# ASPECTS OF LITERACY: PROFILES AND PERCEPTIONS, AUSTRALIA, 1996 

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The Survey of Aspects of Literacy was a national survey designed to measure some elements of Australians' literacy and numeracy skills. The literacy and numeracy skills covered by the survey were the information processing skills necessary to use printed material found at work, at home, and in the community. The survey was conducted between May and July 1996.

There were two components to the survey:

- respondents were asked to rate their reading, writing and basic mathematical skills for the needs of daily life and for the needs of their main job; and
- respondents were asked to undertake a set of tasks to provide an objective assessment of their literacy and numeracy abilities.

This publication provides data on the first component of the survey. The results from the second component are scheduled for release in September 1997: Aspects of Literacy: Assessed Skill Levels (Cat. no. 4228.0).

My thanks to a User Advisory Group, comprising experts in the field of language and literacy, for providing the Australian Bureau of Statistics (ABS) with advice on the information to be collected and on some aspects of the survey methodology to ensure it was suitable in the Australian context. The group included representatives from State and Commonwealth education and training departments, language and literacy research organisations, academics, industry groups and the Australian Language and Literacy Council.

The cooperation of those who participated in this survey is very much appreciated.

T. J. Skinner<br>Acting Australian Statistician

## CHAPTER 1

## SELF PERCEPTIONS: OVERVIEW

This chapter contains information on Australians' self perceptions of their English literacy and numeracy skills for the needs of daily life. Respondents were asked to rate their skills as excellent, good, moderate or poor and this chapter gives an overview of these ratings in conjunction with the characteristics of sex, age, labour force status, educational attainment, and whether English was the first language spoken.

## HOW AUSTRALIANS RATE THEIR SKILLS

The majority of Australians rated their reading, writing and basic mathematical skills for the needs of daily life as excellent or good. Of the estimated population of $13,221,000$ people aged $15-74$, ratings of excellent or good were given by $86 \%$ for their reading skills, by $80 \%$ for their writing skills and by $79 \%$ for their basic mathematical skills.

### 1.1 SELF RATING OF SKILLS FOR NEEDS OF DAILY LIFE

|  | Reading skills......... |  | Writing skills........... |  | Basic maths skills..... |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Self rating | '000 | \% | '000 | \% | '000 | \% |
| Excellent | 6674.8 | 50.5 | 5418.3 | 41.0 | 4778.0 | 36.1 |
| Good | 4643.5 | 35.1 | 5173.3 | 39.1 | 5662.6 | 42.8 |
| Moderate | 1359.7 | 10.3 | 1834.4 | 13.9 | 2280.5 | 17.2 |
| Poor | 506.4 | 3.8 | 761.2 | 5.8 | 481.4 | 3.6 |
| Total(a) | 13220.8 | 100.0 | 13220.8 | 100.0 | 13220.8 | 100.0 |

(a) Includes persons who had no opinion.

Sex
More women than men rated their reading and writing skills as excellent, but a smaller proportion rated their basic mathematical skills as excellent.
1.2 SELF RATING OF SKILLS FOR NEEDS OF DAILY LIFE, By Sex


Age
In general, older people rated their reading, writing and basic mathematical skills lower than the younger age groups.

For age groups between 15 and 54, the proportion who rated their reading skills as excellent showed little variation, ranging from $53 \%$ to $56 \%$. This proportion fell in the older age groups, to $41 \%$ of people aged $55-64$, and to $36 \%$ of people aged $65-74$. While this was balanced to some extent by the proportion who rated their reading skills as good, a greater proportion of those aged 55 and over rated their reading skills as moderate or poor.

This general pattern was similar for people's perceptions of their writing and basic mathematical skills.

### 1.3 SELF RATING OF SKILLS FOR NEEDS OF DAILY LIFE, By Age

|  | Excellent | Good | Moderate | Poor | Total(a).................. |  |
| :--- | ---: | ---: | ---: | ---: | :---: | ---: |
| Age (years) | $\%$ | $\%$ | $\%$ | $\%$ | $\%$ | '000 |


| READING SKILLS |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 15-24 | 55.8 | 34.8 | 8.1 | *1.1 | 100.0 | 2583.6 |
| 25-34 | 52.9 | 35.2 | 9.8 | 1.9 | 100.0 | 2815.7 |
| 35-44 | 53.2 | 33.9 | 9.1 | 3.7 | 100.0 | 2759.0 |
| 45-54 | 52.5 | 32.8 | 9.6 | 4.8 | 100.0 | 2293.6 |
| 55-64 | 41.1 | 36.6 | 13.7 | 7.9 | 100.0 | 1513.7 |
| 65-74 | 35.8 | 40.8 | 15.7 | 7.5 | 100.0 | 1255.2 |


| WRITING SKILLS |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 15-24 | 48.4 | 40.5 | 9.5 | 1.6 | 100.0 | 2583.6 |
| 25-34 | 45.3 | 37.7 | 13.7 | 3.2 | 100.0 | 2815.7 |
| 35-44 | 43.4 | 37.7 | 13.0 | 2.7 | 100.0 | 2759.0 |
| 45-54 | 41.2 | 37.7 | 13.8 | 7.0 | 100.0 | 2293.6 |
| 55-64 | 29.1 | 42.6 | 16.2 | 11.6 | 100.0 | 1513.7 |
| 65-74 | 24.3 | 41.2 | 22.6 | 11.1 | 100.0 | 1255.2 |

BASIC MATHEMATICAL SKILLS

| 15-24 | 41.5 | 42.7 | 13.3 | 2.4 | 100.0 | 2583.6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 25-34 | 38.6 | 42.7 | 15.5 | 3.2 | 100.0 | 2815.7 |
| 35-44 | 40.7 | 41.1 | 14.6 | 3.2 | 100.0 | 2759.0 |
| 45-54 | 36.8 | 42.1 | 17.6 | 3.3 | 100.0 | 2293.6 |
| 55-64 | 25.5 | 46.0 | 23.1 | 5.2 | 100.0 | 1513.7 |
| 65-74 | 21.2 | 44.9 | 26.7 | 6.8 | 100.0 | 1255.2 |

(a) Includes persons who had no opinion.

How well people rated their reading skills varied with their labour force status. Some $57 \%$ of employed people rated their reading skills as excellent, compared with $42 \%$ of the unemployed and $39 \%$ of those not in the labour force (neither employed nor unemployed). While similar proportions in all three categories rated their reading skills as good, a higher proportion of people who were not in the labour force rated their reading skills as moderate or poor. Again, these patterns were similar for people's perceptions of their writing and basic mathematical skills.

### 1.4 SELF RATING OF READING SKILLS, By Labour Force Status <br> \% <br> 60



## Educational attainment

Of people with a post-school qualification, $60 \%$ rated their reading skills as excellent, compared with $42 \%$ of those without such a qualification. A higher proportion of people without post-school qualifications rated their reading skills as good. The proportion of people who rated their skills as moderate was higher for those without post-school qualifications ( $13 \%$ compared with $7 \%$ with post-school qualifications), and this was also the case with people who rated their skills as poor ( $6 \%$ compared with $2 \%$ ).

