 6 percent at a private training establishment.

We only report results for fields where a reliable comparison can be made between Pasifika and non-Pasifika graduates. Four of the twelve broad fields of study had enough young completers for us to be able to report on them in this report. Two fields: food, hospitality and personal services and mixed field programmes had no graduates at this qualification level. The six that we don’t report on separately due to small numbers of Pasifika graduates are:

- Agriculture, environmental and related studies
- Architecture and building
- Creative arts
- Education
- Information technology
- Natural and physical sciences

People with level 8 qualifications work in a wide variety of occupations and industries.

3.2 What we found

Earnings

- Pasifika graduates earned \$48,000 in the first year, rising by 4 percent in the following year and by an average of 4 percent over five years to reach \$57,000. Non-Pasifika graduates earned \$44,600 in the first year, rising by 13 percent in the following year and by an average of 8 percent over five years to reach \$60,500.
- Five years post study, the median earnings for Pasifika level 8 graduates was 145 percent of the national median Pasifika workforce earnings and non-Pasifika graduates’ median earnings was 175 percent of the national median earnings for the non-Pasifika workforce.

- The top quarter of Pasifika graduates earned \$67,000 or more and the bottom quarter earned \$40,900 or less while the top quarter of non-Pasifika graduates earned \$74,100 or more and the bottom quarter earned \$44,900 or less.
- There was some variation in earnings by field of study. The field with the highest median earnings for Pasifika graduates five years after completion of study (of the two we could publish information for) was *engineering and related technologies*. These graduates earned 103 percent of non-Pasifika graduates' median earnings in year one, and 89 percent of it in year five after study.
- Pasifika holders of a level 8 qualification in *society and culture* earned 98 percent of equivalent non-Pasifika graduates' median earnings after one year and 100 percent of it five years after leaving study.

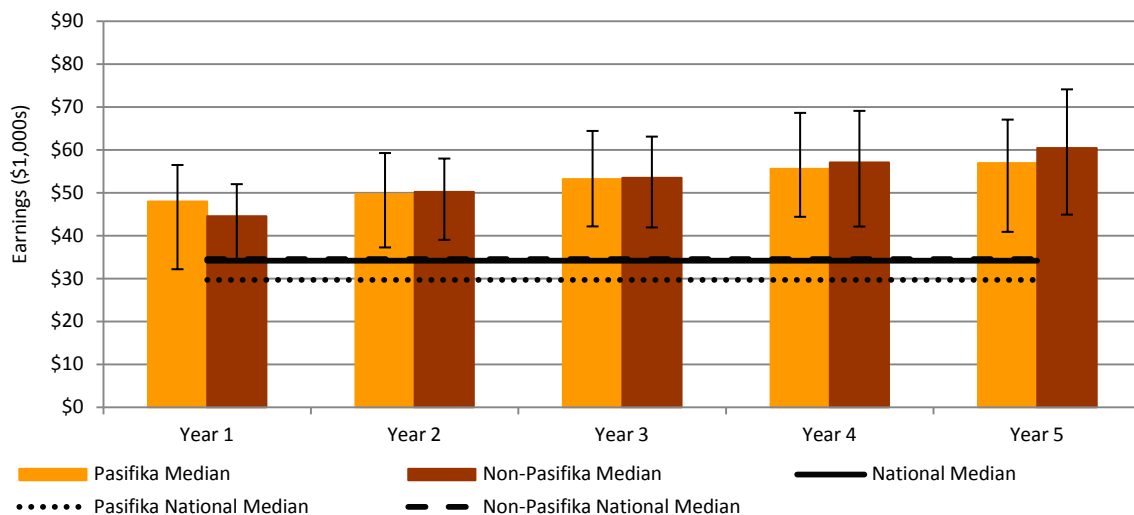
Destinations

- Small numbers of Pasifika completing post graduate qualifications and the requirement for numbers to be randomly rounded means that the proportions shown for them should be treated as approximate estimates rather than close estimates as for non-Pasifika. This is particularly problematic when destinations are disaggregated, for example, to the broad field level.
- Of the young level 8 qualification holders in the first year after study, 47 percent of Pasifika and non-Pasifika graduates were in employment that year and 37 percent of Pasifika graduates and 36 percent of non-Pasifika graduates were in further study. Eight percent of Pasifika and 11 percent of non-Pasifika graduates were overseas while 5 percent of both groups were on a benefit or out of the labour force.
- Five years after finishing study, 50 percent of Pasifika graduates and 46 percent of non-Pasifika young level 8 qualification holders were in employment and 21 percent and 14 percent were in further study respectively. Twenty-one percent of Pasifika graduates and 34 percent of non-graduates were overseas.

Figure 7 shows the earnings from employment in each year after study. Pasifika and non-Pasifika graduates' median earnings were very similar in most years after study. Pasifika graduates earned more in year one, but earnings equalised in year two and Pasifika graduates' earnings fell behind non-Pasifika graduates' in year four and five.

Figure 7

Median and upper and lower quartile earnings for young domestic level 8 qualification completers in the first five years after study by ethnic group

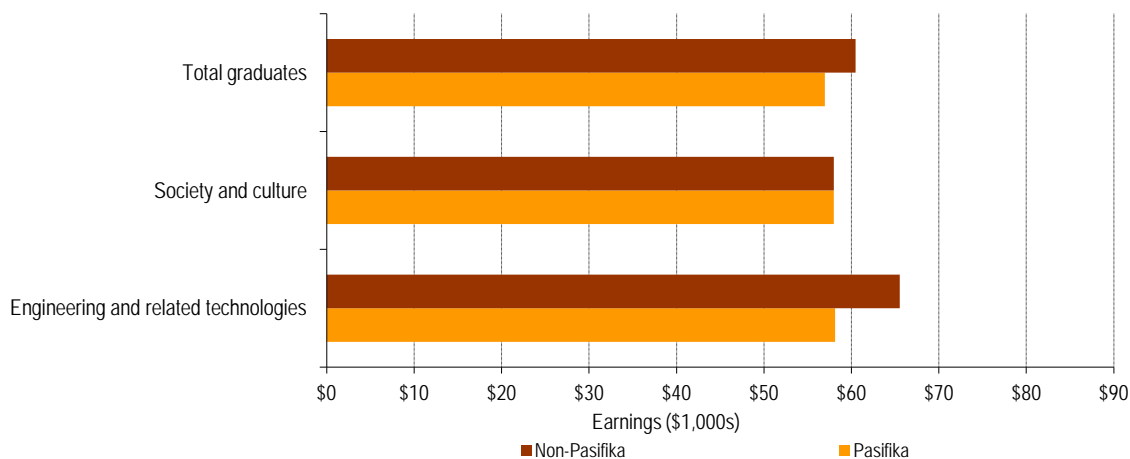


Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. The error bars show the top quartile and lower quartile earnings. These are not statistical error bars in the traditional sense as we are not showing variance around a mean value from a sample with them. Refer to Chapter 11 for full notes.

Figure 8 shows the median earnings from employment in the fifth year after study for level 8 qualification completers by broad field. The only two fields we could report on in year five were *society and culture* and *engineering and related technologies*. There was no difference in earnings for *society and culture* graduates while Pasifika *engineering and related technologies* earned 89 percent of non-Pasifika graduates' median earnings. Overall, Pasifika graduates' median earnings was 94 percent of non-Pasifika graduates' earnings in year five.

Figure 8

Median earnings of young domestic level 8 qualification completers five years after study by ethnic group



Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. Refer to Chapter 11 for full notes.

Table 8 shows earnings one, two and five years after study, by broad field and ethnic group. Two additional fields *health* and *management and commerce* are included as single if not multiple years' median earnings could be reported for them, enabling a comparison to be made for these years.

While year five data is not available, Pasifika *health* graduates seem to have high earnings in years one and two compared to non-Pasifika graduates, however small numbers of Pasifika graduates in this category mean that we cannot be sure the individuals whose data is captured are representative.

Upper and lower quartile analysis can only be carried out for *society and culture* and the total category (which contains all graduates regardless of whether a study field meets confidentiality thresholds). Pasifika graduates' upper quartile earnings were 100 percent of non-Pasifika graduates' upper quartile earnings in year one, but had dropped to 91 percent in year five. Lower quartile earnings improved relatively from year one to year five: from 61 percent of non-Pasifika graduates' lower quartile earnings to 102 percent.

Overall Pasifika graduates' upper quartile earnings fell from 109 percent of non-Pasifika graduates' upper quartile earnings in year one to 90 percent in year five. Lower quartile earnings fell from 95 percent of non-Pasifika graduates' lower quartile earnings to 91 percent.

Table 8

Median and quartile annual earnings of young domestic level 8 qualification completers, one, two and five years after study by broad field of study and ethnic group

Broad field of study	Measure	Pasifika - Years after study			Non-Pasifika - Years after study		
		One	Two	Five	One	Two	Five
Engineering and related technologies	Q3	\$53,518	C..	C..	\$52,660	\$58,654	\$74,754
	Median	\$50,200	\$51,793	\$58,149	\$48,661	\$52,972	\$65,510
	Q1	\$40,648	C..	C..	\$41,616	\$46,977	\$52,466
Health	Q3	\$72,964	C..	C..	\$65,412	\$68,577	\$86,670
	Median	\$62,905	\$77,566	C..	\$52,645	\$54,514	\$63,056
	Q1	\$47,952	C..	C..	\$41,837	\$42,249	\$44,268
Management and commerce	Q3	C..	C..	C..	\$49,715	\$57,161	\$80,622
	Median	C..	\$52,008	C..	\$43,302	\$48,568	\$64,655
	Q1	C..	C..	C..	\$36,986	\$40,261	\$48,901
Society and culture	Q3	\$49,516	\$52,290	\$67,102	\$49,298	\$57,275	\$73,568
	Median	\$40,383	\$41,568	\$57,976	\$41,161	\$48,101	\$57,996
	Q1	\$18,108	\$24,122	\$43,221	\$29,281	\$36,356	\$42,381
Total graduates	Q3	\$56,459	\$59,244	\$67,033	\$51,994	\$57,958	\$74,080
	Median	\$47,952	\$49,731	\$56,965	\$44,567	\$50,244	\$60,474
	Q1	\$32,169	\$37,246	\$40,878	\$33,922	\$39,019	\$44,890

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'C..' denotes the value has been suppressed for confidentiality purposes. Refer to Chapter 11 for full notes.

Table 9 shows median earnings in the years after study compared to national median earnings in 2011 for each ethnic group. Where a comparison could be made, Pasifika graduates' earnings are generally higher above the national median workforce earnings for Pasifika than non-Pasifika graduates' is above the national median for non-Pasifika in the workforce. This reflects the fact that Pasifika generally earn less in the workforce than non-Pasifika. The return on completing tertiary level qualifications is therefore higher for Pasifika graduates than for non-Pasifika graduates.

Table 9

Median annual earnings of young domestic level 8 qualification completers, one, two and five years after study, as a percentage of the national median earnings for each ethnic group, by ethnic group and qualification level

Broad field of study	Pasifika - Years after study %			Non-Pasifika - Years after study %		
	One	Two	Five	One	Two	Five
Engineering and related technologies	169	174	196	141	153	190
Health	212	261	n/a	152	158	183
Management and commerce	n/a	175	n/a	125	141	187
Society and culture	136	140	195	119	139	168
Total graduates	161	167	145	129	146	175

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'C..' denotes the value has been suppressed for confidentiality purposes. N/a denotes a suppressed value in the percentage calculation. Refer to Chapter 11 for full notes.

Table 10 shows earnings growth in the years after study. Pasifika graduates' earnings grew at half the rate of non-Pasifika graduates' overall, and for *engineering and related technologies* graduates. There was no difference between ethnic groups in earnings growth for *society and culture* graduates overall, although non-Pasifika graduates' earnings grew much more strongly in the first year after study than Pasifika graduates'.

Table 10

Growth in median annual earnings of young domestic level 8 qualification completers, over the first five years after study by broad field of study and ethnic group

Broad field of study	Pasifika %			Non-Pasifika %		
	Over the first year	Over the first five years	Average annual growth over the first five years	Over the first year	Over the first five years	Average annual growth over the first five years
Engineering and related technologies	3	16	4	9	35	8
Health	23	n/a	n/a	4	20	5
Management and commerce	n/a	n/a	n/a	12	49	11
Society and culture	3	44	9	17	41	9
Total graduates	4	19	4	13	36	8

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'C..' denotes the value has been suppressed for confidentiality purposes. Refer to Chapter 11 for full notes.

Table 11 shows destinations one year after study. Overall destination rates were very similar across Pasifika and non-Pasifika graduates. Forty seven percent of graduates were in employment, 8 percent to 11 percent were overseas, around 37 percent were in further study and 5 percent on a benefit or out of the labour force or in multiple categories. Pasifika *engineering and related technologies* graduates were in employment at higher rates (11 percentage points difference) than equivalent non-Pasifika graduates, who were slightly more likely to be overseas or significantly more likely to be in further study (19 percentage points difference) than Pasifika graduates.

Pasifika *society and culture* graduates were in employment at slightly higher rates than non-Pasifika graduates and in further study less (8 percentage points difference) and were a third more likely to be on a benefit or out of the labour force than non-Pasifika graduates.

Table 11

Destination of young domestic level 8 qualification completers one year after study by broad field of study and ethnic group

Broad field of study	Employment %		Overseas %		Further study %		Benefit / Other %	
	P	NP	P	NP	P	NP	P	NP
Engineering and related technologies	67	56	10	13	10	29	C..	6
Health	45	52	5	10	45	36	0	3
Management and commerce	24	57	12	14	48	34	0	4
Society and culture	46	43	9	11	31	39	9	6
Total graduates	47	47	8	11	37	36	5	5

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'P' means Pasifika and 'NP' means non-Pasifika. 'C..' denotes the value has been suppressed for confidentiality purposes. Note rows may not add up to 100 percent due to general random rounding. Refer to Chapter 11 for full notes.

Table 12 shows the destinations of level 8 qualification completers five years after study. Pasifika graduates were in employment at higher rates than non-Pasifika graduates, and were overseas at lower rates. Further study rates were higher overall for Pasifika graduates (7 percentage points difference between Pasifika and non-Pasifika graduates) as were benefit and out of the labour force or multiple category rates.

Table 12

Destination of young domestic level 8 qualification completers five years after study by broad field of study and ethnic group

Broad field of study	Employment %		Overseas %		Further study %		Benefit / Other %	
	P	NP	P	NP	P	NP	P	NP
Engineering and related technologies	60	41	C..	39	12	11	C..	6
Health	45	51	30	26	30	18	0	5
Management and commerce	25	45	25	41	25	8	C..	5
Society and culture	46	47	28	33	23	16	9	7
Total graduates	50	46	21	33	21	14	9	6

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'P' means Pasifika and 'NP' means non-Pasifika. 'C..' denotes the value has been suppressed for confidentiality purposes. Note rows may not add up to 100 percent due to general random rounding. Refer to Chapter 11 for full notes.

4 OUTCOMES FOR YOUNG PEOPLE WHO COMPLETE GRADUATE DIPLOMAS AND CERTIFICATES

4.1 Introduction

This chapter looks at the destinations and earnings of young domestic students who graduated from providers in New Zealand with a graduate certificate or diploma.

Graduate certificates and diplomas

Each year, between 4,000 and 5,000 students complete a graduate certificate or diploma in the New Zealand tertiary education system, about 4 percent are Pasifika and 32 percent of them ‘young’ domestic students, in the way we define that term in this report. Graduate certificates and diplomas are mostly taken by people who have already completed a bachelors degree and who want to broaden their qualifications – essentially, adding an additional area of specialisation to their qualifications.

The majority of graduate certificates and diplomas are completed at universities, with between 14 and 17 percent completed at polytechnics and 15-16 percent at private training establishments.

Graduate certificates and diplomas include courses at level 7 – which is the same as the final year level of most bachelors degrees. Only three of the twelve broad fields of study had enough young Pasifika completers for us to be able make a comparison on them in this report. The nine that we don’t report on separately are:

- Agriculture, environmental and related
- Architecture and building
- Creative arts
- Engineering and related technologies
- Health
- Information technology
- Food hospitality and personal services
- Mixed field programmes
- Natural and physical sciences.

People with graduate certificates and diplomas work in a wide variety of occupations and industries.

It is important to bear in mind, when reading the analysis below, we are looking at *broad* fields of study. There are differences between narrow fields of study that are not apparent when we look at data on broad field.

4.2 What we found

Earnings

- Pasifika graduates earned \$45,800 in the first year, rising by 5 percent in the following year and 7 percent on average over five years to reach \$60,200. Non-Pasifika graduates earned \$46,000 in the first year, rising by 5 percent over the following year and an average of 6 percent over five years to reach \$58,700.

- Five years post study, the median earnings for Pasifika certificate or diploma completers was 203 percent of the national median Pasifika earnings and non-Pasifika graduates' median earnings was 170 percent of non-Pasifika national workforce median earnings.
- The top quarter of Pasifika graduates earned \$72,400 and the lowest quarter earned \$48,000. The top quarter of non-Pasifika graduates earned \$69,200 and the lowest quarter earned \$43,000.
- Of the three broad fields we could report on Pasifika earned most in year five after completing a graduate certificate or diploma in *management and commerce*. Median earnings of \$69,400 were 121 percent of non-Pasifika graduates' median earnings.

Destinations

- Small numbers of Pasifika completing postgraduate qualifications and the requirement for numbers to be randomly rounded to ensure confidentiality means that the proportions shown for them should be treated as approximate estimates rather than close estimates as for non-Pasifika. This is particularly problematic when destinations are disaggregated, for example, to the broad field level.
- In the first year after study 73 percent of Pasifika graduates and 74 percent of non-Pasifika graduates were in employment and 16 percent of Pasifika graduates and 15 percent of non-Pasifika graduates were in further study. Five percent of Pasifika and 7 percent of non-Pasifika graduates were overseas.
- In the fifth year after study, 61 percent of Pasifika graduates and 57 percent of non-Pasifika graduates were in employment and 13 percent of Pasifika graduates and 9 percent of non-Pasifika graduates were in further study. Twenty percent of Pasifika and 29 percent of non-Pasifika graduates were overseas.

Figure 9 shows median earnings from employment in each year after study. Earnings were generally the same between ethnic groups, except in years four and five after study where Pasifika graduates earned slightly more than non-Pasifika graduates. Upper and lower quartile earnings ranges for Pasifika were much narrower than for non-Pasifika, except in year five after study, where Pasifika upper quartile earnings were higher than non-Pasifika graduates' upper quartile earnings, for the first time.

