

The Adult Literacy and Life Skills (ALL) Survey: Further Investigation

This fact-sheet is a sequel to that entitled *The Adult Literacy and Life Skills (ALL) Survey: Headline Results and Background*. It provides further headline results describing how numeracy and document literacy are distributed through subpopulations of the New Zealand adult population.

For some brief background information, please refer to the fact-sheet *The Adult Literacy and Life Skills (ALL) Survey: Headline Results and Background*. For more detailed background information, please refer to the publication *The Adult Literacy and Life Skills (ALL) Survey: An Introduction*.

What does the ALL survey measure?

The ALL survey measures proficiency among 16-65 year-olds in four “domains”. Two of these are included here:

“**Numeracy**” is the ability to understand and process mathematical and numerical information.

“**Document literacy**” is the ability to read and understand discontinuous texts – such as graphs, charts and tables.

How are an individual’s skills measured by the ALL survey?

To each individual, and for each of the domains mentioned above, a score from zero to 500 is assigned. Zero indicates extremely low proficiency and 500 extremely high. In addition, based upon this score, one of five “cognitive levels” is assigned. The following list provides descriptions of typical tasks associated with each cognitive level.

Level 1 (0–225): Tasks in this level require the ability to read simple documents, accomplish literal information-matching with no distractions, and perform simple one-step calculations.

Level 2 (226–275): This level includes tasks that demand the capacity to search a document and filter out some simple distracting information, achieve low-level inferences, and execute one- or two-step calculations and estimations.

Level 3 (276–325): Typical tasks at level 3 involve more complex information filtering, sometimes requiring inference, and the facility to manipulate mathematical symbols, perhaps in several stages.

Level 4 (326–375): A level 4 task might demand the integration of information from a long passage, the use of more complex inferences, and the completion of multiple-step calculations requiring some reasoning.

Level 5 (376–500): Level 5 tasks incorporate the capability to make high-level inferences or syntheses, use specialised knowledge, filter out multiple distractors, and to understand and use abstract mathematical ideas with justification.

Numeracy and Labour Force Status

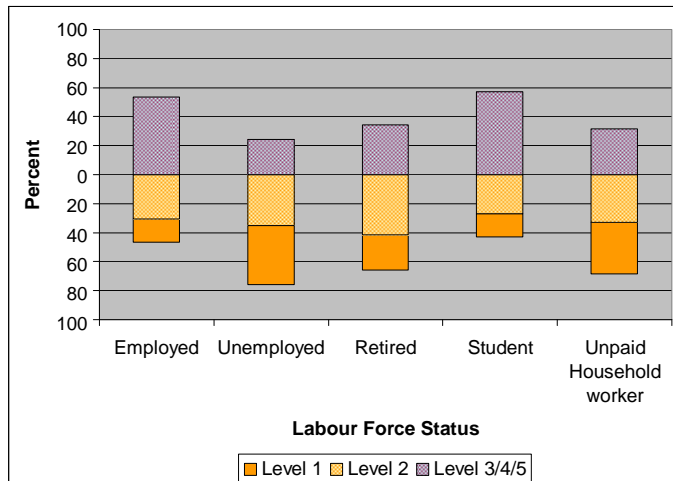
Numeracy was measured by the ALL survey.

The following figure shows the distribution of numeracy levels for various labour force status categories in New Zealand, i.e. the percentages of each labour force status population of New Zealand at each numeracy level. These are anchored at the boundary of levels 2 and 3 to allow comparison of either “low numeracy” (levels 1 and 2) or “higher numeracy” (levels 3, 4 and 5) between populations. Note that here levels 3, 4 and 5 are combined to give more robust statistical information.



The employed and student populations were skewed toward the higher end of the numeracy spectrum but the populations of the unemployed and unpaid household workers were skewed toward the lower end. The numeracy distribution of retirees fell between these two extremes.

ALL Numeracy Level Distributions and Labour Force Status



For the employed and student populations, the percentages at level 1 numeracy (both around 16) were less than those with level 2 numeracy (around 30 for the employed and 27 for students) which were less in turn than those with level 3, 4, or 5 numeracy (around 54 for the employed and 57 for students).

The unemployed and unpaid household (UH) worker populations followed a different pattern: the percentages at level 1 numeracy (around 41 for the unemployed and 36 for UH workers) were more than those with level 2 numeracy (around 35 for the unemployed and 33 for UH workers) which were more in turn than those with level 3, 4, or 5 numeracy (around 24 for the unemployed and 31 for UH workers).