People's self rating of writing skills was very similar to their rating of reading skills.
Similarly, the difference in proportions between those with qualifications and those without who rated their basic mathematical skills as excellent was approximately 18 percentage points in favour of people with post-school qualifications. The difference between the two groups for 'good' ratings was small (3 percentage points), in favour of people without post-school qualifications. Compared with people with post-school qualifications, almost twice the proportion of people without post-school qualifications rated their basic mathematical skills as moderate and over three times the proportion rated their skills as poor.
1.5 SELF RATING OF SKILLS, By Educational Attainment

| Self rating | Post-school <br> qualifications. |  | No post-school qualifications. |  | All persons(a).......... |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | '000 | \% | '000 | \% | '000 | \% |
| READING SKILLS |  |  |  |  |  |  |
| Excellent | 3495.2 | 59.8 | 2898.7 | 42.3 | 6674.8 | 50.5 |
| Good | 1838.5 | 31.5 | 2595.0 | 37.9 | 4643.5 | 35.1 |
| Moderate | 420.0 | 7.2 | 905.0 | 13.2 | 1359.7 | 10.3 |
| Poor | 86.6 | 1.5 | 415.4 | 6.1 | 506.4 | 3.8 |
| Total(b) | 5843.6 | 100.0 | 6847.3 | 100.0 | 13220.8 | 100.0 |
| WRITING SKILLS |  |  |  |  |  |  |
| Excellent | 2941.8 | 50.3 | 2215.5 | 32.4 | 5418.3 | 41.0 |
| Good | 2123.5 | 36.3 | 2821.9 | 41.2 | 5173.3 | 39.1 |
| Moderate | 624.2 | 10.7 | 1176.7 | 17.2 | 1834.4 | 13.9 |
| Poor | 153.1 | 2.6 | 600.6 | 8.8 | 761.2 | 5.8 |
| Total(b) | 5843.6 | 100.0 | 6847.3 | 100.0 | 13220.8 | 100.0 |
| BASIC MATHEMATICAL SKILLS |  |  |  |  |  |  |
| Excellent | 2663.7 | 45.6 | 1893.2 | 27.6 | 4778.0 | 36.1 |
| Good | 2405.8 | 41.2 | 3036.3 | 44.3 | 5662.6 | 42.8 |
| Moderate | 679.6 | 11.6 | 1524.9 | 22.3 | 2280.5 | 17.2 |
| Poor | 92.8 | 1.6 | 376.1 | 5.5 | 481.4 | 3.6 |
| Total(b) | 5843.6 | 100.0 | 6847.3 | 100.0 | 13220.8 | 100.0 |

(a) Includes persons still attending school.
(b) Includes persons who had no opinion.

Whether English was the first language spoken
Australians' perceptions of their English reading and writing skills were strongly related to whether English was the first language spoken.

Of the 10,917,000 people who spoke English as their first language, most (90\%) rated their reading skills as excellent or good. In comparison, of the 2,304,000 people whose first language was not English, 65\% rated their English reading skills as excellent or good.

There was a similar pattern in self perceptions of (English) writing skills. However, perceptions of basic mathematical skills did not show a strong relationship to whether English was the first language spoken. A larger proportion of people who spoke English as their first language rated their basic mathematical skills as excellent ( $37 \%$ compared with $31 \%$ of those whose first language was not English). However, the proportion who rated their basic mathematical skills as good or moderate were similar irrespective of whether English was the first language spoken. A slightly higher proportion of people whose first language was not English rated their basic mathematical skills as poor (7\% compared with $3 \%$ ).

### 1.6 SELF RATING OF SKILLS, By First Language Spoken

| Self rating | English..................... |  | Other..................... |  |
| :---: | :---: | :---: | :---: | :---: |
|  | '000 | \% | '000 | \% |
| READING SKILLS |  |  |  |  |
| Excellent | 5970.1 | 54.7 | 704.7 | 30.6 |
| Good | 3841.8 | 35.2 | 801.7 | 34.8 |
| Moderate | 945.7 | 8.7 | 414.0 | 18.0 |
| Poor | 146.9 | 1.3 | 359.5 | 15.6 |
| Total(a) | 10917.1 | 100.0 | 2303.7 | 100.0 |
| WRITING SKILLS |  |  |  |  |
| Excellent | 4778.1 | 43.8 | 640.2 | 27.8 |
| Good | 4474.6 | 41.0 | 698.7 | 30.3 |
| Moderate | 1385.6 | 12.7 | 448.9 | 19.5 |
| Poor | 271.6 | 2.5 | 489.7 | 21.3 |
| Total(a) | 10917.1 | 100.0 | 2303.7 | 100.0 |

.....................................................

## BASIC MATHEMATICAL SKILLS

| Excellent | 4066.4 | 37.2 | 711.6 | 30.9 |
| :--- | ---: | ---: | ---: | ---: |
| Good | 4639.9 | 42.5 | 1022.8 | 44.4 |
| Moderate | 1873.8 | 17.2 | 406.7 | 17.7 |
| Poor | 323.9 | 3.0 | 157.5 | 6.8 |
|  |  |  |  |  |
| Total(a) | $\mathbf{1 0 ~ 9 1 7 . 1}$ | $\mathbf{1 0 0 . 0}$ | $\mathbf{2 3 0 3 . 7}$ | $\mathbf{1 0 0 . 0}$ |

(a) Includes persons who had no opinion.

## Chapter 2

## SELF PERCEPTIONS AND EDUCATION

This chapter provides a brief profile of the population's self perceptions of the adequacy of their literacy and numeracy skills for the needs of daily life, and how these vary with educational characteristics.

## EDUCATIONAL ATTAINMENT AND SELF PERCEIVED SKILLS

Reading skills
People with post-school qualifications generally considered their reading skills to be excellent or good for the needs of daily life, with these ratings reported by $98 \%$ of higher degree or postgraduate diploma holders, $96 \%$ of people with bachelor degrees, $91 \%$ of those with undergraduate or associate diplomas, and $88 \%$ of vocational qualification holders. Of those without post-school qualifications who completed the highest level of secondary school available, most rated their reading skills as excellent or good (91\%). While most people who did not complete the highest level of school available also rated their skills as excellent or good (76\%), the proportions of moderate and poor ratings were significantly higher ( $16 \%$ and $7 \%$ respectively).

### 2.1 SELF RATING OF SKILLS, By Educational Attainment

|  | Post graduate qualification | Bachelor Degree | Undergraduate or Associate Diplomaqu | Vocational alification | Highest level secondary school available | Not highest level secondary school available | Still at school |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | SELF RATING (\%) |  |  |  |  |  |  |
| Reading |  |  |  |  |  |  |  |
| Excellent | 83.4 | 72.8 | 62.1 | 49.6 | 60.1 | 34.7 | 53.0 |
| Good | 14.7 | 23.5 | 29.1 | 38.6 | 31.1 | 41.2 | 39.6 |
| Moderate | *1.4 | *3.0 | 7.2 | 9.8 | 6.1 | 16.4 | 6.5 |
| Poor | - | *0.7 | *1.6 | 2.0 | 2.4 | 7.2 | *0.8 |
| Total(a) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Writing |  |  |  |  |  |  |  |
| Excellent | 79.9 | 65.9 | 52.0 | 38.3 | 51.3 | 24.2 | 49.2 |
| Good | 17.5 | 27.8 | 36.5 | 43.0 | 36.5 | 43.6 | 43.0 |
| Moderate | *2.5 | 5.1 | 9.5 | 14.8 | 8.8 | 21.0 | *6.3 |
| Poor | *0.1 | *1.1 | *2.0 | 3.9 | 3.1 | 10.8 | *1.4 |
| Total(a) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Basic maths |  |  |  |  |  |  |  |
| Excellent | 70.2 | 62.0 | 46.8 | 34.4 | 44.5 | 20.4 | 41.7 |
| Good | 23.5 | 30.5 | 41.4 | 48.3 | 43.2 | 45.0 | 41.6 |
| Moderate | 6.1 | 6.4 | 10.5 | 15.1 | 10.8 | 27.3 | 14.3 |
| Poor | *0.2 | *0.9 | *1.3 | 2.2 | *1.4 | 7.0 | *2.3 |
| Total(a) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| NUMBER ('000) |  |  |  |  |  |  |  |
| Persons(a) | 560.4 | 1076.4 | 1257.6 | 2949.3 | 2102.8 | 4699.1 | 529.9 |

Writing skills
High proportions of people with post-school qualifications also considered their writing skills to be excellent or good for the needs of daily life, ranging from $97 \%$ of people with higher degrees/postgraduate diplomas to $81 \%$ for vocational qualification holders. Most people who completed the highest level of secondary school available also rated their writing skills as excellent or good (88\%).

People who did not complete the highest level of school available generally rated their writing skills lower. Some $68 \%$ in this group rated their abilities as excellent or good, while $21 \%$ considered their skills moderate, and $11 \%$ thought their skills were poor.

Basic mathematical skills
Table 2.1 shows that for most educational attainment groups, people rated their basic mathematical skills similarly to their writing skills, but lower than their reading skills.

