

Literacy and Life Skills for Pasifika Adults

Results from the Adult Literacy and Life Skills (ALL) Survey

By Elliot Lawes



Acknowledgements

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Executive Summary

Talofa lava, Kia orana, Fakaalofa atu, Taloha ni, Ni sa bula vinaka, Malo e lelei, Tēnā koe, and warm Pasifika greetings.

- How are literacy and numeracy skills distributed within New Zealand's adult Pasifika population?
- How are these skills distributed according to factors such as age, gender and income?
- Are the distributions of these skills different for adults from different Pasifika ethnic populations?

The Adult Literacy and Life-Skills (ALL) survey, conducted in 2006, is able to provide some insight on these and other questions. It follows a similar survey, the International Adult Literacy Survey (IALS), which was conducted in New Zealand in 1996.

The ALL survey was designed to measure the distribution of literacy and numeracy skills among the adult population of New Zealand. In the light of relatively small numbers of Pasifika respondents in the IALS survey, the ALL survey included an oversample of Pasifika adults. This design feature has allowed meaningful insights into the distribution of literacy and numeracy skills among the adult Pasifika population of New Zealand.

Why do we need these insights? Literacy and numeracy skills are key factors that contribute to New Zealand's society and economy, of which the Pasifika population forms a large and important part. The ALL survey provides top-level information on the distribution of English language literacy and numeracy skills in New Zealand. It therefore provides a general picture of how the skills of the adult Pasifika population contribute to New Zealand's society and economy.

This report is a sequel to four earlier reports investigating the distribution of skills among the entire adult population of New Zealand (located at www.educationcounts.govt.nz/goto/all). In particular it follows the report *The Adult Literacy and Life Skills (ALL) Survey: Gender, Ethnicity and Literacy*. For more information about the ALL survey see *The Adult Literacy and Life Skills (ALL) Survey: An Introduction* (also located at www.educationcounts.govt.nz/goto/all).

Key Findings

This report describes the distributions of prose literacy¹, document literacy, numeracy and problem-solving skill among the adult Pasifika population of New Zealand² in 2006. In particular, this report describes the relationship between distributions of these skills and each of the factors: age; gender; labour force status; educational attainment; language most frequently spoken when at home; first language; place of birth; and income.

Where quality of statistics allowed comparison:

- Among almost all population subgroups of Pasifika adults in New Zealand in 2006 identified in this report (i.e. groups defined by age, gender, labour force status etc), nearly two thirds or more of members of the subgroup did not have the level of skills allowing full participation in the knowledge society and economy.³
- For Pasifika adults in New Zealand in 2006, those in the following groups were most likely to have the level of skills allowing full participation in the knowledge society and economy:
 - 25-34-year-olds.
 - Women.
 - The employed.
 - Those with a tertiary-level education.
 - Those who, when at home, most frequently spoke English.
 - Those who were born in New Zealand.
 - Those who were in the highest 20 percent of Pasifika income earners.
- Between 1996 and 2006, there appeared to be some decreases in the percentages of Pasifika adults with the level of skills allowing full participation in the knowledge society and economy. However, due to a small sample in 1996, these changes may be less marked than they appear.⁴
- There were some differences in the distributions of literacy and numeracy skills among the Pasifika ethnic populations. In general, Niuean adults tended to have relatively higher skills and Tongan adults relatively lower. However, there was considerable overlap in their distributions.

¹ Prose literacy is the ability to read continuous text such as that found in books, document literacy is the ability to read discontinuous text such as that found in graphs or charts, numeracy is the ability to manage the mathematical demands of different situations and problem solving involves analytical reasoning. For more details, please see *The Adult Literacy and Life Skills (ALL) Survey: An Introduction* – available at www.educationcounts.gov.nz/goto/all.

² The Pasifika population described in this report are represented by those who reported that they belonged to any Pasifika ethnic group in the ALL survey ethnic question. In particular, these respondents may have also identified with other ethnic groups in addition to Pasifika.

³ That is, level 3, 4, or 5 skills in the terms of the ALL survey.

⁴ This is addressed in the Section 10 of the present document and taken up in *Literacy and Life Skills for Pasifika Adults – Further Investigation* – available at www.educationcounts.gov.nz/goto/all.

Introduction

This report describes the distributions of prose literacy, document literacy, numeracy and problem-solving skill among the adult Pasifika population of New Zealand in 2006. It is intended to give a fairly high-level description of English literacy skill in the adult Pasifika population of New Zealand. For a more investigate approach (especially focussing on the relationship between English literacy skill, educational attainment and familiarity with English) see *Literacy and Life Skills for Pasifika Adults – Further Investigation*.

These descriptions of skill-distribution in the current report are analysed by a number of factors. These factors are:

- Age
- Gender
- Labour force status
- Educational attainment
- Language most frequently spoken when at home
- First language
- Place of birth
- Income.

For each of the above factors the analysis is preceded by a brief description of the distribution of the factor of interest.

For example, the distribution of age amongst Pasifika adults is presented, followed by distributions of literacy, numeracy and problem-solving levels for Pasifika adults at several age-groups. The descriptive statistics for the other factors follow a similar pattern to those for age.

There is also a section presenting mean literacy scores for Samoan, Cook Island Maori, Tongan, Niuean, and Other Pasifika ethnic populations⁵ of groupings determined by the above factors. For example, the mean literacy scores for Samoan, Cook Island Maori, Tongan, Niuean, and Other Pasifika ethnic populations are presented disaggregated by age-group.

Literacy, numeracy and problem-solving *levels* are presented as it is straightforward to translate these into a description of the skills individuals possess (see *The Adult Literacy and Life Skills (ALL) Survey: An Introduction* for details⁶). However, these *level* statistics are not necessarily robust when estimated for small groups. For this reason, *mean* literacy scores are presented (instead of level statistics) when the data is disaggregated by ethnic group. Where estimates are of poor statistical quality (that is, they have high relative sampling error), they are not reported.

⁵ When respondents identified with more than one Pasifika ethnic group they were counted in each one.

⁶ For an extensive description of the skills that each level represents (for each of prose literacy, document literacy, numeracy and problem-solving), see the joint OECD and Statistics Canada publication: *Learning a Living: First Results of the Adult Literacy and Life Skills Survey*. This is available from www.statcan.gc.ca/pub/89-603-x/2005001/pdf/4200878-eng.pdf.

1. Age

This section is concerned with the distribution of skills by age amongst Pasifika peoples.

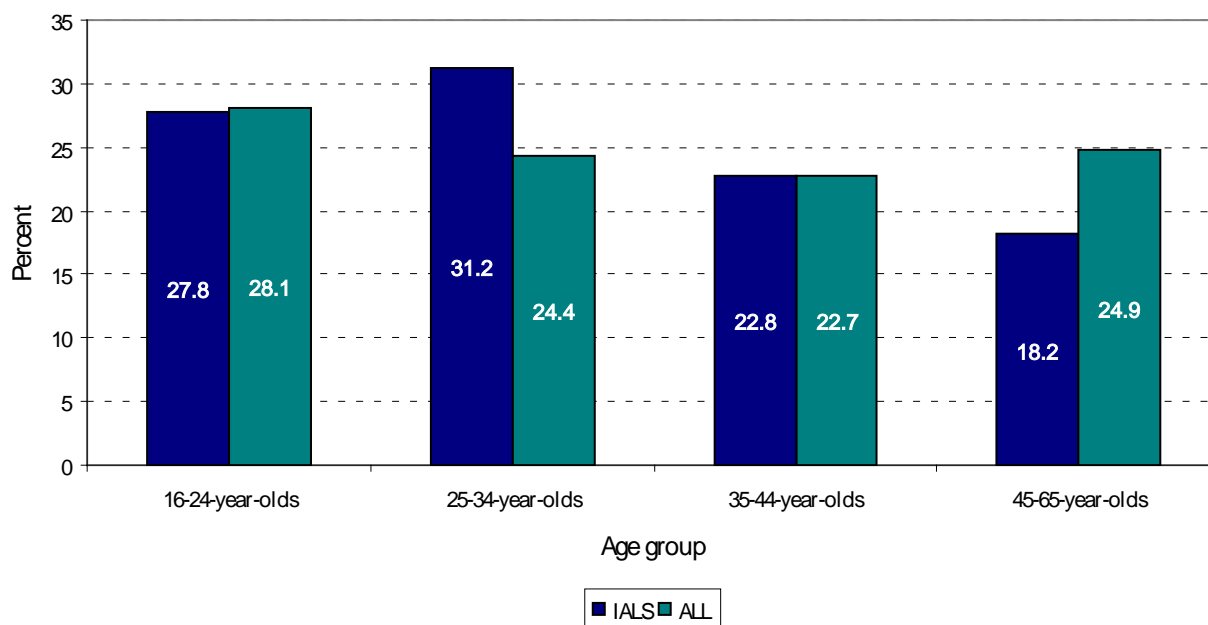
Figure 1.1 shows the age distribution of Pasifika peoples measured by the ALL and IALS surveys. Figures 1.2 to 1.5 show the distributions of each of prose literacy, document literacy, numeracy and problem solving skill for different age groups among the Pasifika population of New Zealand. In addition, Figures 1.2 and 1.3 show the comparable statistics available from the IALS survey.

Overall, Figures 1.1 to 1.5 indicate that:

- For all four skill domains (prose literacy, document literacy, numeracy, and problem solving skill), for all reported age groups, the majority (from 62 percent to 95 percent) of Pasifika adults in 2006 had level 1 or 2 skills.
- For all four skill domains, Pasifika adults aged 25-34 in 2006 had substantially higher skills than both younger and older Pasifika adults.
- Prose literacy skill for Pasifika 16-to-24-year-olds appeared to decrease from 1996 to 2006, however assessment of the significance of the decline is difficult as the number of Pasifika respondents in the IALS survey was relatively small.⁷

⁷ See Appendix Figures 1.1 to 1.6. Because of relatively small numbers of Pasifika respondents in the IALS survey, some of the statistics concerning Pasifika peoples from the IALS survey were of quality too poor to report.

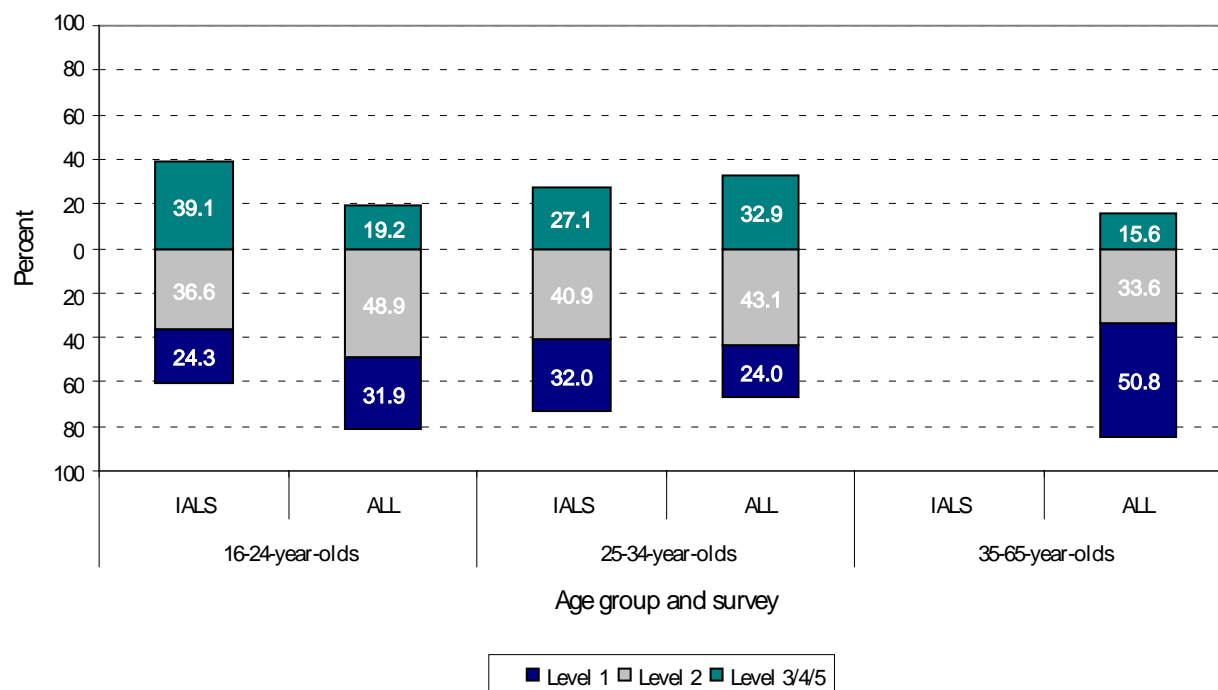
Figure 1.1: Age, IALS and ALL



Note:

1. To allow statistically robust estimates, 45-54-year-olds and 55-65-year-olds were grouped together.

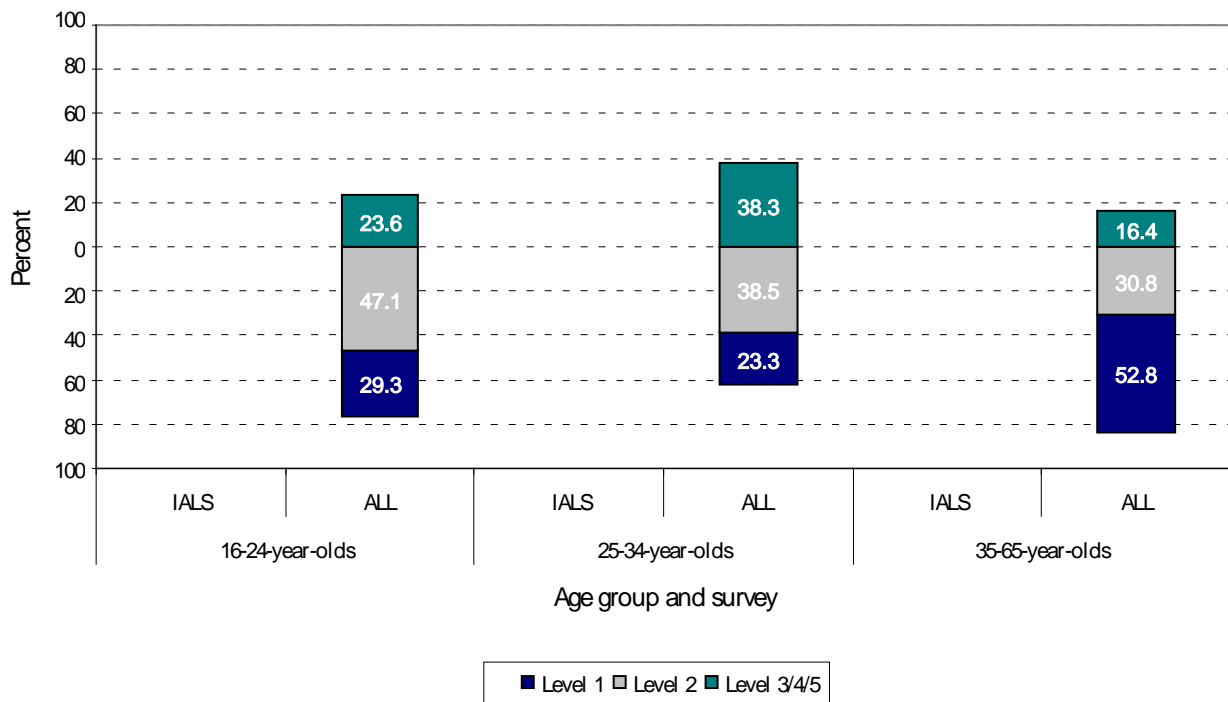
Figure 1.2: Prose literacy level by age, IALS and ALL



Notes:

1. To allow statistically robust estimates, 35-44-year-olds, 45-54-year-olds and 55-65-year-olds were grouped together.
2. To allow statistically robust estimates, levels 3, 4 and 5 were grouped together.
3. Figures for 35-65-year-olds in IALS were not included because of their low statistical quality (i.e. high relative error).

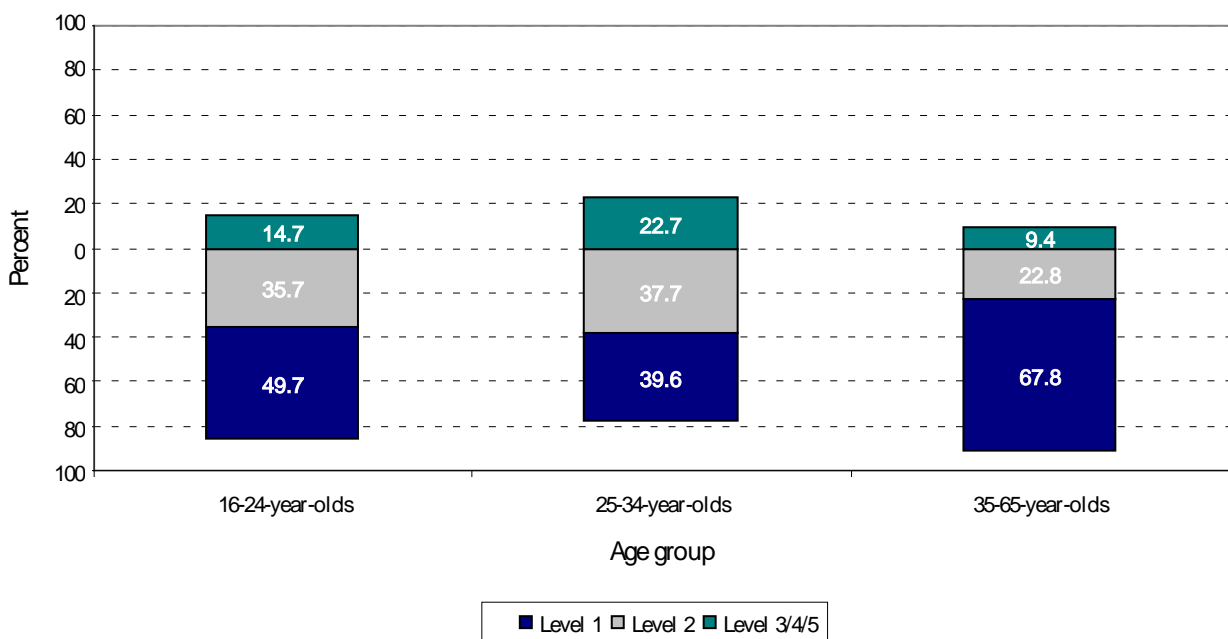
Figure 1.3: Document literacy level by age, IALS and ALL



Notes:

1. To allow statistically robust estimates, 35-44-year-olds, 45-54-year-olds and 55-65-year-olds were grouped together.
2. To allow statistically robust estimates, levels 3, 4 and 5 were grouped together.
3. Figures for IALS were not included because of their low statistical quality (i.e. high relative error).

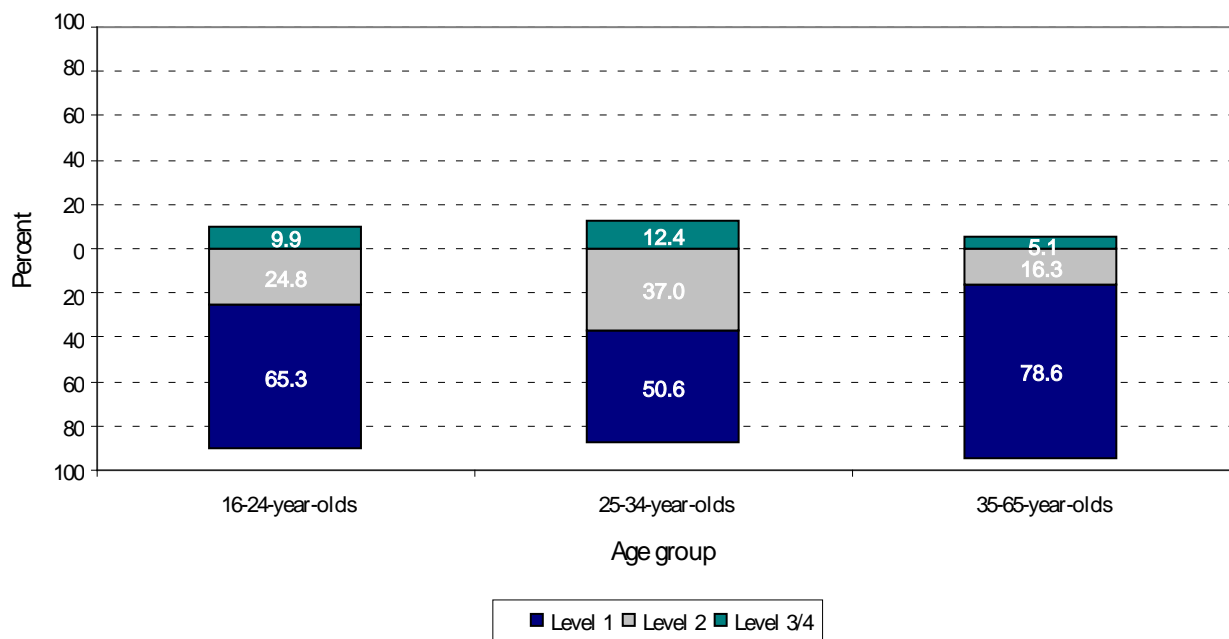
Figure 1.4: Numeracy level by age, ALL only



Notes:

1. To allow statistically robust estimates, 35-44-year-olds, 45-54-year-olds and 55-65-year-olds were grouped together.
2. To allow statistically robust estimates, levels 3, 4 and 5 were grouped together.
3. Numeracy was not measured in the IALS survey.

Figure 1.5: Problem-solving level by age, ALL only



Notes:

1. To allow statistically robust estimates, 35-44-year-olds, 45-54-year-olds and 55-65-year-olds were grouped together.
2. To allow statistically robust estimates, levels 3 and 4 were grouped together.
3. Problem-solving was not measured in the IALS survey.

2. Gender

This section is concerned with the distribution of skills by gender amongst Pasifika peoples.