Figure 9

Median and upper and lower quartile earnings for young domestic graduate certificate and diploma completers in the first five years after study by ethnic group

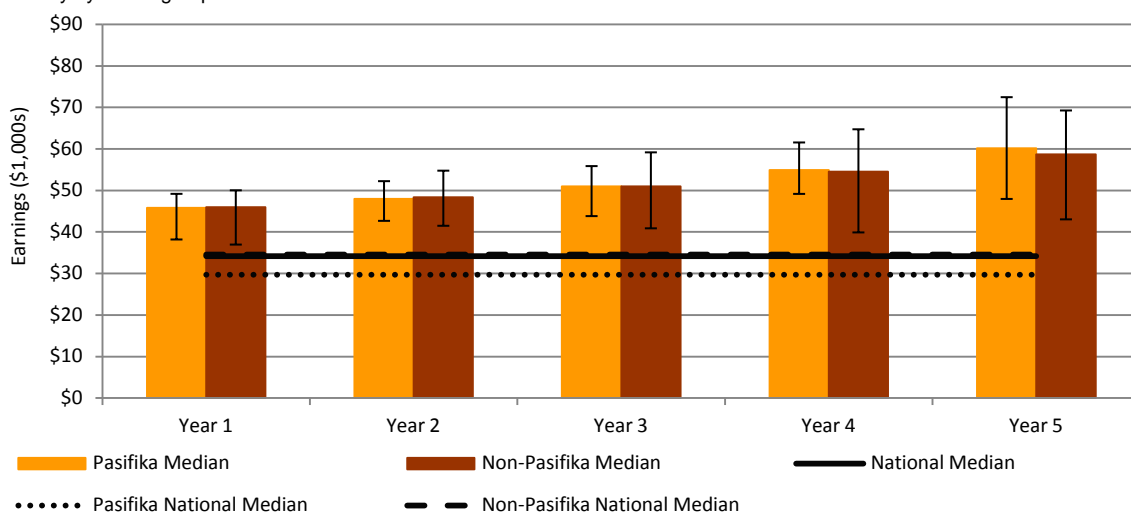
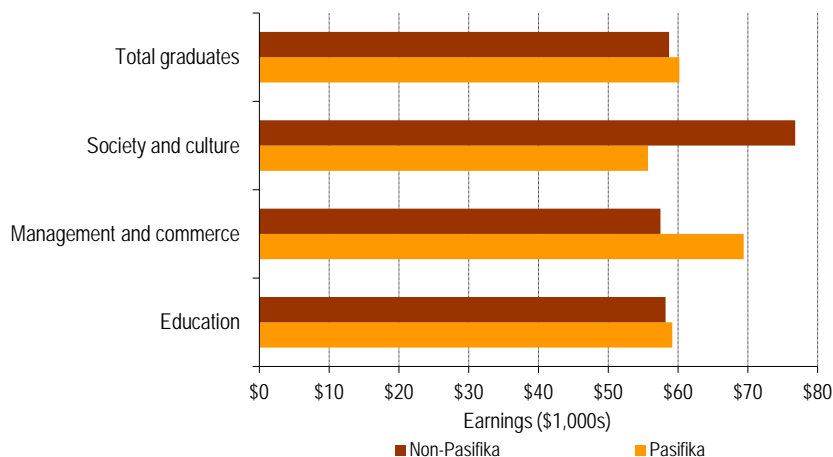


Figure 10 shows the earnings for employment in the fifth year after study by broad field of study. Pasifika graduates earned 103 percent of non-Pasifika graduates' median earnings overall. Pasifika *management and commerce* graduates earned 121 percent of non-Pasifika graduates' earnings, *education* graduates earned 102 percent and *society and culture* graduates earned 73 percent of non-Pasifika graduates five years after study.

Figure 10

Median earnings of young domestic graduate certificate and diploma completers five years after study by ethnic group



Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. Refer to Chapter 11 for full notes.

Table 13 shows earnings one, two and five years after study, by broad field of study and ethnic group. Upper quartile earnings were below non-Pasifika graduates' upper quartile earnings in years one and two, but were above them in year five, at 98 percent, 95 percent and 105 percent respectively. Lower quartile earnings were consistently above non-Pasifika graduates' lower quartile earnings, at 103 percent, 103 percent and 111 percent in years one, two and five after study respectively.

Pasifika *education* graduates' upper quartile earnings were consistently at the level of or above non-Pasifika graduates' upper quartile earnings at 100 percent, 102 percent and 100 percent in year one, two and five after study respectively. Lower quartile earnings were consistently above non-Pasifika graduates' lower quartile earnings, at 109, 110 and 105 percent in years one, two and five respectively.

Table 13

Median and quartile annual earnings of young domestic graduate certificate and diploma completers, one, two and five years after study by broad field of study and ethnic group

Broad field of study	Measure	Pasifika - Years after study			Non-Pasifika - Years after study		
		One	Two	Five	One	Two	Five
Education	Q3	\$48,370	\$51,581	\$64,604	\$48,234	\$50,468	\$64,493
	Median	\$46,148	\$48,305	\$59,176	\$46,184	\$48,128	\$58,193
	Q1	\$42,538	\$47,349	\$44,038	\$39,187	\$43,229	\$41,747
Management and commerce	Q3	C..	C..	C..	\$46,833	\$54,511	\$72,291
	Median	\$43,262	\$46,810	\$69,379	\$42,083	\$48,131	\$57,469
	Q1	C..	C..	C..	\$32,184	\$40,891	\$45,693
Society and culture	Q3	\$53,715	\$0	\$0	\$56,616	\$69,266	\$99,753
	Median	\$47,311	\$52,390	\$55,691	\$51,811	\$56,834	\$76,776
	Q1	\$37,737	\$0	\$0	\$43,216	\$44,537	\$52,420
Total graduates	Q3	\$49,139	\$52,192	\$72,415	\$49,992	\$54,719	\$69,213
	Median	\$45,830	\$47,986	\$60,188	\$45,948	\$48,323	\$58,716
	Q1	\$38,150	\$42,633	\$47,910	\$36,922	\$41,447	\$42,995

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'C..' denotes the value has been suppressed for confidentiality purposes. Refer to Chapter 11 for full notes.

Table 14 shows median earnings in the years after study compared to the national median earnings in 2011. Were we able to release information, we find that Pasifika graduates' median earnings is generally higher above the national median earnings of the Pasifika workforce than non-Pasifika graduates' is above the non-Pasifika workforce. This reflects the fact that the Pasifika workforce earns less than the non-Pasifika workforce. The exceptions to this are *education* and *society and culture* graduates' earnings after five years, where non-Pasifika graduates earn a higher premium.

Table 14

Median annual earnings of young domestic graduate certificate and diploma completers, one, two and five years after study, as a percentage of the national median earnings for each ethnic group, by ethnic group and qualification level

Broad field of study	Pasifika - Years after study %			Non-Pasifika - Years after study %		
	One	Two	Five	One	Two	Five
Education	155	163	155	134	139	169
Management and commerce	146	158	234	122	139	166
Society and culture	159	176	187	150	165	222
Total graduates	154	162	203	133	140	170

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'C..' denotes the value has been suppressed for confidentiality purposes. Refer to Chapter 11 for full notes.

Table 15 shows earnings growth in the years after study. Pasifika graduates' median earnings was slightly higher than non-Pasifika graduates' earnings across five years overall. The first year's earnings growth was identical. Pasifika *management and commerce* graduates had high growth compared to equivalent non-Pasifika graduates, while non-Pasifika *society and culture* graduates had higher growth over five years.

Table 15

Growth in median annual earnings of young domestic graduate certificate and diploma completers, over the first five years after study by broad field of study and ethnic group

Broad field of study	Pasifika %			Non-Pasifika %		
	Over the first year	Over the first five years	Average annual growth over the first five years	Over the first year	Over the first five years	Average annual growth over the first five years
Education	5	28	6	4	26	6
Management and commerce	8	60	13	14	37	8
Society and culture	11	18	4	10	48	10
Total graduates	5	31	7	5	28	6

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'C..' denotes the value has been suppressed for confidentiality purposes. Refer to Chapter 11 for full notes.

Table 16 shows the destinations of graduate certificate and diploma completers after one year. Overall destinations were similar between groups. Broad field differences included high proportions of Pasifika *management and commerce* graduates claiming a benefit or being out of the labour market or in multiple categories compared to non-Pasifika graduates, and Pasifika *society and culture* graduates in further study at half the rate of non-Pasifika graduates.

Table 16

Destination of young domestic graduate certificate and diploma completers one year after study by broad field of study and ethnic group

Broad field of study	Employment %		Overseas %		Further study %		Benefit / Other %	
	P	NP	P	NP	P	NP	P	NP
Education	80	85	0	5	6	8	C..	4
Management and commerce	60	65	C..	11	15	18	15	5
Society and culture	67	67	C..	8	10	20	10	6
Total graduates	73	74	5	7	16	15	5	5

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'P' means Pasifika and 'NP' means non-Pasifika. 'C..' denotes the value has been suppressed for confidentiality purposes. Note rows may not add up to 100 percent due to general random rounding. Refer to Chapter 11 for full notes.

Table 17 shows the destinations of graduate certificate and diploma completers five years after study. Pasifika graduates were more likely to be in employment and further study and less likely to be overseas or on a benefit or out of the labour force or in multiple categories than non-Pasifika graduates.

Table 17

Destination of young domestic graduate certificate and diploma completers five years after study by broad field of study and ethnic group

Broad field of study	Employment %		Overseas %		Further study %		Benefit / Other %	
	P	NP	P	NP	P	NP	P	NP
Education	71	60	17	19	26	12	9	8
Management and commerce	75	51	30	33	C..	5	C..	11
Society and culture	60	43	C..	43	0	6	15	8
Total graduates	61	57	20	29	13	9	7	9

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'P' means Pasifika and 'NP' means non-Pasifika. 'C..' denotes the value has been suppressed for confidentiality purposes. Note rows may not add up to 100 percent due to general random rounding. Refer to Chapter 11 for full notes.

5 OUTCOMES FOR YOUNG BACHELORS DEGREE GRADUATES

5.1 Introduction

This chapter looks at the destinations and earnings of young domestic students who graduated from providers in New Zealand with a bachelors degree.

Bachelors degrees

Each year, around 24,000 students complete a bachelors degree in the New Zealand tertiary education system, about 5 percent of them are Pasifika and roughly 54 percent of them ‘young’ domestic students, in the way we define that term in this report. Study for a bachelors degree is the most common destination for school leavers who have met the university entrance requirement. Of those who leave school with NCEA level 3, around 70 percent will enter study for a bachelors degree the following year.

The majority of bachelors graduates complete their qualifications at universities, with between 15 and 18 percent completed at polytechnics, 3 percent at wānanga and 4 percent at private training establishments. In 2012 67 percent of Pasifika graduates completed their qualifications at universities, 25 percent at polytechnics or institutes of technology, 3 percent at wānanga and 6 percent at private training establishments.

Bachelors degrees require graduates to have a field of specialisation with a set of courses at level 7 in that field. Bachelors degrees are offered in most of the broad fields of study – the only broad fields with insufficient young graduates for us to report separately on in this paper are:

- Agriculture, environmental and related studies
- Architecture and building
- Engineering and related technologies
- Food hospitality and personal services
- Mixed field programmes.

People with a bachelors degree work in a wide variety of occupations and industries.

It is important to bear in mind, when reading the analysis below, we are looking at *broad* fields of study. There are differences between narrow fields of study that are not apparent when we look at data on broad field. Data on outcomes for young bachelors graduates by narrow field can be found in Chapter 9 of this report.

5.2 What we found

Earnings

- Bachelors degrees completers had the most similarity between groups of all levels in the first year after study. Pasifika graduates earned 98 percent of non-Pasifika graduates’ median earnings in year one after study, 101 percent in year two and 100 percent in year five.
- Pasifika graduates’ median earnings was \$37,500, rising by 18 percent in the following year and by an average of 8 percent a year over the first five years to reach \$50,900. Non-Pasifika graduates’ median first year earnings was \$38,100, rising by 15 percent over the following year and 7 percent on average across five years to reach \$50,700.

- Five years post study, Pasifika graduates' median earnings was 71 percent above the national median for Pasifika and non-Pasifika graduates' earnings were 47 percent above the median for the non-Pasifika workforce.
- The top quarter of Pasifika graduates earned \$63,400 or more a year and the lower quarter earned \$41,200. The top quarter of non-Pasifika graduates earned \$63,000 or more a year and the lower quarter earned \$37,900 or less.
- There was substantial variation in earnings by field of study. Pasifika *health* graduates earned \$69,100 in year five compared to non-Pasifika who earned \$61,400 (Pasifika graduates' earnings were 113 percent of non-Pasifika graduates' earnings). Pasifika *creative arts* graduates earned \$43,100 in year five, compared to \$41,500 (104 percent of non-Pasifika median earnings) for non-Pasifika.
- Earnings were roughly equal in year five after completing *education* (101 percent), *information technology* and *management and commerce* (99 percent), and *society and culture* (102 percent) degrees.

Destinations

- Destinations were very similar between ethnic groups in the first year after study. The proportion in employment was almost equal between Pasifika and non-Pasifika graduates, at 47 and 48 percent respectively. Thirty-nine percent of Pasifika graduates were in further study, compared to 36 percent of non-Pasifika graduates. Nine percent of Pasifika graduates and 10 percent of non-Pasifika graduates were overseas, while 9 percent of Pasifika graduates and 6 percent of non-Pasifika graduates were on a benefit or out of the labour force.
- By year five, employment rates for Pasifika graduates were 57 percent compared with 50 percent for non-Pasifika graduates. There were no reported broad fields where Pasifika graduates were less likely to be employed than non-Pasifika graduates. This is partly due to Pasifika graduates being overseas in lower proportions (11 percentage points overall) than non-Pasifika graduates.
- Pasifika graduates were more likely to be in further study and were less likely to be overseas than non-Pasifika graduates. Nineteen percent of Pasifika graduates were in further study, compared to 14 percent of non-Pasifika graduates. Seventeen percent of Pasifika graduates and 28 percent of non-Pasifika graduates were overseas, while 6 percent of Pasifika graduates and 7 percent of non-Pasifika graduates were on a benefit or out of the labour force.
- Pasifika *education* graduates were most likely to be in employment five years after study (69 percent were in employment), followed by *society and culture* (61 percent) and *health* (60 percent) graduates.
- Fields with the largest difference in employment rates between Pasifika and non-Pasifika graduates include *society and culture* (14 percentage points difference in favour of Pasifika graduates), *health* (a 9 percentage point difference) and *education* (a 6 point difference).

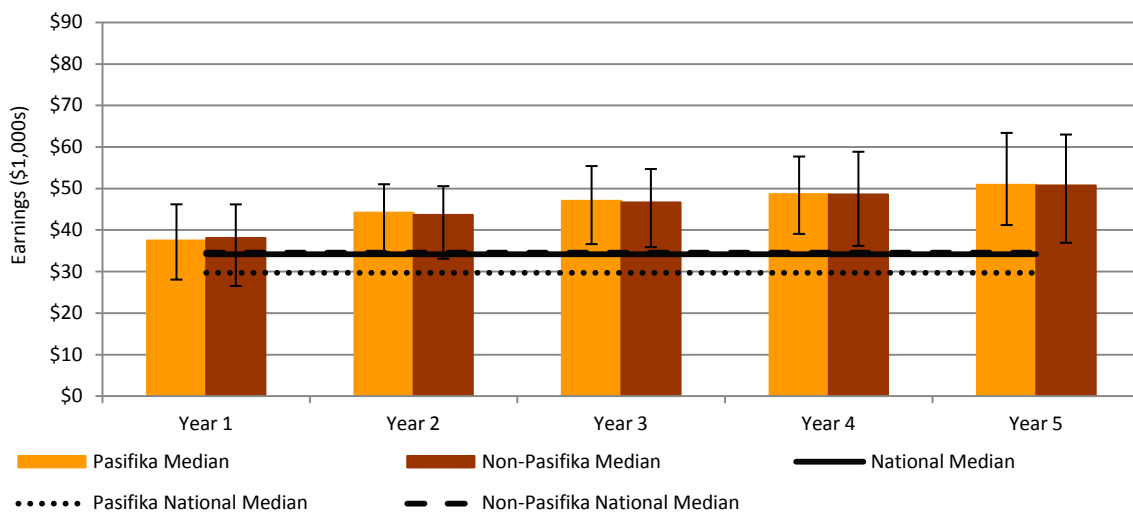
Figure 11 shows the earnings for employment in each year after study for bachelors degree completers. Median earnings were very similar between groups across all years after study. Pasifika graduates median earnings was 98 percent, 101 percent and 100 percent of non-Pasifika graduates' median earnings one, two and five years after study respectively.

Upper quartile earnings were consistently even: Pasifika graduates' upper quartile earnings were 100 percent, 101 percent and 101 percent of non-Pasifika graduates' upper quartile earnings in year one, two and five after study respectively. Lower quartile earnings did differ by group, with Pasifika

graduates' lower quartile earnings at 106 percent, 105 percent and 112 percent of non-Pasifika graduates lower quartile earnings one, two and five years after study.

Figure 11

Median and upper and lower quartile earnings for young domestic bachelors degree completers in the first five years after study by ethnic group

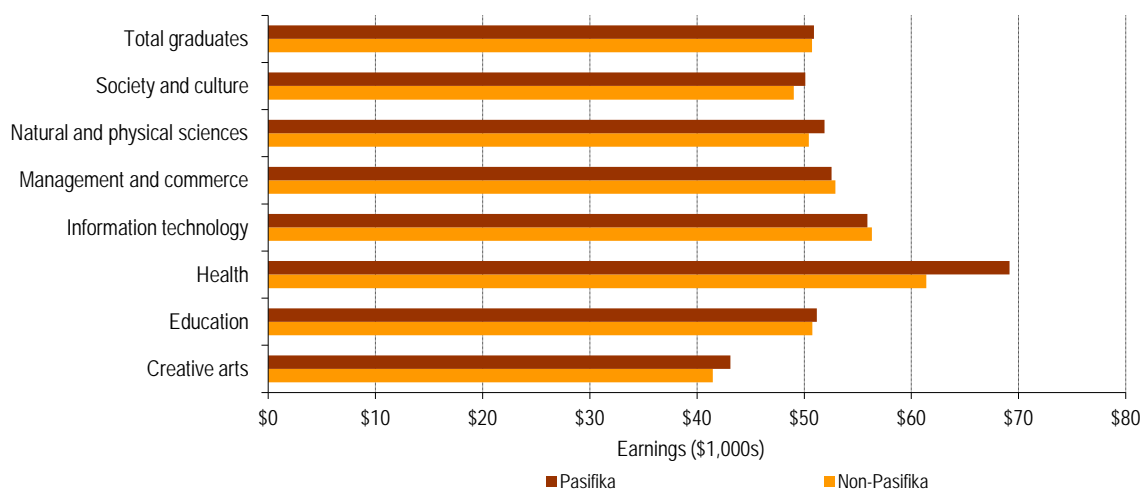


Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. Error bars show the top quartile and lower quartile earnings. Refer to Chapter 11 for full notes.