## NUMBER OF SCHOOLS ATTENDED BEFORE THE AGE OF 15

The number of schools attended has been thought by education practitioners and researchers to be related to achievement in school: the more schools a child attended, the more disruption to their education, resulting in lower literacy skills (see, for example, D. Dymock, Adult Literacy Provision in Australia: Trends and Needs, Australian Council for Adult Literacy, Armidale, 1985, p. 21). This does not seem to hold for people's own view of their skills.

### 2.2 SELF RATING OF SKILLS, By Number of Schools Attended

## SChools attended before the age of

 15. $\qquad$|  | 1 to 2 schools..... |  | 3 to 4 schools..... |  | 5 to 9 schools..... |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Self rating | '000 | \% | '000 | \% | '000 | \% |
| READING SKILLS |  |  |  |  |  |  |
| Excellent | 3682.6 | 47.1 | 2224.1 | 54.9 | 679.3 | 59.2 |
| Good | 2828.3 | 36.2 | 1408.1 | 34.7 | 358.9 | 31.3 |
| Moderate | 917.0 | 11.7 | 331.7 | 8.2 | 85.1 | 7.4 |
| Poor | 362.6 | 4.6 | 85.7 | 2.1 | *24.0 | *2.1 |
| Total(a) | 7817.6 | 100.0 | 4054.6 | 100.0 | 1147.3 | 100.0 |


| WRITING SKILLS |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Excellent | 3019.6 | 38.6 | 1814.5 | 44.8 | 513.6 | 44.8 |
| Good | 3020.6 | 38.6 | 1619.4 | 39.9 | 474.6 | 41.4 |
| Moderate | 1200.5 | 15.4 | 484.6 | 12.0 | 127.3 | 11.1 |
| Poor | 551.4 | 7.1 | 132.7 | 3.3 | *31.8 | *2.8 |
| Total(a) | 7817.6 | 100.0 | 4054.6 | 100.0 | 1147.3 | 100.0 |


| BASIC MATHEMATICAL SKILLS |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Excellent | 2671.3 | 34.2 | 1600.5 | 39.5 | 446.8 | 38.9 |
| Good | 3414.9 | 43.7 | 1693.5 | 41.8 | 484.9 | 42.3 |
| Moderate | 1407.9 | 18.0 | 655.3 | 16.2 | 178.1 | 15.5 |
| Poor | 312.0 | 4.0 | 101.2 | 2.5 | 37.5 | 3.3 |
| Total(a) | 7817.6 | 100.0 | 4054.6 | 100.0 | 1147.3 | 100.0 |

(a) Includes persons who had no opinion

Table 2.2 shows how Australians' self perceptions of their literacy and numeracy abilities for the needs of daily life vary with the number of schools attended prior to the age of 15. Generally, there are similar distributions for self rating of skill levels across the number of schools attended.

One difference between groups was less reporting of 'excellent' skills by people who attended one or two schools, compared with those who attended more than two schools. The clearest example of this difference was in self perceptions of reading skills, for which $47 \%$ of those who attended one or two schools reported their skills as excellent, compared with $55 \%$ for respondents who attended three to four schools and $59 \%$ for those who attended between five and nine schools. The difference was also evident in the self perceptions of writing skills, and self perceptions of basic mathematical skills, although the difference was smaller overall.

Some of this difference may be attributed to those people who left school early being more likely to have attended fewer schools. For example, of people who attended one or two schools, $9 \%$ had less than eight years of education, compared with $3 \%$ of those who attended three to four schools, and $5 \%$ of people who attended five to nine schools. The proportion of people with 'excellent' self perceptions was low among people with less than eight years of education ( $12 \%$ for reading; $6 \%$ for writing; and $9 \%$ for basic mathematical skills). This proportion rises by at least 18 percentage points for people with 8 to 11 years of education, and then increases steadily as years of education increase.

However, even when only those people who have completed at least the highest level of secondary school are included, there is a rise in the proportion of 'excellent' ratings as the number of schools increases (see graph 2.3).

### 2.3 SELF RATING OF 'EXCELLENT' SKILLS,

 By Number of Schools Attended Before Age 15 Years

## CHAPTER 3

SELF PERCEPTIONS OFWORKPLACESKILLS

This chapter looks at how Australians who had worked in the 12 months before the survey rated their literacy and numeracy abilities for the needs of their main job, and whether these self ratings varied with factors such as industry and occupation. It also provides information on the extent to which people perceive the level of their literacy skills is limiting their job opportunities. A person's main job in the last 12 months is the job in which they worked the most hours in total during that period.

It should be noted that how people rate their literacy and numeracy skills for the needs of their main job may depend on the demands placed on a worker's skills by that job and that such demands vary because of the different nature of jobs performed in different industries and occupations.

## READING SKILLS FOR THE NEEDS OF MAIN JOB

Of the $9,589,000$ Australians who worked in the 12 months before the survey, $57 \%$ rated their reading skills for the needs of their main job as excellent, $33 \%$ rated their skills as good, $7 \%$ rated their skills as moderate, and $1 \%$ rated them as poor. Some $94 \%$ of female workers rated their reading skills for the needs of their main job as excellent or good, compared with $88 \%$ of male workers.

### 3.1 SELF RATING OF READING SKILLS FOR NEEDS OF MAIN JOB, By Sex

|  | Excellent.......... |  | Good.............. |  | Moderate or poor..... |  | Total(a)........... |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Sex | '000 | \% | '000 | \% | '000 | \% | '000 | \% |
|  |  |  |  |  |  |  |  |  |
| Males | 2770.8 | 51.9 | 1914.9 | 35.9 | 557.4 | 10.4 | 5340.3 | 100.0 |
| Females | 2725.5 | 64.2 | 1247.6 | 29.4 | 208.9 | 4.9 | 4248.2 | 100.0 |
| Persons | 5496.3 | 57.3 | 3162.4 | 33.0 | 766.3 | 8.0 | 9588.5 | 100.0 |

(a) Includes persons who had no opinion.

Industry
The industries with the highest proportions of workers who rated their reading skills as excellent or good for the needs of their main job were Education (98\%), Finance and insurance services (97\%) and Cultural and recreational services (95\%). The Electricity, gas and water supply industry had the lowest proportion of workers who rated their skills as excellent or good (79\%).

Almost all Clerks and Professionals rated their reading skills for the needs of their main job as excellent or good ( $97 \%$ and $96 \%$ respectively). Some $17 \%$ of Plant and machine operators, and drivers, rated their reading skills for the needs of their main job as moderate or poor, the highest proportion of all occupations.
3.2 SELF RATING OF READING SKILLS FOR NEEDS OF JOB, By Occupation


## WRITING SKILLS FOR THE NEEDS OF MAIN JOB

Almost half ( $47 \%$ ) of workers rated their writing skills for the needs of their main job as excellent, $39 \%$ as good, $9 \%$ as moderate, and $2 \%$ as poor. Some $90 \%$ of females rated their writing skills as excellent or good for the needs of their main job, compared with $83 \%$ of males. In general, people rated their writing skills lower than their reading skills.

### 3.3 SELF RATING OF WRITING SKILLS FOR NEEDS OF MAIN JOB, By Sex

|  | Excellent.......... |  | Good............... |  | Moderate <br> or poor $\qquad$ |  | Total(a)........... |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Sex | '000 | \% | '000 | \% | '000 | \% | '000 | \% |
| Males | 2215.7 | 41.5 | 2192.3 | 41.1 | 768.3 | 14.4 | 5340.3 | 100.0 |
| Females | 2247.3 | 52.9 | 1555.7 | 36.6 | 305.6 | 7.2 | 4248.2 | 100.0 |
| Persons | 4463.0 | 46.5 | 3748.0 | 39.1 | 1073.9 | 11.2 | 9588.5 | 100.0 |

(a) Includes persons who had no opinion.

## Industry

Very high proportions of workers in the Finance and insurance services industry (95\%), Education (95\%) and Property and business services ( $90 \%$ ) rated their writing skills as excellent or good. Industries with the lowest proportions of workers rating their writing skills as excellent or good were Electricity, gas and water supply (74\%), Mining (77\%), and Agriculture, forestry and fishing ( $78 \%$ ).