Figure 2.1 shows the distribution of men and women among Pasifika peoples measured by the ALL and IALS surveys. Figures 2.2 to 2.5 show the distributions of each of prose literacy, document literacy, numeracy and problem solving skill for Pasifika men and women in New Zealand. In addition, Figures 2.2 and 2.3 show the comparable statistics available from the IALS survey.

Overall, Figures 2.1 to 2.5 indicate that:

- According to the IALS and ALL surveys, there was a slight decrease in the proportion of Pasifika adults who were female.⁸
- For all four skill domains (prose literacy, document literacy, numeracy, and problem solving skill), for both men and women, the majority (from 71 percent to 93 percent) of Pasifika adults in 2006 had level 1 or 2 skills.
- For all four skill domains, Pasifika women had slightly higher skills than Pasifika men (but see also Section 9 where this result is not always true when disaggregated by Pasifika ethnic population).
- The percentage of Pasifika men and women with level 3, 4, or 5 prose literacy appeared to decrease substantially from 1996 to 2006.⁹ For Pasifika men, the percentage at level 2 remained stable. For women, this percentage increased substantially.
- Changes in document literacy from 1996 to 2006 were somewhat different to those of prose literacy over the same period. The percentage of Pasifika men with level 3, 4, or 5 document literacy appeared to decrease substantially from 1996 to 2006, but for Pasifika women, there appears to have been an increase. For Pasifika men, the percentage at level 2 decreased substantially. For women, this percentage increased substantially. Again, assessment of the significance of these changes is difficult as the number of Pasifika respondents in the IALS survey was relatively small.

⁸ The New Zealand Census records that from 1996 to 2006, the percentage of women among the Pasifika population increased from 51 percent to 52 percent.

⁹ See Appendix Figures 2.1 to 2.6 for a description of the quality of the data. Some of the statistics concerning Pasifika peoples were of marginal quality so these apparent changes may not be as pronounced as they appear.

Figure 2.1: Gender, IALS and ALL

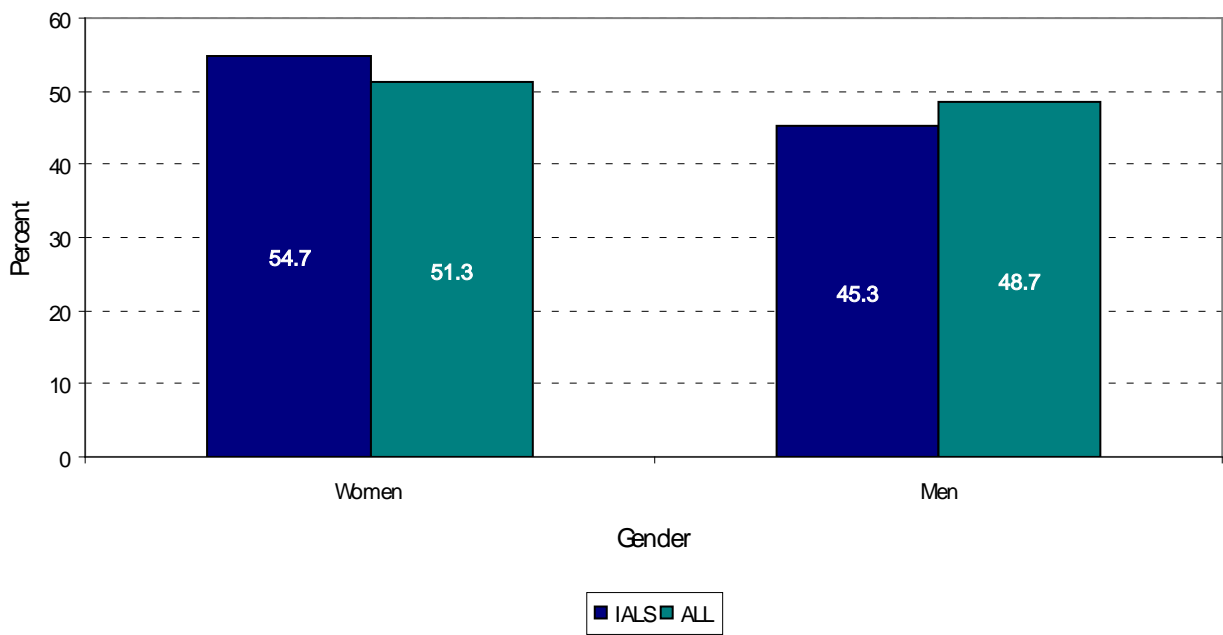
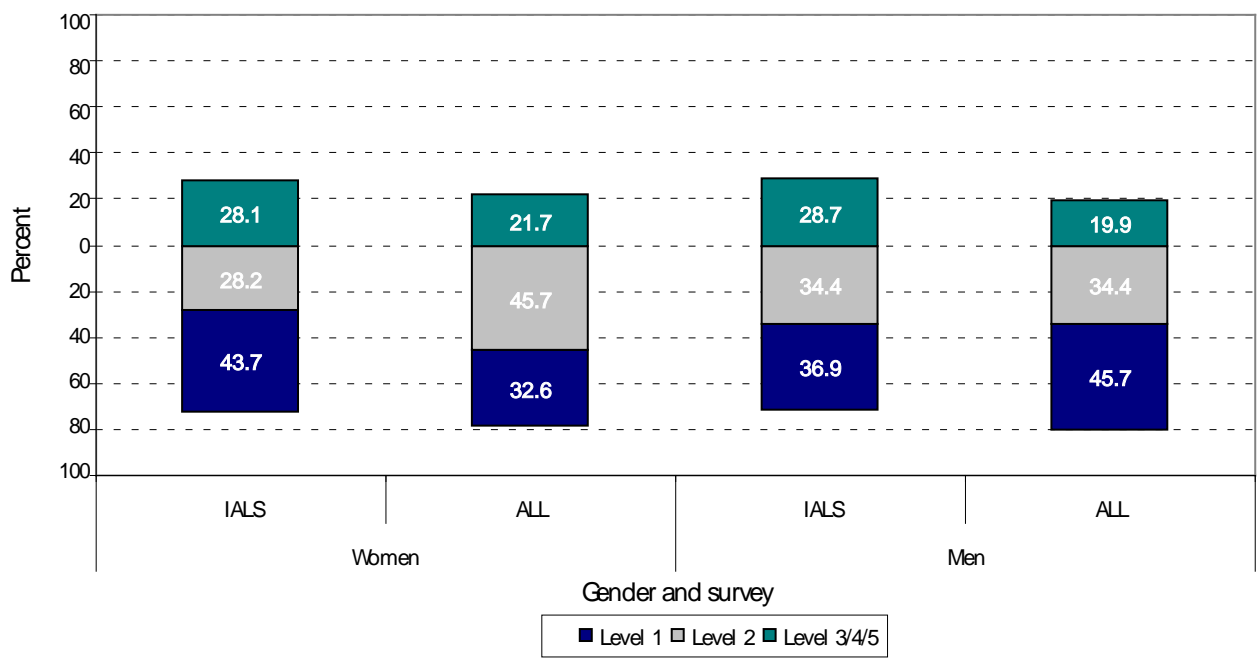


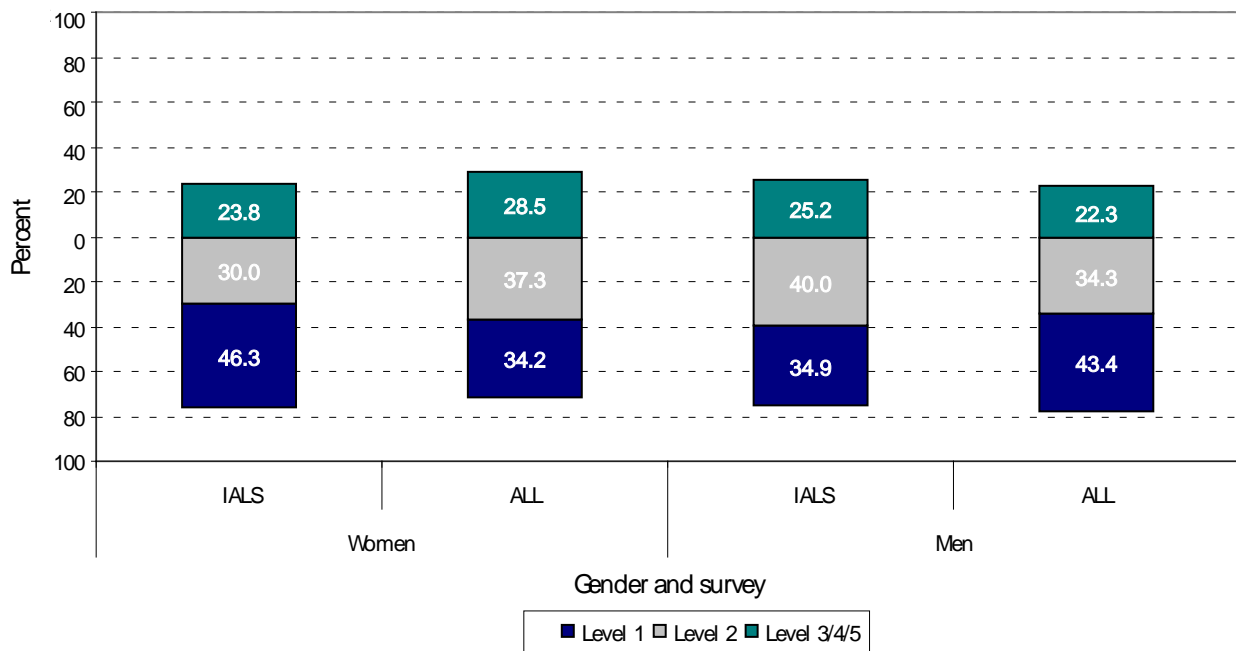
Figure 2.2: Prose literacy level by gender, IALS and ALL



Note:

1. To allow statistically robust estimates, levels 3, 4 and 5 were grouped together.

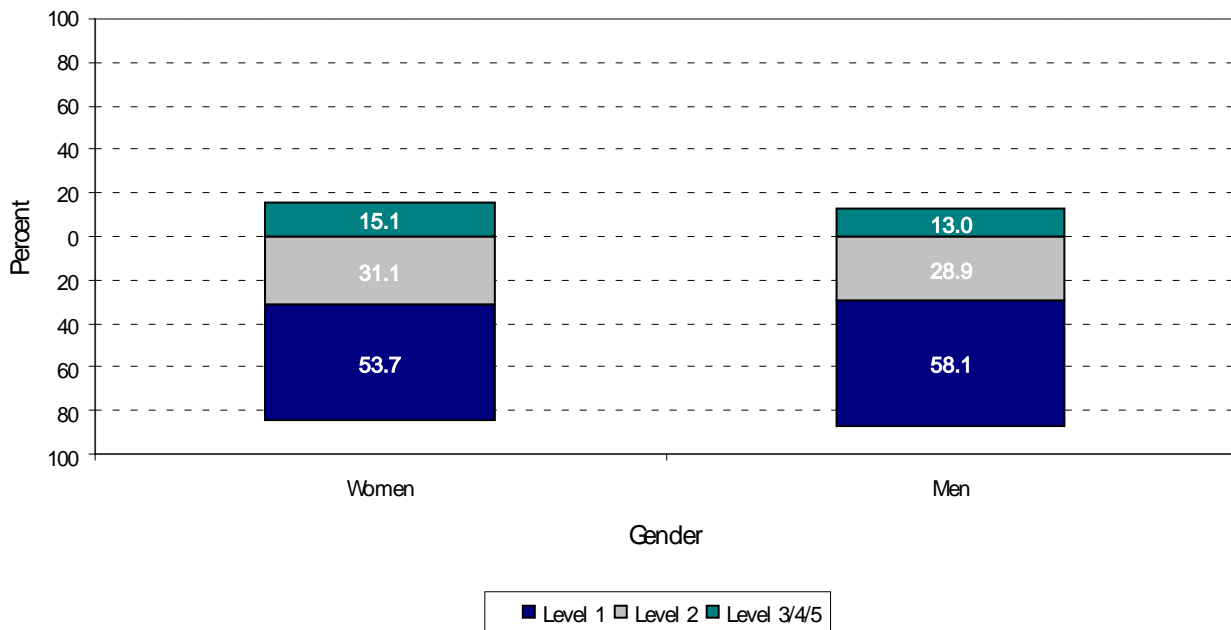
Figure 2.3: Document literacy level by gender, IALS and ALL



Note:

1. To allow statistically robust estimates, levels 3, 4 and 5 were grouped together.

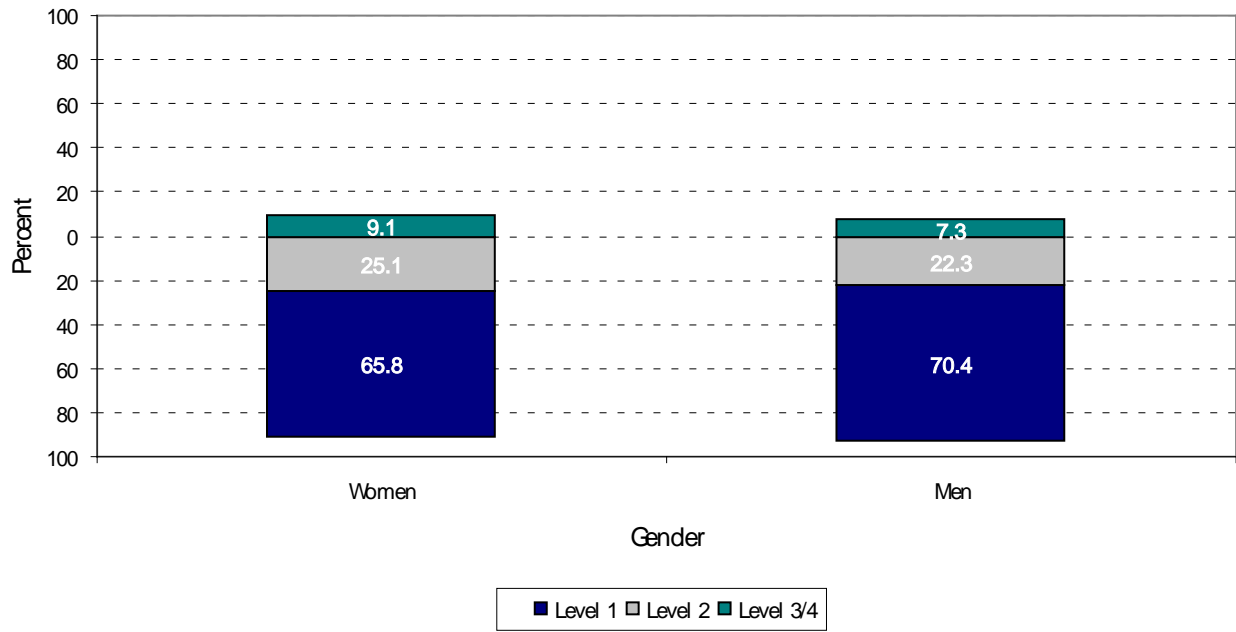
Figure 2.4: Numeracy level by gender, ALL only



Notes:

1. To allow statistically robust estimates, levels 3, 4 and 5 were grouped together.
2. Numeracy was not measured in the IALS survey.

Figure 2.5: Problem-solving level by gender, ALL only



Notes:

1. To allow statistically robust estimates, levels 3 and 4 were grouped together.
2. Problem-solving was not measured in the IALS survey.

3. Labour force status

This section is concerned with the distribution of skills by labour force status amongst Pasifika peoples. For the purposes of this report, labour force status is grouped as employed, homemakers and other labour force statuses.

Figure 3.1 shows the distribution of the employed, homemakers and other labour force statuses among Pasifika peoples measured by the IALS and ALL surveys.¹⁰ Figures 3.2 to 3.5 show the distributions of each of prose literacy, document literacy, numeracy and problem solving skill by labour force for Pasifika adults in New Zealand. In addition, Figures 3.2 and 3.3 show the comparable statistics available from the IALS survey.

Overall, Figures 3.1 to 3.5 indicate that:

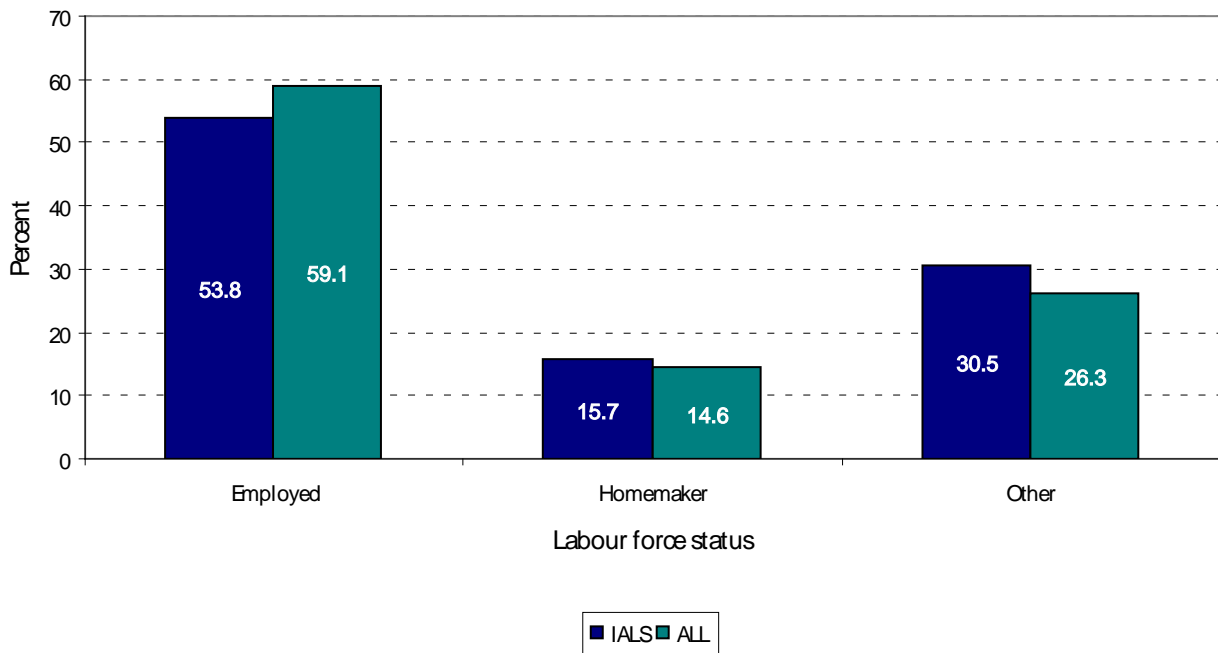
- There was an increase in the proportion of Pasifika adults who were employed.¹¹
- For all four skill domains (prose literacy, document literacy, numeracy, and problem solving skill), for both the employed and those in other labour force statuses, the majority (from 73 percent to 94 percent) of Pasifika adults in 2006 had level 1 or 2 skills.
- For all four skill domains, employed Pasifika adults in 2006 had substantially higher skills than Pasifika adults in other reported labour force statuses.
- The percentage of employed Pasifika adults with level 3, 4, or 5 prose literacy appeared to decrease substantially from 1996 to 2006.¹² For employed Pasifika adults, the percentage at level 2 appeared to increase.
- Changes in document literacy from 1996 to 2006 were somewhat different to those of prose literacy over the same period. The percentage of employed Pasifika adults with level 3, 4, or 5 document literacy appeared to decrease as did the percentage at level 2. Assessment of the significance of the decline is difficult as the number of Pasifika respondents in the IALS survey was relatively small.

¹⁰ The IALS and ALL surveys group labour force status as “employed”, “unemployed”, “student”, “retired”, “homemaker” and “other”. For the purposes of this report, these have been regrouped as “employed”, “homemaker” and “other” so that “other” in this report is an amalgamation of “unemployed”, “student”, “retired”, and “other” in the IALS and ALL surveys. Labour force status was regrouped in this way for several reasons: firstly, the IALS and ALL surveys only include retired people 65 years old or younger so don’t represent all retired people; secondly, the surveys only include students living in private residences so don’t represent all students; thirdly, as some of these groups were small their associated literacy level statistics were of low quality. For completeness, the prose literacy means (with standard errors in parentheses) for Pasifika adults in the labour force status categories as recorded in the ALL survey were: employed, 238 (4); unemployed, 224 (8); retired, 220 (33); student, 248 (5); homemaker, 214 (11); other, 180 (19).

¹¹ The New Zealand Household Labour Force survey records that from 1996 to 2006, the percentage of Pasifika adults aged 15 and over who were employed increased from around 50 percent to 59 percent.

¹² See Appendix Figures 3.1 to 3.6 for a description of the quality of the data. Some of the statistics concerning Pasifika peoples were of marginal quality so these apparent changes may not be as pronounced as they appear.