Figure 12 shows the median employment earnings in the fifth year after study by broad field of study. Pasifika graduates' earnings differed from non-Pasifika graduates' earnings in the health field, where Pasifika graduates earned 113 percent of non-Pasifika graduates' median earnings. For all other broad fields the earnings difference was a maximum of 4 percent (*creative arts*).

Figure 12

Median earnings of young domestic bachelors degree completers five years after study by ethnic group



Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. Refer to Chapter 11 for full notes.

Table 18 shows earnings one, two and five years after study, by broad field of study and ethnic group. Pasifika graduates with bachelors level qualifications in *health* upper quartile earnings were 131 percent, 101 percent and 124 percent of non-Pasifika graduates' one, two and five years after study, and lower quartile earnings were 90 percent, 100 percent and 129 percent respectively.

Lower quartile earnings were high for Pasifika completing bachelors level qualification in *natural and physical sciences*, at 111 percent, 112 percent and 116 percent of non-Pasifika graduates' lower quartile earnings in years one, two and five after study. *Society and culture* Pasifika graduates' lower quartile earnings were similarly high at 106 percent, 108 percent and 111 percent of non-Pasifika graduates' one, two and five years after study respectively. Year five *education* Pasifika graduates' lower quartile earnings were 122 percent of non-Pasifika graduates'.

Table 18

Median and quartile annual earnings of young domestic bachelors degree completers, one, two and five years after study by broad field of study and ethnic group

Broad field of study	Measure	Pasifika - Years after study			Non-Pasifika - Years after study		
		One	Two	Five	One	Two	Five
Creative arts	Q3	\$38,285	\$43,961	\$53,424	\$36,007	\$42,027	\$52,162
	Median	\$30,927	\$36,177	\$43,109	\$28,218	\$34,683	\$41,479
	Q1	\$21,420	\$21,361	\$24,187	\$18,577	\$22,980	\$27,048
Education	Q3	\$47,752	\$48,848	\$57,696	\$46,863	\$48,704	\$57,829
	Median	\$45,079	\$46,761	\$51,165	\$44,791	\$46,352	\$50,776
	Q1	\$31,755	\$42,390	\$43,450	\$37,393	\$41,376	\$35,606
Health	Q3	\$81,951	\$66,648	\$103,116	\$62,343	\$66,293	\$83,071
	Median	\$47,753	\$52,987	\$69,146	\$46,931	\$51,943	\$61,393
	Q1	\$33,349	\$42,098	\$53,613	\$37,008	\$42,065	\$41,527
Information technology	Q3	C..	C..	\$68,963	\$47,717	\$52,940	\$69,801
	Median	\$30,714	\$41,887	\$55,903	\$41,154	\$45,870	\$56,329
	Q1	C..	C..	\$43,524	\$30,595	\$34,539	\$45,002
Management and commerce	Q3	\$43,928	\$51,949	\$65,048	\$45,008	\$50,390	\$67,069
	Median	\$38,601	\$42,924	\$52,561	\$38,468	\$43,855	\$52,896
	Q1	\$31,715	\$36,611	\$42,407	\$29,412	\$36,088	\$41,015
Natural and physical sciences	Q3	\$44,392	\$53,720	\$65,750	\$43,511	\$51,213	\$61,302
	Median	\$35,011	\$44,884	\$51,891	\$34,027	\$42,985	\$50,419
	Q1	\$25,986	\$36,707	\$43,091	\$23,414	\$32,842	\$37,227
Society and culture	Q3	\$43,175	\$48,724	\$57,131	\$43,527	\$49,269	\$59,628
	Median	\$34,805	\$41,966	\$50,093	\$35,012	\$42,056	\$49,020
	Q1	\$24,215	\$33,357	\$40,131	\$22,935	\$30,991	\$36,181
Total graduates	Q3	\$46,182	\$51,018	\$63,379	\$46,168	\$50,556	\$62,984
	Median	\$37,461	\$44,172	\$50,902	\$38,097	\$43,695	\$50,731
	Q1	\$28,051	\$34,725	\$41,185	\$26,520	\$33,085	\$36,916

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'C..' denotes the value has been suppressed for confidentiality purposes. Refer to Chapter 11 for full notes.

Table 19 shows median earnings in the years after study compared to national median earnings in 2011. Pasifika graduates' median earnings compared to the earnings of the Pasifika workforce were consistently higher than the non-Pasifika graduates' earnings compared to the non-Pasifika workforce. Non-Pasifika *creative arts* graduates earned significantly below the median earnings for the non-Pasifika workforce in year one, but at or above it in subsequent years.

Table 19

Median annual earnings of young domestic bachelors degree completers, one, two and five years after study, as a percentage of the national median earnings for each ethnic group, by ethnic group and qualification level

Broad field of study	Pasifika - Years after study %			Non-Pasifika - Years after study %		
	One	Two	Five	One	Two	Five
Creative arts	104	122	145	82	100	120
Education	152	157	172	130	134	147
Health	161	178	233	136	150	178
Information technology	103	141	188	119	133	163
Management and commerce	130	144	177	111	127	153
Natural and physical sciences	118	151	175	99	124	146
Society and culture	117	141	169	101	122	142
Total graduates	126	149	171	110	127	147

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'C..' denotes the value has been suppressed for confidentiality purposes. Refer to Chapter 11 for full notes.

Table 20 shows earnings growth in the years after study. Growth was similar overall, with Pasifika graduates' earning increasing slightly faster than non-Pasifika graduates'. Pasifika *information technology* graduates' earnings increased at double the rate of non-Pasifika graduates', making up for lower year one earnings (75 percent of non-Pasifika graduates' earnings) to reach 99 percent of non-Pasifika graduates' earnings in year five.

Table 20

Growth in median annual earnings of young domestic bachelors degree completers, over the first five years after study by broad field of study and ethnic group

Broad field of study	Pasifika %			Non-Pasifika %		
	Over the first year	Over the first five years	Average annual growth over the first five years	Over the first year	Over the first five years	Average annual growth over the first five years
Creative arts	17	39	9	23	47	10
Education	4	14	3	3	13	3
Health	11	45	10	11	31	7
Information technology	36	82	16	11	37	8
Management and commerce	11	36	8	14	38	8
Natural and physical sciences	28	48	10	26	48	10
Society and culture	21	44	10	20	40	9
Total graduates	18	36	8	15	33	7

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'C..' denotes the value has been suppressed for confidentiality purposes. Refer to Chapter 11 for full notes.

Table 21 shows the destinations of bachelors graduates one year after study. Overall destinations were quite similar between groups in year one after study. Pasifika graduates were slightly more likely to be in further study and more likely to be on a benefit or out of the labour force or in multiple destination groups than non-Pasifika.

Pasifika graduates had high rates of employment after completing bachelors degrees in *education* (65 percent), *management and commerce* (56 percent) and *creative arts* (50 percent). Further study rates were high in the *natural and physical sciences* field, with a significantly higher proportion of Pasifika graduates in further study than non-Pasifika graduates in the *health* field. Benefit and out of the labour force rates were highest for Pasifika *education* graduates compared to non-Pasifika graduates, where

there was an 11 percentage point difference, followed by *information technology* graduates with a 9 point difference.

Table 21

Destination of young domestic bachelors degree completers one year after study by broad field of study and ethnic group

Broad field of study	Employment %		Overseas %		Further study %		Benefit / Other %	
	P	NP	P	NP	P	NP	P	NP
Creative arts	50	55	6	9	32	25	9	9
Education	65	76	7	4	14	17	14	3
Health	47	59	10	11	40	28	8	2
Information technology	50	55	10	9	20	25	20	11
Management and commerce	56	55	9	12	26	29	9	5
Natural and physical sciences	35	31	6	9	55	54	3	5
Society and culture	39	36	7	10	47	48	8	6
Total graduates	47	48	9	10	39	36	9	6

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'P' means Pasifika and 'NP' means non-Pasifika. 'C..' denotes the value has been suppressed for confidentiality purposes. Note rows may not add up to 100 percent due to general random rounding. Refer to Chapter 11 for full notes.

Table 22 shows the destinations of bachelors completers after five years by broad field. Pasifika graduates were more likely to be in employment than non-Pasifika graduates in year five, a change from year one when employment outcomes were equal between groups. Pasifika were less likely to be overseas than non-Pasifika graduates (there was an 11 percentage point difference between them) and this is partly why Pasifika graduates' employment rates were better than for non-Pasifika graduates'.

Pasifika graduates were more likely to be in further study than non-Pasifika graduates while benefit and out of the labour force rates were generally similar overall.

Of all Pasifika graduates, *education* graduates were most likely to be in employment in year five after study, followed by *society and culture* and *health* graduates. Broad fields with bigger differences between groups in employment rates included *society and culture*, where 61 percent of Pasifika graduates were in employment after five years compared to 47 percent of non-Pasifika graduates (a 14 percentage point difference), *health* (a 9 point difference) and *education* (a 6 percentage point difference) graduates. Non-Pasifika graduates were overseas at significantly higher rates after completing bachelors degrees in *management and commerce* (17 percentage points difference), and *creative arts* and *society and culture* (10 points difference).

Pasifika graduates had high rates of further study compared to non-Pasifika graduates after completing qualifications in *management and commerce* (10 points difference) and *education* (8 points). Benefit and out of the labour force rates were high for *creative arts* bachelors degree graduates (6 percentage points difference).

Table 22

Destination of young domestic bachelors degree completers five year after study by broad field of study and ethnic group

Broad field of study	Employment %		Overseas %		Further study %		Benefit / Other %	
	P	NP	P	NP	P	NP	P	NP
Creative arts	53	50	20	30	16	11	16	10
Education	69	63	11	19	19	11	8	7
Health	60	51	20	27	20	15	6	6
Information technology	57	51	26	29	9	9	0	6
Management and commerce	54	51	15	32	19	9	5	7
Natural and physical sciences	46	41	23	28	28	23	C..	7
Society and culture	61	47	17	27	22	16	7	8
Total graduates	57	50	17	28	19	14	6	7

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'P' means Pasifika and 'NP' means non-Pasifika. 'C..' denotes the value has been suppressed for confidentiality purposes. Note rows may not add up to 100 percent due to general random rounding. Refer to Chapter 11 for full notes.

6 OUTCOMES FOR YOUNG DIPLOMA COMPLETERS

6.1 Introduction

This chapter looks at the destinations and earnings of young domestic students who graduated from providers in New Zealand with a diploma at level 5, 6 or 7.

Diplomas

Each year, around 19,000 to 23,000 students complete a diploma in the New Zealand tertiary education system, about 8 percent are Pasifika and roughly 20 percent of them ‘young’ domestic students, in the way we define that term in this report. Around one in ten recent school leavers entering tertiary education for the first time in 2011 undertook study for a diploma. The most common school leaving qualification of that group was NCEA level 2 and over 80 percent had achieved NCEA 2 or higher before leaving school.

The greatest number of diplomas is completed at polytechnics and private training establishments – these two subsectors account for between 80 and 85 percent of all the diploma completions, with around 7 percent completed at wānanga and a similar number at universities. In 2012, 32 percent of Pasifika diploma completers gained their qualification at institutes of technology or polytechnics, 53 percent at private training establishments and 4 percent at wānanga and 11 percent at universities.

Diplomas are vocational qualifications that aim to give people practical skills needed in the workforce. Diplomas are offered in all of the broad fields of study. We are unable to publish a comparison between Pasifika and non-Pasifika in a number of fields due to low numbers of Pasifika graduates in various fields. These were:

- Agriculture, environmental and related studies
- Architecture and building
- Mixed field programmes
- Natural and physical sciences

It is important to bear in mind, when reading the analysis below, we are looking at *broad* fields of study. There are differences between narrow fields of study that are not apparent when we look at data on broad field. Data on outcomes by narrow field can be found in the tables published on the Education Counts website.

6.2 What we found

Earnings

- First year earnings were close between ethnic groups (96 percent) and narrowed by year five (98 percent). In year one Pasifika graduates earned \$27,600, rising by 20 percent over the following year and an average of 9 percent over five years to reach \$38,200. Non-Pasifika graduates earned \$28,600 which rose by 12 percent in the following year and by 8 percent on average over five years to reach \$39,100.
- Pasifika graduates’ upper quartile earnings were 98 percent of non-Pasifika graduates’ in year one, 106 percent in year two and 97 percent in year three. Lower quartile earnings were 89 percent in year one, 114 percent in year two and 103 percent in year three.

- Five years post study, Pasifika graduates' median earnings was 129 percent of national Pasifika median earnings and non-Pasifika graduates' median earnings was 113 percent of the national median earnings for non-Pasifika.
- The top quarter of Pasifika diploma holders were earning \$47,700 or more a year five years post study, while the lowest quarter earned \$28,400 or less. For non-Pasifika these values were \$49,300 and \$27,600.
- There was variation in earnings by field of study. Of the broad fields we could report, Pasifika *information technology* graduates earned most (\$41,200) among Pasifika graduates, and *creative arts* (\$32,700), and *food, hospitality and personal services* (\$34,200) graduates earned least.
- Non-Pasifika *engineering and related technologies* graduates earned most among non-Pasifika graduates (\$49,100) followed by *education* graduates (\$45,700).
- The broad fields with the largest differences between groups were *education* (Pasifika graduates earned 79 percent of non-Pasifika graduates), *engineering and related technologies* (81 percent) and *health* (Pasifika graduates earned 109 percent of non-Pasifika graduates).

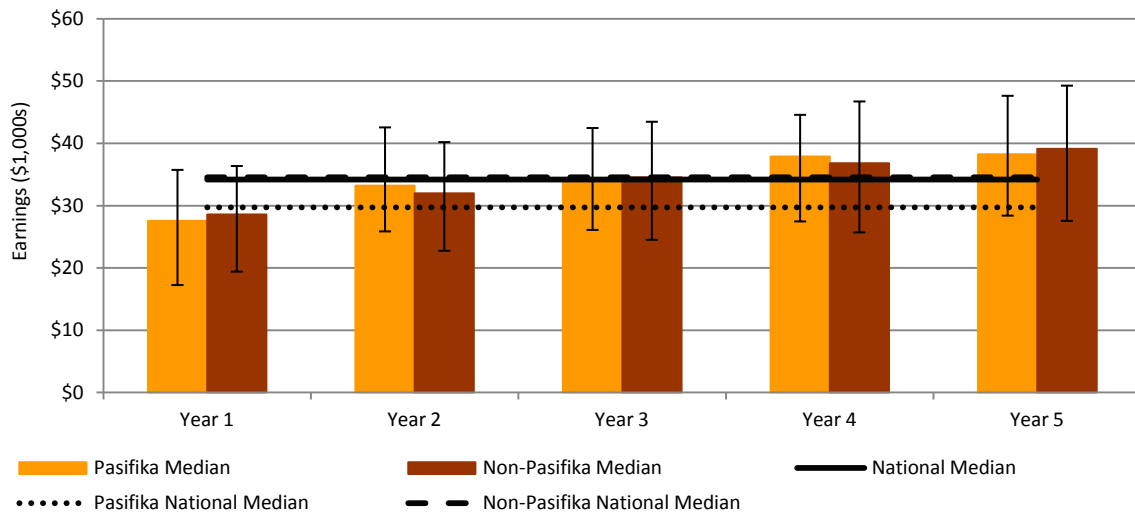
Destinations

- In year one after study Pasifika graduates were less likely to be in employment (30 percent compared to 40 percent of non-Pasifika graduates) and were more likely to be in further study (53 percent compared to 46 percent). Overseas rates were approximately equal (4 and 5 percent respectively) but Pasifika were more likely than non-Pasifika to be on a benefit or out of the labour force or in multiple categories than non-Pasifika (13 percent compared to 8 percent respectively).
- Five years after finishing study Pasifika and non-Pasifika graduates were approximately equally likely to be in employment (50 percent compared to 51 percent of non-Pasifika) or in further study (21 percent and 20 percent respectively). Non-Pasifika graduates were more likely than Pasifika graduates to be overseas (18 percent compared to 13 percent) and Pasifika graduates were more likely to be on a benefit or out of the labour force or in multiple categories than non-Pasifika graduates (16 percent and 10 percent).
- The largest difference between groups in employment rates was for *engineering and related technologies* graduates, where 72 percent of Pasifika graduates were in employment compared to 60 percent of non-Pasifika graduates. Higher proportions of non-Pasifika graduates were in further study (19 percent compared to 12 percent of Pasifika graduates) and in further study (17 percent compared to 12 percent).
- Thirty percent of Pasifika *education* graduates were on a benefit or out of the labour force compared to 8 percent of non-Pasifika graduates five years after study, and this was the field with the largest difference between groups.

Figure 13 shows the earnings for employment in each year after study for diploma completers. Pasifika graduates generally earned less than non-Pasifika graduates. Earnings are similar across groups for all years after study. Pasifika graduates' median earnings was above the level of the national median for the Pasifika workforce by year two, and above the national median earnings and the national median earnings of the non-Pasifika workforce by year four after study. Lower quartile earnings did not reach the level of the Pasifika workforce's median earnings in the years after study, but came close to it in year five after study.

Figure 13

Median and upper and lower quartile earnings for young domestic diploma completers in the first five years after study by ethnic group

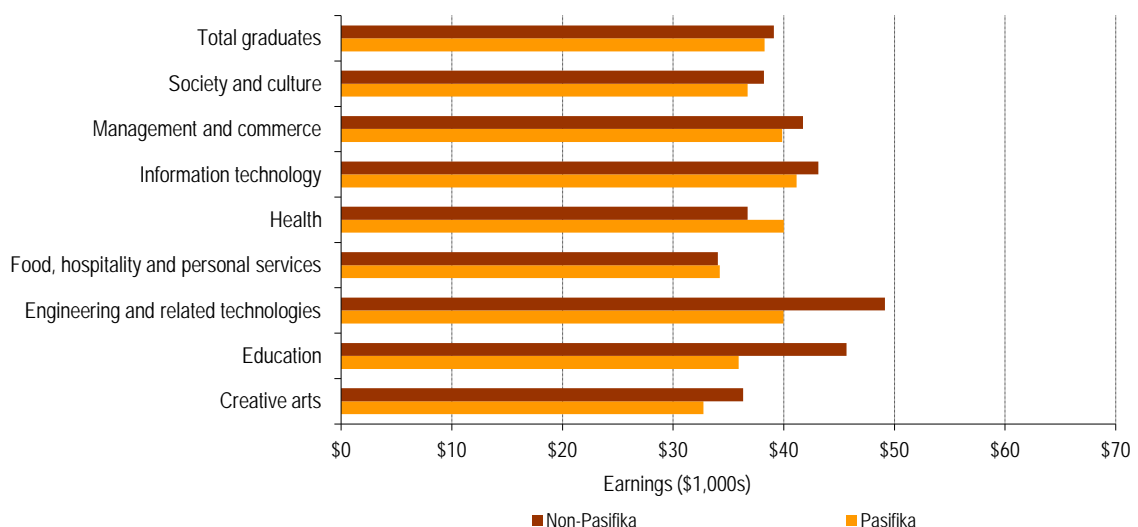


Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. Error bars show the top quartile and lower quartile earnings. Refer to Chapter 11 for full notes.