### 3.4 SELF RATING OF WRITING SKILLS FOR NEEDS OF MAIN JOB, By Industry

| Industry | Excellent | Good | Moderate or poor | Total(a) |
| :---: | :---: | :---: | :---: | :---: |
|  | \% | \% | \% | '000 |
| Agriculture, forestry and fishing | 32.6 | 45.6 | 16.4 | 472.8 |
| Mining | 33.4 | 43.7 | *20.8 | 101.5 |
| Manufacturing | 38.1 | 43.0 | 15.6 | 1303.2 |
| Electricity, gas and water supply | 36.7 | 37.0 | *26.4 | 91.9 |
| Construction | 34.9 | 43.5 | 17.5 | 633.0 |
| Wholesale trade | 42.4 | 46.0 | 9.7 | 481.7 |
| Retail trade | 49.2 | 36.2 | 10.5 | 1548.3 |
| Accommodation, cafes and restaurants | 48.7 | 35.3 | 11.6 | 436.6 |
| Transport and storage | 39.5 | 41.9 | 15.3 | 393.1 |
| Communication services | 38.8 | 48.8 | *7.4 | 181.1 |
| Finance and insurance services | 59.8 | 35.3 | *3.8 | 302.2 |
| Property and business services | 52.6 | 37.4 | 7.9 | 944.4 |
| Government administration and defence | 48.7 | 40.8 | 7.9 | 459.4 |
| Education | 60.8 | 33.8 | *4.4 | 696.7 |
| Health and community services | 55.0 | 34.1 | 9.2 | 899.2 |
| Cultural and recreational services | 54.8 | 32.0 | *9.0 | 256.4 |
| Personal and other services | 41.6 | 40.7 | 11.5 | 387.0 |
|  | '000 | '000 | '000 | '000 |
| Persons | 4463.0 | 3748.0 | 1073.9 | 9588.5 |

(a) Includes persons who had no opinion.

## Occupation

Almost all Professionals (96\%) rated their writing skills as excellent or good. In contrast, $70 \%$ of Plant and machine operators, and drivers, rated their skills as excellent or good.

## BASIC MATHEMATICAL SKILLS FOR THE NEEDS OF MAIN JOB

Respondents to the survey who worked in the last 12 months were asked whether they used arithmetic or mathematics in their main job to measure or estimate the size or weight of objects, or to work out prices, costs or budgets. In this context, they were then asked to rate their basic mathematical skills for the needs of their main job.

Fewer workers rated their basic mathematical skills as excellent compared with the number who rated their reading and writing skills as excellent - $41 \%$ rated their basic mathematical skills as excellent, $43 \%$ as good, $11 \%$ as moderate, and $1 \%$ as poor. A slightly higher proportion of males rated their basic mathematical skills as excellent or good, $85 \%$ compared with $82 \%$ of females.

## Industry

Finance and insurance services had the highest proportion of workers who rated their basic mathematical skills for the needs of their main job as excellent or good (96\%). In contrast, $71 \%$ of workers in the Electricity, gas and water supply industry rated their basic mathematical skills for the needs of their main job as excellent or good.

## Occupation

The variation between different occupations was not as large as that for industries. Professionals had the highest proportion who rated their basic mathematical skills as excellent or good (89\%), while the occupation with the lowest proportion of workers rating their skills as excellent or good was Labourers and related workers (73\%).

## WHETHER JOB OPPORTUNITIES LIMITED BY SKILLS

Only small proportions of workers reported they felt their job opportunities were limited, either greatly or somewhat, by their literacy and numeracy skills - 462,000 people (5\%) perceived their job opportunities to be limited by their reading skills, $568,000(6 \%)$ by their writing skills, and $467,000(5 \%)$ by their basic mathematical skills. While the proportion of males and females who felt their job opportunities were limited by their basic mathematical skills was the same (5\%), higher proportions of males felt that their job opportunities were limited by their reading and writing skills (for reading, $6 \%$ compared with $3 \%$ of females, and for writing, $7 \%$ compared with $4 \%$ of females). Of those people who felt their job opportunities were greatly limited by their reading skills, the majority ( $64 \%$ ) rated their skills as moderate or poor. This was also the case for writing and mathematical skills.

## Occupation

For each of reading, writing and basic mathematical skills, Plant and machine operators, and drivers, and Labourers and related workers had the highest proportion reporting that they believed their job opportunities were being limited because of their literacy abilities. Graph 3.5 shows selected occupations in which workers reported they felt their job opportunities were limited by their reading skills.

### 3.5 JOB OPPORTUNITIES LIMITED BY READING SKILLS, By Occupation



This chapter presents information about Australians who first learned to speak a language other than English, including those who were born in Australia.

Of the 2,304,000 Australians aged 15 to 74 whose first language was not English, $31 \%$ rated their English reading skills for the needs of daily life as excellent, $35 \%$ rated them as good, $18 \%$ rated them as moderate, and $16 \%$ rated them as poor. For English writing skills, an even greater proportion (21\%) rated their skills as poor. However, for basic mathematical skills, the ratings of the people whose first language was not English were similar to the rest of the population.

Graph 4.1 shows that, of people who first spoke a language other than English, 'moderate' or 'poor' self ratings of English reading skills increased with age.
4.1 SELF RATING OF ENGLISH READING SKILLS FOR NEEDS OF DAILY LIFE
By Age


For English writing skills, $48 \%$ of people aged 15-24 years whose first language was not English rated their skills as excellent, compared with $10 \%$ of people aged 55-74 years. Some $19 \%$ of people aged 15-24 years rated their English writing skills as moderate or poor, compared with $62 \%$ of those aged $55-74$ years.

## BIRTHPLACE AND YEAR OF ARRIVAL

English reading skills
Of people who first spoke a language other than English, 394,000 (17\%) were born in Australia. Of these, two-thirds (68\%) rated their English reading skills for the needs of daily life as excellent, and just over one-quarter (27\%) rated them as good. For those who were born outside Australia, how well they rated their English reading skills was related to when they arrived in Australia. Of people who arrived before 1981, $60 \%$ rated their English reading skills as excellent or good, in contrast with $45 \%$ of people who arrived after 1990.

### 4.2 SELF RATING OF ENGLISH READING SKILLS FOR NEEDS OF DAILY LIFE

            PERSONS BORN
            OVERSEAS
    |  | PERSONS BORN OVERSEAS. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Arrived <br> before 1981.......... |  | Arrived1981-90. |  | Arrived <br> after 1990 |  |
| Self rating | '000 | \% | '000 | \% | '000 | \% |
| Excellent | 261.7 | 22.9 | 145.9 | 27.2 | *31.0 | 13.5 |
| Good | 424.3 | 37.1 | 196.1 | 36.6 | 73.2 | 31.8 |
| Moderate | 221.3 | 19.3 | 103.5 | 19.3 | 74.4 | 32.3 |
| Poor | 227.0 | 19.8 | 80.3 | 15.0 | 47.2 | 20.5 |
| Total(a) | 1143.9 | 100.0 | 535.4 | 100.0 | 230.4 | 100.0 |

(a) Includes persons who had no opinion.

English writing skills
Of people who first spoke a language other than English and who were born in Australia, $62 \%$ rated their English writing skills as excellent, and $32 \%$ rated their skills as good. For those who arrived before 1981, self ratings in English writing skills were fairly evenly spread, with $21 \%$ rating their skills as excellent, $29 \%$ as good, $21 \%$ as moderate and $28 \%$ as poor. Those who arrived between 1981 and 1990 rated themselves as having better English writing skills, with $23 \%$ rating their English writing skills as excellent, $35 \%$ as good, $21 \%$ as moderate and $19 \%$ as poor. Similar to English reading skills, people who arrived after 1990 rated themselves the lowest for English writing skills, with 38\% rating themselves as moderate and $24 \%$ as poor.

English speaking skills
Australian-born people whose first language was not English rated their English speaking skills in a similar pattern to their English reading skills, with two-thirds (66\%) rating their English speaking skills as excellent and almost one-third (30\%) as good. However, for those born outside Australia, self rating of English speaking skills was lower than reading or writing skills. This was most clearly seen in those who arrived after 1990, with only $35 \%$ of this category rating their English speaking skills as excellent or good.
4.3 SELF RATING OF CURRENT ENGLISH SPEAKING SKILLS By Year of Arrival


## CURRENT SKILLS IN LANGUAGE FIRST SPOKEN

Reading skills
Of people who first spoke a language other than English, $32 \%$ rated their current reading skills in that language as excellent, and $30 \%$ rated their skills as good. Some $23 \%$ reported they could not read the language they first spoke, or that their skills were poor. Graph 4.4 shows the relationship between reading skills and year of arrival.
4.4 SELF RATING OF READING SKILLS IN FIRST LANGUAGE SPOKEN By Year of Arrival


Higher proportions of older people could read the language they first spoke - $94 \%$ of those aged 55-74 years compared with $69 \%$ of people aged $15-24$ years.