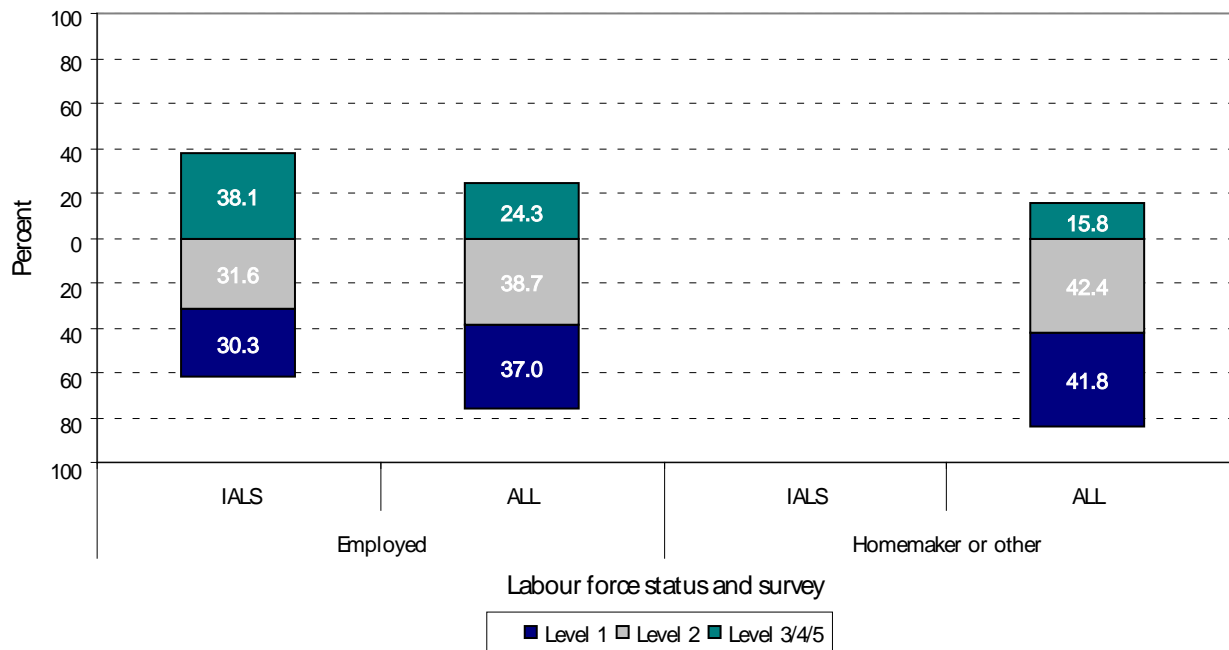
Figure 3.1: Labour force status, IALS and ALL



Note:

- To allow statistically robust estimates, unemployed (and seeking employment), student, retired and other are grouped under the title "other".

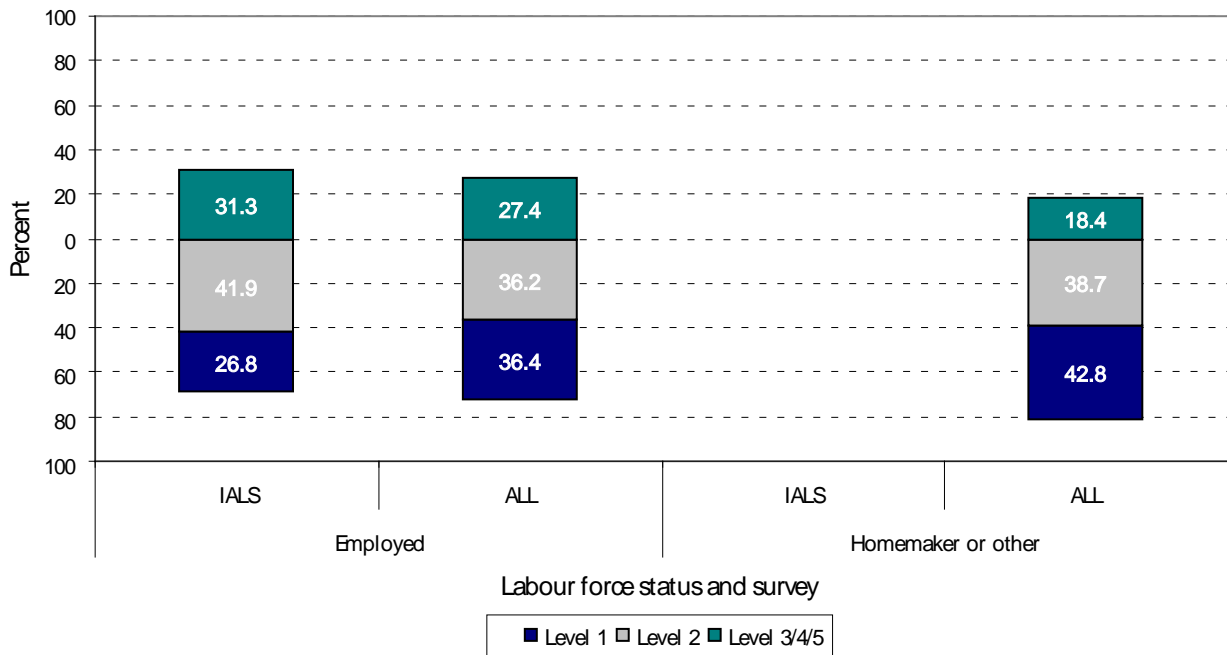
Figure 3.2: Prose literacy level by labour force status, IALS and ALL



Notes:

- To allow statistically robust estimates, homemaker, unemployed (and seeking employment), student, retired and other are grouped under the title "homemaker or other".
- To allow statistically robust estimates, levels 3, 4 and 5 were grouped together.
- Figures for "homemaker or other" in IALS were not included because of their low statistical quality.

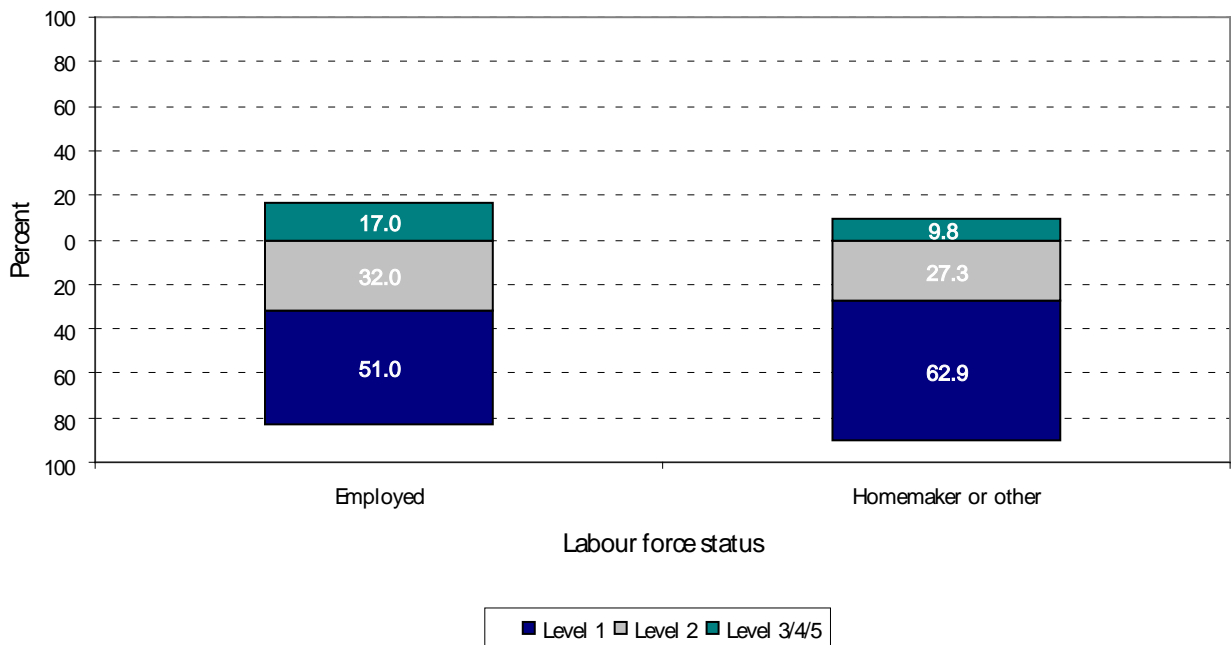
Figure 3.3: Document literacy level by labour force status, IALS and ALL



Notes:

1. To allow statistically robust estimates, homemaker, unemployed (and seeking employment), student, retired and other are grouped under the title "homemaker or other".
2. To allow statistically robust estimates, levels 3, 4 and 5 were grouped together.
3. Figures for "homemaker or other" in IALS were not included because of their low statistical quality.

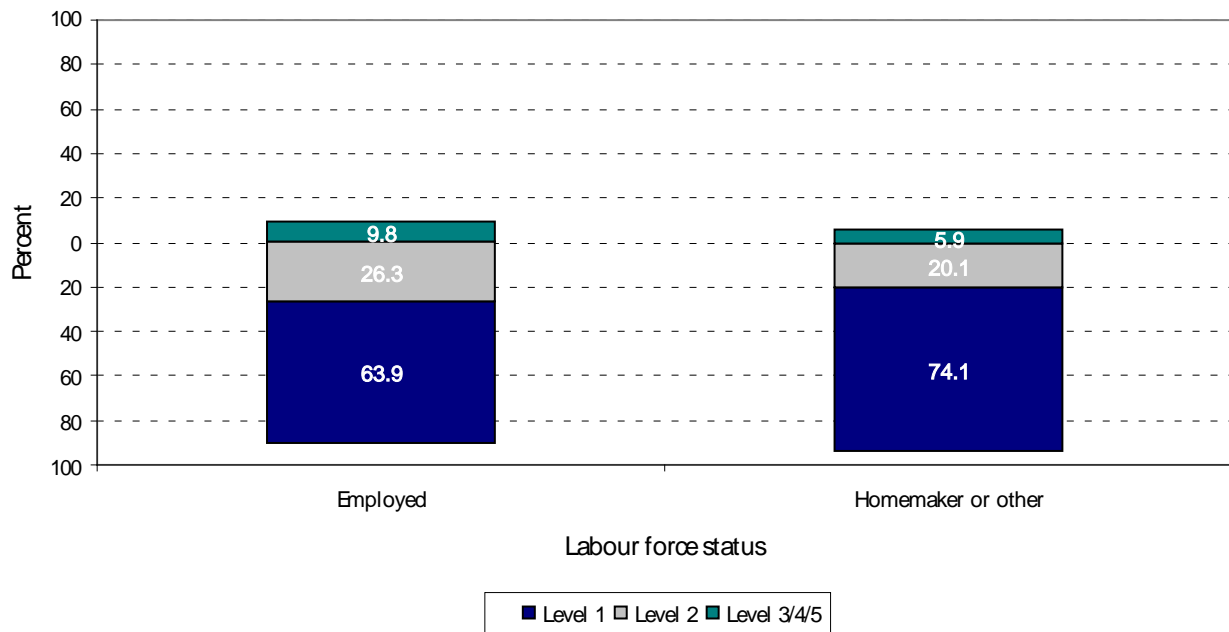
Figure 3.4: Numeracy level by labour force status, ALL only



Notes:

1. To allow statistically robust estimates, homemaker, unemployed (and seeking employment), student, retired and other are grouped under the title "homemaker or other".
2. To allow statistically robust estimates, levels 3, 4 and 5 were grouped together.
3. Numeracy was not measured in the IALS survey.

Figure 3.5: Problem-solving level by labour force status, ALL only



Notes:

1. To allow statistically robust estimates, homemaker, unemployed (and seeking employment), student, retired and other are grouped under the title "homemaker or other".
2. To allow statistically robust estimates, levels 3 and 4 were grouped together.
3. Problem-solving was not measured in the IALS survey.

4. Educational attainment

This section is concerned with the distribution of skills by educational attainment amongst Pasifika peoples.

Figure 4.1 shows the distribution of those with lower secondary or less education, those with upper secondary education and those with tertiary education among Pasifika peoples measured by the ALL and IALS surveys. Figures 4.2 to 4.5 show the distributions of each of prose literacy, document literacy, numeracy and problem solving skill by educational attainment for Pasifika adults in New Zealand. In addition, Figures 4.2 and 4.3 show the comparable statistics available from the IALS survey.

Overall, Figures 4.1 to 4.5 indicate that:

- There was a substantial increase in the proportion of Pasifika adults with an upper secondary level education¹³. Similarly, there was a substantial increase in the proportion of Pasifika adults with a tertiary level education¹⁴.
- For all four skill domains (prose literacy, document literacy, numeracy, and problem solving skill), for all levels of educational attainment, the majority (from 55 percent to 93 percent) of Pasifika adults in 2006 had level 1 or 2 skills. However, for prose and document literacy for Pasifika adults with tertiary education levels, this was a fairly slim majority (57 percent and 55 percent respectively).
- For all four skill domains, where comparison was possible, in 2006 Pasifika adults with a tertiary level education had substantially higher skills than Pasifika adults with lower levels of education.
- The percentage of Pasifika adults with an upper secondary level education with level 3, 4, or 5 prose literacy appeared to decrease from 1996 to 2006. The same held true for document literacy. The percentage of Pasifika adults with a tertiary level education with level 3, 4, or 5 document literacy remained stable over the period.

¹³ Lower secondary or less' means completed at most Year 10, 'higher secondary' means completed more than Year 10 but no more than Year 13, and 'tertiary' means participated in a tertiary education programme.

¹⁴ The New Zealand Household Labour Force survey records that from 1996 to 2006, the percentage of Pasifika adults aged between 15 and 64 with a tertiary qualification increased from around 23 percent to 28 percent.

Figure 4.1: Educational attainment, IALS and ALL

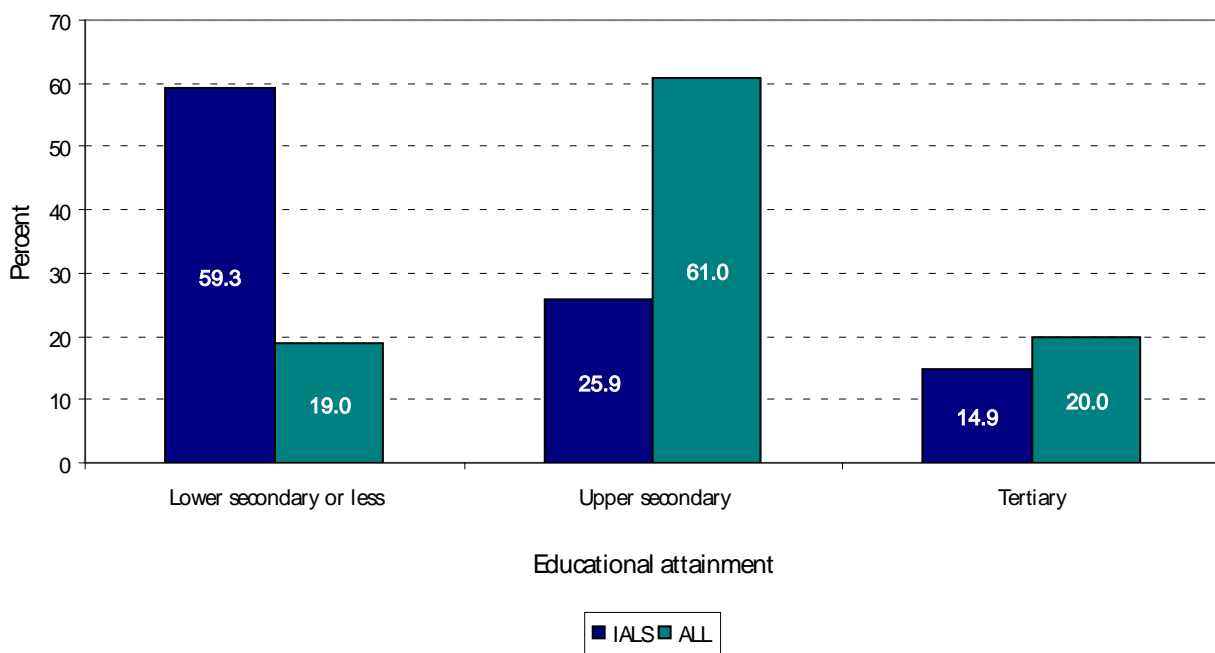
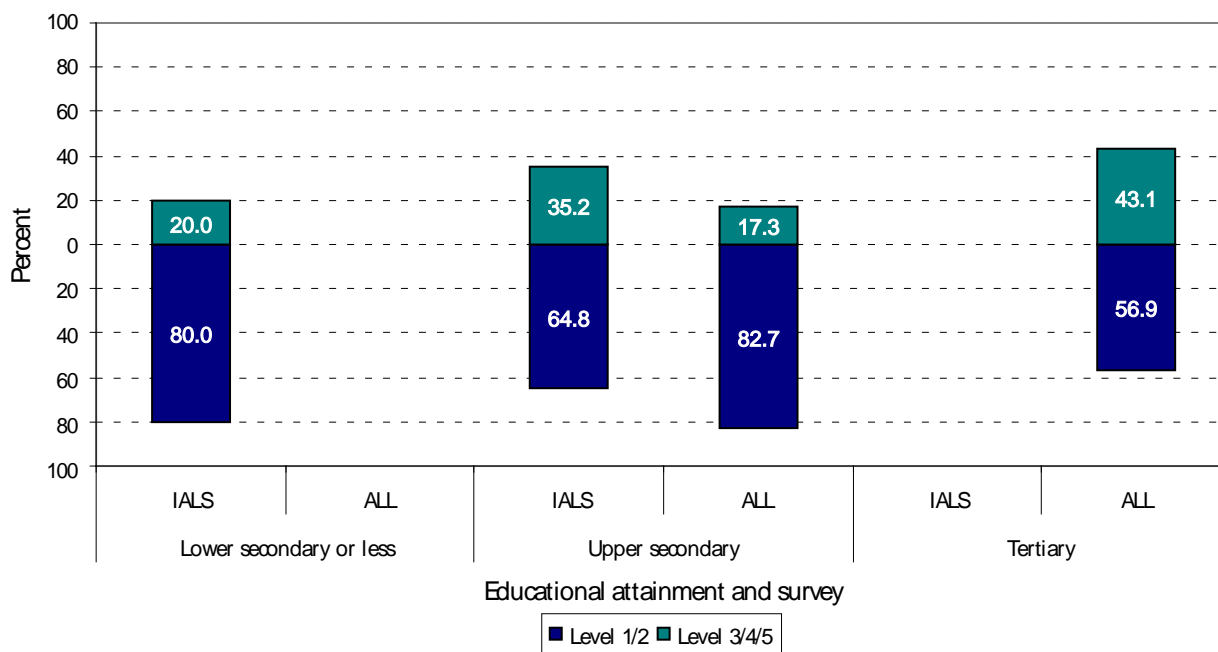


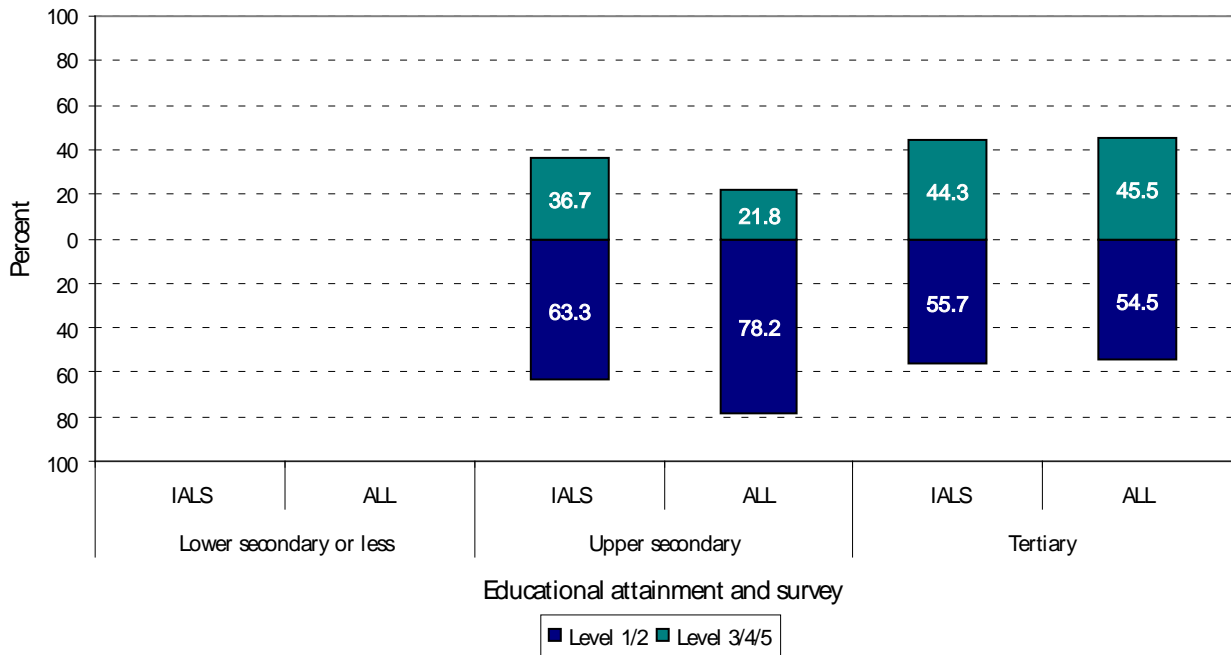
Figure 4.2: Prose literacy level by educational attainment, IALS and ALL



Notes:

1. To allow statistically robust estimates, levels 1 and 2 and levels 3, 4 and 5 were grouped together.
2. Figures for "Tertiary" in IALS and "Lower secondary or less" in ALL were not included because of their low statistical quality.