Figure 14 shows the earnings for employment in the fifth year after study by broad field. Pasifika graduates earned most after completing diplomas in *information technology, engineering and related technologies, health and management and commerce*. Their year five earnings exceeded non-Pasifika graduates' in only one field, *health*, where Pasifika graduates earned 109 percent of non-Pasifika graduates' earnings. Pasifika graduates' earnings were lowest compared to non-Pasifika graduates' after completing an *education* diploma (Pasifika graduates earned 79 percent of equivalent non-Pasifika graduates). Earnings were closest for *food, hospitality and personal services* (100 percent) and *society and culture* (96 percent).

Figure 14

Median earnings of young domestic diploma completers five years after study by ethnic group



Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. Refer to Chapter 11 for full notes.

Table 23 shows earnings one, two and five years after study, by broad field of study and ethnic group. A number of fields show a relative increase in position of median earnings for Pasifika compared to non-Pasifika in year two but a decline in year five so that Pasifika were earning less than non-Pasifika graduates at year five.

This implies that Pasifika graduates' earnings grew more quickly than non-Pasifika graduates' in year one after study, but less quickly in later years. Pasifika *engineering and related technologies* graduates earned 80 percent of non-Pasifika graduates' median earnings in year one, 90 percent in year two and 81 percent in year five. *Society and culture* (96 percent, 108 percent and 96 percent respectively), *creative arts* (77 percent, 97 percent and 90 percent respectively) and *food, hospitality and personal services* (100 percent, 114 percent and 100 percent) are the other fields this seemed to occur in (*education* may be another but we don't have data for year two earnings for Pasifika graduates).

Upper and lower quartile earnings also followed this pattern overall, with upper quartile earnings at 98 percent of non-Pasifika graduates' upper quartile earnings in year one, 106 percent in year two and 97 percent in year five. Pasifika graduates' lower quartile earnings were 89 percent of non-Pasifika graduates' lower quartile earnings in year one, 114 percent in year two and 103 percent in year five.

The exception is the *health* field, where Pasifika graduates' earnings declined compared to non-Pasifika graduates' earnings in year two, but rallied to year five (119 percent, 94 percent and 109 percent respectively). Pasifika *management and commerce* graduates' earnings slowly declined against non-Pasifika graduates' across time, from 99 percent in year one to 95 percent after five years.

Table 23

Median and quartile annual earnings of young domestic diploma completers, one, two and five years after study by broad field of study and ethnic group

Broad field of study	Measure	Pasifika- Years after study			Non-Pasifika - Years after study		
		One	Two	Five	One	Two	Five
Creative arts	Q3	\$24,685	\$41,473	\$43,022	\$32,701	\$36,358	\$45,711
	Median	\$18,920	\$28,615	\$32,724	\$24,634	\$29,492	\$36,322
	Q1	\$13,227	\$20,974	\$22,718	\$15,589	\$19,757	\$24,356
Education	Q3	C..	C..	C..	\$48,588	\$51,280	\$55,840
	Median	\$44,739	C..	\$35,920	\$43,438	\$45,778	\$45,670
	Q1	C..	C..	C..	\$33,900	\$35,457	\$31,739
Engineering and related technologies	Q3	C..	C..	C..	\$48,530	\$50,937	\$61,993
	Median	\$29,551	\$37,479	\$39,968	\$36,748	\$41,644	\$49,141
	Q1	C..	C..	C..	\$27,711	\$31,023	\$37,619
Food, hospitality and personal services	Q3	C..	C..	C..	\$30,968	\$34,841	\$40,715
	Median	\$25,100	\$32,541	\$34,203	\$25,150	\$28,650	\$34,034
	Q1	C..	C..	C..	\$18,213	\$19,695	\$20,493
Health	Q3	C..	\$37,974	\$46,302	\$33,757	\$36,637	\$44,183
	Median	\$33,217	\$28,812	\$39,986	\$27,814	\$30,744	\$36,735
	Q1	C..	\$22,933	\$33,212	\$18,805	\$21,312	\$26,723
Information technology	Q3	\$39,229	\$45,477	\$54,265	\$36,783	\$41,816	\$54,040
	Median	\$31,997	\$37,174	\$41,153	\$29,122	\$33,543	\$43,111
	Q1	\$18,025	\$29,050	\$28,681	\$20,032	\$24,730	\$31,643
Management and commerce	Q3	\$34,996	\$41,621	\$46,204	\$36,799	\$42,208	\$50,870
	Median	\$30,900	\$33,264	\$39,839	\$31,077	\$34,110	\$41,742
	Q1	\$23,013	\$27,735	\$32,931	\$23,634	\$27,283	\$31,067
Society and culture	Q3	C..	\$42,131	\$45,661	\$32,278	\$39,062	\$48,941
	Median	\$24,019	\$30,415	\$36,729	\$25,015	\$28,042	\$38,217
	Q1	C..	\$17,667	\$14,665	\$15,419	\$17,504	\$25,337
Total graduates	Q3	\$35,759	\$42,576	\$47,652	\$36,383	\$40,218	\$49,279
	Median	\$27,575	\$33,217	\$38,248	\$28,586	\$31,958	\$39,110
	Q1	\$17,271	\$25,883	\$28,413	\$19,424	\$22,769	\$27,572

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'C..' denotes the value has been suppressed for confidentiality purposes. Refer to Chapter 11 for full notes.

Table 24 shows median earnings in the years after study compared to national median earnings for each ethnic group in 2011. Pasifika graduates' median earnings was generally above the national

median earnings of the Pasifika workforce by year two after study, but this was not the case for non-Pasifika graduates, except for graduates of two fields, *education* and *engineering and related technologies*. The highest premium for Pasifika graduates was earned by *information technology* graduates, who earned 139 percent of Pasifika workforce five years after study, and for non-Pasifika graduates it was *engineering and related technology* graduates' 142 percent of the non-Pasifika workforce's median earnings.

Table 24

Median annual earnings of young domestic diploma completers, one, two and five years after study, as a percentage of the national median earnings by ethnic group by broad field of study and ethnic group

Broad field of study	Pasifika- Years after study %			Non-Pasifika- Years after study %		
	One	Two	Five	One	Two	Five
Creative arts	64	96	110	71	85	105
Education	151	n/a	121	126	133	132
Engineering and related technologies	99	126	135	106	121	142
Food, hospitality and personal services	84	110	115	73	83	99
Health	112	97	135	81	89	106
Information technology	108	125	139	84	97	125
Management and commerce	104	112	134	90	99	121
Society and culture	81	102	124	72	81	111
Total graduates	93	112	129	83	93	113

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'C..' denotes the value has been suppressed for confidentiality purposes. Refer to Chapter 11 for full notes.

Table 25 shows earnings growth in the years after study. As indicated in the earnings shown in table 23 above, Pasifika graduates' earnings tended to increase at higher rates than in the short term, but at lower rates further out in time. The net effect of this was that Pasifika graduates' earnings grew slightly more over five years than non-Pasifika graduates'.

Table 25

Growth in median annual earnings of young domestic diploma completers, over the first five years after study by broad field of study and ethnic group

Broad field of study	Pasifika %			Non-Pasifika %		
	Over the first year	Over the first five years	Average annual growth over the first five years	Over the first year	Over the first five years	Average annual growth over the first five years
Creative arts	51	73	15	20	47	10
Education	n/a	-20	-5	5	5	1
Engineering and related technologies	27	35	8	13	34	8
Food, hospitality and personal services	30	36	8	14	35	8
Health	-13	20	5	11	32	7
Information technology	16	29	6	15	48	10
Management and commerce	8	29	7	10	34	8
Society and culture	27	53	11	12	53	11
Total graduates	20	39	9	12	37	8

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'C..' denotes the value has been suppressed for confidentiality purposes. Refer to Chapter 11 for full notes.

Table 26 shows destinations one year after study. Pasifika graduates were less likely to be in employment and were more likely to be in further study than non-Pasifika graduates: there was a 10 percentage point difference between the rate of Pasifika and non-Pasifika graduates in employment in year one after study. Pasifika were on a benefit or out of the labour force at higher rates than non-Pasifika graduates, but overseas rates were similar between groups overall.

Pasifika graduates in *education* had comparatively higher rates of employment to non-Pasifika graduates, but only in this broad field. Further study rates were comparatively high for Pasifika *health* graduates (there was a 28 percentage points difference between the rate of Pasifika and non-Pasifika

graduates in the health field in further study after one year), *society and culture* and *information technology* (14 points difference) and *food, hospitality and personal services* (11 points).

Table 26

Destination of young domestic diploma completers one year after study by broad field of study and ethnic group

Broad field of study	Employment %		Overseas %		Further study %		Benefit / Other %	
	P	NP	P	NP	P	NP	P	NP
Creative arts	24	36	4	4	53	48	12	9
Education	48	41	0	3	60	55	0	3
Engineering and related technologies	34	47	0	5	51	44	C..	4
Food, hospitality and personal services	43	61	9	6	34	23	17	9
Health	24	46	C..	5	70	42	6	6
Information technology	27	36	0	4	62	48	9	13
Management and commerce	35	40	5	9	47	45	18	7
Society and culture	20	31	4	5	67	53	8	9
Total graduates	30	40	4	5	53	46	13	8

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'P' means Pasifika and 'NP' means non-Pasifika. 'C..' denotes the value has been suppressed for confidentiality purposes. Note rows may not add up to 100 percent due to general random rounding. Refer to Chapter 11 for full notes.

Table 27 shows the destinations of diploma completers five years after study. Employment rates were on a par between ethnic groups, but there were differences in overseas rates and benefit or out of the labour force and other rates.

Individual broad fields with high employment rates for Pasifika graduates compared to non-Pasifika graduates include *engineering and related technologies* (12 percentage points difference), and further study rates were comparatively high for Pasifika graduates in *management and commerce* (13 percentage points difference). Broad fields with high benefit and out of the labour force status rates for Pasifika graduates compared to non-Pasifika graduates include *education* (22 percentage points difference), *management and commerce* and *information technology* (8 points difference) and *engineering and related technologies* and *food, hospitality and personal services* (6 points difference).

Table 27

Destination of young domestic diploma completers five years after study by broad field of study and ethnic group

Broad field of study	Employment %		Overseas %		Further study %		Benefit / Other %	
	P	NP	P	NP	P	NP	P	NP
Creative arts	55	48	8	19	23	19	16	12
Education	60	57	C..	15	15	20	30	8
Engineering and related technologies	72	60	12	19	12	17	12	6
Food, hospitality and personal services	40	50	10	24	10	14	20	14
Health	40	48	24	19	24	22	12	8
Information technology	53	57	11	13	14	20	21	13
Management and commerce	47	51	14	23	29	16	14	6
Society and culture	50	44	17	18	17	26	17	11
Total graduates	50	51	13	18	21	20	16	10

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'P' means Pasifika and 'NP' means non-Pasifika. 'C..' denotes the value has been suppressed for confidentiality purposes. Note rows may not add up to 100 percent due to general random rounding. Refer to Chapter 11 for full notes.

7 OUTCOMES FOR YOUNG LEVEL FOUR CERTIFICATE COMPLETERS

7.1 Introduction

This chapter shows the destinations and earnings of young domestic students who graduated from providers in New Zealand with a certificate at level 4 on the New Zealand Qualifications Framework.

Level 4 certificates

Each year, around 25,000 students complete a level four certificate in the New Zealand tertiary education system, about 12 percent are Pasifika and roughly 20 percent of them ‘young’ domestic students, in the way we define that term in this report. Around one in eight recent school leavers entering tertiary education for the first time in 2011 undertook study for a level 4 certificate. Nearly half that group achieved NCEA level 2 before leaving school and around two-thirds had achieved NCEA at level 2 or 3.

The greatest number of level 4 certificates is completed at polytechnics, wānanga and private training establishments.

Level 4 certificates are mostly vocational qualifications that aim to give people practical skills needed in the workforce. They are offered in all of the broad fields of study.

It is important to bear in mind, when reading the analysis below, that we are looking at *broad* fields of study. There are differences between narrow fields of study that are not apparent when we look at data on broad field. Data on outcomes by narrow field can be found in the tables published on the Education Counts website.

7.2 What we found

Earnings

- In the first year after study, Pasifika graduates’ earnings median was \$24,900, rising 10 percent in the following year and by 9 percent on average over five years to reach \$35,300. Non-Pasifika graduates’ earnings was \$25,700, rising by 15 percent in the following year and by 8 percent on average over five years to reach \$35,500.
- Pasifika graduates’ one year median earnings was 98 percent of non-Pasifika graduates’ and was 93 percent of non-Pasifika graduates’ median earnings in year five. Lower quartile earnings were 103 percent in year one and 92 percent in year five, and upper quartile earnings were 99 percent in year one and 96 percent in year five respectively.
- Five years post study, Pasifika graduates’ median earnings was 124 percent of national median workforce earnings for Pasifika and non-Pasifika graduates’ was 102 percent of non-Pasifika national median workforce earnings.
- The top three fields for earnings for Pasifika graduates in year five were *natural and physical sciences* (\$38,300), *society and culture* (\$38,200), *architecture and building* (\$36,300) and *engineering and related technologies* (\$36,200). The median earnings for non-Pasifika graduates in these fields were \$34,600, \$32,600, \$39,800 and \$38,000 respectively.

Destinations

- Employment destinations were higher for non-Pasifika than for Pasifika. Thirty-seven percent of non-Pasifika graduates were employed one year after study compared to 24 percent of Pasifika graduates. Pasifika graduates’ further study rates were 55 percent, and 50 percent of non-Pasifika graduates. Three percent of Pasifika and non-Pasifika graduates were overseas and

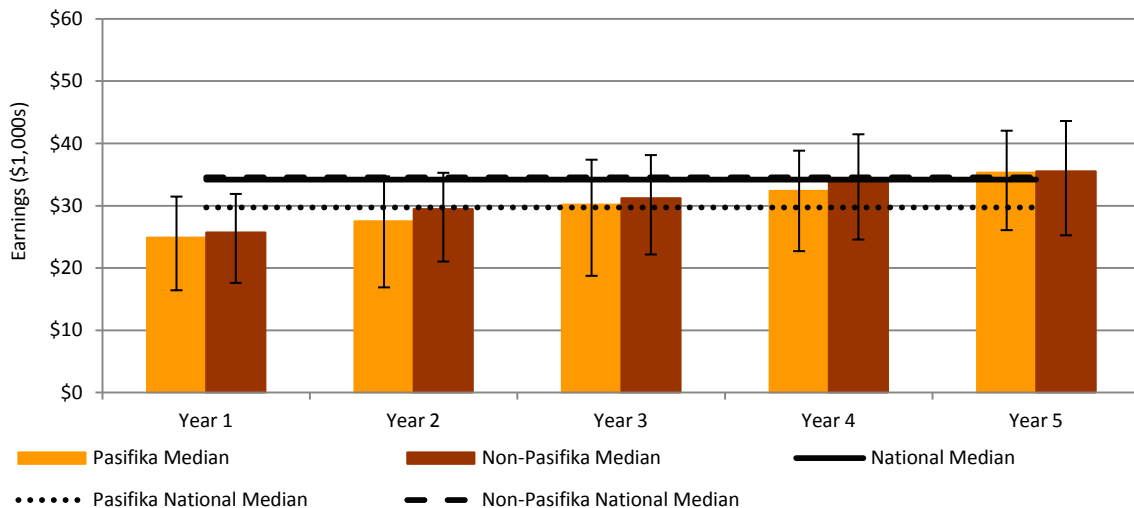
4 and 3 percent were out of the labour force. Twelve percent of Pasifika graduates were claiming a welfare benefit compared to 8 percent of non-Pasifika graduates.

- By year five after study, employment rates were higher for non-Pasifika than for Pasifika. Forty two percent of non-Pasifika graduates were employed five years after study compared to 48 percent of Pasifika graduates. Further study rates were 28 percent of Pasifika graduates and 26 percent of non-Pasifika graduates. Ten percent of Pasifika and 15 percent of non-Pasifika graduates were overseas and 7 percent and 5 percent were out of the labour force respectively. Thirteen percent of Pasifika graduates were claiming a welfare benefit compared to 7 percent of non-Pasifika graduates.

Figure 15 shows the earnings for employment in each year after study. Pasifika graduates' median earnings lagged behind non-Pasifika graduates' in years two to four after study, but were more similar in years one and five. Median earnings were higher than the non-Pasifika workforce median earnings by year five. Pasifika graduates' lower quartile earnings were below non-Pasifika graduates' in years one to four, but were above them in year five.

Figure 15

Median and upper and lower quartile earnings for young domestic level four certificate completers in the first five years after study by ethnic group

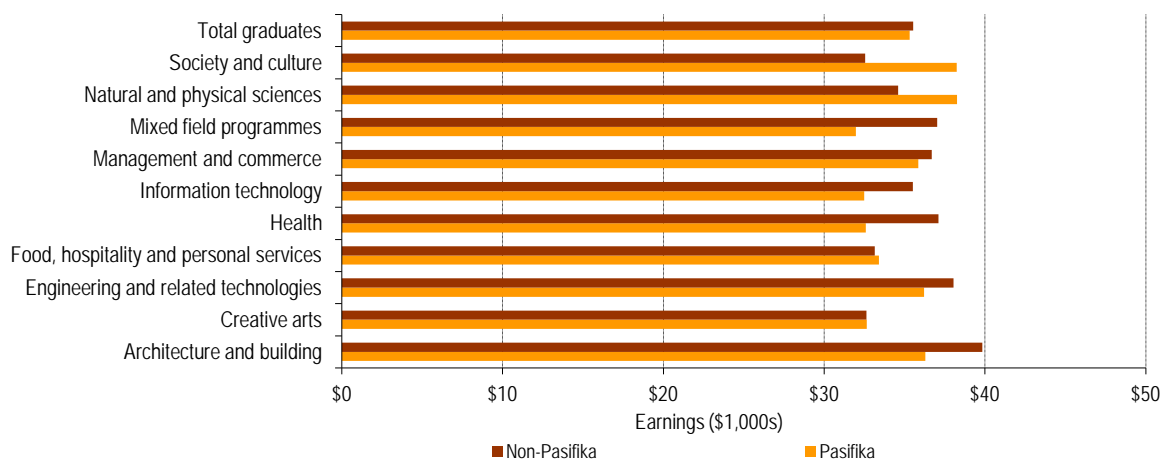


Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. Error bars show the top quartile and lower quartile earnings. Refer to Chapter 11 for full notes.