Writing skills
Of people who first spoke a language other than English, $25 \%$ rated their current writing skills in that language as excellent and a further $32 \%$ rated their writing skills as good. In contrast, $27 \%$ could not write in the language they first spoke, or rated their skills as poor.

Table 4.5 shows the contrast between age groups for people's current writing skills in the language they first spoke.
4.5 SELF RATING OF WRITING SKILLS IN LANGUAGE FIRST SPOKEN, By Age

|  | Excellent | Good | Moderate | Poor or can't write | Total |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Age (years) | \% | \% | \% | \% | '000 |
|  |  |  |  |  |  |
| 15-24 | 13.2 | 26.5 | 14.3 | 46.1 | 342.3 |
| 25-34 | 29.2 | 24.4 | 13.4 | 33.0 | 462.2 |
| 35-44 | 36.6 | 24.0 | 17.2 | 22.3 | 513.6 |
| 45-54 | 21.4 | 34.2 | 15.3 | 29.1 | 411.5 |
| 55-64 | 20.3 | 48.1 | 18.4 | 13.2 | 330.5 |
| 65-74 | 23.7 | 47.2 | 15.9 | *13.2 | 243.4 |
| All age groups | 25.2 | 32.2 | 15.7 | 26.9 | 2303.7 |

Some $19 \%$ of people who arrived in Australia before 1981 rated their writing skills in the language first spoken as excellent compared with $43 \%$ of those who arrived in 1981 or later. Similar proportions of people rated their writing skills as good ( $38 \%$ compared with 34\%). The proportion of people who arrived before 1981 who could not write in the language first spoken was $19 \%$, compared with $11 \%$ of people who arrived in 1981 or later. Of those born in Australia, $9 \%$ rated their writing skills in the language first spoken as excellent, but $44 \%$ could not write in that language.

## LANGUAGE IN WHICH MOST AT EASE

For those people whose first language was not English, the language in which they express themselves most easily is related to whether they were born in Australia, and for those born outside Australia, to when they arrived. A higher proportion of people who arrived in Australia before 1981 felt most at ease speaking English than those who arrived in 1981 or later ( $47 \%$ compared with $29 \%$ ). Generally, for those born outside Australia, there was little difference between the proportion of people most at ease in English and the proportion who usually spoke English at home ( $40 \%$ compared with $43 \%$ ). However, for those born in Australia whose first language was not English, 80\% reported English as the language they usually spoke at home compared with the $94 \%$ who felt they expressed themselves most easily in English.

Overall, half (49\%) of people who first spoke a language other than English express themselves most easily in English, and the same proportion usually speak English at home.

### 4.6 LANGUAGE PREFERENCES



## WHETHER TOOK TRAINING TO IMPROVE ENGLISH LITERACY SKILLS

Some 942,000 (41\%) people whose first language was not English had taken some English language classes (including classes taken as part of primary or secondary schooling).

For people whose first language was not English, $65 \%$ rated their reading skills as excellent or good. Of these, $36 \%$ had taken some English language training and $11 \%$ had taken some other training to improve their English reading and writing skills. Of those who had not taken training to improve their English reading and writing skills, $82 \%$ gave their reason as 'No need, satisfied with reading and writing skills'. The other major reason for not undertaking training for those who rated their skills as excellent or good was 'Too busy' (12\%).

Of those who rated their reading ability as moderate or poor, $51 \%$ had taken some English language training and $12 \%$ had taken other training to improve their English reading and writing skills. In contrast to those who rated their skills as excellent or good, the reason most commonly given by this group for not taking training to improve their skills was 'Too busy' (41\%). Other reasons commonly given were 'Family responsibilities' (23\%), 'Too old, too late now' (20\%) and 'No need, satisfied with skills' (19\%).

## CHAPTER 5

## LITERACY-RELATED ACTIVITIES IN DAILY LIFE

The survey collected information about participation in selected literacy-related activities outside the workplace. This chapter focuses on the frequency of four specific literacy activities: 'Read newspapers or magazines', 'Read books', 'Write letters or anything else that is more than one page in length', and 'Use a public library'.

## OVERALL PATTERN OF LITERACY-RELATED ACTIVITIES

Of the four selected literacy-related activities, reading newspapers or magazines was the one most commonly undertaken, with $93 \%$ of people reading these at least weekly. Just over half (53\%) of people read books at least weekly, and a quarter (25\%) wrote letters (or anything else) more than one page in length at least weekly. The vast majority of the population (89\%) used a public library monthly or less frequently.
5.1 FREQUENCY OF PERFORMANCE OF SELECTED LITERACY ACTIVITIES
$100^{\%}$

number of reading and writing activities performed at least once a week
Some $39 \%(5,154,000)$ of people performed only one of the four literacy-related activities at least once a week. Of the 545,000 people who did none of these activities at least once a week, $31 \%$ rated their reading skills as poor and $35 \%$ rated their writing skills as poor.

The number of literacy-related activities people performed at least once a week increased with higher self ratings of reading and writing skills. Table 5.2 shows the number of these three activities performed: reading newspapers/magazines, reading books, and writing letters/material more than one page in length. The activity 'use a public library' was excluded from these comparisons because the proportion in this category was low. Of people who performed one of these activities daily or weekly, $80 \%$ rated their reading skills as excellent or good and $74 \%$ rated their writing skills as excellent or good; whereas $95 \%$ of people who performed all three activities at least once a week rated their reading skills as excellent or good and $92 \%$ rated their writing skills as excellent or good.

### 5.2 SELF RATING OF LITERACY SKILLS, By Number of Activities Performed

|  | Excellent | Good | Moderate | Poor | Total(a) | Persons(a) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Activities performed daily or weekly | \% | \% | \% | \% | \% | '000 |
| READING SKILLS |  |  |  |  |  |  |
| No activities | 17.8 | 27.8 | 20.5 | 30.9 | 100.0 | 544.7 |
| One activity | 37.5 | 42.3 | 15.0 | 4.9 | 100.0 | 5153.8 |
| Two activities | 57.3 | 33.8 | 7.5 | 1.4 | 100.0 | 5118.1 |
| Three activities | 71.2 | 24.3 | 3.9 | *0.6 | 100.0 | 2404.2 |
| WRITING SKILLS |  |  |  |  |  |  |
| No activities | 15.6 | 28.2 | 18.1 | 34.7 | 100.0 | 544.7 |
| One activity | 29.8 | 44.0 | 18.5 | 7.4 | 100.0 | 5153.8 |
| Two activities | 44.6 | 39.8 | 12.3 | 3.2 | 100.0 | 5118.1 |
| Three activities | 62.9 | 29.6 | 6.3 | *1.2 | 100.0 | 2404.2 |

(a) Includes persons who had no opinion.

## FREQUENCY OF LITERACY-RELATED ACTIVITIES

Reading newspapers or magazines
Newspapers or magazines are read once a day by $64 \%$ of Australians. A somewhat higher proportion of males read daily than females ( $67 \%$ compared with $61 \%$ ).

Generally, daily reading of newspapers or magazines increased with age. Half of 15-19 year olds read them daily, compared with nearly three-quarters of people aged 45-54 years.

More people whose first language was English read newspapers or magazines daily than those whose first language was not English (66\% compared with 54\%). An estimated 55\% of migrants who arrived during 1981 or later read daily, compared with $62 \%$ of those who arrived before 1981.

Graph 5.3 shows the proportion of daily readers increased with higher levels of educational attainment.
5.3 READING NEWSPAPERS OR MAGAZINES, By Educational Attainment


Graph 5.4 shows the difference between the proportion of employed and unemployed people who read daily. The difference was much smaller when weekly readers were included.
5.4 READING NEWSPAPERS OR MAGAZINES, By Labour Force Status


Reading books
Table 5.5 shows more females than males read books at least weekly and the proportion of people who read books daily increases in older age groups.