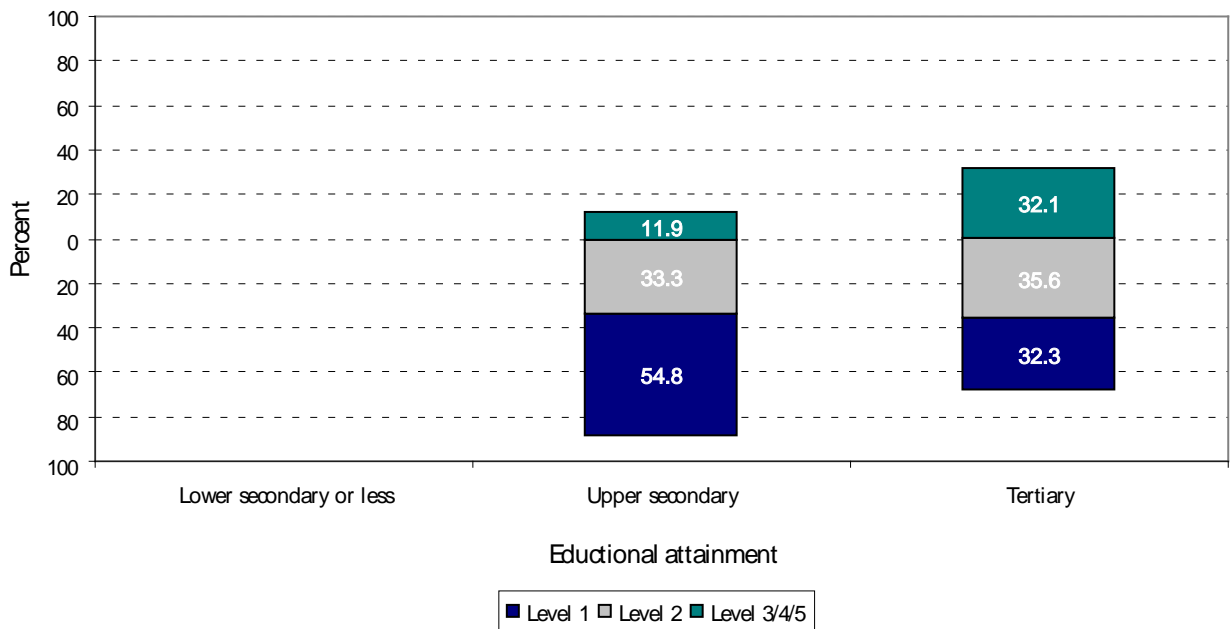
Figure 4.3: Document literacy level by educational attainment, IALS and ALL



Notes:

1. To allow statistically robust estimates, levels 1 and 2 and levels 3, 4 and 5 were grouped together.
2. Figures for "Lower secondary or less" in IALS and ALL were not included because of their low statistical quality.

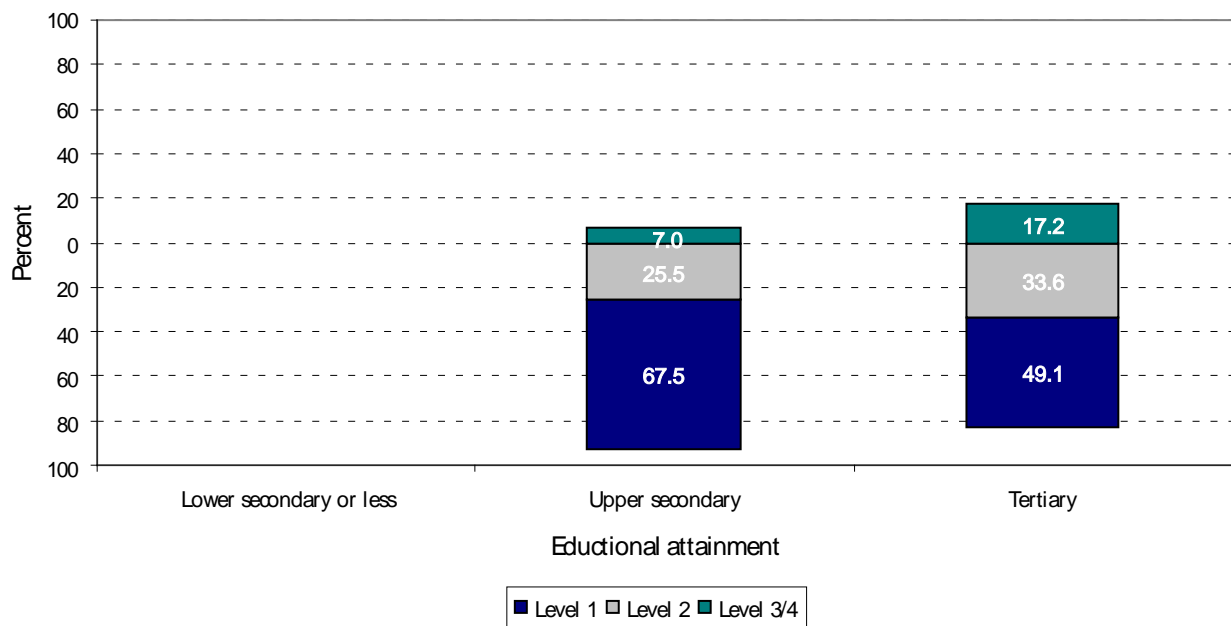
Figure 4.4: Numeracy level by educational attainment, ALL only



Notes:

1. To allow statistically robust estimates, levels 3, 4 and 5 were grouped together.
2. Numeracy was not measured in the IALS survey.
3. Figures for "Lower secondary or less" were not included because of their low statistical quality.

Figure 4.5: Problem-solving level by educational attainment, ALL only



Notes:

1. To allow statistically robust estimates, levels 3 and 4 were grouped together.
2. Problem-solving was not measured in the IALS survey.
3. Figures for "Lower secondary or less" were not included because of their low statistical quality.

5. Language spoken most frequently in the home

This section is concerned with the distribution of skills by language spoken most frequently in the home amongst Pasifika peoples.

Figure 5.1 shows the distribution (among Pasifika peoples measured by the ALL and IALS surveys) of those who spoke English most frequently in the home and those who spoke another language. Figures 5.2 to 5.5 show the distributions of each of prose literacy, document literacy, numeracy and problem solving skill by language spoken most frequently in the home for Pasifika adults in New Zealand. In addition, Figures 5.2 and 5.3 show the comparable statistics available from the IALS survey.

Recall that the ALL and IALS surveys measure skills using tests in English.

Overall, Figures 5.1 to 5.5 indicate that:

- There was a substantial increase in the proportion of Pasifika adults who, when at home, most frequently spoke a language other than English.
- Where comparison was possible (i.e. for prose literacy and document literacy), regardless of language spoken most frequently in the home, the majority (from 65 percent to 93 percent) of Pasifika adults in 2006 had level 1 or 2 skills.
- Where comparison was possible (i.e. for prose literacy and document literacy), Pasifika adults who, when at home, most frequently spoke English had substantially higher skills than Pasifika adults who, when at home, most frequently spoke another language.
- The percentage of Pasifika adults who, when at home, most frequently spoke English and who had level 3, 4, or 5 prose literacy appeared to decrease from 1996 to 2006. However, there was a substantial increase in the percentage of Pasifika adults who, when at home, most frequently spoke English and who had level 3, 4, or 5 document literacy.

Figure 5.1: Language spoken most frequently in the home, IALS and ALL

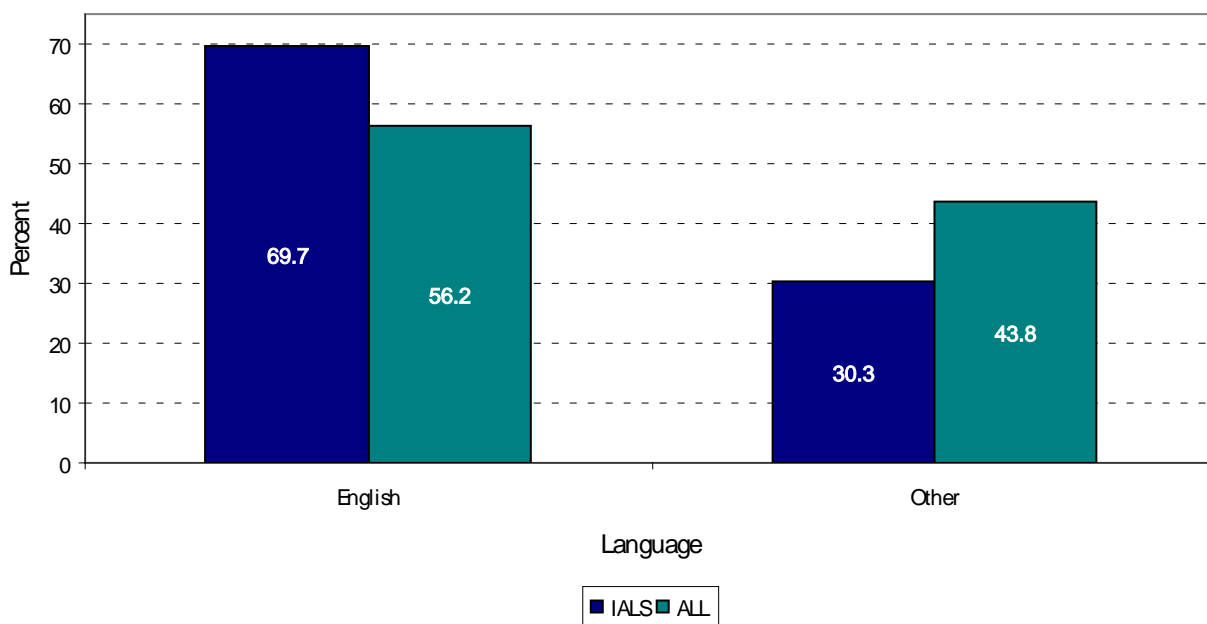
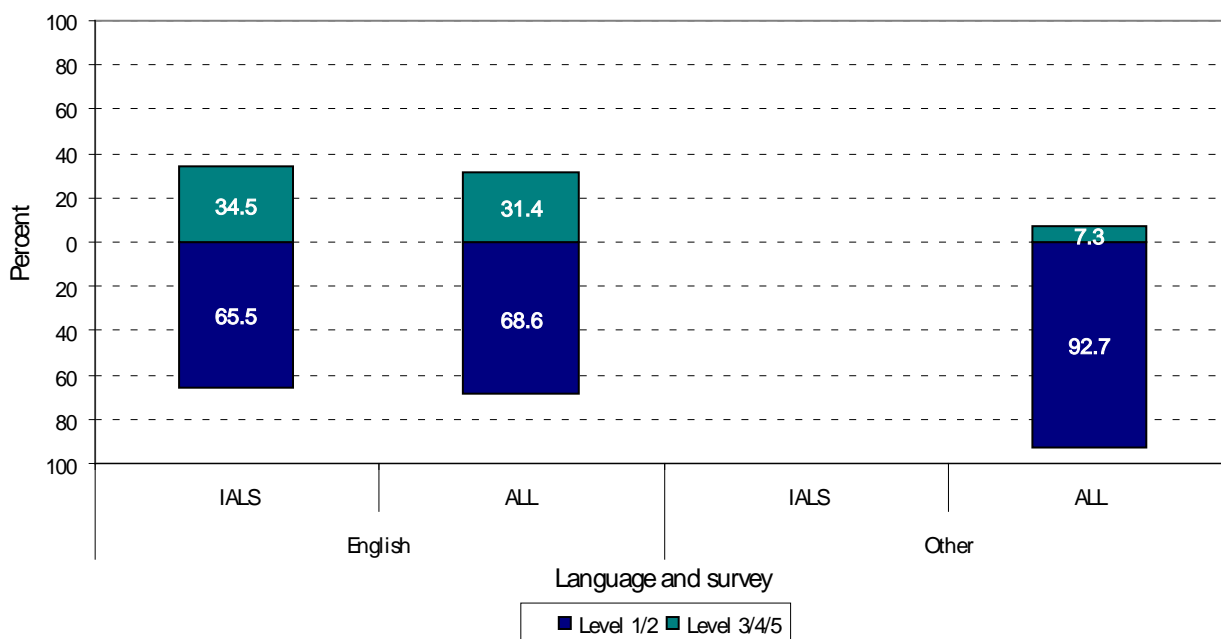


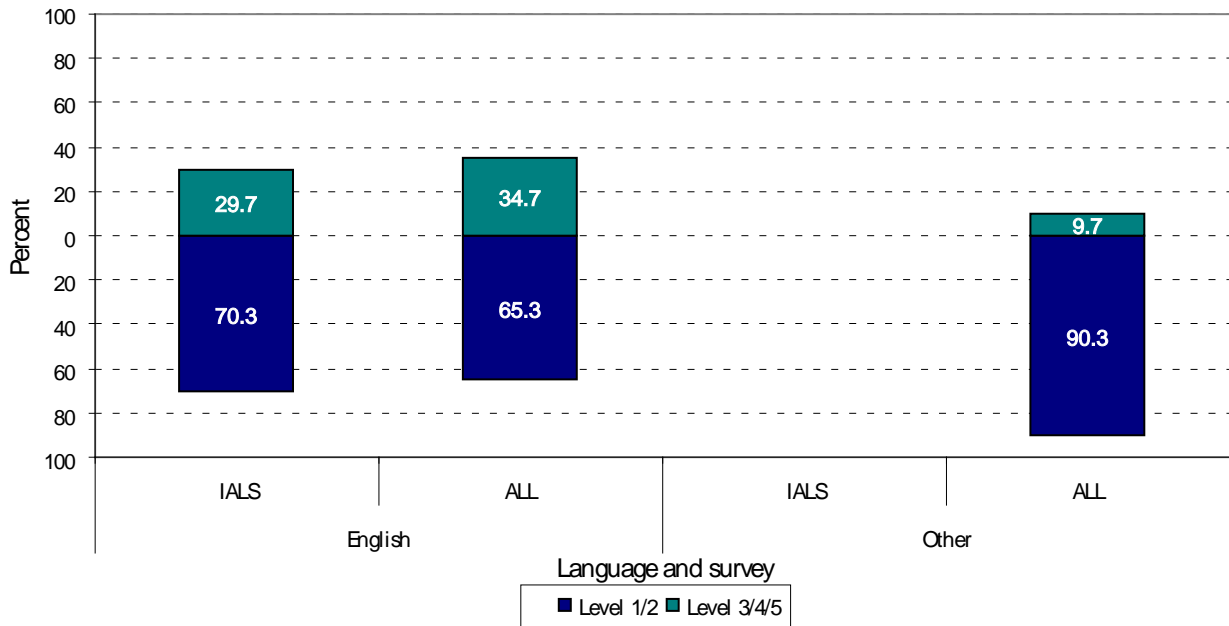
Figure 5.2: Prose literacy level by language spoken most frequently in the home, IALS and ALL



Notes:

1. To allow statistically robust estimates, levels 1 and 2 and levels 3, 4 and 5 were grouped together.
2. Figures for "Other" in IALS were not included because of their low statistical quality.

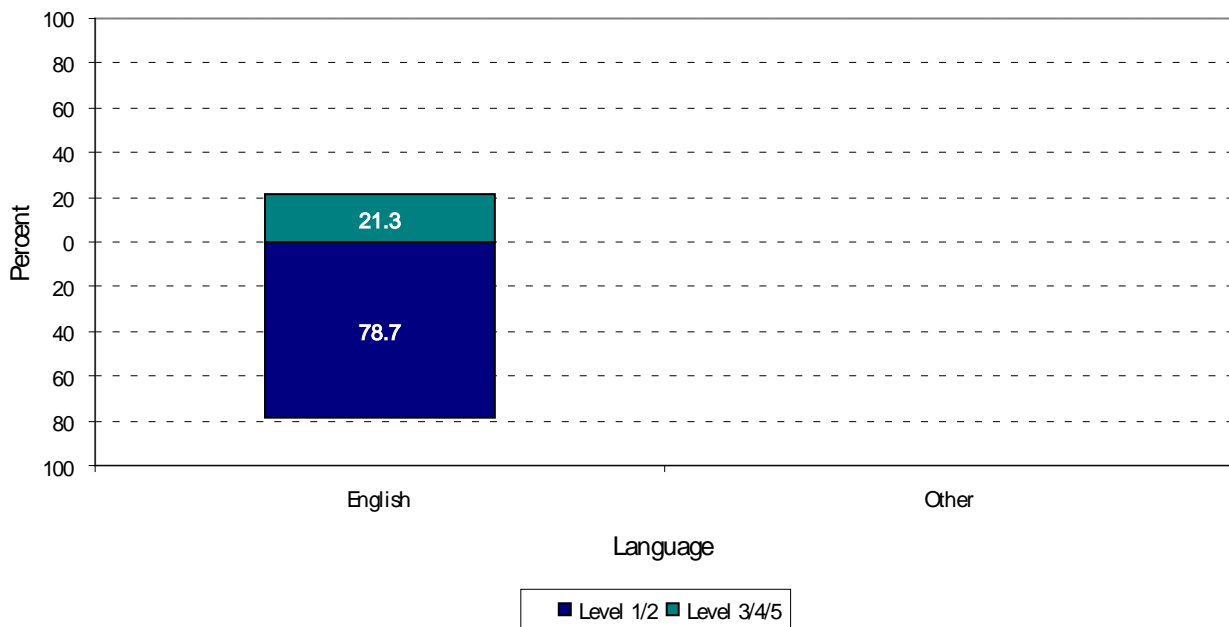
Figure 5.3: Document literacy level by language spoken most frequently in the home, IALS and ALL



Notes:

1. To allow statistically robust estimates, levels 1 and 2 and levels 3, 4 and 5 were grouped together.
2. Figures for "Other" in IALS were not included because of their low statistical quality.

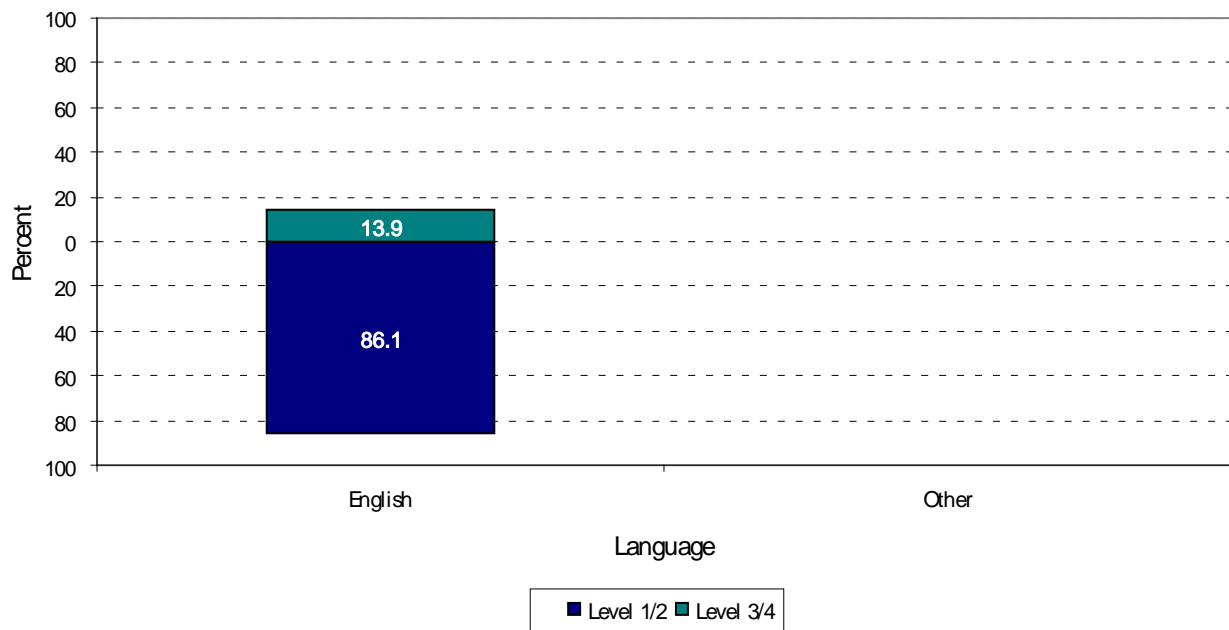
Figure 5.4: Numeracy level by language spoken most frequently in the home, ALL only



Notes:

1. To allow statistically robust estimates, levels 3, 4 and 5 were grouped together.
2. Numeracy was not measured in the IALS survey.
3. Figures for "Other" were not included because of their low statistical quality.

Figure 5.5: Problem-solving level by language spoken most frequently in the home, ALL only



Notes:

1. To allow statistically robust estimates, levels 1 and 2 and levels 3 and 4 were grouped together.
2. Problem-solving was not measured in the IALS survey.
3. Figures for "Other" were not included because of their low statistical quality.

6. First language

This section is concerned with the distribution of skills by first language spoken (i.e. first language learned and spoken as a child) amongst Pasifika peoples.

Figure 6.1 shows the distribution of those whose first language was English and those whose first language was other than English as measured by the IALS and ALL surveys. Figures 6.2 to 6.5 show the distributions of each of prose literacy, document literacy, numeracy and problem solving skill by first language for Pasifika adults in New Zealand. In addition, Figures 6.2 and 6.3 show the comparable statistics available from the IALS survey.

Recall that the ALL and IALS surveys measure skills using tests in English. Whether or not a Pasifika adult's first language was English will depend, to some extent, on their place of birth. Therefore the results of Section 7 (related to place of birth) should be born in mind when reading the current section.

Overall, Figures 6.1 to 6.5 indicate that:

- There was a substantial decrease in the proportion of Pasifika adults whose first language was English.
- For all four skill domains (prose literacy, document literacy, numeracy, and problem solving skill), regardless of first language, the majority (from 60 percent to 98 percent) of Pasifika adults in 2006 had level 1 or 2 skills.
- For all four skill domains (prose literacy, document literacy, numeracy, and problem solving skill), Pasifika adults whose first language was English had substantially higher skills than Pasifika adults whose first language was other than English.
- The percentage of Pasifika adults whose first language was English and who had level 3, 4, or 5 prose literacy appeared to decrease from 1996 to 2006. However, the percentage of Pasifika adults whose first language was English and who had level 3, 4, or 5 document literacy skills was stable.