Figure 16 shows the earnings for employment in the fifth year after study by broad field of study. Pasifika graduates' earnings were greater than non-Pasifika graduates' earnings in several broad fields, including *society and culture* (Pasifika graduates' earnings were 117 percent of non-Pasifika graduates' median earnings) and *natural and physical sciences* (111 percent). Pasifika graduates' earnings were low compared to non-Pasifika graduates' in *mixed field programmes* (86 percent) and *health* (88 percent).

Figure 16

Median earnings of young domestic level four certificate completers five years after study by ethnic group



Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. Refer to Chapter 11 for full notes.

Table 28 shows earnings one, two and five years after study, by broad field of study and ethnic group. Pasifika graduates' earnings improved slightly compared to non-Pasifika graduates' across time, with overall earnings at 97 percent of non-Pasifika graduates' median earnings in year one after study and at 99 percent in year five after study.

Pasifika graduates' earnings declined across time compared to non-Pasifika graduates' in a number of fields: *creative arts*, where Pasifika graduates' median earnings were 128 percent of non-Pasifika graduates median earnings in year one and 100 percent in year five, *engineering and related technologies* (107 percent in year one and 95 percent in year five), *health* (123 percent down to 88 percent) and mixed field programmes (96 percent to 86 percent).

Earnings significantly increased comparatively in the following fields: *society and culture* (96 percent and 117 percent respectively), *natural and physical sciences* (90 percent and 111 percent), *management and commerce* (88 percent and 98 percent) and *food, hospitality and personal services* (89 percent and 101 percent).

Lower quartile earnings increased comparatively overall, increasing from 93 percent of non-Pasifika graduates' lower quartile earnings in year one to 103 percent in year five. Upper quartile earnings declined slightly, from 99 percent to 96 percent.

Table 28

Median and quartile annual earnings of young domestic level four certificate completers, one, two and five years after study by broad field of study and ethnic group

Broad field of study	Measure	Pasifika - Years after study			Non-Pasifika - Years after study		
		One	Two	Five	One	Two	Five
Architecture and building	Q3	\$34,513	\$35,116	C..	\$33,641	\$36,145	\$46,510
	Median	\$25,233	\$26,904	\$36,296	\$28,640	\$31,078	\$39,838
	Q1	\$20,940	\$16,724	C..	\$21,061	\$24,718	\$31,371
Creative arts	Q3	C..	\$33,365	\$41,668	\$27,356	\$33,464	\$40,248
	Median	\$25,973	\$25,922	\$32,641	\$20,346	\$26,548	\$32,628
	Q1	C..	\$13,343	\$26,885	\$12,958	\$17,532	\$22,695
Engineering and related technologies	Q3	\$33,239	\$34,970	\$42,377	\$33,696	\$38,077	\$46,506
	Median	\$28,568	\$31,749	\$36,214	\$26,710	\$31,107	\$38,042
	Q1	\$20,424	\$23,020	\$26,061	\$19,634	\$24,779	\$25,875
Food, hospitality and personal services	Q3	\$29,937	\$30,007	C..	\$30,668	\$34,075	\$40,125
	Median	\$22,193	\$20,957	\$33,409	\$24,798	\$28,000	\$33,149
	Q1	\$16,866	\$15,890	\$0	\$17,757	\$20,828	\$22,425
Health	Q3	C..	C..	C..	\$31,918	\$35,540	\$46,202
	Median	\$30,219	\$30,311	\$32,587	\$24,532	\$30,189	\$37,117
	Q1	C..	C..	C..	\$15,671	\$19,471	\$26,658
Information technology	Q3	\$31,476	\$35,216	C..	\$32,973	\$35,405	\$46,802

Broad field of study	Measure	Pasifika - Years after study			Non-Pasifika - Years after study		
		One	Two	Five	One	Two	Five
	Median	\$24,984	\$30,106	\$32,499	\$27,837	\$30,426	\$35,514
	Q1	\$18,309	\$17,617	C..	\$18,411	\$20,808	\$28,910
Management and commerce	Q3	\$31,101	\$37,087	\$42,445	\$32,215	\$35,563	\$43,977
	Median	\$23,853	\$28,694	\$35,862	\$27,023	\$30,206	\$36,686
	Q1	\$17,322	\$19,527	\$29,650	\$20,330	\$23,565	\$28,171
Mixed field programmes	Q3	C..	C..	C..	\$28,729	\$31,788	\$45,604
	Median	\$19,619	\$19,744	\$31,969	\$20,450	\$24,312	\$37,025
	Q1	C..	C..	C..	\$13,361	\$17,002	\$27,942
Natural and physical sciences	Q3	C..	C..	C..	\$31,188	\$31,275	\$42,393
	Median	\$22,242	C..	\$38,257	\$24,840	\$23,951	\$34,608
	Q1	C..	C..	C..	\$13,183	\$16,239	\$26,431
Society and culture	Q3	\$29,182	\$30,248	\$43,831	\$28,505	\$34,588	\$41,772
	Median	\$19,132	\$20,480	\$38,243	\$20,000	\$25,451	\$32,552
	Q1	\$10,010	\$10,696	\$25,302	\$13,192	\$14,931	\$21,720
Total graduates	Q3	\$31,499	\$34,740	\$42,073	\$31,922	\$35,315	\$43,630
	Median	\$24,911	\$27,525	\$35,314	\$25,714	\$29,488	\$35,531
	Q1	\$16,458	\$16,921	\$26,110	\$17,638	\$21,072	\$25,283

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'C..' denotes the value has been suppressed for confidentiality purposes. Refer to Chapter 11 for full notes.

Table 29 shows median earnings in the years after study compared to national median earnings in 2011. Both groups earned above the national median earnings of the respective workforce in year five after study, except *food, hospitality and personal services* graduates and non-Pasifika *society and culture* graduates. Pasifika graduates earned above the national median of the Pasifika workforce in all years after completing a level 4 certificate in *health*, and in year two and thereafter in *engineering and related technologies* and *information technology*.

Table 29

Median annual earnings of young domestic level four certificate completers, one, two and five years after study, as a percentage of the national median earnings by ethnic group by broad field of study and ethnic group

Broad field of study	Pasifika - Years after study %			Non-Pasifika - Years after study %		
	One	Two	Five	One	Two	Five
Architecture and building	85	91	122	83	90	115
Creative arts	87	87	110	59	77	94
Engineering and related technologies	96	107	122	77	90	110
Food, hospitality and personal services	69	77	88	57	72	75
Health	102	102	110	71	87	107
Information technology	84	101	109	81	88	103
Management and commerce	80	97	121	78	87	106
Mixed field programmes	66	66	108	59	70	107
Natural and physical sciences	75	n/a	129	72	69	100
Society and culture	64	69	129	58	74	94
Total graduates	84	93	119	74	85	103

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'C..' denotes the value has been suppressed for confidentiality purposes. Refer to Chapter 11 for full notes.

Table 30 shows earnings growth in the years after study. Pasifika graduates' earnings increased more slowly across the first year after study than non-Pasifika graduates' earnings, but increased more quickly over five years. Pasifika *health* graduates' earnings grew most slowly compared to non-Pasifika graduates', while Pasifika graduates' earnings grew more than equivalent non-Pasifika graduates' in *management and commerce*, *natural and physical sciences* and *society and culture* fields.

Pasifika *society and culture* graduates' earnings increased by 100 percent over five years compared to 63 percent for non-Pasifika graduates' and by 72 percent for *natural and physical sciences* Pasifika graduates compared to 39 percent for non-Pasifika graduates.

Table 30

Growth in median annual earnings of young domestic level four certificate completers, over the first five years after study by broad field of study and ethnic group

Broad field of study	Pasifika %			Non-Pasifika %		
	Over the first year	Over the first five years	Average annual growth over the first five years	Over the first year	Over the first five years	Average annual growth over the first five years
Architecture and building	7	44	10	9	39	9
Creative arts	0	26	6	30	60	13
Engineering and related technologies	11	27	6	16	42	9
Food, hospitality and personal services	-6	51	11	13	34	8
Health	0	8	2	23	51	11
Information technology	21	30	7	9	28	6
Management and commerce	20	50	11	12	36	8
Mixed field programmes	1	63	13	19	81	16
Natural and physical sciences	n/a	72	15	-4	39	9
Society and culture	7	100	19	27	63	13
Total graduates	10	42	9	15	38	8

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'C..' denotes the value has been suppressed for confidentiality purposes. N/a denotes a suppressed value in the percentage calculation. Refer to Chapter 11 for full notes.

Table 31 shows the destinations one year after study. We are able to disaggregate the *out of the labour force / multiple category / benefit* category for level 4 and below certificate completers due to greater numbers of people in these categories meaning the confidentiality threshold can be met.

Pasifika graduates had lower rates of employment overall, and higher further study rates. Pasifika graduates were in employment at higher rates than non-Pasifika graduates in *information technology*, *mixed field programmes* and *natural and physical sciences* field only. Further study rates were high compared to non-Pasifika graduates' in *food, hospitality and personal services*, *health* and *management and commerce*.

Benefit rates were high for Pasifika compared to non-Pasifika graduates' in *architecture and building*, *creative arts*, *engineering and related technologies*, *food, hospitality and personal services*, and *management and commerce* fields.

Table 31

Destination of young domestic level four certificate completers one year after study by broad field of study and ethnic group

	Employment %		Overseas %		Further study %		Benefit %		Other %	
	P	NP	P	NP	P	NP	P	NP	P	NP
Architecture and building	50	65	C..	3	35	22	12	7	9	4
Creative arts	15	21	3	3	71	71	13	6	3	2
Engineering and related technologies	41	55	5	5	32	30	14	8	5	3
Food, hospitality, personal services	26	47	7	4	41	31	24	11	5	4
Health	13	27	3	3	78	64	C..	5	C..	1
Information technology	41	29	5	3	41	51	14	10	3	4
Management and commerce	29	48	3	4	46	34	18	8	4	3
Mixed field programmes	12	7	5	2	77	87	2	2	2	1
Natural and physical sciences	16	6	0	1	87	89	4	3	0	1
Society and culture	9	17	1	3	77	71	3	5	4	3
Total graduates	24	37	3	3	55	50	12	8	4	3

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'P' means Pasifika and 'NP' means non-Pasifika. 'C..' denotes the value has been suppressed for confidentiality purposes. Note rows may not add up to 100 percent due to general random rounding. Refer to Chapter 11 for full notes.

Table 32 shows the destinations of level four certificate completers five years after study. Pasifika graduates' employment rates were still lower than non-Pasifika graduates' but the rate gap had reduced from 13 points in year one to 6 points in year five. Differences in overseas rates had emerged by year five, with 10 percent of Pasifika graduates and 15 percent of non-Pasifika graduates overseas.

Further study rates narrowed between groups, with the difference reducing from 5 percentage points down to 2 points. Benefit rates were stable between year one and year five, and the out of the labour force / multiple category rate increased slightly.

There were no broad fields in which Pasifika were in employment at higher rates than non-Pasifika graduates. The widest gap occurred for graduates of level 4 certificates in the *health* field, where the difference between groups was 28 percent: 58 percent of Pasifika *health* graduates were instead in further study, a comparatively high rate in that only 29 percent of non-Pasifika *health* graduates were.

Benefit rates were comparatively high for Pasifika graduates in *management and commerce* (10 points), *mixed field programmes* (12 points) and *society and culture* (9 points). Out of the labour force rates were comparatively high for Pasifika graduates compared to non-Pasifika graduates in *food, hospitality and personal services* (13 points) and *health* (7 points).

Table 32

Destination of young domestic level four certificate completers five years after study by broad field of study and ethnic group

	Employment %		Overseas %		Further study %		Benefit %		Other %	
	P	NP	P	NP	P	NP	P	NP	P	NP
Architecture and building	60	60	C..	13	20	16	0	4	C..	4
Creative arts	41	45	11	17	27	29	14	8	3	5
Engineering and related technologies	47	50	14	16	21	21	18	10	7	5
Food, hospitality, personal services	40	51	20	18	20	18	7	10	20	7
Health	20	48	15	14	58	29	5	5	10	3
Information technology	40	47	10	10	20	25	20	14	C..	5
Management and commerce	52	52	9	16	20	22	15	5	7	5
Mixed field programmes	30	37	8	15	45	39	15	3	8	4
Natural and physical sciences	33	30	11	13	55	50	0	3	C..	5
Society and culture	37	36	10	15	30	32	17	8	8	5
Total graduates	42	48	10	15	28	26	13	7	7	5

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'P' means Pasifika and 'NP' means non-Pasifika. 'C..' denotes the value has been suppressed for confidentiality purposes. Note rows may not add up to 100 percent due to general random rounding. Refer to Chapter 11 for full notes.

8 OUTCOMES FOR YOUNG PEOPLE WHO COMPLETE LEVEL ONE TO THREE CERTIFICATES

8.1 Introduction

This chapter looks at the destinations and earnings of young domestic students who graduated from providers in New Zealand with a certificate at levels one, two or three on the New Zealand Qualifications Framework.

Level one to three certificates

Each year, around 48,000 students complete a level one to three certificate in the New Zealand tertiary education system, about 11 percent are Pasifika and roughly 19 percent of them ‘young’ domestic students, in the way we define that term in this report. Around one in six recent school leavers entering tertiary education for the first time in 2011 undertook study for a level one to three certificate at a tertiary education provider⁶. Around half had left school with NCEA level one or lower, while about 40 percent had achieved NCEA at level two.

Around a half of level one to three certificates is completed at polytechnics with wānanga and private training establishments accounting for the rest in roughly equal proportions.

While some level one to three certificates are vocational qualifications that aim to give people practical skills needed in the workforce, many are foundation qualifications whose purpose is to provide basic and generic skills that can be used in work or as the basis of further, higher level study.

Level one to three certificates are offered in most of the broad fields of study. We were unable to make comparisons between groups in four broad fields of study:

- Agriculture, environmental and related studies
- Education
- Health
- Natural and physical sciences

It is important to bear in mind, when reading the analysis below, we are looking at *broad* fields of study. There are differences between narrow fields of study that are not apparent when we look at data on broad field. Data on outcomes by narrow field for level one to three certificate completers can be found in Chapter 9 of this report.

8.2 What we found

Earnings

- In the first year after study, Pasifika graduates’ earnings were \$22,900 rising by 17 percent in the following year and an average of 10 percent over five years to reach \$33,400. Non-Pasifika graduates’ earnings were \$25,000, rising 13 percent across the first year and an average of 9 percent across five years to \$35,100.

⁶ This excludes those in industry training and in Youth Guarantee

- Five years post study, Pasifika graduates' median earnings was 113 percent of Pasifika workforce's national median earnings and non-Pasifika graduates' median earnings was 102 percent of the non-Pasifika workforce's national median earnings.
- The top quarter of Pasifika certificate 1 to 3 completers were earning \$41,400 or more a year while the lowest quarter earned \$24,300 or less (\$44,700 upper quartile earnings for non-Pasifika and lower quartile earnings of \$24,300).
- There was variation in earnings by field of study. The field associated with the highest median earnings five years after completion of study for Pasifika graduates was *engineering and related technologies* (\$37,800; \$41,800 for non-Pasifika).
- The widest variation between groups was for completers of level 1 to 3 certificates in *architecture and building*, where Pasifika graduates earned 87 percent of non-Pasifika graduates and 88 percent for *food, hospitality and personal services* and *creative arts* graduates.

Destinations

- Twenty five percent of Pasifika and 35 percent of non-Pasifika graduates were employed in the first year after study. Further study was the main activity of 50 percent of Pasifika and 47 percent of non-Pasifika graduates. Fourteen percent of Pasifika and 11 percent of non-Pasifika were drawing a benefit and 6 percent of Pasifika graduates and 4 percent of non-Pasifika graduates were out of the labour force or in multiple categories. Four percent of Pasifika graduates and 3 percent of non-Pasifika graduates were overseas.
- Employment rates were fairly equal in year five after study, but further study rates for Pasifika had dropped away relative to non-Pasifika graduates. Benefit and out of the labour force or multiple category rates were stable between year one and year five after study, and overseas rates increased evenly for both groups.
- By five years after finishing study employment rates were almost equal between groups: 43 percent of Pasifika and 45 percent of non-Pasifika graduates were employed. Twenty one percent of Pasifika and 26 percent of non-Pasifika were in further study. Fifteen percent of Pasifika were drawing a benefit compared to 11 percent of non-Pasifika graduates, and 6 percent of both groups were out of the labour force. Eleven percent of Pasifika graduates and 12 percent of non-Pasifika graduates were overseas.
- Broad fields with wide gaps in employment rates between Pasifika and non-Pasifika graduates included *architecture and building* (Pasifika graduates' employment rate was 14 percentage points higher than non-Pasifika graduates' rate) and *information technology* (16 points difference).
- Pasifika graduates claimed benefits at high levels compared to non-Pasifika graduates after completing certificates in *creative arts, food, hospitality and personal services, mixed field programmes* and *management and commerce*.

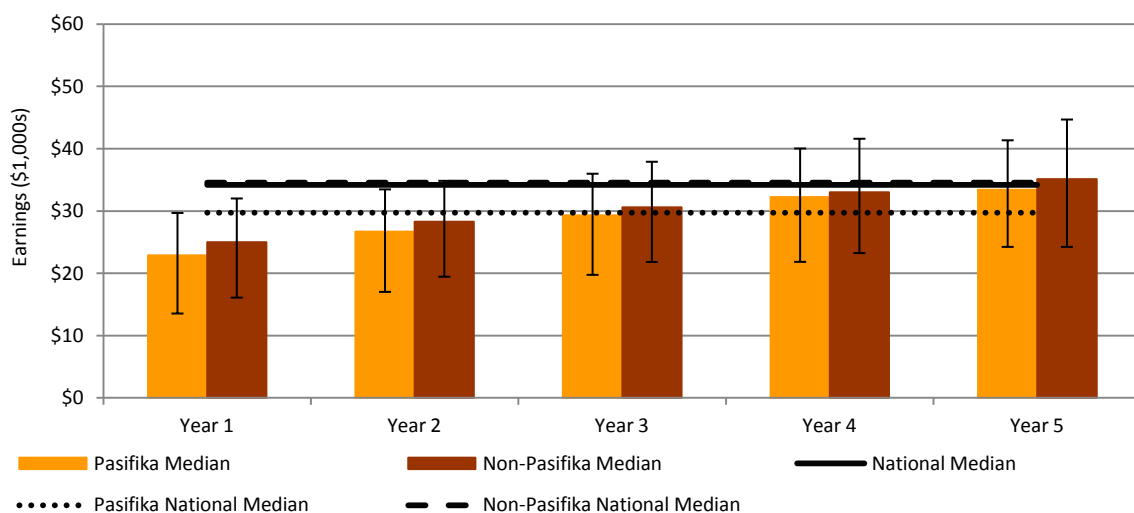
Figure 17 shows the median earnings for employment in each year after study. Pasifika and non-Pasifika graduates' median earnings was a little different in year one after completing a level 1 to 3 certificate (Pasifika graduates' median earnings was 92 percent of non-Pasifika graduates' in year one) but the gap between them narrowed in later years so that, by year five, Pasifika graduates earned 95 percent of non-Pasifika graduates' median earnings.