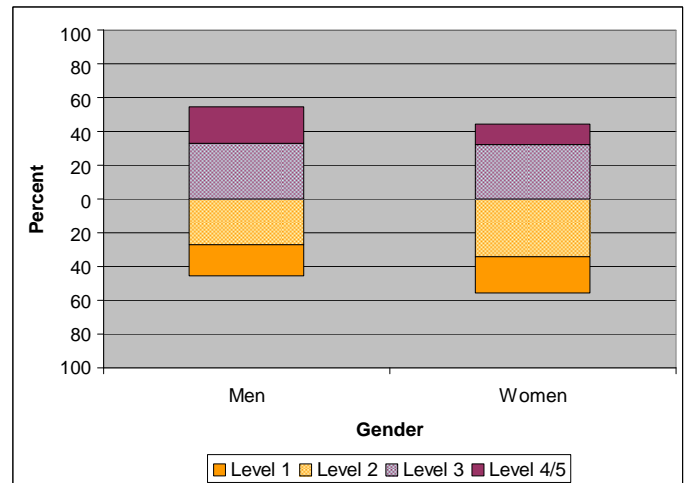
Different again was the pattern of the retired population: the percentage at level 1 numeracy (around 24) was less than that with level 2 numeracy (around 41) and sitting between these was that with level 3, 4, or 5 numeracy (around 34).

Numeracy and Gender

The following figure shows the distribution of numeracy levels for men and for women in New Zealand, as was done for labour force status. Note that here levels four and five are combined to give more robust statistical information.

Women had greater percentages in the lower levels of numeracy than men, and smaller percentages in the upper levels.

ALL Numeracy Level Distributions and Gender



For men and women, the largest percentages of the population had levels 2 or 3 numeracy. For men, around 27 percent were at level 2 and around 33 percent at level 3. For women, around 34 percent were at level 2 and around 32 percent at level 3.

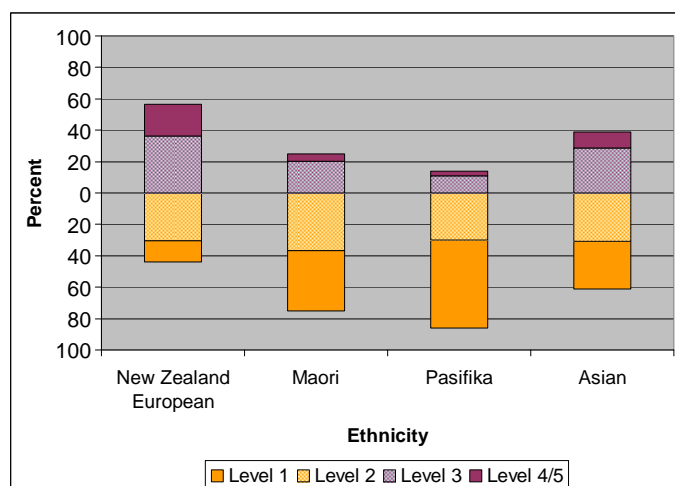
The more extreme levels of numeracy – 1, 4 and 5 – held smaller percentages of the populations. For men, around 18 percent were at level 1 and around 21 percent at level 4 or 5. For women, around 21 percent were at level 1 and around 12 percent at level 4 or 5.

Numeracy and Ethnicity

The following figure shows the distribution of numeracy levels for various ethnic groups in New Zealand, as was done for labour force status. Note that here levels four and five are combined to give more robust statistical information.

There were large differences in the numeracy of various ethnic groups. The Māori and Pasifika populations were skewed toward the lower end of the numeracy spectrum – this was more marked for the Pasifika population. The New Zealand European and Asian populations had larger proportions in the middle of the numeracy spectrum.

ALL Numeracy Level Distributions and Ethnicity



The largest percentage of the New Zealand European population was at level 3 (around 36), followed by that at level 2 (around 31), then by that at levels 4 and 5 (around 20) and level 1 (around 13).

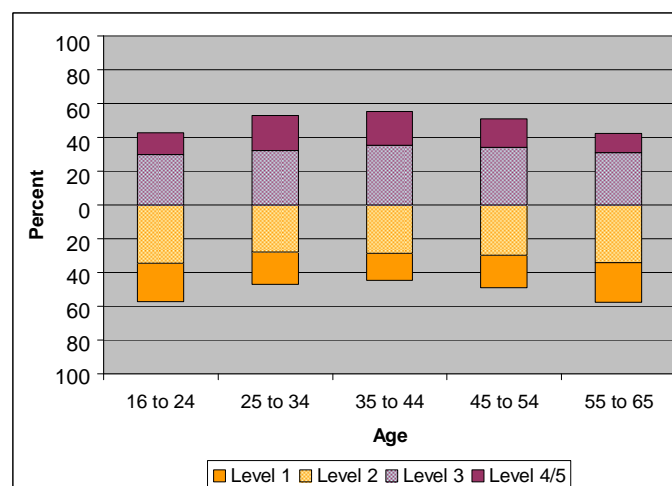
In contrast, the largest percentage of the Māori and Pasifika populations was at level 1 (around 38 for Māori and 56 for Pasifika) followed by that at level 2 (around 37 for Māori and 30 for Pasifika), then by that at level 3 (around 20 for Māori and 11 for Pasifika) and levels 4 and 5 (around 5 for Māori and 3 for Pasifika).