Figure 6.1: First language, IALS and ALL

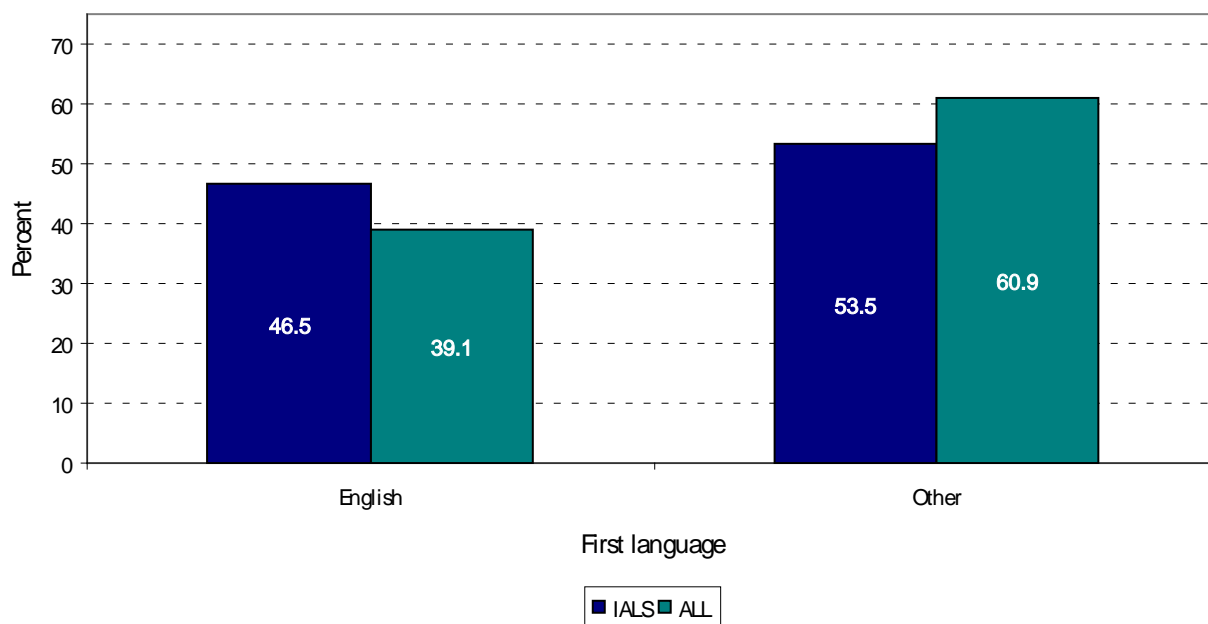
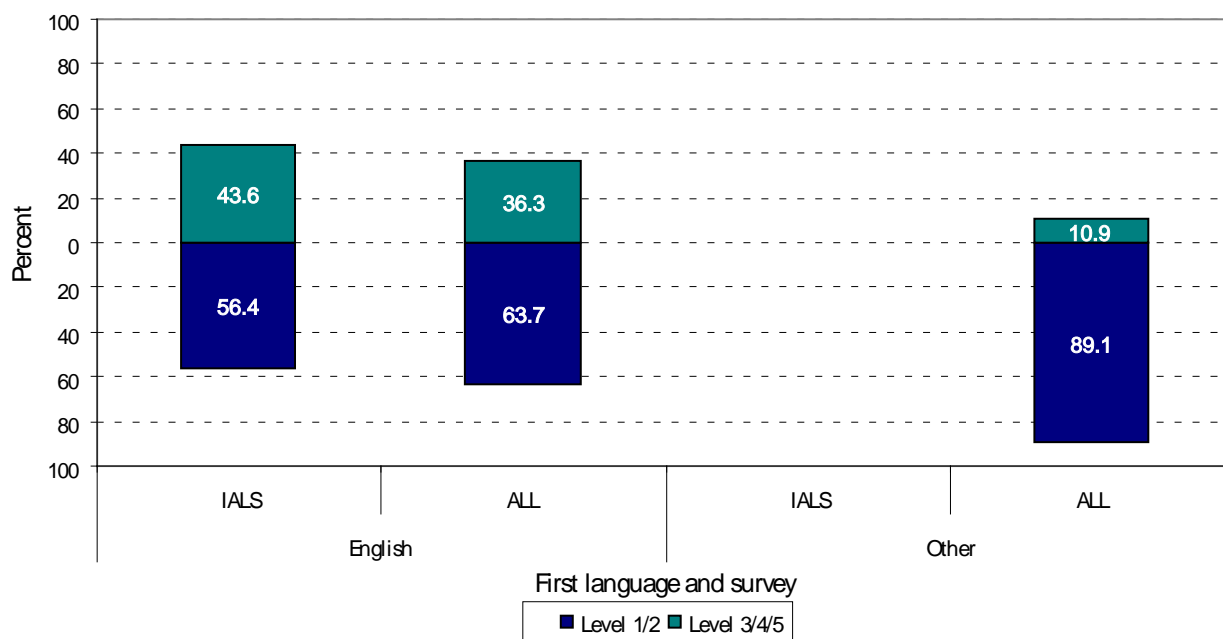


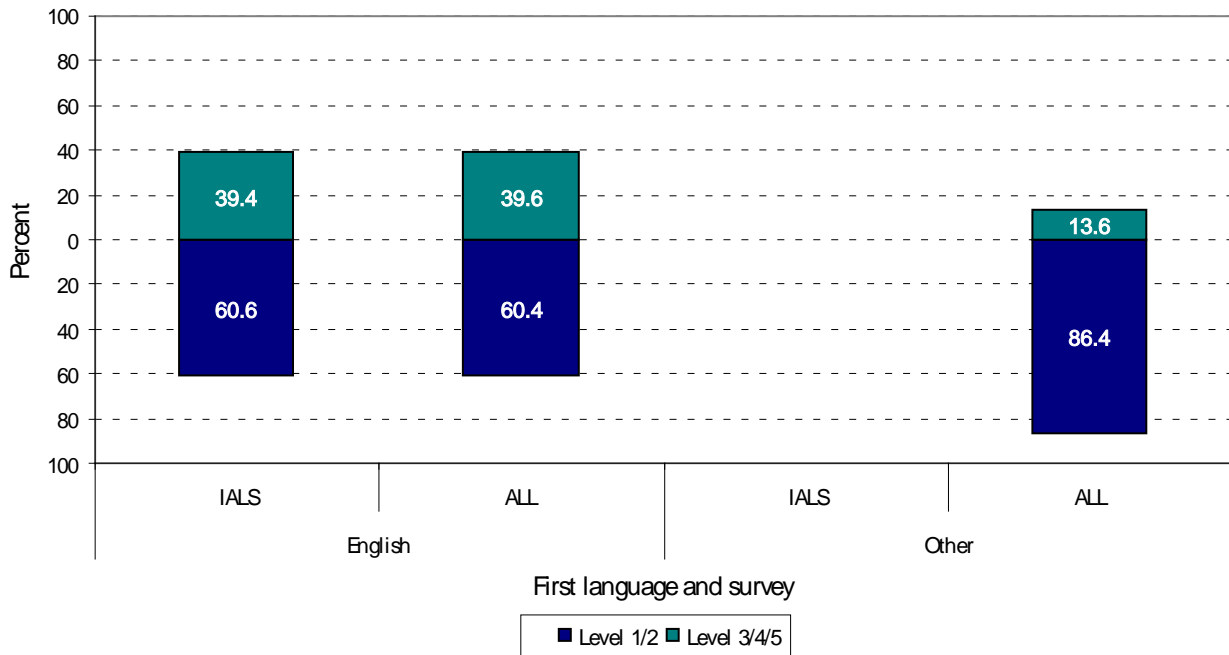
Figure 6.2: Prose literacy level by first language, IALS and ALL



Notes:

1. To allow statistically robust estimates, levels 1 and 2 and levels 3, 4 and 5 were grouped together.
2. Figures for "Other" in IALS were not included because of their low statistical quality.

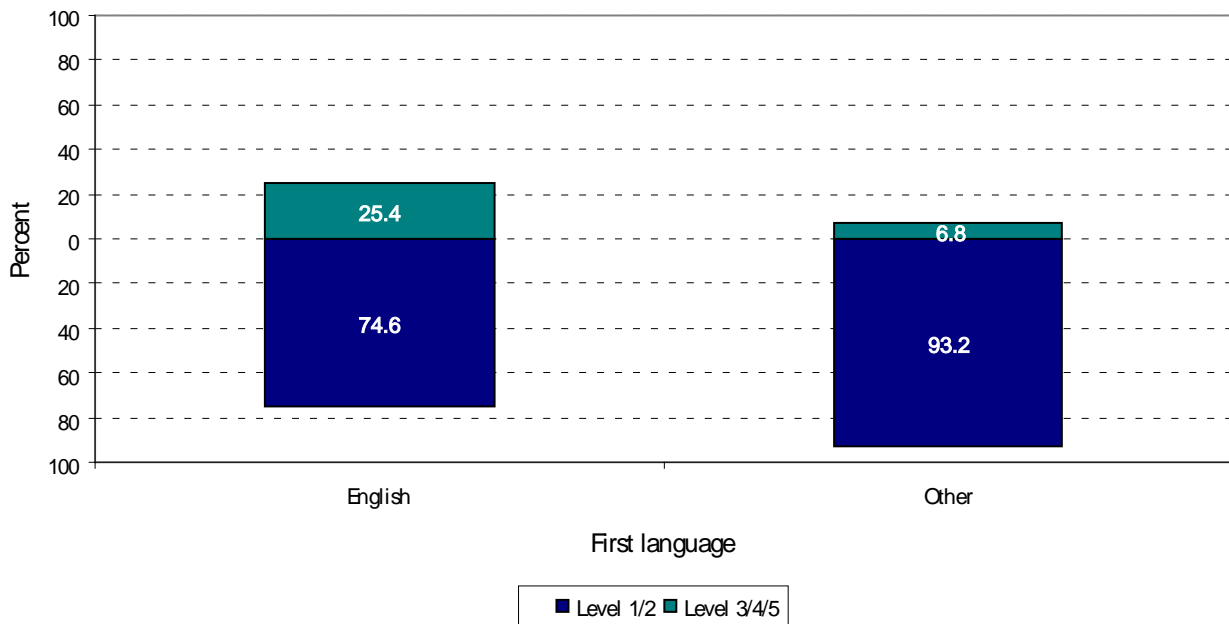
Figure 6.3: Document literacy level by first language, IALS and ALL



Notes:

1. To allow statistically robust estimates, levels 1 and 2 and levels 3, 4 and 5 were grouped together.
2. Figures for "Other" in IALS were not included because of their low statistical quality.

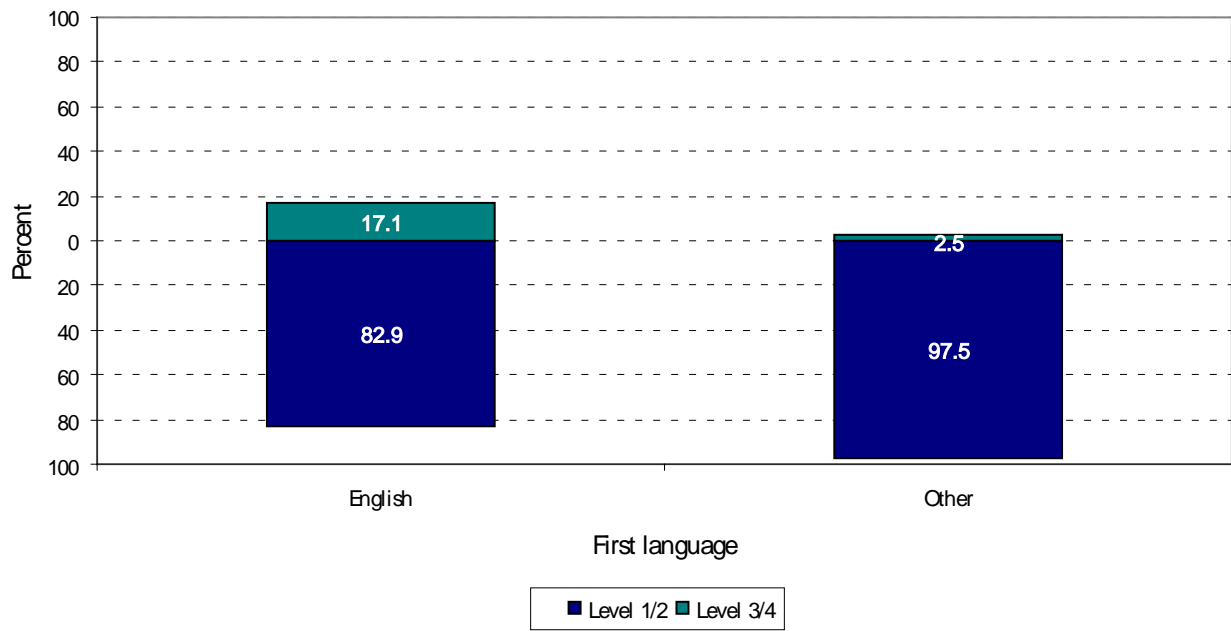
Figure 6.4: Numeracy level by first language, ALL only



Notes:

1. To allow statistically robust estimates, levels 3, 4 and 5 were grouped together.
2. Numeracy was not measured in the IALS survey.

Figure 6.5: Problem-solving level by first language, ALL only



Notes:

1. To allow statistically robust estimates, levels 1 and 2 and levels 3 and 4 were grouped together.
2. Problem-solving was not measured in the IALS survey.

7. Place of birth

This section is concerned with the distribution of skills by respondents' place of birth (within New Zealand or otherwise) amongst Pasifika peoples.

Figure 7.1 shows the distribution of those who were born in New Zealand and those who were born elsewhere as measured by the IALS and ALL surveys. Figures 7.2 to 7.5 show the distributions of each of prose literacy, document literacy, numeracy and problem solving skill by place of birth for Pasifika adults in New Zealand. In addition, Figures 7.2 and 7.3 show the comparable statistics available from the IALS survey.

Recall that the ALL and IALS surveys measure skills using tests in English. The place of birth of a Pasifika adult will influence, to some extent, their familiarity with English. Therefore the results of Sections 5 and 6 (related to familiarity with English) should be kept in mind when reading the current section.

Overall, Figures 7.1 to 7.5 indicate that:

- Between 1996 and 2006 there was an increase in the proportion of Pasifika adults born outside of New Zealand.
- For all four skill domains (prose literacy, document literacy, numeracy, and problem solving skill), regardless of place of birth, the majority (from 64 percent to 94 percent) of Pasifika adults in 2006 had level 1 or 2 skills.
- Where comparison was possible (i.e. for prose literacy, document literacy and numeracy), Pasifika adults born in New Zealand had substantially higher skills than Pasifika adults born elsewhere.
- The percentage of Pasifika adults born in New Zealand who had level 3, 4, or 5 prose literacy appeared to decrease from 1996 to 2006. Assessment of the significance of this decrease is difficult as the number of Pasifika respondents in the IALS survey was relatively small.

Figure 7.1: Place of birth, IALS and ALL

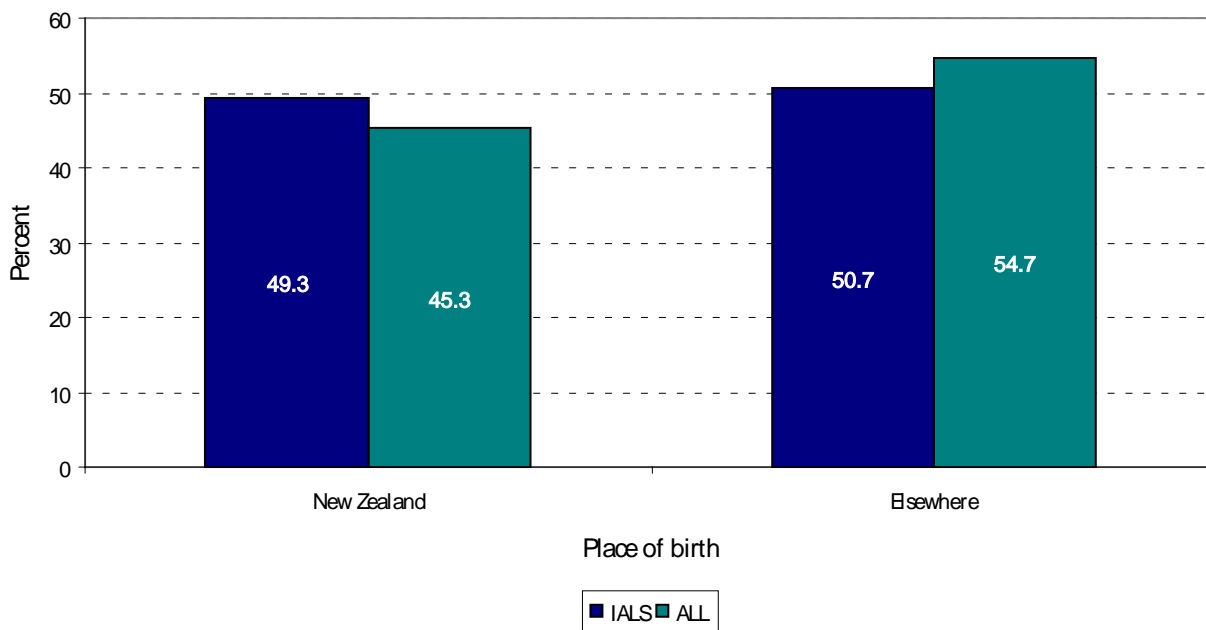
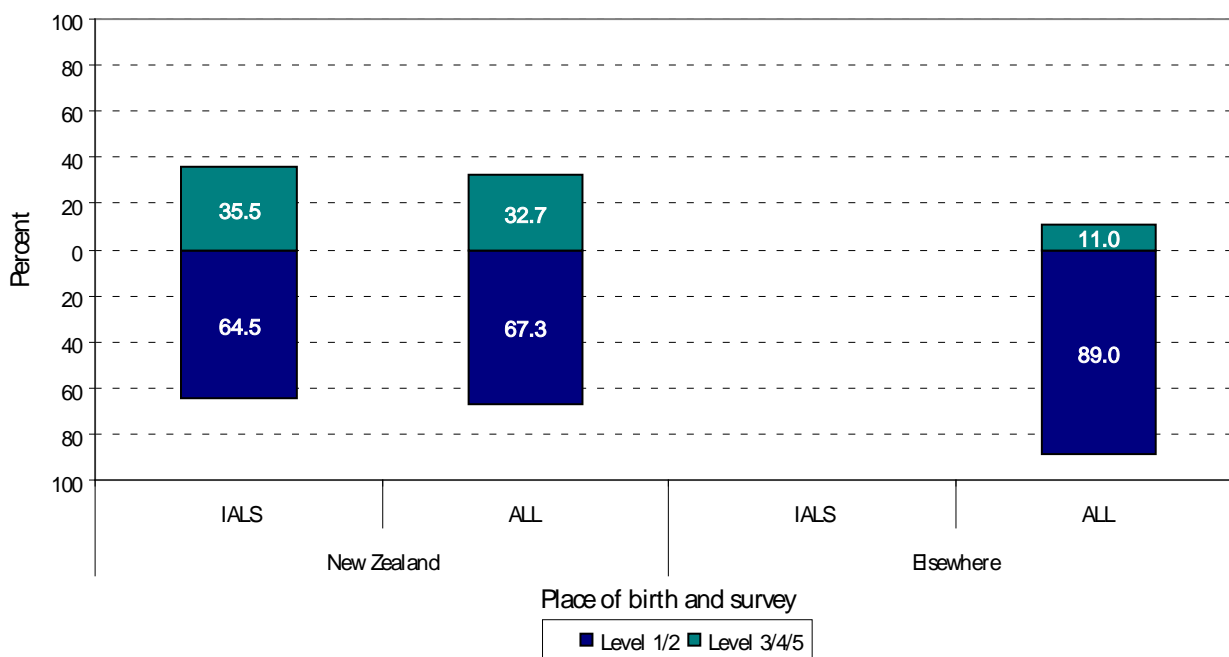


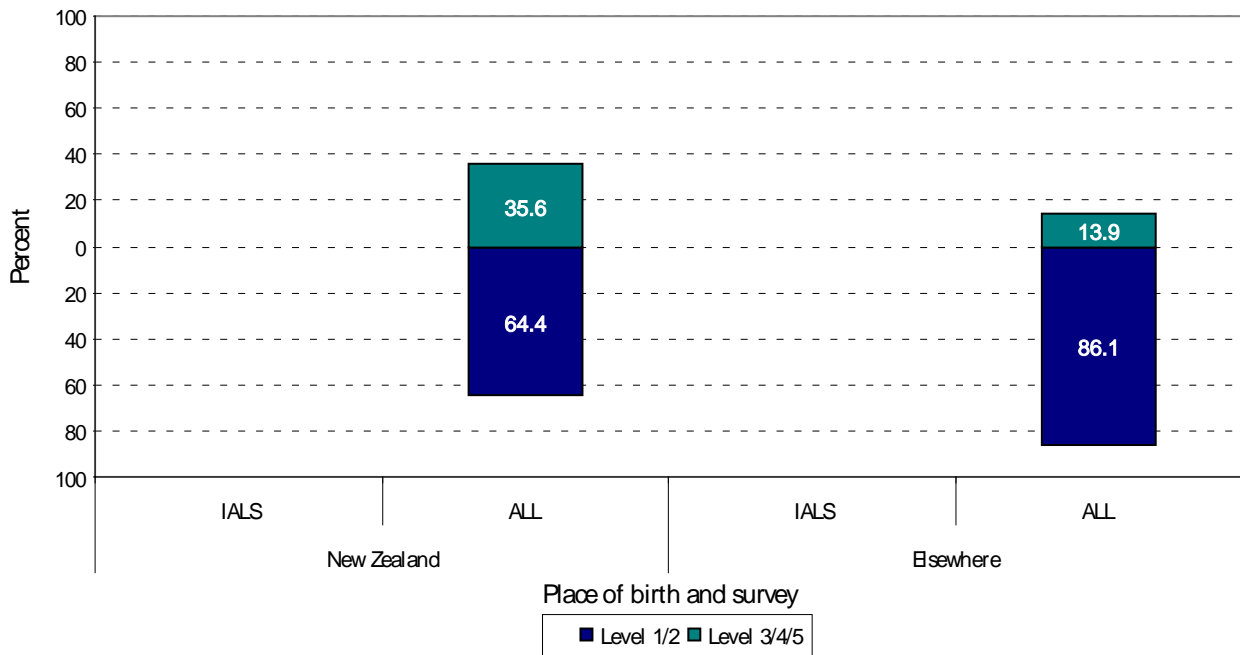
Figure 7.2: Prose literacy level by place of birth, IALS and ALL



Notes:

1. To allow statistically robust estimates, levels 1 and 2 and levels 3, 4 and 5 were grouped together.
2. Figures for "Elsewhere" in IALS were not included because of their low statistical quality.