Non-Pasifika graduates' year five median earnings reached the level of the national median earnings in year five, but did not quite reach the level of non-Pasifika workforce median earnings. Pasifika level 1 to 3 graduates' earnings surpassed the level of the national Pasifika workforce's median earnings in year four after study. Pasifika graduates' lower quartile earnings increased from 84

percent in year one to 100 percent in year five. Pasifika graduates' upper quartile earnings remained at 93 percent of non-Pasifika graduates' in year five, but fluctuated a little in between years.

Figure 17

Median and upper and lower quartile earnings for young domestic level one to three certificate completers in the first five years after study by ethnic group

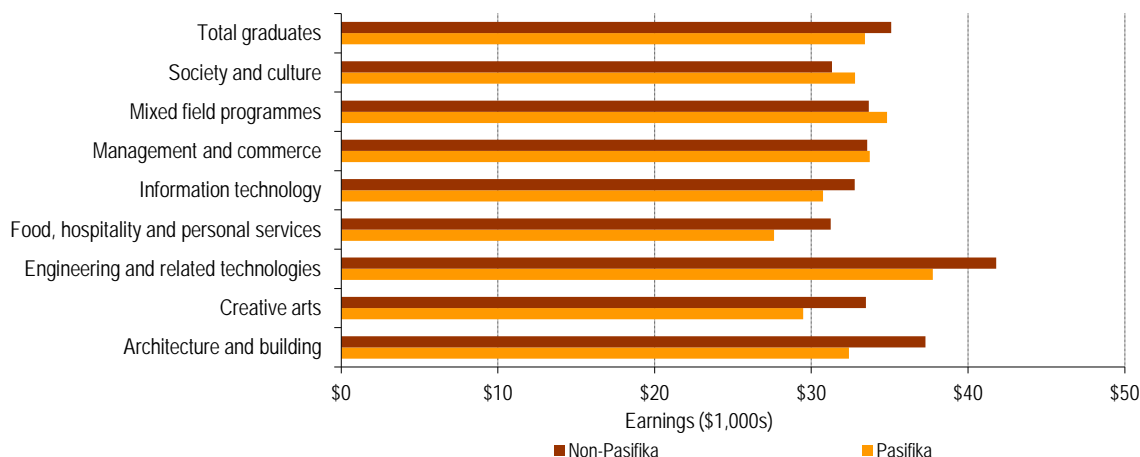


Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. Error bars show the top quartile and lower quartile earnings. Refer to Chapter 11 for full notes.

Figure 18 shows the median earnings for employment in the fifth year after study. Pasifika graduates earned a little more than non-Pasifika graduates in only two fields: *society and culture* (Pasifika graduates earned 105 percent of non-Pasifika graduates) and *mixed field programmes* (103 percent). Earnings were equal in one field: *management and commerce*. The widest gap in earnings were for *architecture and building* (87 percent) and *food, hospitality and personal services* and *creative arts* graduates (88 percent).

Figure 18

Median earnings of young domestic level one to three certificate completers five years after study by ethnic group



Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. Refer to Chapter 11 for full notes.

Table 33 shows earnings one, two and five years after study, by broad field of study and ethnic group. Pasifika graduates' median earnings increased as a proportion of non-Pasifika graduates' earnings in the following fields: *information technology* (Pasifika graduates earned 64 percent of non-Pasifika graduates' earnings in year one and 94 percent in year five after study), *management and commerce* (93 percent to 100 percent), *mixed field programmes* (98 percent to 103 percent) and *society and culture* (89 percent to 105 percent).

Pasifika graduates' earnings declined relative to non-Pasifika graduates' earnings across five years in the following fields: *architecture and building* (97 percent of non-Pasifika graduates' earnings in year one down to 87 percent in year five) and *engineering and related technologies* (100 percent to 90 percent). The remaining fields, *creative arts* and *food, hospitality and personal services*, were relatively stable.

Overall lower quartile earnings for Pasifika graduates increased relative to non-Pasifika graduates' lower quartile earnings across five years, from 84 percent in year one to 100 percent in year five. Broad fields with relative improvement (where we could identify the lower quartile earnings in each year) included *society and culture* (71 percent to 128 percent) and *management and commerce* (83 percent to 112 percent). Lower quartile earnings relative decline occurred for Pasifika graduates in *food, hospitality and personal services* (79 percent to 69 percent), *engineering and related technologies* (121 percent to 97 percent), *creative arts* (86 percent to 79 percent) and *architecture and building* (95 percent to 76 percent).

Upper quartile earnings relativity was the same overall in year five after study as in year one. Increases occurred for *society and culture* (93 percent to 99 percent) and *creative arts* (93 percent to 99 percent).

Table 33

Median and quartile annual earnings of young domestic level one to three certificate completers, one, two and five years after study by broad field of study and ethnic group

Broad field of study	Measure	Pasifika - Years after study			Non-Pasifika - Years after study		
		One	Two	Five	One	Two	Five
Architecture and building	Q3	\$28,732	\$27,825	\$41,532	\$30,319	\$34,707	\$44,029
	Median	\$24,472	\$23,621	\$32,404	\$25,262	\$28,785	\$37,285
	Q1	\$17,476	\$14,254	\$22,521	\$18,383	\$20,826	\$29,666
Creative arts	Q3	\$28,062	\$29,605	\$41,174	\$30,044	\$32,562	\$41,656
	Median	\$20,536	\$21,759	\$29,475	\$23,725	\$25,249	\$33,490
	Q1	\$12,344	\$13,940	\$18,877	\$14,418	\$15,535	\$23,890
Engineering and related technologies	Q3	\$31,725	\$34,848	\$46,949	\$34,512	\$37,913	\$51,314
	Median	\$27,843	\$28,213	\$37,761	\$27,712	\$30,906	\$41,800
	Q1	\$22,237	\$18,014	\$29,419	\$18,450	\$23,273	\$30,360
Food, hospitality and personal services	Q3	\$26,235	\$30,790	\$35,764	\$27,726	\$30,372	\$38,842
	Median	\$18,741	\$25,508	\$27,618	\$21,660	\$24,888	\$31,240
	Q1	\$11,586	\$16,898	\$14,986	\$14,718	\$17,478	\$21,819
Information technology	Q3	C..	C..	\$41,019	\$32,576	\$33,803	\$41,668
	Median	\$17,127	\$17,805	\$30,754	\$26,954	\$23,847	\$32,768
	Q1	C..	C..	\$18,695	\$17,416	\$16,132	\$21,039
Management and commerce	Q3	\$31,596	\$34,284	\$40,805	\$31,211	\$34,775	\$42,373
	Median	\$24,075	\$27,879	\$33,738	\$25,843	\$29,210	\$33,575
	Q1	\$15,037	\$19,534	\$25,591	\$18,119	\$21,262	\$22,900
Mixed field programmes	Q3	C..	C..	\$46,364	\$29,440	\$31,817	\$45,129
	Median	\$20,779	\$23,878	\$34,829	\$21,296	\$22,751	\$33,662
	Q1	C..	C..	\$21,331	\$13,350	\$15,131	\$20,676
Society and culture	Q3	\$27,118	\$30,903	\$41,703	\$29,154	\$31,885	\$42,031
	Median	\$18,856	\$22,922	\$32,784	\$21,111	\$24,599	\$31,322
	Q1	\$9,006	\$12,451	\$25,505	\$12,771	\$15,048	\$19,922
Total graduates	Q3	\$29,723	\$33,508	\$41,386	\$32,049	\$34,880	\$44,722
	Median	\$22,902	\$26,711	\$33,431	\$24,980	\$28,260	\$35,102
	Q1	\$13,580	\$17,051	\$24,278	\$16,134	\$19,490	\$24,276

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'C..' denotes the value has been suppressed for confidentiality purposes. Refer to Chapter 11 for full notes.

Table 34 shows median earnings in the years after study compared to national median earnings for Pasifika and non-Pasifika in 2011. Pasifika graduates earned above the national median for the Pasifika workforce in year five for most fields except *creative arts* (99 percent) and *food, hospitality and personal services* (93 percent). Non-Pasifika graduates' median earnings was above the non-Pasifika workforces' median earnings in two fields only in year five: *architecture and building* (108 percent) and *engineering and related technologies* (121 percent).

Table 34

Median annual earnings of young domestic level one to three certificate completers, one, two and five years after study, as a percentage of the national median earnings by ethnic group by broad field of study and ethnic group

Broad field of study	Pasifika - Years after study %			Non-Pasifika - Years after study %		
	One	Two	Five	One	Two	Five
Architecture and building	82	80	109	73	83	108
Creative arts	69	73	99	69	73	97
Engineering and related technologies	94	95	127	80	90	121
Food, hospitality and personal services	63	86	93	63	72	90
Information technology	58	60	104	78	69	95
Management and commerce	81	94	114	75	85	97
Mixed field programmes	70	80	117	62	66	97
Society and culture	63	77	110	61	71	91
Total graduates	77	90	113	72	82	102

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'C..' denotes the value has been suppressed for confidentiality purposes. Refer to Chapter 11 for full notes.

Table 35 shows earnings growth in the years after study. Pasifika graduates' earnings growth was higher than non-Pasifika graduates' earnings growth in year one after study, but lower in subsequent years, but still higher than non-Pasifika graduates' earnings growth overall. This had the effect of Pasifika graduates' earnings growth being slightly higher than non-Pasifika graduates' over all five years.

Broad fields with high relative growth for Pasifika compared to non-Pasifika graduates included *information technology*, where Pasifika graduates' earnings growth was 58 percentage points higher across five years, and *society and culture* with a 26 percentage point difference.

Table 35

Growth in median annual earnings of young domestic level one to three certificate completers, over the first five years after study by broad field of study and ethnic group

Broad field of study	Pasifika %			Non-Pasifika %		
	Over the first year	Over the first five years	Average annual growth over the first five years	Over the first year	Over the first five years	Average annual growth over the first five years
Architecture and building	-3	32	7	14	48	10
Creative arts	6	44	9	6	41	9
Engineering and related technologies	1	36	8	12	51	11
Food, hospitality and personal services	36	47	10	15	44	10
Information technology	4	80	16	-12	22	5
Management and commerce	16	40	9	13	30	7
Mixed field programmes	15	68	14	7	58	12
Society and culture	22	74	15	17	48	10
Total graduates	17	46	10	13	41	9

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'C..' denotes the value has been suppressed for confidentiality purposes. Refer to Chapter 11 for full notes.

Table 36 shows the destinations one year after study. Pasifika graduates were 10 percentage points less likely to be in employment than non-Pasifika graduates in year one after study, and a little (3 percentage points) more likely than non-Pasifika graduates to be in further study overall. Pasifika graduates were a little more likely to be on a benefit (3 points) or to be out of the labour force (2 points). Overseas rates were comparable.

There were no broad fields where Pasifika were more likely to be in employment than non-Pasifika graduates, but they were in employment at equal rates after completing in *information technology*. This field had the greatest further study difference, with Pasifika *information technology* graduates 9 percentage points less likely to be in further study than non-Pasifika graduates.

Table 36

Destination of young domestic level one to three certificate completers one year after study by broad field of study and ethnic group

	Employment %		Overseas %		Further study %		Benefit %		Other %	
	P	NP	P	NP	P	NP	P	NP	P	NP
Architecture and building	35	47	3	2	45	38	6	8	9	6
Creative arts	18	28	3	3	64	57	14	9	5	3
Engineering and related technologies	28	41	3	3	52	47	13	6	5	3
Food, hospitality, personal services	19	31	4	3	52	48	16	13	7	4
Information technology	20	20	4	3	47	56	16	17	4	5
Management and commerce	24	37	4	4	45	44	14	13	5	4
Mixed field programmes	15	23	3	2	54	51	21	20	8	6
Society and culture	26	28	4	4	52	50	13	12	5	6
Total graduates	25	35	4	3	50	47	14	11	6	4

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'P' means Pasifika and 'NP' means non-Pasifika. 'C..' denotes the value has been suppressed for confidentiality purposes. Note rows may not add up to 100 percent due to general random rounding. Refer to Chapter 11 for full notes.

Table 37 shows the destinations five years after study. Employment rates were almost equal between groups, as with overseas rates. Benefit and out of the labour force rates were mostly similar between years one and five, with therefore similar relativity. Further study rates were higher for non-Pasifika graduates in year five than non-Pasifika graduates, converse to the relativity in year one.

Pasifika graduates' employment rates increased by 18 percentage points between years one and five, compared to non-Pasifika graduates' which increased by 10 points, so the gap between groups narrowed. Further study rates dropped by 29 points for Pasifika graduates and 21 points for non-Pasifika graduates, so Pasifika graduates were less likely to be in further study in year five than non-Pasifika graduates.

Pasifika graduates' employment rates were comparatively high for *information technology* (16 points difference) and *architecture and building* (14 points). Benefit rates were comparatively high for Pasifika compared to non-Pasifika in *creative arts* with 12 points difference, *food, hospitality and personal services* and *mixed field programmes* (11 points).

Pasifika graduates' further study rates were comparatively low for Pasifika in a number of fields: *architecture and building* (Pasifika graduates' rate was 7 percentage points lower than non-Pasifika graduates'), *information technology* (16 points difference) and *management and commerce* (8 points).

Table 37

Destination of young domestic level one to three certificate completers five years after study by broad field of study and ethnic group

	Employment %		Overseas %		Further study %		Benefit %		Other %	
	P	NP	P	NP	P	NP	P	NP	P	NP
Architecture and building	75	61	8	7	15	22	0	6	C..	3
Creative arts	45	48	9	15	30	25	20	8	6	6
Engineering and related technologies	53	52	13	11	23	23	10	7	6	4
Food, hospitality, personal services	39	46	16	15	16	18	24	13	8	6
Information technology	46	30	5	8	18	34	14	23	5	6
Management and commerce	44	40	12	13	21	29	17	10	6	7
Mixed field programmes	35	32	9	13	25	29	30	19	3	7
Society and culture	40	37	6	13	30	31	15	12	12	8
Total graduates	43	45	11	12	21	26	15	11	6	6

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'P' means Pasifika and 'NP' means non-Pasifika. 'C..' denotes the value has been suppressed for confidentiality purposes. Note rows may not add up to 100 percent due to general random rounding. Refer to Chapter 11 for full notes.

9 A FOCUS ON OUTCOMES BY NARROW FIELD OF STUDY

9.1 Looking at narrow fields of study

Chapters 3 to 10 of this report present the outcomes for young graduates by broad field of study. A limitation of that approach is that some broad fields are very diverse and include quite different areas of study that may have quite different outcomes.

For instance, the broad field of *health* contains narrow fields of *medicine*, *nursing*, *pharmacy* and *rehabilitation therapies*. The main qualifications for medicine and nursing are bachelors degrees. But to qualify in medicine takes six years of full-time study, while nursing is a three-year degree. The salaries paid to newly qualified doctors are higher than those of newly qualified nurses and the pathway into study for nursing is different to the pathway to medicine.

The broad field of *society and culture* contains narrow fields of *law*, *economics* and *sport and recreation*. These three narrow fields have quite different outcomes and require different preparation before study.

When we present the analysis by broad field of study, we are averaging out these differences in outcomes. Some people have particular strengths or interests in one narrow field but not another – for instance, a person who is keen to study sports but doesn't have an interest in or the preparatory subjects for economics. So it's useful to look at outcomes by narrow field.

But there are limitations to reporting narrow field outcome information. When we divide up a broad field, we get smaller numbers of young domestic graduates in each narrow field. Sometimes the numbers are too few to give meaningful information; or it may be possible to uncover the person or provider that information belongs to. It is essential we guard against the risk of revealing private information.

In this chapter we present outcomes data by narrow field of study for young domestic graduates who have completed bachelors degrees and level one to three certificates – the two biggest levels of study for school leavers who enter a tertiary education provider. Data on outcomes by narrow field in other levels of study is available on Education Counts (www.educationcounts.govt.nz) and the Careers New Zealand website at: www.careers.govt.nz.

9.2 Outcomes by narrow field for bachelors graduates

Earnings

- Low numbers of Pasifika meant that few narrow fields reached the confidentiality threshold. We were able to publish data for just 20 out of 64 possible narrow fields.
- Young Pasifika bachelors completers in *medical studies* earned the most five years post study, at \$107,500 while non-Pasifika earned \$109,300 (Pasifika medical studies earned 98 percent of non-Pasifika graduates). After this, Pasifika graduates earned most after completing a bachelors degree in these narrow fields: *nursing* (\$67,800 compared to \$55,400 for non-Pasifika), *law* (\$60,100 compared to \$54,600 for non-Pasifika), *accountancy* (\$59,600 and for non-Pasifika graduates, \$58,700), *political science and policy studies* (\$52,400 and \$49,500 by non-Pasifika) and *teacher education* (\$52,300 and \$51,100 for non-Pasifika graduates).
- At the other end of the spectrum, *visual arts and crafts* (\$44,000 earned by Pasifika graduates and \$39,000 by non-Pasifika graduates), *language and literature* (\$42,100 for Pasifika and \$45,300 for non-Pasifika) and *communications and media studies* (\$40,200 and for non-Pasifika \$46,400) graduates had the lowest median earnings for Pasifika graduates five years after leaving study.