For the Asian population, the percentages at level 1 (around 30), level 2 (around 31), and level 3 (around 29) were similar. The percentage at levels 4 and 5 was around 10.

Numeracy and Age

The following figure shows the distribution of numeracy levels for various age groups in New Zealand, as was done for labour force status above. Note that again levels four and five are combined to give more robust statistical information.

ALL Numeracy Level Distributions and Age



The largest percentages of the 16-24 year-old and 55-65 year-old populations were at level 2 (around 35 for 16-24 year-olds and 34 for 55-65 year-olds), followed by that at level 3 (around 30 for 16-24 year-olds and 31 for 55-65 year-olds), then by that at level 1 (around 23 for 16-24 year-olds and 24 for 55-65 year-olds) and levels 4 and 5 (around 13 for 16-24 year-olds and 12 for 55-65 year-olds).

In contrast, the largest percentages of the 25-34 year-old and 35-44 year-old populations were at level 3 (around 32 for 25-34 year-olds and 35 for 35-44 year-olds), followed by those at level 2 (around 28 for 25-34 year-olds and 29 for 35-44 year-olds), then by those at levels 4 and 5 (around 21 for 25-34 year-olds and 20 for 35-44 year-olds) and level 1 (around 19 for 25-34 year-olds and 16 for 35-44 year-olds).

For the 45-54 year-olds, the largest percentage of the population was at level 3 (around 34), followed by that at level 2 (around 30), then by that at level 1 (around 19) and levels 4 and 5 (around 17).

Document Literacy and Up-skilling

“Up-skilling” refers to adult education in a broad sense: any activities undertaken to increase one’s skills.

The following figure shows – for those with ALL-measured document literacy levels 1 or 2, and for those with ALL-measured document literacy 3, 4, or 5 – the percentages of the adult population who self-reported as participating in various types of up-skilling in the last year.

All age groups had their larger proportions in the middle of the numeracy spectrum. For 25-54 year-olds the largest proportion was in the upper middle of the numeracy spectrum but for 16-24 year-olds and 55-65 year-olds this proportion was in the lower middle.

There were different patterns of participation in up-skilling activities between those with low document literacy and those with higher.

Participation in Up-skilling



The figure shows that there was little difference in participation in formal up-skilling between those with levels 1 or 2 ALL-measured document literacy (around 12 percent for full-time and 13 percent for part-time) and those with levels 3, 4 or 5 (around 14 percent for each of full-time and part-time).

In comparison with this, participation in non-formal up-skilling was lower (around 15 percent) for those with levels 1 or 2 ALL-measured document literacy than for those with levels 3, 4 or 5 (where it was at around 30 percent). Also, participation in self-directed up-skilling was higher (around 43 percent) for those with levels 1 or 2 ALL-measured document literacy than for those with levels 3, 4 or 5 (where it was at around 38 percent).

Finally, those who participated in no up-skilling activities made up around 17 percent of those with levels 1 or 2 ALL-measured document literacy and only around 4 percent of those with levels 3, 4 or 5.

“Formal Full-time” up-skilling refers to full-time participation in any course that is part of a programme of study toward a certificate, degree or diploma. An example of formal full-time up-skilling is participation in a plumbing apprenticeship.

Similarly, “Formal Part-time” up-skilling refers to part-time participation in any course that is part of a programme of study toward a certificate, degree or diploma. An example of formal part-time up-skilling is part-time participation in a Bachelor of Arts degree at a university.

“Non-formal” up-skilling refers to participation in any course that is not part of a programme of study toward a certificate, degree or diploma. An example of non-formal up-skilling is participation in a photography course at night-school.

“Self-directed” up-skilling refers to frequent participation in only up-skilling activities such as guided tours, trade fairs, and learning from instructional media.

Respondents who reported as up-skilling both formally (either part-time or full-time) and in another way were recorded as up-skilling formally. Respondents who reported as up-skilling non-formally and in a self-directed manner were reported as up-skilling non-formally.

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