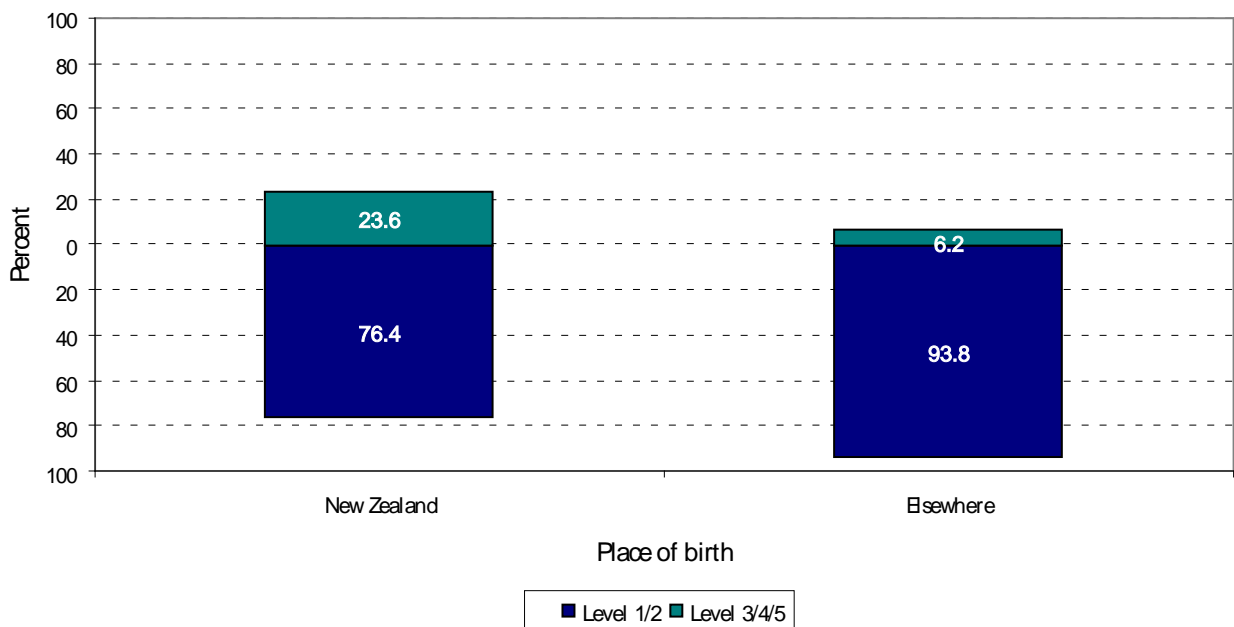
Figure 7.3: Document literacy level by place of birth, IALS and ALL



Notes:

1. To allow statistically robust estimates, levels 1 and 2 and levels 3, 4 and 5 were grouped together.
2. Figures for IALS were not included because of their low statistical quality.

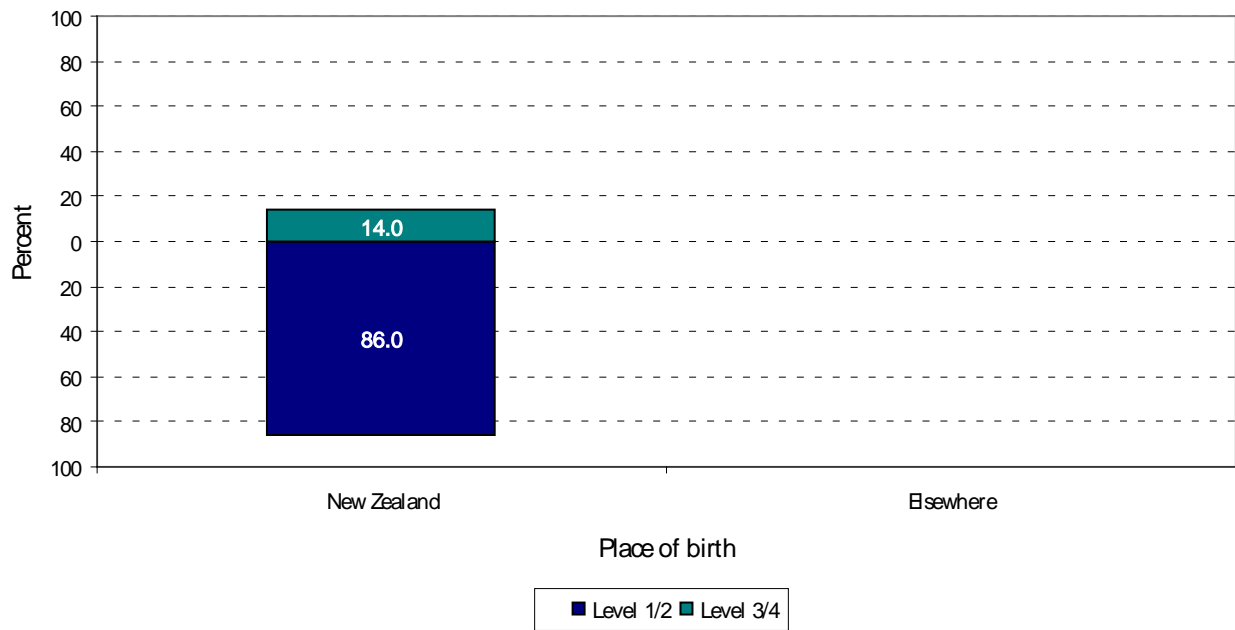
Figure 7.4: Numeracy level by place of birth, ALL only



Notes:

1. To allow statistically robust estimates, levels 3, 4 and 5 were grouped together.
2. Numeracy was not measured in the IALS survey.

Figure 7.5: Problem-solving level by place of birth, ALL only



Notes:

1. To allow statistically robust estimates, levels 1 and 2 and levels 3 and 4 were grouped together.
2. Problem-solving was not measured in the IALS survey.
3. Figures for "Elsewhere" were not included because of their low statistical quality.

8. Income

This section is concerned with the distribution of skills by respondents' income quintile amongst Pasifika peoples.

The income quintiles for Pasifika people based on the ALL dataset are

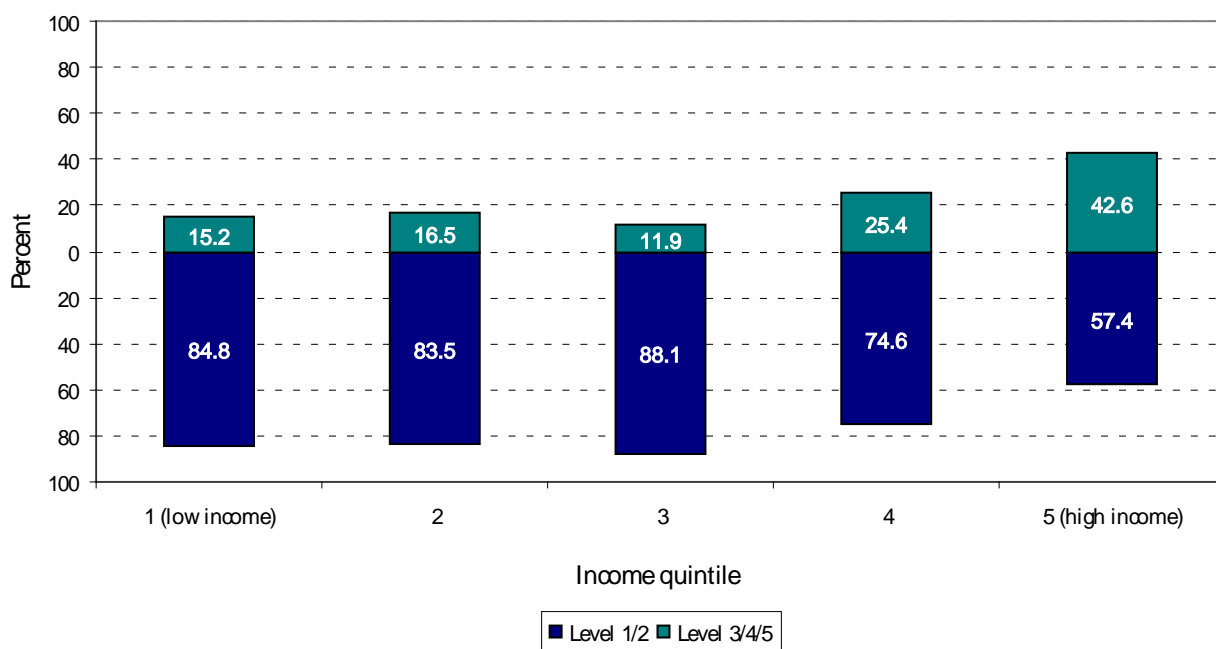
Quintile 1 (lowest)	\$0	– \$8,400
Quintile 2	\$8401	– \$20,000
Quintile 3	\$20,001	– \$30,000
Quintile 4	\$30,001	– \$45,000
Quintile 5	\$45,001 and higher.	

Figures 8.1 to 8.4 show the distributions of each of prose literacy, document literacy, numeracy and problem solving skill by income quintile for Pasifika adults in New Zealand.

Overall, Figures 8.1 to 8.5 indicate that:

- For all four skill domains (prose literacy, document literacy, numeracy, and problem solving skill), for the income quintiles where information was available, regardless of income quintile, the majority (from 63 percent to 93 percent) of Pasifika adults in 2006 had level 1 or 2 skills.
- Where comparison was possible (most clearly for prose literacy and document literacy), Pasifika adults in the highest two income quintiles had substantially higher skills than Pasifika adults with less income.

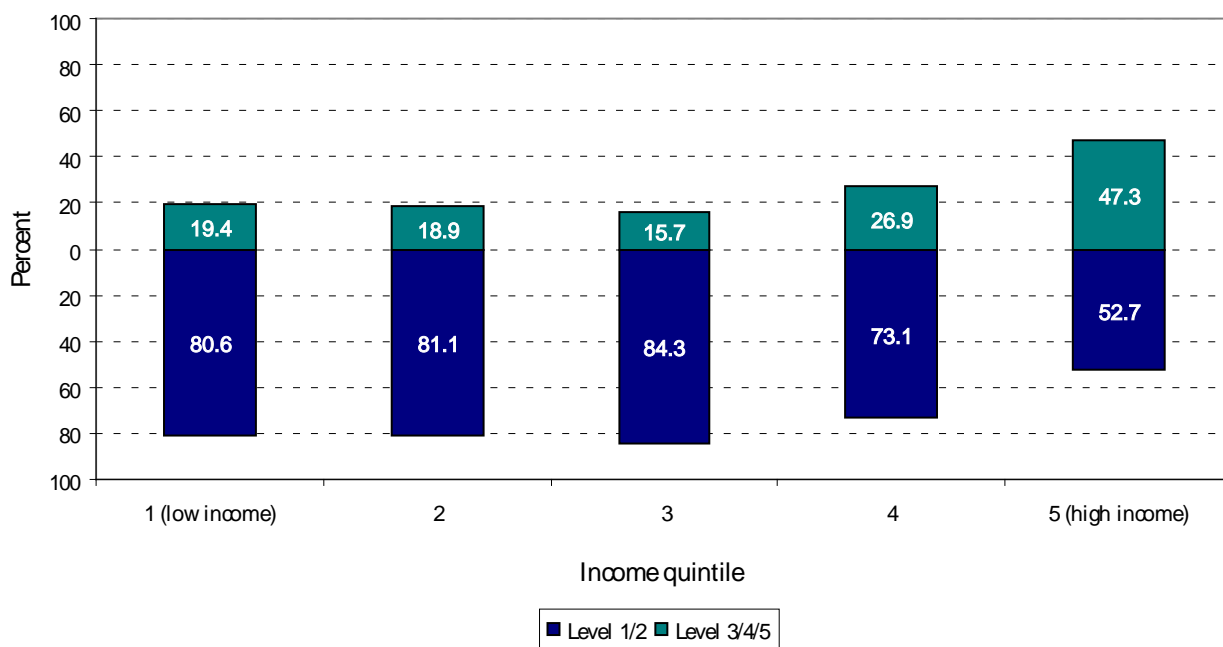
Figure 8.1: Prose literacy level by income, ALL only



Note:

- To allow statistically robust estimates, levels 1 and 2 and levels 3, 4 and 5 were grouped together.

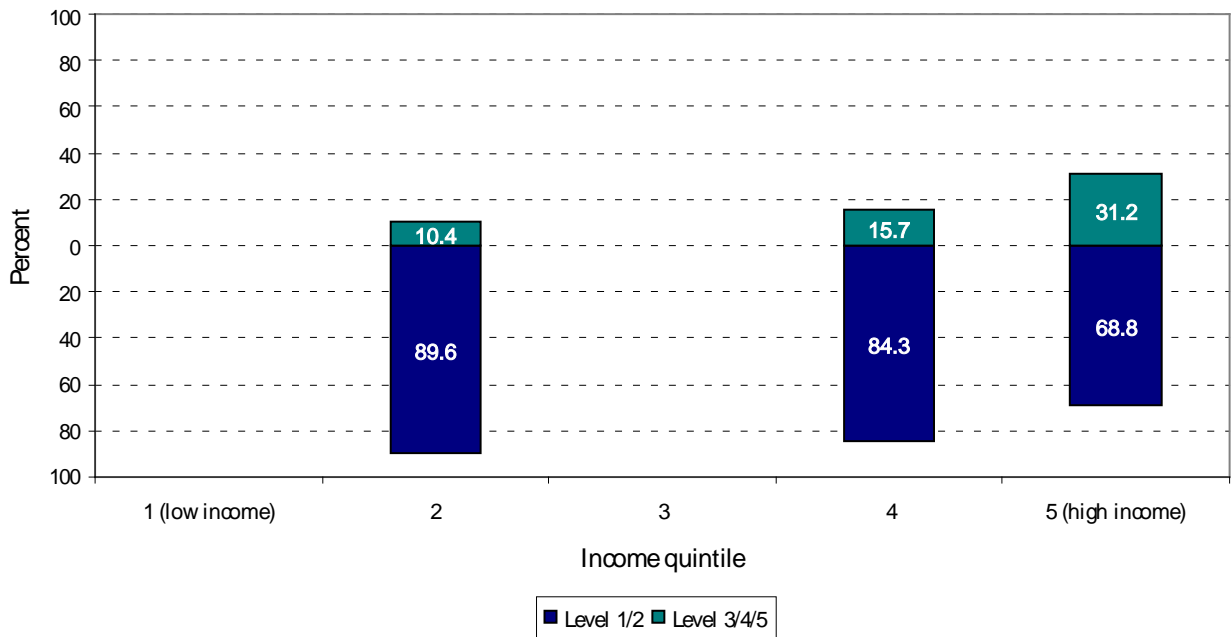
Figure 8.2: Document literacy level by income, ALL only



Note:

- To allow statistically robust estimates, levels 1 and 2 and levels 3, 4 and 5 were grouped together.

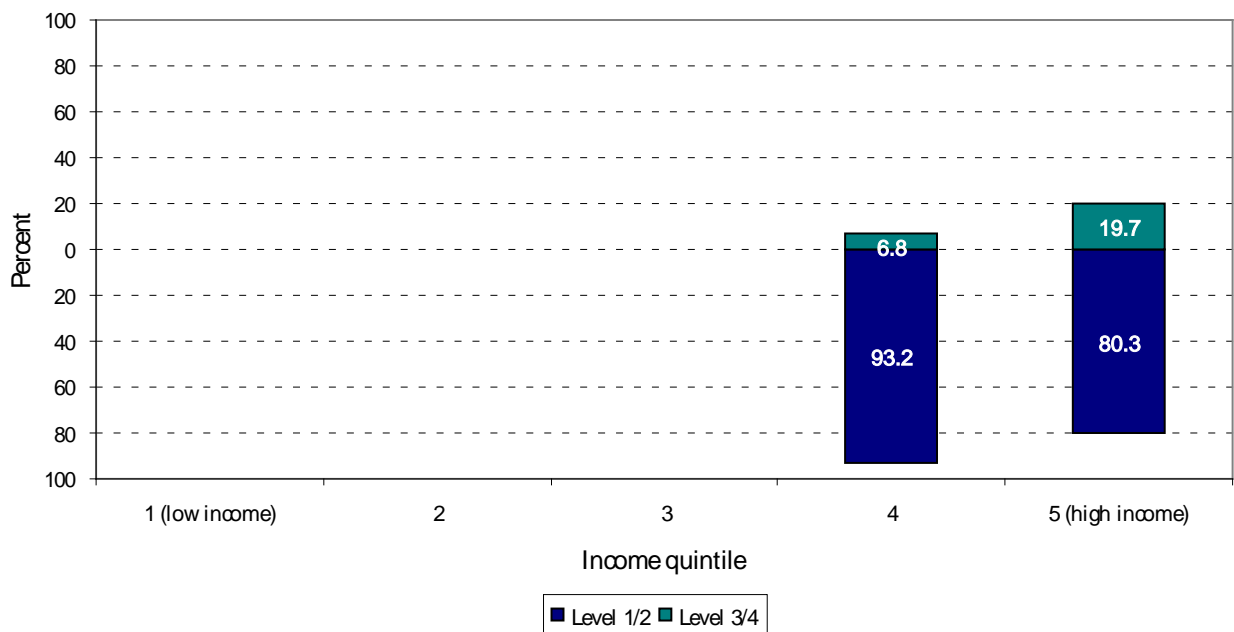
Figure 8.3: Numeracy level by income, ALL only



Notes:

1. To allow statistically robust estimates, levels 3, 4 and 5 were grouped together.
2. Numeracy was not measured in the IALS survey.
3. Figures for income quintiles 1 and 3 were not included because of their low statistical quality.

Figure 8.4: Problem-solving level by income, ALL only



Notes:

1. To allow statistically robust estimates, levels 1 and 2 and levels 3 and 4 were grouped together.
2. Problem-solving was not measured in the IALS survey.
3. Figures for income quintiles 1, 2 and 3 were not included because of their low statistical quality.

9. Analyses for ethnic populations

This section is concerned with the distribution of skills by various factors for each Pasifika ethnic group (Samoan, Cook Island Maori, Tongan, Niuean and Other Pasifika).

Figures 9.1 to 9.8 show the mean literacy scores among the Samoan, Cook Island Maori, Tongan, Niuean and Other Pasifika populations of New Zealand. Each of these figures presents the data disaggregated according to one of the factors: age (Figure 9.1); gender (Figure 9.2); labour force status (Figure 9.3); educational attainment (Figure 9.4); language spoken most frequently in the home (Figure 9.5); first language (Figure 9.6); place of birth (Figure 9.6); income (Figure 9.8). Those interested in demographic descriptions of Pasifika ethnic groups should consult Statistics New Zealand's publication "QuickStats about Pacific Peoples" (available at www.stats.govt.nz/census/2006-census-data/quickstats-about-pacific-peoples/quickstats-about-pacific-peoples.htm).

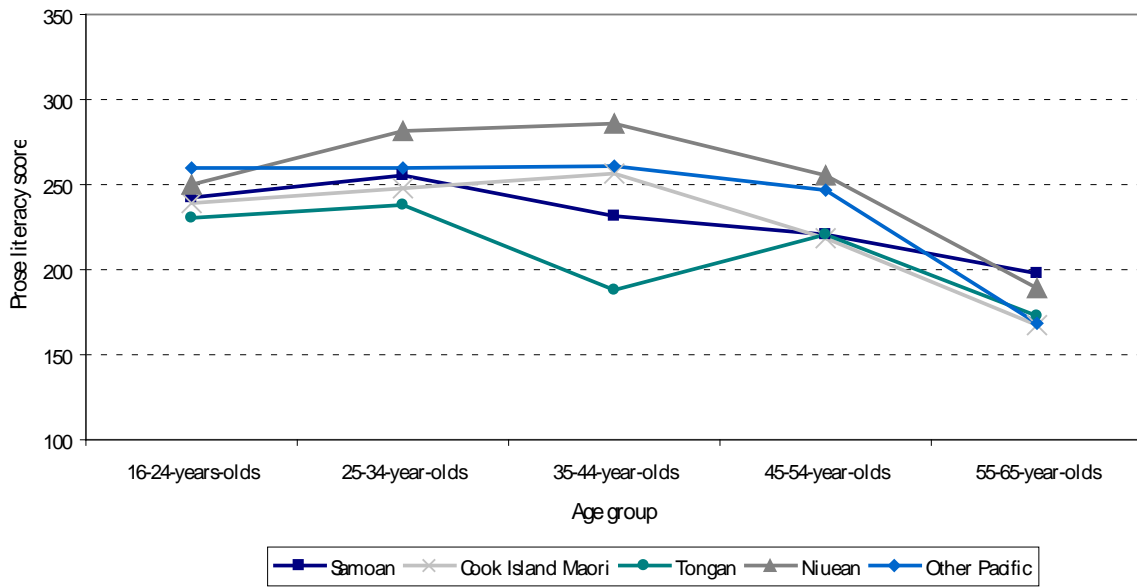
Overall, Figures 9.1 to 9.8 indicate that:

- There were some differences in the prose literacy skill by age profiles for different Pasifika ethnic populations. In particular, there were substantial differences between the prose literacy skill by age profiles of Tongan adults (who generally had lower skills) and Niuean adults (who generally had higher skills).
- The greatest difference in mean prose literacy performance between women and men was that of Tongan adults. However, this difference was not substantial. For other Pasifika ethnic populations there was little difference.
- Retired Cook Island Maori adults appeared to have substantially lower prose literacy than all other labour force statuses among other Pasifika ethnic populations.¹⁵
- For all Pasifika ethnic populations, the mean prose literacy score for those with a tertiary level education was higher than that for those with an upper secondary level education, which in turn, was higher than that for those with a lower secondary level education or less. This pattern of differences was most marked for Samoan adults.
- For all Pasifika ethnic populations, the mean prose literacy score for those with a tertiary level education was higher than that for those with an upper secondary level education, which in turn, was higher than that for those with a lower secondary level education or less. This pattern of differences was most marked for Samoan adults.