- Among Pasifika bachelors graduates, those with degrees in *visual arts and crafts* had the highest wage growth over the first five years, averaging 13 percent in each year after study. Earnings growth was 12 percent on average across the first five years after study for non-Pasifika graduates majoring in this field. Other fields with the highest earnings growth for Pasifika graduates included *studies in human society* (11 percent for Pasifika and 10 percent for non-Pasifika graduates), *biological sciences*, with earnings growth of 10 percent (11 percent for non-Pasifika) and *behavioural sciences, language and literature, law, accountancy and other society and culture* (9 percent for Pasifika and 10 percent, 11 percent, 9 percent, 7 percent, 9 percent and 9 percent respectively).
- Pasifika graduates earned more than non-Pasifika graduates after five years if they completed degrees in *nursing* (23 percent more), *visual arts and crafts* (13 percent more), *other society and culture* (12 percent more), *law* (10 percent more), *political sciences and policy studies* and *studies in human society* (6 percent more).
- The narrow fields with the least differences between Pasifika and non-Pasifika graduates were *behavioural science* (Pasifika graduates' median earnings was 100 percent of non-Pasifika graduates' median earnings), *curriculum and education studies* (101 percent), *teacher education* (102 percent) and *medical studies* (98 percent).

Destinations

- There were some high employment rate differences by narrow field five years after study. Pasifika graduates were employed at much higher rates than non-Pasifika graduates five years after completing bachelors level qualifications in *language and literature* (30 percentage points difference between Pasifika and non-Pasifika graduates' employment rates), *medical studies* (22 points difference), *visual arts and crafts* (20 points), *accountancy* (12 points), *sales and marketing* and *other natural and physical sciences* (17 points) narrow fields.
- Pasifika graduates were significantly more likely to be in further study in year five than non-Pasifika graduates in the following fields: *graphic and design studies* (25 percentage points difference), *language and literature* (24 points) *business and management* (16 points difference), *other society and culture* (13 points) and *communication and media studies* (9 points).
- Non-Pasifika graduates were much more likely than Pasifika graduates to be employed five years after completing bachelors qualifications in *graphic and design studies* and *performing arts* (19 percentage points difference) and *nursing* (8 percentage points).
- Non-Pasifika graduates were much more likely than Pasifika graduates to be in further study five years after completing bachelors qualifications in *other natural and physical sciences* (26 percentage points difference), *political sciences and policy studies* (11 points difference) and *accountancy* (7 points difference) narrow fields.
- Overseas status was high for Pasifika compared to non-Pasifika five years after completing in *graphic and design studies* (17 percentage points difference), and *biological sciences* (4 percentage) points narrow fields.
- Non-Pasifika were significantly more likely to be overseas than Pasifika graduates after completing bachelors level qualifications in *language and literature* (29 percentage points), *business and management* (21 percentage points), *sales and marketing* (18 percentage points) and *visual arts and crafts* and *curriculum and education studies* (15 points) narrow fields.
- Pasifika graduates were significantly more likely than non-Pasifika graduates to be on a benefit or out of the labour force five years after study in the following narrow fields: *creative arts*, (21 percentage points difference), *visual arts and crafts* (12 points difference) and *law* (10 points difference). Non-Pasifika graduates were significantly more likely to be on a benefit or to be out of the labour force than Pasifika graduates in *graphic and design studies* and *other*

society and culture (9 percentage points difference), *computer science* (7 points) and *curriculum and education studies* and *other natural and physical sciences* (6 points) narrow fields.

Table 38

Median earnings for young domestic bachelors graduates, one two and five years after study, by narrow field of study

Broad field	Narrow field of study	Pasifika			Non-Pasifika		
		Year 1	Year 2	Year 5	Year 1	Year 2	Year 5
Creative arts	Total	\$30,927	\$36,177	\$43,109	\$28,218	\$34,683	\$41,479
	Communication and Media Studies	\$35,316	\$40,462	\$40,198	\$32,309	\$38,011	\$46,433
	Graphic and Design Studies	\$28,179	\$36,495	C..	\$27,730	\$34,819	\$42,315
	Performing Arts	\$25,766	\$24,971	C..	\$22,153	\$27,453	\$33,896
	Visual Arts and Crafts	\$27,369	\$32,279	\$43,974	\$25,016	\$30,981	\$38,993
Education	Total	\$45,079	\$46,761	\$51,165	\$44,791	\$46,352	\$50,776
	Curriculum and Education Studies	\$37,868	\$44,857	\$50,667	\$44,434	\$46,519	\$50,278
	Teacher Education	\$45,486	\$47,122	\$52,322	\$44,791	\$46,466	\$51,137
Health	Total	\$47,753	\$52,987	\$69,146	\$46,931	\$51,943	\$61,393
	Medical Studies	\$89,343	\$90,043	\$107,469	\$88,611	\$93,784	\$109,331
	Nursing	C..	\$53,465	\$67,845	\$45,697	\$50,167	\$55,366
Information technology	Total	\$30,714	\$41,887	\$55,903	\$41,154	\$45,870	\$56,329
	Computer Science	\$30,582	\$36,281	C..	\$41,462	\$45,643	\$56,595
Management and commerce	Total	\$38,601	\$42,924	\$52,561	\$38,468	\$43,855	\$52,896
	Accountancy	\$41,669	\$44,866	\$59,557	\$41,987	\$45,034	\$58,692
	Business and Management	\$38,729	\$42,357	\$49,490	\$38,411	\$43,714	\$51,775
	Sales and Marketing	\$38,539	\$41,618	\$48,103	\$37,375	\$42,893	\$50,827
Natural and physical sciences	Total	\$35,011	\$44,884	\$51,891	\$34,027	\$42,985	\$50,419
	Biological Sciences	\$33,603	C..	\$49,750	\$31,191	\$37,773	\$47,793
	Other Natural and Physical Sciences	\$37,185	\$59,609	C..	\$38,790	\$50,138	\$58,099
Society and culture	Total	\$34,805	\$41,966	\$50,093	\$35,012	\$42,056	\$49,020
	Behavioural Science	\$33,996	\$41,966	\$47,144	\$32,908	\$39,924	\$47,349
	Language and Literature	\$29,605	\$42,167	\$42,146	\$29,701	\$38,240	\$45,342
	Law	\$42,530	\$43,455	\$60,130	\$41,600	\$48,083	\$54,614
	Other Society and Culture	\$34,275	C..	\$49,125	\$30,707	\$37,579	\$43,726
	Political Science and Policy Studies	C..	\$40,798	\$52,423	\$35,107	\$40,912	\$49,541
	Studies in Human Society	\$32,785	\$43,786	\$50,308	\$32,169	\$39,721	\$47,657

Table 39

Median earnings of young domestic bachelors graduates, one, two and five years after study, as a percentage of the national median earnings by narrow field of study

Broad field	Narrow field of study	Pasifika %			Non-Pasifika %		
		Year 1	Year 2	Year 5	Year 1	Year 2	Year 5
Creative arts	Total	104	122	145	82	100	120
	Communication and Media Studies	119	136	135	94	110	134
	Graphic and Design Studies	95	123	n/a	80	101	123
	Performing Arts	87	84	n/a	64	80	98
	Visual Arts and Crafts	92	109	148	72	90	113
Education	Total	152	157	172	130	134	147
	Curriculum and Education Studies	127	151	171	129	135	146
	Teacher Education	153	159	176	130	135	148
Health	Total	161	178	233	136	150	178
	Medical Studies	301	303	362	257	272	317
	Nursing	n/a	180	228	132	145	160
Information technology	Total	103	141	188	119	133	163
	Computer Science	103	122	n/a	120	132	164
Management and commerce	Total	130	144	177	111	127	153
	Accountancy	140	151	200	122	130	170
	Business and Management	130	143	167	111	127	150
	Sales and Marketing	130	140	162	108	124	147
Natural and physical sciences	Total	118	151	175	99	124	146
	Biological Sciences	113	n/a	167	90	109	138
	Other Natural and Physical Sciences	125	201	n/a	112	145	168
Society and culture	Total	117	141	169	101	122	142
	Behavioural Science	114	141	159	95	116	137
	Language and Literature	100	142	142	86	111	131
	Law	143	146	202	120	139	158
	Other Society and Culture	115	n/a	165	89	109	127
	Political Science and Policy Studies	n/a	137	176	102	118	143
	Studies in Human Society	110	147	169	93	115	138

Table 40

Growth in median annual earnings of young domestic bachelors graduates, over the first five years after study by narrow field

Broad field	Narrow field of study	Pasifika %			Non-Pasifika %		
		Over the first year	Across 5 years	Average over 5 years	Over the first year	Across 5 years	Average over 5 years
Creative arts	Total	17	39	9	23	65	10
	Communication and Media Studies	15	14	3	18	31	9
	Graphic and Design Studies	30	n/a	n/a	26	22	11
	Performing Arts	-3	n/a	n/a	24	76	11
	Visual Arts and Crafts	18	61	13	24	103	12
Education	Total	4	14	3	3	12	3
	Curriculum and Education Studies	18	34	8	5	15	3
	Teacher Education	4	15	4	4	37	3
Health	Total	11	45	10	11	133	7
	Medical Studies	1	20	5	6	-38	5
	Nursing	n/a	n/a	n/a	10	23	5
Information technology	Total	36	82	16	11	38	8
	Computer Science	19	n/a	n/a	10	28	8
Management and commerce	Total	11	36	8	14	53	8
	Accountancy	8	43	9	7	23	9
	Business and Management	9	28	6	14	32	8
	Sales and Marketing	8	25	6	15	35	8
Natural and physical sciences	Total	28	48	10	26	40	10
	Biological Sciences	n/a	48	10	21	86	11
	Other Natural and Physical Sciences	60	n/a	n/a	29	26	11
Society and culture	Total	21	44	10	20	35	9
	Behavioural Science	23	39	9	21	38	10
	Language and Literature	42	42	9	29	84	11
	Law	2	41	9	16	5	7
	Other Society and Culture	n/a	43	9	22	61	9
	Political Science and Policy Studies	n/a	n/a	n/a	17	36	9
	Studies in Human Society	34	53	11	23	58	10

Table 41

Destinations by narrow field of study for young domestic bachelors graduates

Broad field of study	Narrow field of study	Employment %				Further Study %				Overseas %				Benefit / Other %			
		Pasifika		Non-Pasifika		Pasifika		Non-Pasifika		Pasifika		Non-Pasifika		Pasifika		Non-Pasifika	
		Y1	Y5	Y1	Y5	Y1	Y5	Y1	Y5	Y1	Y5	Y1	Y5	Y1	Y5	Y1	Y5
Creative arts	Total	50	53	55	50	32	16	25	11	6	20	9	30	9	16	9	10
	Communication and Media Studies	50	60	63	53	38	20	26	11	0	20	10	29	C..	C..	6	8
	Graphic and Design Studies	63	33	60	52	23	33	17	8	8	50	11	33	15	0	11	9
	Performing Arts	40	30	42	49	30	15	41	18	10	C..	8	25	10	30	8	9
	Visual Arts and Crafts	60	72	52	52	40	C..	25	10	C..	12	8	27	C..	24	14	12
Education	Total	65	69	76	63	14	19	17	11	7	11	4	19	14	8	3	7
	Curriculum and Education Studies	50	63	64	58	30	15	28	12	10	8	5	23	0	0	3	6
	Teacher Education	69	70	83	65	9	12	12	9	5	12	4	17	14	6	3	6
Health	Total	47	60	59	51	40	20	28	15	10	20	11	27	8	6	2	6
	Medical Studies	100	83	79	61	0	C..	14	15	12	C..	7	19	0	0	1	3
	Nursing	20	45	34	53	78	15	55	14	C..	23	10	28	C..	8	2	5
Information technology	Total	50	57	55	51	20	9	25	9	10	26	9	29	20	0	11	6
	Computer Science	67	50	50	54	17	C..	27	12	17	25	9	29	C..	0	15	7
Management and commerce	Total	56	54	55	51	26	19	29	9	9	15	12	32	9	5	5	7
	Accountancy	40	80	46	61	40	0	40	7	12	12	9	26	4	12	4	8
	Business and Management	58	64	56	50	23	26	25	10	9	13	12	34	12	4	6	7
	Sales and Marketing	53	67	59	50	21	10	22	8	6	20	12	38	13	C..	6	7
Natural and physical sciences	Total	35	46	31	41	55	28	54	23	6	23	9	28	3	C..	5	7
	Biological Sciences	27	40	27	39	67	30	61	27	7	30	8	26	C..	C..	6	7
	Other Natural and Physical Sciences	75	60	51	43	30	0	40	26	0	20	6	26	15	0	4	6
Society and culture	Total	39	61	36	47	47	22	48	16	7	17	10	27	8	7	6	8
	Behavioural Science	40	57	35	44	40	26	51	24	6	17	8	25	6	C..	6	8
	Language and Literature	40	71	31	41	44	43	49	19	7	0	14	29	7	9	6	8
	Law	26	57	37	51	58	17	55	13	6	17	8	26	9	17	4	7
	Other Society and Culture	75	60	39	47	30	30	41	17	C..	15	12	27	0	0	5	9
	Political Science and Policy Studies	26	60	27	45	71	10	58	21	9	20	10	26	0	C..	5	8
	Studies in Human Society	42	53	34	47	42	21	49	19	5	18	9	24	10	4	6	7

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'C..' denotes the value has been suppressed for confidentiality purposes. Refer to Chapter 11 for full notes.

9.3 Outcomes by narrow field for level one to three certificate completers

Earnings

- Due to low numbers of Pasifika graduates in some fields, we were only able to publish narrow fields information for 14 out of 65 narrow fields.
- There were earnings differences for young level 1 to 3 certificate completers by ethnic group in a number of narrow fields. Pasifika graduates earned significantly more than non-Pasifika graduates five years after completing certificates in *electrical and electronic engineering and technology* (Pasifika graduates earned 5 percent more than non-Pasifika graduates), and *office studies* (3 percent more) fields.
- The top fields for non-Pasifika graduates compared to Pasifika graduates were *personal services* (Pasifika earned 73 percent of non-Pasifika graduates) *other society and culture* (84 percent), *performing arts* (86 percent) and *building and mechanical and industrial engineering and technology* (87 percent).
- Pasifika graduates earned most after completing certificates in *electrical and electronic engineering and technology* (\$45,100), *mechanical and industrial engineering and technology* (\$37,100) *automotive engineering and technology* (\$35,800), and *business management* (\$35,600).
- Non-Pasifika graduates earned most in the following narrow fields: *electrical and electronic engineering and technology* (\$45,200), *mechanical and industrial engineering and technology* (\$42,500), *automotive engineering and technology* (\$41,500), and *other society and culture* (\$38,700).
- Earnings growth was highest for Pasifika graduates across five years in *sport and recreation* (352 percent), *performing arts* (110 percent), *office studies* (56 percent), *employment skills programmes* (47 percent) and *other society and culture* (44 percent).
- The highest earnings growth occurred for non-Pasifika graduates five years after completing a certificate in *sport and recreation* (88 percent), *automotive engineering and technology* (57 percent), *electrical and electronic engineering and technology* (56 percent), *performing arts* (54 percent) and *mechanical and industrial engineering* (53 percent).

Destinations

- There were some employment rate differences by narrow field five years after study. Pasifika graduates were employed at higher rates than non-Pasifika graduates five years after completing level 1 to 3 qualifications in *electrical & electronic engineering & technology* (19 percentage points difference), *other information technology* and *building* (17 percentage points) *employment skills programmes* (13 percentage points) and *tourism* (7 points) narrow fields.
- Non-Pasifika graduates were much more likely than Pasifika graduates to be employed five years after completing level 1 to 3 certificate qualifications in *automotive engineering and technology* (18 percentage points) and *personal services* (12 points).
- There were some high further study rate differences by narrow field five years after study. Pasifika graduates were in further study at much higher rates than non-Pasifika graduates five

years after completing qualifications in *automotive engineering and technology* (5 percentage points difference).

- Non-Pasifika graduates were much more likely than Pasifika graduates to be in further study five years after completing qualifications in *other information technology* (18 percentage points) and *mechanical and industrial engineering & technology* and *performing arts* (11 percentage points), *business and management* (8 percentage points) and *building* (7 points) narrow fields.
- Overseas status was high for Pasifika graduates compared to non-Pasifika graduates five years after completing in the *automotive engineering and technology* (7 percentage points) and *personal services* (5 percentage points) narrow fields.
- Non-Pasifika graduates were more likely to be overseas than Pasifika graduates after completing qualifications in *food and hospitality* (5 percentage points difference), *sport and recreation* and *performing arts* (4 points).
- Pasifika graduates were more likely to be on a benefit or out of the labour force than non-Pasifika graduates in the majority of narrow fields. The largest difference between these ethnic groups occurred in the following fields: *personal services* (14 percentage points), *sport and recreation* (13 points), *performing arts* (12 points), and *food and hospitality* (10 points).
- Non-Pasifika were significantly more likely than Pasifika graduates to be on a benefit or out of the labour force or in multiple categories in *other information technology* (11 percentage points difference) and *employment skills programmes* (9 points).