### 5.5 PEOPLE WHO READ BOOKS, By Age and Sex



In contrast with readers of newspapers or magazines, the proportion of recently-arrived migrants who read books at least once a week was higher than that of migrants who arrived over a decade ago. An estimated $62 \%$ of migrants who arrived between 1991 and 1996 read books daily or weekly, compared with $52 \%$ who arrived before 1981.

More females than males wrote letters or other material of more than one page, with approximately $29 \%$ of females writing at least weekly compared with $21 \%$ of males.

The proportion of migrants writing similar material weekly decreased as the period of residence in Australia increased.

The proportion of $15-19$ year olds who wrote any material of more than one page daily was more than double that of any other group. This may be due to the large proportion (59\%) of this age group still at school or in other full-time education, where they may be expected to undertake writing regularly.

### 5.6 PEOPLE WHO WROTE MATERIAL OF MORE THAN ONE PAGE, By Age

|  | Daily | Weekly | Monthly or less | Total | Persons |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Age (years) | \% | \% | \% | \% | '000 |
| . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . |  |  |  |  |  |
| 15-19 | 12.9 | 24.3 | 62.8 | 100.0 | 1215.6 |
| 20-24 | 5.3 | 23.4 | 71.3 | 100.0 | 1368.0 |
| 25-34 | 4.1 | 20.0 | 75.9 | 100.0 | 2815.7 |
| 35-44 | 4.7 | 16.1 | 79.2 | 100.0 | 2759.0 |
| 45-54 | 4.5 | 18.7 | 76.8 | 100.0 | 2293.6 |
| 55-64 | 4.0 | 20.1 | 75.9 | 100.0 | 1513.7 |
| 65-74 | 3.7 | 16.2 | 80.0 | 100.0 | 1255.2 |

The proportion of people with university degrees who wrote material of more than one page in length at least once a week was about three times that of people who did not attend the highest level of secondary school available ( $41 \%$ compared with $14 \%$ ).

## LITERACY AND NUMERACY-RELATED ACTIVITIES IN THE WORKPLACE

This chapter focuses on people who worked in any job in the 12 months before the survey, including people who worked in their own business. These respondents were asked whether they performed certain designated literacy and numeracy tasks in their main job (that is, the job in which they worked the most hours over the 12 months) and if so, how often such tasks were performed. Most of the chapter examines the characteristics of workers who performed tasks regularly, that is, at least once a week.

The designated literacy and numeracy tasks included seven reading tasks, four writing tasks and two mathematical tasks (see table 6.4). These tasks, in particular the two mathematical tasks, are intended to serve as examples of the types of literacy and numeracy-related activities undertaken in the workplace rather than being a comprehensive range which is applicable across different industries and occupations.

## WORKERS WHO UNDERTOOK EACH TYPE OF TASK

In total, $9,589,000$ people aged $15-74$ had worked in the previous 12 months. Some $85 \%$ performed one or more of the six selected English reading tasks at least once a week, $66 \%$ of workers performed one or more of the four selected writing tasks at least once a week, and $64 \%$ performed one or both of the two selected basic mathematical tasks at least once a week. Some $10 \%$ of workers did not do any of the designated English reading tasks in their job; $25 \%$ did not do any of the designated writing tasks; and $28 \%$ did neither of the two designated mathematical tasks.

### 6.1 FREQUENCY OF PERFORMANCE OF TASKS(a)


(a) See table 6.4 for a listing of the tasks.

Industry
The proportion of workers who regularly performed one or more of the six designated reading tasks ranged from $99 \%$ in Finance and insurance services down to $68 \%$ in Cultural and recreational services. Finance and insurance services also had the highest proportion of workers who regularly undertook one or more of the four designated writing tasks ( $89 \%$ ), compared with less than half ( $46 \%$ ) of workers in Agriculture, forestry and fishing.

Those occupations with higher proportions of workers who regularly undertook one or more designated reading tasks also had higher proportions who regularly undertook one or more designated writing tasks. However, the proportions of workers who regularly undertook at least one of the mathematics tasks do not follow the same pattern. This may be partly because of the specific nature of these tasks (see graph 6.2).
6.2 REGULAR PERFORMANCE OF TASKS, By Occupation


## SELF RATING OF SKILLS FOR THE WORKPLACE

Workers were asked to rate the adequacy of their reading, writing and basic mathematics skills for the needs of their main job. The proportion who rated their workplace skills as excellent or good generally increased with the frequency of performing workplace tasks.

### 6.3 SELF RATINGS OF 'EXCELLENT/GOOD' SKILLS,

 By Frequency of Selected Tasks

While workers performed a variety of tasks in the workplace using reading, writing and basic mathematical skills, those tasks which were performed by the highest proportions of workers were reading tasks.

### 6.4 REGULAR PERFORMANCE OF SPECIFIC WORKPLACE TASKS

| Task | '000 | \% |
| :---: | :---: | :---: |
| In your job, do you read or use information from . . . ? |  |  |
| Letters or memos | 6706.5 | 69.9 |
| Reports, articles, magazines or journals | 5246.7 | 54.7 |
| Manuals or reference books, including catalogues | 5359.6 | 55.9 |
| Diagrams or plans | 3729.0 | 38.9 |
| Bills, invoices, spreadsheets or budget tables | 4588.7 | 47.9 |
| Material written in a language other than English | 241.5 | 2.5 |
| Directions or instructions for any products | 4518.8 | 47.1 |
| In your job, do you write . . ? |  |  |
| Letters or memos | 4445.4 | 46.4 |
| Reports or articles | 2676.1 | 27.9 |
| Estimates or technical specifications | 1812.2 | 18.9 |
| In your job, do you fill out . . . ? |  |  |
| Forms such as bills, invoices or budgets | 3575.4 | 37.3 |
| In your job, do you use arithmetic or mathematics to . . . ? |  |  |
| Measure or estimate the size or weight of objects | 3789.0 | 39.5 |
| Work out prices, costs or budgets | 4389.9 | 45.8 |
| Total persons who had worked in the last 12 months | 9588.5 | 100.0 |

Of the selected tasks in the survey, the one which most workers performed at least once a week (70\%) was 'Reading or using letters or memos'. The two other tasks most regularly performed were also reading tasks (each performed by over half of workers).

Other specific tasks performed regularly included 'Reading or using bills, invoices, spreadsheets or budget tables' (48\%); 'Reading or using directions or instructions for any products' (47\%); 'Writing letters or memos' (46\%); and 'Using arithmetic to work out prices, costs or budgets' (46\%). The tasks which fewest workers undertook regularly were 'Writing estimates or technical specifications' (19\%) and 'Reading or using material written in a language other than English' (3\%).

## INDUSTRY VARIATIONS

Variations in the proportion of people who regularly performed specific literacy and numeracy-related tasks in their main job reflect the different types of jobs in different industries, and the nature of the designated tasks (that is, some tasks may be more common in some industries than in others).

## Reading tasks

Finance and insurance services had the highest proportion of workers who regularly 'Read or used letters or memos' (see table 6.5), or 'Read or used reports, articles, magazines or journals' (79\%). Higher proportions of workers in Finance and insurance services and Education 'Read or used manuals or reference books' regularly ( $76 \%$ and $72 \%$ ). The Accommodation, cafes and restaurants industry had the lowest proportion who regularly performed each of these reading tasks.

### 6.5 REGULAR READING OF LETTERS OR MEMOS, By Industry

|  | Read or used letters <br> or memos at least <br> once a week.......... | Total who had <br> worked in the <br> last 12 months |  |
| :--- | :---: | ---: | ---: |
| Industry | '000 | $\%$ | \% |

The Electricity, gas and water supply industry had the highest proportion of workers (76\%) who regularly 'Read or used diagrams or plans', while Wholesale trade had the highest proportion of workers ( $67 \%$ ) who 'Read or used bills, invoices, spreadsheets or budgets' regularly.

Overall, $3 \%(242,000)$ of all workers 'Used material written in a language other than English' regularly, with the highest proportion (6\%) being in Education.