¹⁵ This statistic was of marginal quality and this apparent difference may not be as pronounced as it appears.

- For all Pasifika ethnic populations, the mean prose literacy score for those who, when at home, most frequently spoke English was higher than that for those who, when at home, most frequently spoke another language. This difference was most marked for Cook Island Maori and Samoan adults.
- For Samoan, Cook Island Maori and Tongan ethnic populations in particular, the mean prose literacy score for those whose first language was English was substantially higher than that for those whose first language was other than English.
- For Samoan, Cook Island Maori and Tongan ethnic populations in particular, the mean prose literacy score for those born in New Zealand was substantially higher than that for those born elsewhere.
- For Niuean adults, those in higher income quintiles had higher mean prose literacy scores. For all other reported Pasifika ethnic populations, the mean prose literacy score for those in the highest income quintile was substantially higher than that for others. However those in the lowest income quintile also had comparatively high mean prose literacy score. This may reflect a higher proportion of students in the lowest income quintile than in other quintiles.

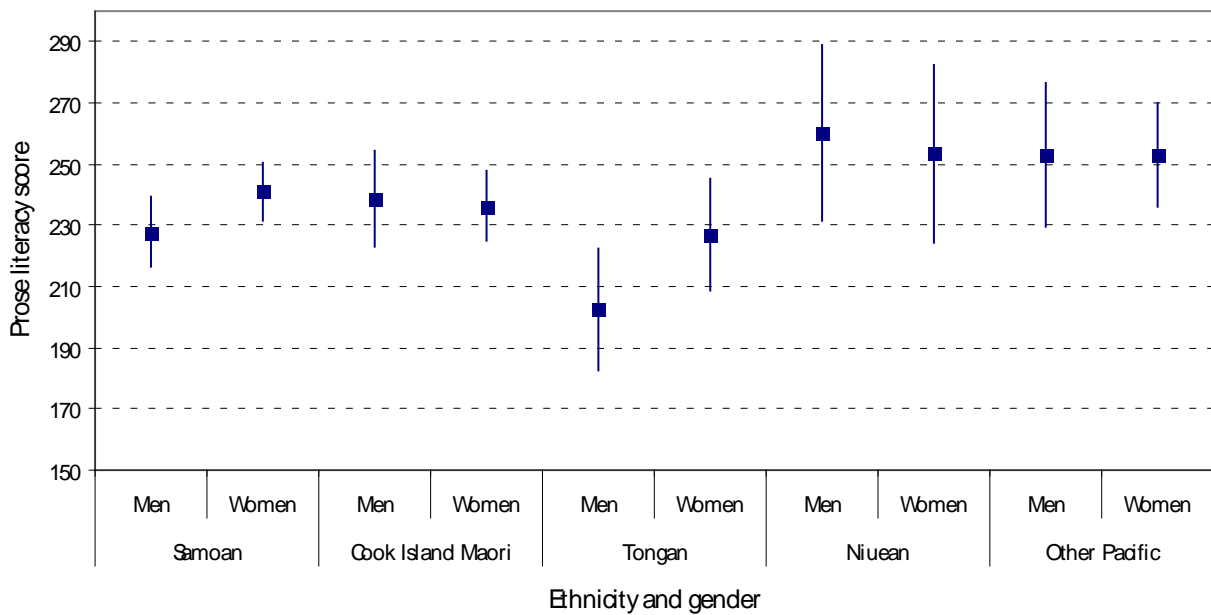
Figure 9.1: Prose literacy means by ethnic group and age, ALL only



Note:

1. Each point indicates the group's mean.

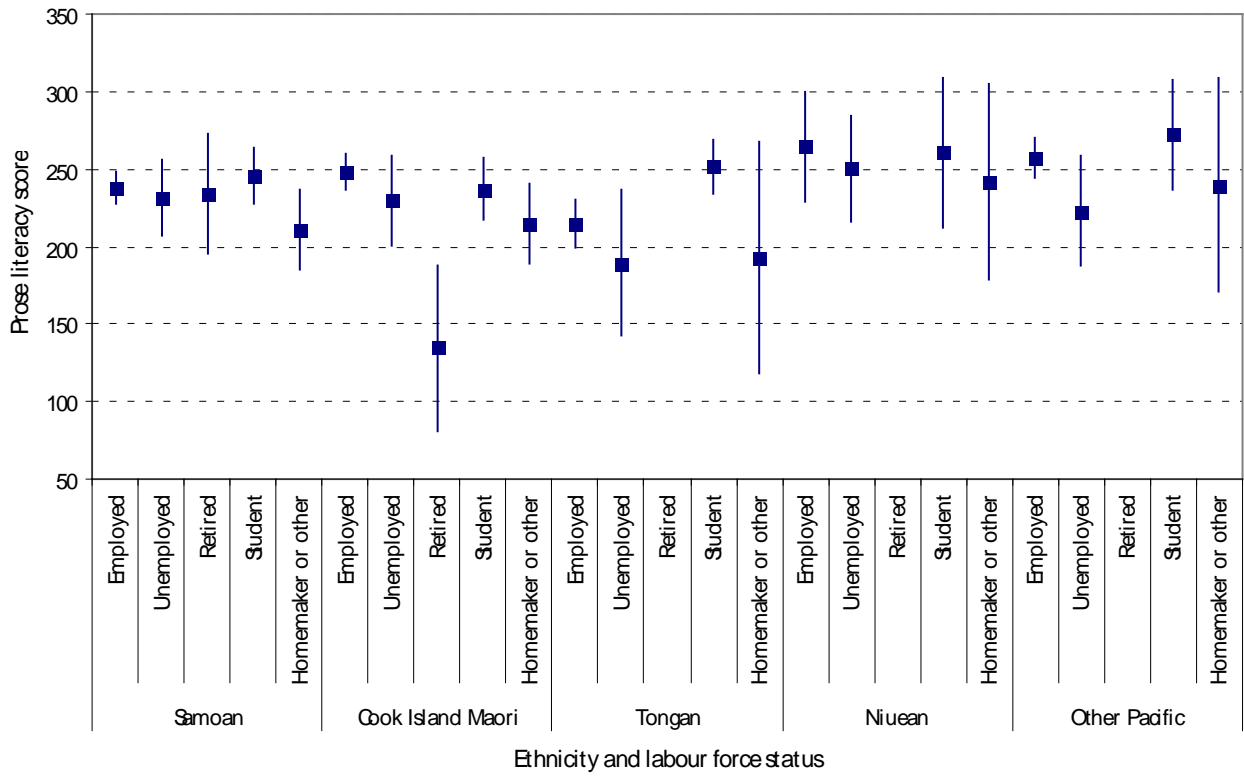
Figure 9.2: Prose literacy means by ethnic group and gender, ALL only



Note:

1. Each small square indicates the group's mean. The vertical lines either side of each small square represent the 95 percent confidence interval about the mean.

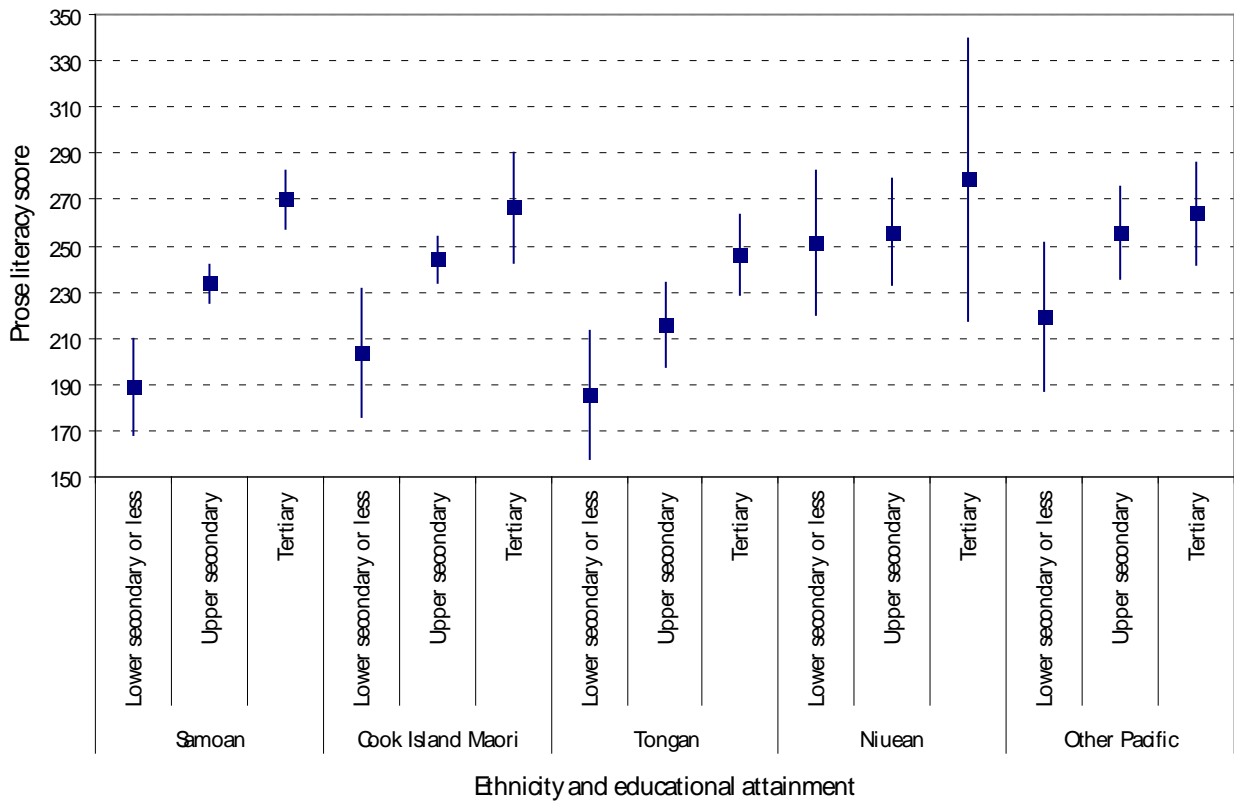
Figure 9.3: Prose literacy means by ethnic group and labour force status, ALL only



Notes:

1. To allow statistically robust estimates, homemaker and other are grouped under the title “homemaker”.
2. Each small square indicates the group’s mean. The vertical lines either side of each small square represent the 95 percent confidence interval about the mean.

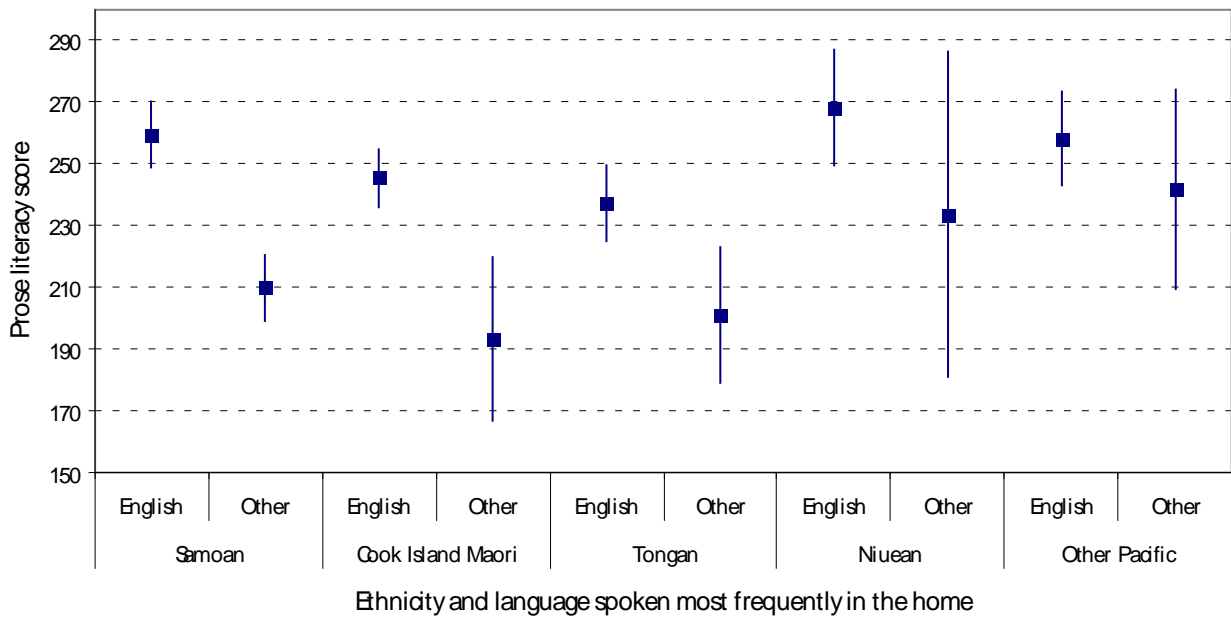
Figure 9.4: Prose literacy means by ethnic group and educational attainment, ALL only



Note:

1. Each small square indicates the group’s mean. The vertical lines either side of each small square represent the 95 percent confidence interval about the mean.

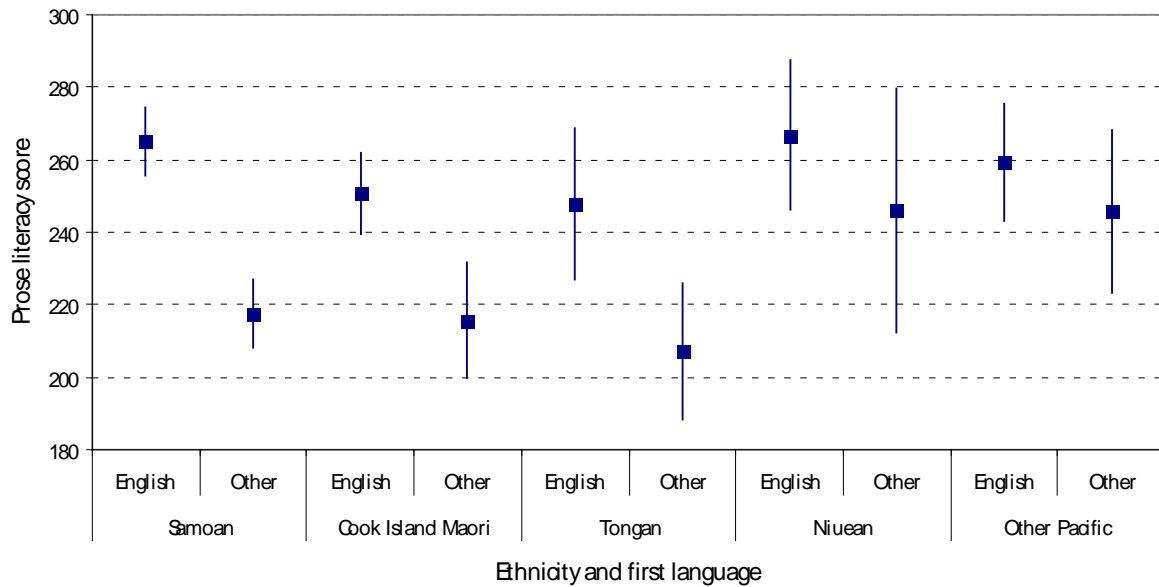
Figure 9.5: Prose literacy means by ethnic group and language spoken most frequently in the home, ALL only



Note:

- Each small square indicates the group's mean. The vertical lines either side of each small square represent the 95 percent confidence interval about the mean.

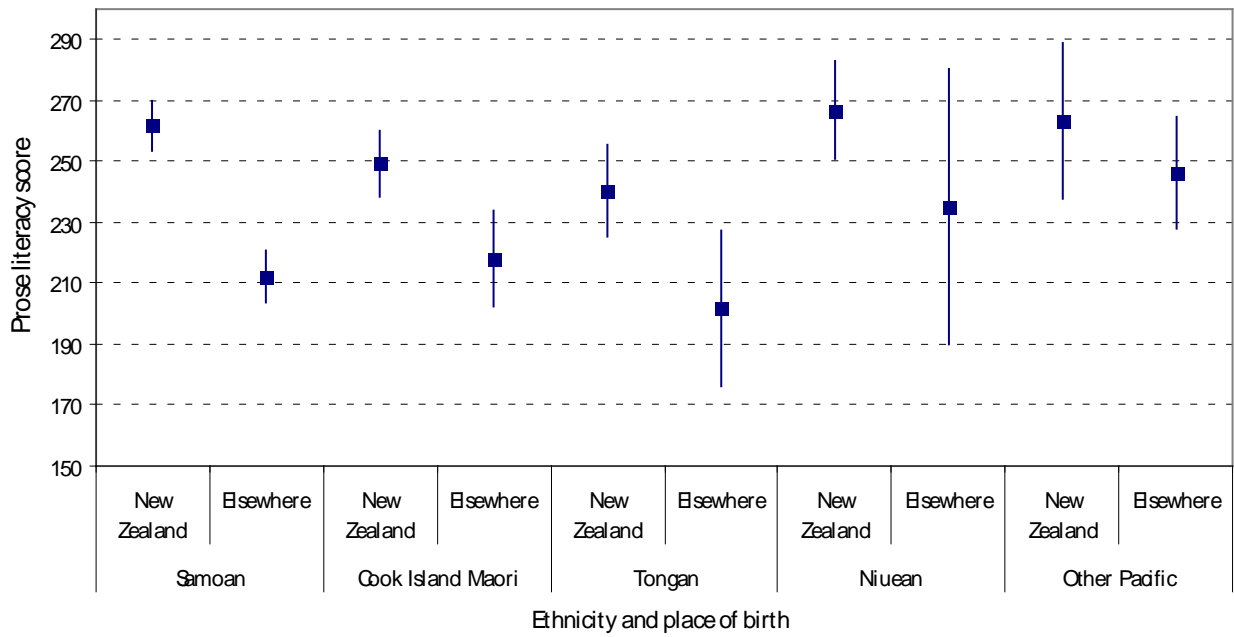
Figure 9.6: Prose literacy means by ethnic group and first language, ALL only



Note:

- Each small square indicates the group's mean. The vertical lines either side of each small square represent the 95 percent confidence interval about the mean.

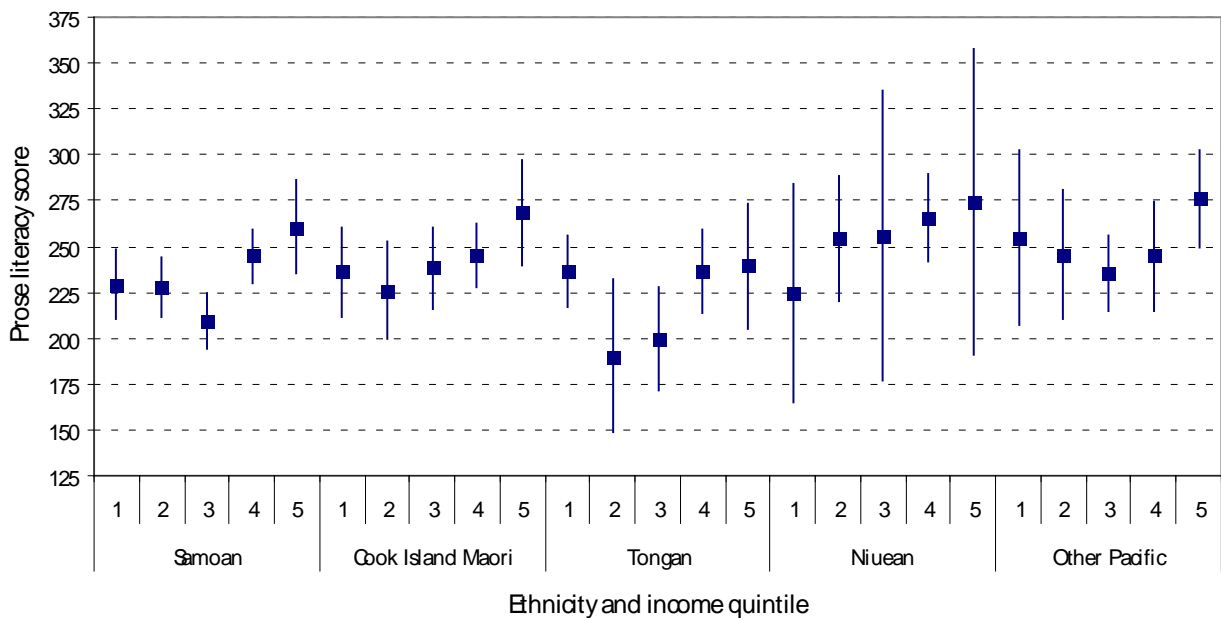
Figure 9.7: Prose literacy means by ethnic group and place of birth, ALL only



Note:

- Each small square indicates the group's mean. The vertical lines either side of each small square represent the 95 percent confidence interval about the mean.

Figure 9.8: Prose literacy means by ethnic group and income, ALL only



Note:

- Each small square indicates the group's mean. The vertical lines either side of each small square represent the 95 percent confidence interval about the mean.

10. Discussion

This report provides statistical confirmation of many widely held beliefs. For example, this report confirms that among Pasifika adults, those with greater educational attainment tend to have greater English literacy skills. It also provides quantitative information on the extent to which these beliefs hold.

There are several questions which this report does not address, but which are highlighted by the contained findings. One such question is: which of the factors reported on (i.e. age, gender, labour force status etc) is most closely associated with English Literacy? The answer to this type of question can better direct policy makers or researchers on where to expend further investigate effort.

Another related question centres on the marked changes, between 1996 and 2006, in the distributions of educational attainment, language spoken most frequently when at home and how these changes relate to each of the (differing) patterns of change in prose literacy and document literacy. One might imagine that increases in the proportion of Pasifika adults with higher educational attainment would have a positive effect on literacy skill whereas increases in the proportion of Pasifika adults who were less familiar with English would have a negative effect. Whether this is true or not for Pasifika adults in general (or even for specific subgroups), remains to be seen.