Table 42

Median earnings for young level one to three certificate completers, one two and five years after study, by narrow field of study

Broad field	Narrow field of study	Pasifika			Non-Pasifika		
		Year 1	Year 2	Year 5	Year 1	Year 2	Year 5
Architecture and building	Total	\$24,472	\$23,621	\$32,404	\$25,262	\$28,785	\$37,285
	Building	\$24,472	\$23,621	\$32,404	\$25,262	\$28,753	\$37,285
Creative arts	Total	\$20,536	\$21,759	\$29,475	\$23,725	\$25,249	\$33,490
	Performing Arts	\$13,486	\$16,349	\$28,302	\$21,226	\$16,694	\$32,760
Engineering and related technologies	Total	\$27,843	\$28,213	\$37,761	\$27,712	\$30,906	\$41,800
	Automotive Engineering and Technology	\$26,338	\$28,803	\$35,822	\$26,454	\$29,731	\$41,537
	Electrical & Electronic Engineering & Technology	\$30,222	C..	\$45,137	\$27,759	\$31,698	\$43,177
	Mechanical and Industrial Engineering	\$27,852	\$26,979	\$37,094	\$27,745	\$31,196	\$42,463
Food, hospitality and personal services	Total	\$18,741	\$25,508	\$27,618	\$21,660	\$24,888	\$31,240
	Food and Hospitality	\$23,880	\$25,537	\$29,473	\$21,982	\$26,364	\$32,589
	Personal Services	\$15,055	\$25,007	\$21,229	\$21,326	\$23,730	\$29,078
Information technology	Total	\$17,127	\$17,805	\$30,754	\$26,954	\$23,847	\$32,768
	Other Information Technology	\$17,127	\$17,497	C..	\$27,548	\$24,094	\$34,274
Management and commerce	Total	\$24,075	\$27,879	\$33,738	\$25,843	\$29,210	\$33,575
	Business and Management	\$26,367	\$28,594	\$35,613	\$27,999	\$29,416	\$37,048
	Office Studies	\$21,391	\$28,524	\$33,417	\$25,724	\$28,979	\$32,455
	Tourism	\$24,333	\$26,973	\$33,218	\$25,124	\$29,094	\$34,326
Mixed field programmes	Total	\$20,779	\$23,878	\$34,829	\$21,296	\$22,751	\$33,662
	Employment Skills Programmes	\$20,779	C..	\$30,569	\$23,363	\$27,243	\$30,884
Society and culture	Total	\$18,856	\$22,922	\$32,784	\$21,111	\$24,599	\$31,322
	Other Society and Culture	\$22,611	\$18,645	\$32,612	\$27,319	\$21,966	\$38,707
	Sport and Recreation	\$7,108	C..	\$32,113	\$16,945	\$24,823	\$31,908

Table 43

Median earnings of young domestic level one to three certificate completers, one, two and five years after study, as a percentage of the national median earnings by narrow field of study

Broad field	Narrow field of study	Pasifika %			Non-Pasifika %		
		Year 1	Year 2	Year 5	Year 1	Year 2	Year 5
Architecture and building	Total	82	80	109	73	83	108
	Building	82	80	109	73	83	108
Creative arts	Total	69	73	99	69	73	97
	Performing Arts	45	55	95	61	48	95
Engineering and related technologies	Total	94	95	127	80	90	121
	Automotive Engineering and Technology	89	97	121	77	86	120
	Electrical & Electronic Engineering & Technology	102	n/a	152	80	92	125
	Mechanical and Industrial Engineering	94	91	125	80	90	123
Food, hospitality and personal services	Total	63	86	93	63	72	90
	Food and Hospitality	80	86	99	64	76	94
	Personal Services	51	84	71	62	69	84
Information technology	Total	58	60	104	78	69	95
	Other Information Technology	58	59	n/a	80	70	99
Management and commerce	Total	81	94	114	75	85	97
	Business and Management	89	96	120	81	85	107
	Office Studies	72	96	112	74	84	94
	Tourism	82	91	112	73	84	99
Mixed field programmes	Total	70	80	117	62	66	97
	Employment Skills Programmes	70	n/a	103	68	79	89
Society and culture	Total	63	77	110	61	71	91
	Other Society and Culture	76	63	110	79	64	112
	Sport and Recreation	24	n/a	108	49	72	92

Table 44

Growth in median annual earnings of young domestic level one to three certificate completers, over the first five years after study by narrow field of study

Broad field	Narrow field of study	Pasifika %			Non-Pasifika %		
		Over the first year	Across 5 years	Average over 5 years	Over the first year	Across 5 years	Average over 5 years
Architecture and building	Total	-3	32	7	14	48	10
	Building	-3	32	7	14	48	10
Creative arts	Total	6	44	9	6	41	9
	Performing Arts	21	110	20	-21	54	11
Engineering and related technologies	Total	1	36	8	12	51	11
	Automotive Engineering and Technology	9	36	8	12	57	12
	Electrical & Electronic Engineering & Technology	n/a	49	11	14	56	12
	Mechanical and Industrial Engineering	-3	33	7	12	53	11
Food, hospitality and personal services	Total	36	47	10	15	44	10
	Food and Hospitality	7	23	5	20	48	10
	Personal Services	66	41	9	11	36	8
Information technology	Total	4	80	16	-12	22	5
	Other Information Technology	2	n/a	n/a	-13	24	6
Management and commerce	Total	16	40	9	13	30	7
	Business and Management	8	35	8	5	32	7
	Office Studies	33	56	12	13	26	6
	Tourism	11	37	8	16	37	8
Mixed field programmes	Total	15	68	14	7	58	12
	Employment Skills Programmes	n/a	47	10	17	32	7
Society and culture	Total	22	74	15	17	48	10
	Other Society and Culture	-18	44	10	-20	42	9
	Sport and Recreation	n/a	352	46	46	88	17

Table 45

Destinations by narrow field of study for young domestic certificate one to three completers

Broad field	Narrow field of study	Employment %				Further Study %				Overseas %				Benefit / Other %			
		Pasifika		Non-Pasifika		Pasifika		Non-Pasifika		Pasifika		Non-Pasifika		Pasifika		Non-Pasifika	
		Y1	Y5	Y1	Y5	Y1	Y5	Y1	Y5	Y1	Y5	Y1	Y5	Y1	Y5	Y1	Y5
Architecture and building	Total	35	75	47	61	45	15	38	22	3	8	2	7	15	C..	14	10
	Building	35	75	48	61	45	15	38	22	3	8	2	7	15	C..	13	10
Creative arts	Total	18	45	28	48	64	30	57	25	3	9	3	15	16	25	13	13
	Performing Arts	20	38	21	41	56	23	68	34	C..	9	C..	13	20	28	9	16
Engineering and related technologies	Total	28	53	41	52	52	23	47	23	3	13	3	11	15	17	9	11
	Automotive Engineering and Technology	30	38	38	56	55	28	49	23	3	18	3	11	15	5	10	9
	Electrical & Electronic Engineering & Technology	34	75	45	56	51	C..	45	24	C..	15	2	12	17	C..	7	8
	Mechanical and Industrial Engineering	40	56	35	51	44	13	49	24	C..	7	2	10	13	20	12	16
Food, hospitality and personal services	Total	19	39	31	46	52	16	48	18	4	16	3	15	24	29	17	19
	Food and Hospitality	19	45	34	47	50	18	46	20	2	11	3	16	23	27	14	17
	Personal Services	16	31	28	43	53	15	49	15	4	19	3	14	22	38	19	24
Information technology	Total	20	46	20	30	47	18	56	34	4	5	3	8	24	23	22	28
	Other Information Technology	23	45	24	31	46	15	52	33	5	C..	3	10	23	15	21	26
Management and commerce	Total	24	44	37	40	45	21	44	29	4	12	4	13	17	21	17	17
	Business and Management	25	41	25	39	55	18	52	26	6	16	6	18	15	18	17	16
	Office Studies	24	43	37	38	55	26	42	33	4	10	4	10	20	20	18	18
	Tourism	32	50	46	43	43	18	35	23	5	15	5	17	21	23	12	16
Mixed field programmes	Total	15	35	23	32	54	25	51	29	3	9	2	13	29	35	26	26
	Employment Skills Programmes	17	38	23	25	43	23	42	25	4	8	4	10	36	30	32	39
Society and culture	Total	26	40	28	37	52	30	50	31	4	6	4	13	17	25	18	20
	Other Society and Culture	45	43	36	45	16	17	50	23	5	C..	C..	15	33	34	24	30
	Sport and Recreation	19	40	20	40	63	30	57	31	8	10	4	14	19	30	15	17

Source: Statistics New Zealand, Integrated Data Infrastructure, Ministry of Education interpretation. 'C..' denotes the value has been suppressed for confidentiality purposes. Refer to Chapter 11 for full notes.

10 DATA AND DEFINITIONS

This project reports on destinations and earnings for young graduates over the first five years after graduates complete a qualification. Results are presented by qualification level and field of study. Technical details of the data used in this project and the associated definitions are provided below.

10.1 Data

Integrated Data Infrastructure dataset.

The Integrated Data Infrastructure (IDI) dataset was used to obtain the results in this report. This longitudinal dataset is managed by Statistics New Zealand and links together each individual's tertiary education enrolment and completions data to data on (as well as others):

- earnings (from Inland Revenue)
- welfare benefits (from the Ministry of Social Development)
- border crossings (from Immigration New Zealand).

The tertiary education data in the IDI prototype has been provided by the Ministry of Education and is sourced from the Single Data Return from tertiary providers. The immigration data is derived from passenger manifestos. The earnings data in the IDI prototype is derived from tax data collected by Inland Revenue. Welfare benefits data is derived from data used by the Ministry of Social Development to administer the benefits system.

Confidentiality of data

The results published in this report all comply with the Statistics New Zealand's confidentiality requirements. These include a requirement to use random general random rounding for all counts including those which underlie percentages. Additionally, when publishing employment rates or earnings, the corresponding provider, enterprise and graduate counts for that qualification level X field of study combination must be higher than prescribed limits. Blanks may also be suppressed in line with Statistic New Zealand's confidentiality rules. Results from a single provider are suppressed in all cases.

Random rounding may result in a total not agreeing with the sum of individual items shown in a table. It is important to take this into account when comparing percentages as some variation may simply be due to this factor and not to an underlying trend. For example, if the count for each of the four destinations is 20 (and so 80 in total), then the percentage for a single destination can vary from 22 to 28 merely due to rounding. But if the count for each destination is 100 (and so 400 in total), then the variation is from 24.4 to 25.6. In general, the smaller the count, the greater the variation will occur. How the counts are distributed across destinations also affects the variation.

Cells marked 'C..' throughout this report represent numbers suppressed as not meeting Statistics New Zealand's confidentiality requirements. This includes suppression of blank cells in line with Statistic New Zealand's confidentiality rules.

Disclaimer

The following disclaimer applies to all results obtained using the IDI, including the results in this report:

The IDI is managed under strict confidentiality rules by Statistics New Zealand. These rules protect individual people and businesses from identification.

The data extraction was undertaken while the authors were on secondment to Statistics New Zealand. The results are not official statistics, they have been created for research purposes from the Integrated

Data Infrastructure (IDI) managed by Statistics New Zealand. On-going work within Statistics New Zealand to develop the IDI means it will not be possible to exactly reproduce the data presented here.

The results presented in this study are the work of the authors. Statistics New Zealand and the Ministry of Education take no responsibility for any omissions or errors in the information contained here.

Access to the data used in this study was provided by Statistics New Zealand in accordance with security and confidentiality provisions of the Statistics Act 1975. Only people authorised by the Statistics Act 1975 are allowed to see data about a particular person, business or organisation. The results in this report have been confidentialised to protect individual people and businesses from identification.

Careful consideration has been given to the privacy, security and confidentiality issues associated with using administrative data in the IDI prototype. Further detail can be found in the Privacy impact assessment for the Integrated Data Infrastructure available from www.stats.govt.nz.

The results are based in part on tax data supplied by Inland Revenue to Statistics New Zealand under the Tax Administration Act 1994. This tax data must be used only for statistical purposes, and no individual information may be published or disclosed in any other form, or provided to Inland Revenue for administrative or regulatory purposes.

Any person who has had access to the unit-record data has certified that they have been shown, have read, and have understood section 81 of the Tax Administration Act 1994, which relates to secrecy. Any discussion of data limitations or weaknesses is in the context of using the IDI prototype for statistical purposes, and is not related to the data's ability to support Inland Revenue's core operational requirements.

Completions

The analyses and results in this report only relate to students who have completed a qualification that they enrolled in. Enrolments and completions must match by qualification code and level, and provider. Graduates may be included in the results more than once if they have completed a qualification in more than one field of study, or have completed more than one qualification if the qualifications are completed at different levels and/or in different years.

The year that a qualification is completed is assumed to be the last year of enrolment in that qualification. This is because sometimes completions are not recorded in the year that a student actually completes their qualification, for example due to administrative delays or other peculiarities. Completions are excluded in cases where the recorded completion occurs three or more years before the last year of enrolment in that qualification.

Data is aggregated across two leaving cohorts.

The analyses and results in this report are based on aggregated data from two leaving cohorts. Data has been aggregated in order to increase the numbers in the samples and hence, to ensure Statistics New Zealand's confidentiality requirements could be met and to improve statistical quality and robustness.

Cohorts are chosen so that their post-study employment outcomes are always compared in the same economic climate: the 2010 and 2011 tax years. For instance, one year post-study outcomes are calculated for graduates who completed in 2008 or 2009, and five year post-study outcomes are calculated for graduates who completed in 2004 or 2005.

Domestic students

We report outcomes and earnings for domestic students only, excluding any international students. We do this because we have no information about the prior qualifications, labour market experience or earnings of international students, so we can be less certain of associating outcomes to New Zealand study experiences for international students.

A domestic student is a student who is a New Zealand citizen, or who is a New Zealand permanent resident or Australian citizen and is not residing overseas. In cases where the domestic status changes for a student across years, their status in their last year of enrolment for a qualification is used.

Funding types

Completions are excluded from the results if the graduate has received any funding for this qualification that suggests that they may have had previous work experience. In particular, this includes qualifications where a graduate has received Skill Enhancement, Industry Training Off Job component, STAR Funding, English for Migrants, Youth Action Training, or Other contracts funding.

10.2 Definitions

Number of years post-study

The number of years post study are defined using tax years for earnings and all destinations except further study where calendar years are used. Table 56 below shows how the aggregated cohorts align with tax and calendar years for each post study year.

Table 51

Alignment of cohorts with tax and calendar years.

Cohort	Years post study	Calendar year	Tax year
08/09	1	2009/2010	2010/2011
07/08	2	2009/2010	2010/2011
06/07	3	2009/2010	2010/2011
05/06	4	2009/2010	2010/2011
04/05	5	2009/2010	2010/2011
03/04	6	2009/2010	2010/2011

Graduate destinations

The graduate destinations used in this report are:

- Further study
- Benefits
- Employment
- Overseas
- Unknown/Other

Within each leaving cohort, graduates are assigned to only a single destination per year after study using the below business rules. These rules take account of ‘substantiveness’ – how long a graduate is pursuing an activity – and a ‘predominance’ test – what is the ‘main’ activity. Where a graduate meets the criteria for more than one destination, the destination is determined using the order of precedence: Overseas, Further Study, Benefit, Employment, Unknown/Other.

Results are only determined for graduates who are in New Zealand in any particular year. A graduate is regarded as being in New Zealand if, overall, they are in NZ for longer than three months in that tax year.

Destinations are defined as follows:

- *Overseas* – graduates who are out of New Zealand for 9 months or more in a tax year.
- *Further study* – graduates who are not classified as Overseas and do any tertiary study in a calendar year.
- *Receiving a benefit* – graduates who are not classified in either the Overseas or Further study categories and who are on a benefit for at least 4 months in a tax year and who are not in employment for a longer time than this.
- *Employment* – graduates who are not classified in any of the above categories and who receive wages and salary, paid parental leave and/or ACC compensation for at least four months or more in a tax year and/or receive any self-employment income.
- *Other/Unknown* – graduates who do not meet any of the above criteria, or for whom no matching data can be found in the IDI.

Benefit and Unknown/Other destinations combined for some broad and narrow fields

Few postgraduates go on a benefit after study. Thus for these graduates, the Benefit category has been merged with the Unknown/other category for higher level qualifications for broad and narrow field tables to reduce the number of values that need to be suppressed due to Statistics New Zealand's confidentiality criteria.

Earnings

All earnings reported are gross earnings and earnings are only presented for graduates for whom we deem employment is their main activity, in each year independently post-graduation. *Earnings* means income from wages, salaries, self-employment, paid parental leave and accident compensation payments. It excludes unearned income such as rents, dividends, interests and transfer payments such as benefits.

We present graduates' actual earnings (rather than annualised earnings) as some types of work by their nature are seasonal or contract based. No account is taken of hours of work and so earnings will be understated for any qualification/field of study where there are significant numbers of young graduates in part-time work.

Adjusting the data for changes in national wage rates

Earnings are scaled using the Labour Cost Index to normalise differences between the 2010 and 2011 tax years and are presented in 2011 dollars.

Additionally, throughout this report, we have compared graduate earnings to the national median earnings for the 2011 tax year for all workers aged between 15-64 years who have earnings recorded in the IDI, no matter what their qualifications, occupations and hours of work.

Young graduates and qualification level

We report the outcomes only for 'young' graduates. For each qualification level, we set an age range that means we are looking only at those who start that qualification and move to completion before undertaking substantial time in the workforce. We restrict the analysis to young graduates because the aim of the analysis is to support the decision-making of young people. If we mixed the outcomes of young graduates with the outcomes for people who undertake tertiary study after substantial work

experience, we would be unable to separate the effects of the qualification from the effects of the work experience.

Young graduates are defined as:

- 21 years or under at certificate level
- 23 years or under at diploma level
- 24 years or under for three-year bachelors degrees, with each year of additional study requirement adding a year to the age cut-off for longer qualifications⁷
- 26 years or under for one year postgraduate study or graduate certificates or diplomas
- 27 years or under for masters
- 29 years or under for doctorate students.

The age of a graduate is based on their age as at 1 July of their last year of enrolment in a qualification.

Field of study

We use the New Zealand Standard Classification of Education (or NZSCED) to classify people's study into various fields of study. NZSCED has three levels of classification – broad field of study, narrow field and detailed field. We determine what field or fields a graduate has pursued by looking at the courses the graduate took while studying and working out what are the predominant fields of study taken. This method uses level of study, field of study, year of study, and study load of each course that a graduate has studied in their last three years of study, usually of the same level as the final year of study or higher, to determine what best constitutes their main field(s) of study – or specialisation(s). It is important to note that this method may give different results to simply using the classification given by the provider.

One consequence of this is that sometimes, less obvious qualifications may be categorised under a particular field of study for some graduates. For example, as expected, Massey University graduates who complete a Bachelor of Veterinary Science are classified under veterinary studies at bachelors level. However, some Bachelor of Agricultural Science and Bachelor of Science graduates at Lincoln University are also included in this field, as are Unitec graduates who complete a Bachelor of Applied Animal Technology. Similarly, under dental studies, at bachelors level we find both University of Otago Bachelor of Dental Surgery graduates and Auckland University of Technology Bachelor of Health Science (Oral Health) graduates.

Most of our analysis is by broad field of study because if we divide our population of graduates too finely, we end up having to suppress more data because it breaches the Statistics New Zealand confidentiality limits.

People graduating in more than one field of study are counted in each of the fields of study. The number of students in each narrow field of study may not sum to the broad field of study total. This is because students can be enrolled in multiple narrow fields of study.

Field of study is broken down into broad fields using the New Zealand Standard Classification of Education (NZSCED⁸):

- Natural and Physical Sciences

⁷ For example, 25 years and under for law degrees which are four years long, 26 years and under for architecture degrees which are five years long, and 27 years and under for medical degrees as these are six years long. Qualifications with non-whole numbers of years are rounded to the closest number of whole years (rounding upwards if the length is x and a half years).

⁸ For the structure of NZSCED, refer to: http://www.educationcounts.gov.nz/data-services/collecting-information/code_sets/new_zealand_standard_classification_of_education_nzsced

- Information Technology
- Engineering and Related Technologies
- Architecture and Building
- Agriculture, Environmental and Related Studies
- Health
- Education
- Management and Commerce
- Society and Culture
- Creative Arts
- Food, Hospitality and Personal Services
- Mixed Field Programmes.

Each broad field of study contains a spread of types of qualifications. For instance, the broad field Health covers *medicine, veterinary science, dentistry, nursing* and qualifications for low level health workers such as nurse-aides. Natural and Physical Sciences covers *mathematical sciences, physics and astronomy, chemical sciences, earth sciences and biological sciences*.

Data is also published at NZSCED narrow field, where numbers permit. This allows, for instance, separation of law from economics and from social work and separation of medicine from nursing.

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