Writing tasks
The Finance and insurance services industry had the highest proportion who 'Wrote letters or memos' regularly (82\%), while Government administration and defence had the highest proportion who 'Wrote reports or articles' regularly (48\%). Industries with the lowest proportions who regularly 'Wrote letters or memos' were Agriculture, forestry and fishing and Accommodation, cafes and restaurants (29\% and 26\%).

Some 34\% of workers in Construction and 30\% of workers in Wholesale trade 'Wrote estimates or technical specifications' regularly, the highest proportions of all industries.

Used arithmetic
The Construction and Manufacturing industries had the highest proportions of workers who regularly 'Used arithmetic or mathematics to measure or estimate the size or weight of objects' ( $67 \%$ and $62 \%$ respectively), while relatively high proportions of workers in Wholesale trade and Retail trade ( $64 \%$ and $63 \%$ respectively) 'Used arithmetic to work out prices, costs or budgets' at least once a week.

As with industry, the variations across occupations reflect the different types of tasks in different occupations. Some of the tasks are more common in particular occupations.

Selected reading tasks

Selected writing tasks
Compared with other occupations, a higher proportion of Professionals 'Wrote letters or memos' at least once a week (76\%) and a higher proportion of Para-professionals (60\%) 'Wrote reports or articles' at least once a week. Some $33 \%$ of Tradespersons regularly 'Wrote estimates or technical specifications' (the highest proportion of all occupations).

Used arithmetic

Compared with other occupations, higher proportions of Professionals and Para-professionals regularly 'Read or used letters or memos' ( $88 \%$ and $87 \%$ respectively) and 'Read manuals or reference books' ( $81 \%$ and $80 \%$ respectively), while higher proportions of Professionals and Managers and administrators regularly 'Read or used reports, articles, magazines or journals' (see table 6.6). Relatively low proportions of Plant and machine operators, and drivers, and Labourers and related workers regularly undertook these tasks.
6.6 REGULAR READING OF REPORTS, ARTICLES, MAGAZINES OR JOURNALS,
By Occupation

|  | Read or used reports, articles, magazines or journals at least once a week. $\qquad$ |  | Total who had worked in the last 12 months |
| :---: | :---: | :---: | :---: |
| Occupation | '000 | \% | '000 |
|  |  |  | -•••• |
| Professionals | 1071.0 | 83.2 | 1287.1 |
| Managers and administrators | 818.7 | 81.5 | 1004.4 |
| Para-professionals | 506.1 | 80.6 | 627.8 |
| Clerks | 958.8 | 61.5 | 1559.3 |
| Salespersons | 768.8 | 46.6 | 1649.3 |
| Tradespersons | 581.5 | 43.7 | 1330.9 |
| Plant and machine operators, and drivers | 191.7 | 32.4 | 592.4 |
| Labourers and related workers | 350.0 | 22.8 | 1537.3 |
| Total | 5246.6 | 54.7 | 9588.5 |

Some $62 \%$ of Tradespersons 'Read or used diagrams or plans' regularly, the highest proportion of all occupations. Proportionally more Professionals (5\%) 'Read material written in a language other than English' regularly.

Proportionally more Tradespersons 'Used arithmetic to measure or estimate size or weight' at least once a week and a higher proportion of Managers and administrators 'Used arithmetic to work out prices, costs or budgets' at least once a week (71\%).

## PEOPLE WHO NEED HELP WITH LITERACY AND NUMERACY TASKS

Respondents were asked whether they need help with a variety of day-to-day literacy and numeracy tasks, and if so, whether help is needed sometimes or often. People's responses to the frequency of needing help were based on their subjective view of the meaning of 'often' or 'sometimes'. This chapter looks at the tasks with which people need help, and the characteristics of these people.
'Reading information from government agencies, businesses or other institutions' was the task with which most people needed help (14\%). This was followed by the need for help 'Filling out forms' (10\%); 'Writing notes and letters' ( 7\%); doing 'Basic arithmetic' (5\%); 'Reading newspaper articles' (5\%); and 'Reading instructions such as those on a medicine bottle' (4\%).

### 7.1 PROPORTION WHO NEED HELP WITH LITERACY OR NUMERACY TASKS



AGE
Overall, higher proportions of older people need help than do younger people, as shown in table 7.2. Across all age groups, 'Reading information from government agencies, businesses and other institutions' was the task with which the highest proportion of people needed help at least sometimes. People aged $15-19$ years showed consistently low rates of needing help for all tasks except 'Reading information from government agencies, businesses and other institutions' (17\%) and 'Filling out forms' (20\%), for which high proportions reported needing help relative to most other age groups.

### 7.2 PROPORTION WHO NEED HELP WITH SELECTED TASKS, By Age

## AGE (YEARS)

Tasks $\quad 15-19 \quad 20-24 \quad 25-34 \quad 35-44 \quad 45-54 \quad 55-64 \quad$ 65-74 All persons

|  |  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |

## LABOUR FORCE STATUS

While there is a relationship between age and the need for help, there is also a relationship between labour force status and the need for help. Across almost all age groups, a higher proportion of people not in the labour force reported needing help with each of the activites, compared with people in the labour force (see graph 7.3, which presents 'Reading newspapers' as an example).

### 7.3 PROPORTION WHO NEED HELP TO READ NEWSPAPERS



The exception was 15-19 year olds requiring help with 'Reading information from government agencies, businesses and other institutions'. In this age group, $20 \%$ of labour force participants reported needing help, compared with 11\% of 15-19 year olds not in the labour force.

Graph 7.4 shows that, for all activities, people who were unemployed or not in the labour force needed the most help. The task with which these groups most needed
help was 'Reading information from government agencies, businesses and other institutions'. Around one in five people in each of these labour force groups (19\% and $20 \%$ respectively) needed help to read such information at least sometimes, while only around one in ten (11\%) of employed people needed help with this task.

### 7.4 PROPORTION WHO NEED HELP, By Labour Force Status



LANGUAGE
Some 2,304,000 Australians aged 15-74 did not speak English as their first language. Higher proportions of people whose first language was not English required help than people whose first language was English, across all the selected activities.

People whose first language was not English identified 'Basic mathematics' as the task with which they least needed help (10\%).

### 7.5 PROPORTION WHO NEED HELP, By Whether English was First Language Spoken



## CHAPTER 8

## LANGUAGE PROFILE

This chapter presents information on the languages spoken by Australians aged 15-74.

## ALL LANGUAGES SPOKEN

Almost all people (13,015,000 or 98\%) reported speaking English well enough to hold a conversation. Nearly a quarter of people $(3,193,000)$ spoke a language other than English well enough to converse in - an estimated 2,121,000 people spoke a European language and 852,000 spoke an Asian ${ }^{1}$ language. Table 8.1 shows the 15 languages other than English which respondents most commonly reported they could speak well enough to hold a conversation.

### 8.1 SPEAKERS OF A LANGUAGE OTHER THAN ENGLISH(a)

| Language spoken well |  |
| :---: | :---: |
| enough to converse in | '000 |
|  |  |
| Italian | 552.4 |
| French | 448.5 |
| German | 396.0 |
| Greek | 316.2 |
| Cantonese | 241.6 |
| Mandarin | 191.4 |
| Spanish | 170.0 |
| Arabic | 169.0 |
| Vietnamese | 153.7 |
| Polish | 109.0 |
| Croatian | 106.7 |
| Indonesian | 91.0 |
| Japanese | 82.9 |
| Dutch | 76.7 |
| Russian | 70.3 |

(a) Respondents were allowed to nominate up to six different languages

Birthplace and year of arrival
Of people who were born in Australia, 9\% spoke a European language other than English and $1 \%$ spoke an Asian language. Of those born outside Australia, $36 \%$ spoke a European language other than English, and 21\% spoke an Asian language.

Of those who arrived in Australia before 1981, $43 \%$ spoke a European language other than English and 8\% spoke an Asian language. In contrast, of those who arrived from 1981 on, $43 \%$ spoke an Asian language and $23 \%$ spoke a European language other than English.

Age
Of those who spoke a European language other than English, $73 \%$ were aged less than 55 years, while a similar proportion who spoke an Asian language were aged less than 45 years.