These questions are addressed in a complementary publication, *The Adult Literacy and Life Skills (ALL) Survey: Literacy and Life Skills for Pasifika Adults – Further Investigation*, located at www.educationcounts.govt.nz/qoto/all.

11. Publications

Adult Literacy and Life Skills Survey releases

September 2007	The Adult Literacy and Life Skills (ALL) Survey: An Introduction
December 2007	The Adult Literacy and Life Skills (ALL) Survey: Headline Results and Background
December 2007	The Adult Literacy and Life Skills (ALL) Survey: Further Investigation
March 2008	The Adult Literacy and Life Skills (ALL) Survey: Overview and International Comparisons
May 2008	The Adult Literacy and Life Skills (ALL) Survey: Education, Work and Literacy
July 2008	The Adult Literacy and Life Skills (ALL) Survey: Gender, Ethnicity and Literacy
July 2008	The Adult Literacy and Life Skills (ALL) Survey: Age and Literacy
November 2008	The educational inheritance of New Zealanders (in Profile & Trends 2007)
November 2008	Higher-level education is strongly associated with greater skills (in Profile & Trends 2007)
November 2008	Healthy and Wise – does education improve wellbeing? (in Profile & Trends 2007)
November 2008	Literacy and numeracy in New Zealand: findings from the Adult Literacy and Life Skills Survey (in Profile & Trends 2007)
March 2009	How well do qualifications predict literacy and numeracy?
March 2009	Well-being and education
May 2009	Skills, qualifications and wages

These are available at www.educationcounts.govt.nz.

Appendix

Throughout this appendix, a light grey cell indicates that the statistic reported is of marginal quality (ie, high relative error) and a darker grey cell indicates that the statistic reported is of quality too poor to be reported.

Appendix Figure 1.1: Age, IALS and ALL

Age group	IALS	IALS \pm se	ALL	ALL \pm se
16-24-year-olds	27.8	3.3	28.1	0.0
25-34-year-olds	31.2	5.2	24.4	0.0
35-44-year-olds	22.8	4.3	22.7	0.0
45-65-year-olds	18.2	4.7	24.9	0.0

Appendix Figure 1.2: Prose literacy level by age, IALS and ALL

Age group	Survey	Level 1	Level 1 \pm se	Level 2	Level 2 \pm se	Level 3/4/5	Level 3/4/5 \pm se
16-24-year-olds	IALS	24.3	7.7	36.6	9.6	39.1	12.3
	ALL	31.9	7.9	48.9	7.8	19.2	3.9
25-34-year-olds	IALS	32.0	9.8	40.9	9.6	27.1	8.5
	ALL	24.0	4.8	43.1	6.0	32.9	6.0
35-65-year-olds	IALS						
	ALL	50.8	4.6	33.6	5.5	15.6	3.1
Total	IALS	40.6	5.2	31.0	5.1	28.4	5.2
	ALL	39.0	3.9	40.2	4.5	20.8	2.0

Appendix Figure 1.3: Document literacy level by age, IALS and ALL

Age group	Survey	Level 1	Level 1 \pm se	Level 2	Level 2 \pm se	Level 3/4/5	Level 3/4/5 \pm se
16-24-year-olds	IALS						
	ALL	29.3	6.3	47.1	6.0	23.6	4.6
25-34-year-olds	IALS						
	ALL	23.3	5.2	38.5	4.9	38.3	5.4
35-65-year-olds	IALS						
	ALL	52.8	6.1	30.8	4.2	16.4	3.4
Total	IALS	40.8	5.4	33.3	6.4	25.9	4.9
	ALL	39.0	4.2	37.2	3.6	23.8	2.3

Appendix Figure 1.4: Numeracy level by age, ALL only

Age group	Level 1	Level 1 se	Level 2	Level 2 se	Level 3/4/5	Level 3/4/5 se
16-24-year-olds	49.7	5.3	35.7	5.3	14.7	3.8
25-34-year-olds	39.6	5.5	37.7	4.2	22.7	3.8
35-65-year-olds	67.8	4.6	22.8	3.9	9.4	2.0
Total	55.9	3.2	30.0	3.1	14.1	1.8

Appendix Figure 1.5: Problem-solving level by age, ALL only

Age group	Level 1	Level 1 se	Level 2	Level 2 se	Level 3/4	Level 3/4 se
16-24-year-olds	65.3	5.9	24.8	6.8	9.9	4.4
25-34-year-olds	50.6	5.4	37.0	5.3	12.4	3.9
35-65-year-olds	78.6	3.8	16.3	3.2	5.1	1.5
Total	68.0	2.4	23.8	1.8	8.2	1.7

Appendix Figure 2.1: Gender, IALS and ALL

Gender	IALS	IALS se	ALL	ALL se
Women	54.7	4.2	51.3	0.0
Men	45.3	4.2	48.7	0.0

Appendix Figure 2.2: Prose literacy level by gender, IALS and ALL

Gender	Survey	Level 1	Level 1 se	Level 2	Level 2 se	Level 3/4/5	Level 3/4/5 se
Women	IALS	43.7	7.6	28.2	6.2	28.1	7.0
	ALL	32.6	4.8	45.7	4.3	21.7	2.8
Men	IALS	36.9	8.3	34.4	9.1	28.7	6.4
	ALL	45.7	5.8	34.4	6.4	19.9	3.4

Appendix Figure 2.3: Document literacy level by gender, IALS and ALL

Gender	Survey	Level 1	Level 1 se	Level 2	Level 2 se	Level 3/4/5	Level 3/4/5 se
Women	IALS	46.3	7.6	30.0	6.8	23.8	7.1
	ALL	34.2	11.2	37.3	12.4	28.5	7.5
Men	IALS	34.9	4.0	40.0	4.0	25.2	3.1
	ALL	43.4	6.7	34.3	5.5	22.3	2.9

Appendix Figure 2.4: Numeracy level by gender, ALL only

Gender	Level 1	Level 1 se	Level 2	Level 2 se	Level 3/4/5	Level 3/4/5 se
Women	53.7	4.4	31.1	3.8	15.1	2.2
Men	58.1	4.1	28.9	4.6	13.0	3.1

Appendix Figure 2.5: Problem-solving by gender, ALL only

Gender	Level 1	Level 1 se	Level 2	Level 2 se	Level 3/4	Level 3/4 se
Women	65.8	3.2	25.1	3.3	9.1	2.5
Men	70.4	3.9	22.3	3.2	7.3	1.9

Appendix Figure 3.1: Labour force status, IALS and ALL

Labour force status	IALS	IALS se	ALL	ALL se
Employed	53.8	4.5	59.1	2.7
Homemaker	15.7	3.9	14.6	1.9
Other	30.5	5.9	26.3	2.5

Appendix Figure 3.2: Prose literacy by labour force status, IALS and ALL

Labour force status	Survey	Level 1	Level 1 se	Level 2	Level 2 se	Level 3/4/5	Level 3/4/5 se
Employed	IALS	30.3	8.0	31.6	9.5	38.1	10.1
	ALL	37.0	4.9	38.7	5.9	24.3	3.3
Homemaker or other	IALS						
	ALL	41.8	4.3	42.4	4.7	15.8	2.2

Appendix Figure 3.3: Document literacy by labour force status, IALS and ALL

Labour force status	Survey	Level 1	Level 1 se	Level 2	Level 2 se	Level 3/4/5	Level 3/4/5 se
Employed	IALS	26.8	6.7	41.9	10.3	31.3	9.1
	ALL	36.4	5.9	36.2	5.2	27.4	3.5
Homemaker or other	IALS						
	ALL	42.8	4.0	38.7	5.0	18.4	2.9

Appendix Figure 3.4: Numeracy by labour force status, ALL only

Labour force status	Level 1	Level 1 se	Level 2	Level 2 se	Level 3/4/5	Level 3/4/5 se
Employed	51.0	4.1	32.0	4.1	17.0	2.3
Homemaker or other	62.9	4.6	27.3	4.0	9.8	2.4

Appendix Figure 3.5: Problem-solving by labour force status, ALL only

Labour force status	Level 1	Level 1 se	Level 2	Level 2 se	Level 3/4/5	Level 3/4/5 se
Employed	63.9	3.7	26.3	2.8	9.8	2.3
Homemaker or other	74.1	3.4	20.1	3.8	5.9	1.9

Appendix Figure 4.1: Educational attainment, IALS and ALL

Educational attainment	IALS	IALSse	ALL	ALL se
Lower secondary or less	59.3	6.7	19.0	2.4
Upper secondary	25.9	4.2	61.0	2.8
Tertiary	14.9	4.7	20.0	2.3

Appendix Figure 4.2: Prose literacy by educational attainment, IALS and ALL

Educational attainment	Survey	Level 1/2	Level 1/2 se	Level 3/4/5	Level 3/4/5 se
Lower secondary or less	IALS	80.0	6.5	20.0	6.5
	ALL				
Upper secondary	IALS	64.8	9.2	35.2	9.2
	ALL	82.7	2.5	17.3	2.5
Tertiary	IALS				
	ALL	56.9	5.5	43.1	5.5

Appendix Figure 4.3: Document literacy by educational attainment, IALS and ALL

Educational attainment	Survey	Level 1/2	Level 1/2 se	Level 3/4/5	Level 3/4/5 se
Lower secondary or less	IALS				
	ALL				
Upper secondary	IALS	63.3	9.1	36.7	9.1
	ALL	78.2	2.7	21.8	2.7
Tertiary	IALS	55.7	14.4	44.3	14.4
	ALL	54.5	5.7	45.5	5.7

Appendix Figure 4.4: Numeracy by educational attainment, ALL only

Educational attainment	Level 1	Level 1 se	Level 2	Level 2 se	Level 3/4/5	Level 3/4/5 se
Lower secondary or less						
Upper secondary	54.8	4.0	33.3	4.4	11.9	2.1
Tertiary	32.3	6.2	35.6	5.2	32.1	4.5

Appendix Figure 4.5: Problem-solving by educational attainment, ALL only

Educational attainment	Level 1	Level 1 se	Level 2	Level 2 se	Level 3/4	Level 3/4 se
Lower secondary or less						
Upper secondary	67.5	3.4	25.5	2.6	7.0	1.9
Tertiary	49.1	5.4	33.6	5.8	17.2	4.2

Appendix Figure 5.1: Language spoken most frequently in the home, IALS and ALL

Language	IALS	IALS _{se}	ALL	ALL _{se}
English	69.7	5.6	56.2	2.2
Other	30.3	5.6	43.8	2.2

Appendix Figure 5.2: Prose literacy level by language spoken most frequently in the home, IALS and ALL

Language	Survey	Level 1/2	Level 1/2 _{se}	Level 3/4/5	Level 3/4/5 _{se}
English	IALS	65.5	10.0	34.5	10.0
	ALL	68.6	2.9	31.4	2.9
Other	IALS				
	ALL	92.7	2.2	7.3	2.2

Appendix Figure 5.3: Document literacy level by language spoken most frequently in the home, IALS and ALL

Language	Survey	Level 1/2	Level 1/2 _{se}	Level 3/4/5	Level 3/4/5 _{se}
English	IALS	70.3	9.0	29.7	9.0
	ALL	65.3	3.3	34.7	3.3
Other	IALS				
	ALL	90.3	2.8	9.7	2.8

Appendix Figure 5.4: Numeracy level by language spoken most frequently in the home by, ALL only

Language	Level 1/2	Level 1/2 _{se}	Level 3/4/5	Level 3/4/5 _{se}
English	78.7	2.7	21.3	2.7
Other				

Appendix Figure 5.5: Problem-solving level by language spoken most frequently in the home, ALL only

Language	Level 1/2	Level 1/2 _{se}	Level 3/4	Level 3/4 _{se}
English	86.1	2.9	13.9	2.9
Other				

Appendix Figure 6.1: First language, IALS and ALL

First language	IALS	IALS _{se}	ALL	ALL _{se}
English	46.5	3.7	39.1	2.3
Other	53.5	3.7	60.9	2.3

Appendix Figure 6.2: Prose literacy level by first language, IALS and ALL

First language	Survey	Level 1/2	Level 1/2 _{se}	Level 3/4/5	Level 3/4/5 _{se}
English	IALS	56.4	8.7	43.6	8.7
	ALL	63.7	4.1	36.3	4.1
Other	IALS				
	ALL	89.1	2.3	10.9	2.3

Appendix Figure 6.3: Document literacy level by first language, IALS and ALL

First language	Survey	Level 1/2	Level 1/2 se	Level 3/4/5	Level 3/4/5 se
English	IALS	60.6	7.8	39.4	7.8
	ALL	60.4	4.1	39.6	4.1
Other	IALS				
	ALL	86.4	2.4	13.6	2.4

Appendix Figure 6.4: Numeracy level by first language, ALL only

First language	Level 1/2	Level 1/2 se	Level 3/4/5	Level 3/4/5 se
English	74.6	3.5	25.4	3.5
Other	93.2	1.9	6.8	1.9

Appendix Figure 6.5: Problem-solving level by first language, ALL only

First language	Level 1/2	Level 1/2 se	Level 3/4	Level 3/4 se
English	82.9	4.3	17.1	4.3
Other	97.5	0.8	2.5	0.8

Appendix Figure 7.1: Place of birth, IALS and ALL

Place of birth	IALS	IALS se	ALL	ALL se
New Zealand	49.3	7.5	45.3	2.3
Elsewhere	50.7	7.5	54.7	2.3

Appendix Figure 7.2: Prose literacy level by place of birth, IALS and ALL

Place of birth	Survey	Level 1/2	Level 1/2 se	Level 3/4/5	Level 3/4/5 se
New Zealand	IALS	64.5	13.5	35.5	13.5
	ALL	67.3	3.3	32.7	3.3
Elsewhere	IALS				
	ALL	89.0	2.6	11.0	2.6

Appendix Figure 7.3: Document literacy level by place of birth, IALS and ALL

Place of birth	Survey	Level 1/2	Level 1/2 se	Level 3/4/5	Level 3/4/5 se
New Zealand	IALS				
	ALL	64.4	3.3	35.6	3.3
Elsewhere	IALS				
	ALL	86.1	2.3	13.9	2.3

Appendix Figure 7.4: Numeracy level by place of birth, ALL only

Place of birth	Level 1/2	Level 1/2 se	Level 3/4/5	Level 3/4/5 se
New Zealand	76.4	3.2	23.6	3.2
Elsewhere	93.8	1.5	6.2	1.5

Appendix Figure 7.5: Problem-solving level by place of birth, ALL only

Place of birth	Level 1/2	Level 1/2 se	Level 3/4	Level 3/4 se
New Zealand	86.0	3.1	14.0	3.1
Elsewhere				

Appendix Figure 8.1: Prose literacy level by income, IALS and ALL

Income quintile	Level 1/2	Level 1/2 se	Level 3/4/5	Level 3/4/5 se
1 (low income)	84.8	3.7	15.2	3.7
2	83.5	4.0	16.5	4.0
3	88.1	3.5	11.9	3.5
4	74.6	4.6	25.4	4.6
5 (high income)	57.4	10.4	42.6	10.4

Appendix Figure 8.2: Document literacy level by income, IALS and ALL

Income quintile	Level 1/2	Level 1/2 se	Level 3/4/5	Level 3/4/5 se
1 (low income)	80.6	4.5	19.4	4.5
2	81.1	4.7	18.9	4.7
3	84.3	4.5	15.7	4.5
4	73.1	4.6	26.9	4.6
5 (high income)	52.7	10.3	47.3	10.3

Appendix Figure 8.3: Numeracy level by income, ALL only

Income quintile	Level 1/2	Level 1/2 se	Level 3/4/5	Level 3/4/5 se
1 (low income)				
2	89.6	2.8	10.4	2.8
3				
4	84.3	4.4	15.7	4.4
5 (high income)	68.8	6.4	31.2	6.4

Appendix Figure 8.4: Problem-solving level by income, ALL only

Income quintile	Level 1/2	Level 1 se	Level 3/4	Level 3/4 se
1 (low income)				
2				
3				
4	93.2	2.1	6.8	2.1
5 (high income)	80.3	5.6	19.7	5.6

Appendix Figure 9.1: Prose literacy means by ethnic group and age, ALL only

Ethnic group	Age group	Mean	Standard error
Samoan	16-24-year-olds	241.9	5.9
	25-34-year-olds	255.1	8.0
	35-44-year-olds	231.4	8.0
	45-54-year-olds	220.7	11.8
	55-65-year-olds	198.3	11.8
Cook Island Maori	16-24-year-olds	239.4	9.4
	25-34-year-olds	247.5	4.5
	35-44-year-olds	256.8	8.4
	45-54-year-olds	218.8	7.2
	55-65-year-olds	167.7	20.5
Tongan	16-24-year-olds	230.6	10.9
	25-34-year-olds	238.5	9.7
	35-44-year-olds	188.1	23.3
	45-54-year-olds	220.4	22.6
	55-65-year-olds	172.8	35.0
Niuean	16-24-year-olds	250.0	14.4
	25-34-year-olds	281.6	11.8
	35-44-year-olds	285.4	13.6
	45-54-year-olds	255.5	27.8
	55-65-year-olds	188.6	35.6
Other Pasifika	16-24-year-olds	259.9	10.1
	25-34-year-olds	259.7	12.6
	35-44-year-olds	261.0	11.5
	45-54-year-olds	247.1	25.6
	55-65-year-olds	169.0	45.2

Figure 9.2: Prose literacy means by ethnic group and gender, ALL only

Ethnic group	Gender	Mean	Standard error
Samoan	Men	227.9	5.9
	Women	241.0	4.9
Cook Island Maori	Men	238.8	7.9
	Women	236.4	5.8
Tongan	Men	202.6	10.1
	Women	226.9	9.3
Niuean	Men	260.2	14.8
	Women	253.5	14.8
Other Pasifika	Men	252.9	12.0
	Women	253.0	8.8

Appendix Figure 9.3: Prose literacy means by ethnic group and labour force status, ALL only

Ethnic group	Labour force status	Mean	Se
Samoan	Employed	237.7	5.2
	Unemployed	231.8	12.4
	Retired	233.6	19.7
	Student	245.8	9.0
	Homemaker or other	211.2	13.3
Cook Island Maori	Employed	247.9	5.8
	Unemployed	230.0	14.9
	Retired	134.4	27.3
	Student	237.1	10.0
	Homemaker or other	214.4	13.2
Tongan	Employed	215.0	8.0
	Unemployed	189.3	23.9
	Retired		
	Student	251.6	8.7
	Homemaker or other	192.7	38.2
Niuean	Employed	264.5	17.9
	Unemployed	250.3	17.6
	Retired		
	Student	260.6	24.6
	Homemaker or other	241.8	32.4
Other Pasifika	Employed	257.6	6.6
	Unemployed	222.9	18.0
	Retired		
	Student	272.3	18.0
	Homemaker or other	239.6	35.2

Appendix Figure 9.4: Prose literacy means by ethnic group and educational attainment, ALL only

Ethnic group	Educational attainment	Mean	Se
Samoan	Lower secondary or less	188.8	10.7
	Upper secondary	233.8	4.3
	Tertiary	270.0	6.5
Cook Island Maori	Lower secondary or less	203.4	14.1
	Upper secondary	244.2	5.0
	Tertiary	266.5	12.1
Tongan	Lower secondary or less	185.7	14.2
	Upper secondary	215.9	9.1
	Tertiary	245.9	8.8
Niuean	Lower secondary or less	251.1	15.8
	Upper secondary	255.8	11.8
	Tertiary	278.7	31.2
Other Pacific	Lower secondary or less	219.2	16.4
	Upper secondary	255.9	10.2

	Tertiary	264.1	11.3
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Appendix Figure 9.5: Prose literacy means by ethnic group and language spoken most frequently in the home, ALL only

Ethnic group	Language	Mean	Se
Samoan	English	259.3	5.4
	Other	210.0	5.4
Cook Island Maori	English	245.6	4.8
	Other	193.5	13.5
Tongan	English	237.1	6.2
	Other	201.2	11.2
Niuean	English	268.4	9.6
	Other	233.7	26.8
Other Pasifika	English	258.3	7.7
	Other	241.8	16.3

Appendix Figure 9.6: Prose literacy means by ethnic group and first language, ALL only

Ethnic group	First language	Mean	Se
Samoan	English	265.1	4.8
	Other	217.6	4.8
Cook Island Maori	English	250.9	5.8
	Other	215.7	8.1
Tongan	English	247.9	10.6
	Other	207.2	9.6
Niuean	English	266.6	10.5
	Other	246.0	17.1
Other Pasifika	English	259.3	8.3
	Other	245.7	11.5

Appendix Figure 9.7: Prose literacy means by ethnic group and place of birth, ALL only

Ethnic group	Place of birth	Mean	Se
Samoan	New Zealand	261.7	4.2
	Elsewhere	212.2	4.4
Cook Island Maori	New Zealand	249.3	5.4
	Elsewhere	218.0	8.0
Tongan	New Zealand	240.6	7.7
	Elsewhere	201.8	13.1
Niuean	New Zealand	266.9	8.3
	Elsewhere	235.3	23.1
Other Pasifika	New Zealand	263.3	12.9
	Elsewhere	246.4	9.3

Appendix Figure 9.8: Prose literacy means by ethnic group and place of birth, ALL only

Ethnic group	Income quintile	Mean	Standard error
Samoan	1	229.3	9.6
	2	228.0	8.3
	3	209.8	7.8
	4	244.9	7.4
	5	260.5	12.9
Cook Island Maori	1	236.0	12.7
	2	226.0	13.5
	3	238.4	11.2
	4	245.5	8.7
	5	268.5	14.4
Tongan	1	236.5	9.8
	2	190.4	21.0
	3	199.6	14.5
	4	236.0	11.6
	5	239.6	17.3
Niuean	1	224.4	30.4
	2	254.6	17.5
	3	255.6	40.4
	4	265.5	12.3
	5	274.3	42.8
Other Pasifika	1	254.8	24.5
	2	245.6	18.0
	3	235.6	10.5
	4	244.6	15.4
	5	276.1	13.7