### 8.2 PERSONS WHO SPOKE OTHER LANGUAGES, By Age $30 \%$




LANGUAGE USUALLY SPOKEN AT HOME
Some $91 \%$ of Australians reported they usually spoke English at home. The languages usually spoken at home by the remaining $9 \%$ of people were diverse, and there was no single other language spoken at home by more than $1 \%$ of people.
8.3 LANGUAGES OTHER THAN ENGLISH USUALLY SPOKEN AT HOME


People whose first Ianguage was not English
Of the $2,304,000$ Australians ( $17 \%$ ) who did not speak English as their first language, nearly half (49\%) reported that they usually spoke English at home.

Birthplace and year of arrival
Some 3,502,000 people were born outside Australia, and of these, $69 \%$ usually spoke English at home. Of those born outside Australia whose first language was not English, the proportion who usually spoke English at home generally increased with length of residence in Australia: for example, $51 \%$ of migrants whose first language was not English and who arrived before 1981 usually spoke English at home, compared with $23 \%$ of those who arrived between 1991 and 1996.

## LANGUAGE IN WHICH MOST AT EASE

The vast majority (91\%) of Australians were most at ease using English, a similar proportion to those who usually spoke English at home. The languages other than English in which Australians were most at ease were also similar to those which were usually spoken at home:

- Italian $(149,000)$;
- Greek $(123,000)$;
- Cantonese $(118,000)$; and
- Vietnamese $(93,000)$.

People whose first language was not English
Nearly half (49\%) of all people whose first language was not English reported English as the language in which they were most at ease.

Year of arrival
People who arrived in Australia before 1981 and between 1991-95 showed similar patterns in that fewer felt most at ease in English than usually spoke English at home. This contrasts with those who arrived between 1981 and 1990.
8.4 YEAR OF ARRIVAL


Age
Some $93 \%$ of 15-24 year olds usually spoke English at home, but a slightly greater proportion, $96 \%$, felt most at ease in English. For people aged 25-34 years, these proportions were similar, but for all other age groups, smaller proportions felt most at ease in English compared with the proportions who usually spoke English at home.
8.5 USE OF ENGLISH, By Age


Usually spoke English at home
Most at ease in English

## EXPLANATORY NOTES

## FIRST STATISTICS FROM THE SURVEY OF ASPECTS OF LITERACY (SAL)

1 Information in this publication is the first release from the 1996 SAL, conducted by the ABS between May and July 1996.

2 The survey consisted of two parts. First, a personal interview in which socio-demographic characteristics and literacy and numeracy background information were collected, and second, a set of tasks undertaken by respondents which provided an objective assessment of some aspects of their English literacy and numeracy skills.

Results of personal interview
3 This publication contains information collected in the interview component of the survey, and presents people's characteristics with literacy and numeracy background information. This background information includes: people's perceptions of their own skills; the extent to which people use their skills at work and in their daily lives outside work; and whether people need help with tasks such as reading information from government agencies, businesses or other institutions, reading instructions such as those on a medicine bottle, doing basic mathematics or filling out forms. This publication also includes information about the range of languages used by Australians.

Results of assessment
4 Information from the second part of the survey, the assessment of skills, will be contained in a second publication, Aspects of Literacy: Assessed Skill Levels (Cat. no. 4228.0), to be released in September 1997.

PERSONS INCLUDED IN THE SURVEY
Geographical areas
5 The SAL was conducted in both urban and rural areas in all States and Territories, but excluded some 175,000 persons living in remote and sparsely settled parts of Australia. The exclusion of these persons will have only a minor impact on any aggregate estimates that are produced for individual States and Territories, with the exception of the Northern Territory where such persons account for over $20 \%$ of the population.

Dwellings
6 The SAL covered private dwellings only, including houses, flats, home units, and any other structures used as private places of residence at the time of the survey.

## Persons

7 The SAL covered all persons aged 15-74 who were usual residents of private dwellings, excluding:

- overseas residents in Australia;
- certain diplomatic personnel of overseas governments, customarily excluded from the census and estimated resident population figures; and
- members of non-Australian defence forces (and their dependants) stationed in Australia.


## TOPICS COVERED

8 The SAL collected information on self perception of literacy and numeracy skills and assessed skill levels (prose, document, quantitative), along with a range of background information which was grouped into the following main areas:

- educational attainment;
- labour force participation;
- income;
- language;
- literacy practices;
- health and disabilities;
- parental information; and
- training and education undertaken in the last 12 months.

See page 39 for a list of data items for each of these topics.

## how the information was collected

Timing
9 The survey was conducted over nine weeks from 1 May to 5 July 1996.
Sample selection

Sample size
10 Dwellings were selected at random using a multi-stage area sample of private dwellings. One person per dwelling was selected at random to participate in the survey.

11 The initial sample for the survey consisted of 13,008 dwellings. After allowing for sample loss (e.g. households selected in the survey which had no residents in scope for the survey, derelict buildings, buildings under construction) the effective sample was 10,709 persons, yielding 9,302 (87\%) completed survey interviews.
Collection method
12 Information was collected from respondents using personal interviews, conducted by interviewers with previous experience in ABS household surveys. In order to ensure that a standardised approach was employed by interviewers, a comprehensive training in survey concepts, definitions and procedures was delivered.

## BENCHMARKING

13 Estimates obtained from the survey were derived using complex ratio estimation procedures with benchmarking to independently estimated distributions of the population. For further information refer to the Technical Notes.
DATA QUALITY
Use of a proven methodology
14 The SAL used a methodology which had been developed and tested for the International Adult Literacy Survey (IALS) by Statistics Canada, and the Educational Testing Service, a leading private testing organisation in the United States of America. The IALS has shown this methodology to be valid for producing population estimates of literacy and numeracy abilities and to be a stable measurement tool across different countries. To ensure the methodology was suitable in the Australian context, an independent evaluation of the
methodology was conducted by a panel of experts in the field of language and literacy in Australia.

## Sampling error

Non-sampling error
15 Estimates calculated from the SAL are based on information collected from a sample. As a result they are subject to sampling error (or sampling variability). For further information on the sampling errors associated with the SAL, refer to the Technical Notes.

16 Apart from the variability associated with sampling error, data are also subject to other types of error referred to as non-sampling error. Non-sampling errors may occur because of imperfections in reporting by respondents, recording by interviewers, poor questionnaire design, and processing of data.

17 Testing of survey procedures was carried out to investigate respondent reaction and to ensure the effectiveness of survey instruments, interviewing procedures and processing systems. These tests allowed early detection of some non-sampling errors, resulting in reduction of error in the survey.
18 Non-response occurs when people cannot or will not cooperate, or cannot be contacted. Non-response can affect the reliability of results and can introduce a bias. The magnitude of any bias depends upon the extent of the difference between non-respondents' characteristics and literacy patterns and those of persons who responded to the survey. Weighting can partially correct these biases to the extent that weighting variables capture the characteristics of non-respondents.

19 The following methods were adopted to reduce the level of non-response:

- face to face interviews with respondents;
- the use of foreign language interviewers where necessary;
- follow-up of respondents if there was initially no response; and
- weighting to population benchmarks to reduce non-response bias.

20 Potential sources of response errors in the SAL include questionnaire design and methodology; deficiencies in interviewing technique; and inaccurate reporting by respondents.

21 The SAL questionnaires were thoroughly tested to minimise potential errors caused by ambiguous or misleading questions, by inadequate or inconsistent definitions or terminology, or by poor questionnaire sequence guides (causing some questions to be missed).
22 Methods employed to achieve and maintain uniform interviewing practices and a high level of accuracy in recording answers on the survey questionnaires included:

- a thorough training program;
- a detailed interviewer's instruction manual;
- the use of experienced interviewers; and
- checking of interviewers' work.

23 Processing errors may occur at any stage between initial collection of the data and final compilation of statistics. Steps were taken to minimise errors at all stages of processing, including:

- training of staff, detailed coding instruction and regular checking;
- computer edits designed to detect reporting or recording errors;
- the use of standard question modules; and
- the use of Optical Mark Recognition to reduce data entry error.


## COMPARABILITY OF DATA

Other ABS data

International data

## DATA DISSEMINATION

Forthcoming publication

Special tabulations

Other ABS publications

International publication
28 As well as releasing information in publications, the ABS can make available special tabulations to suit individual user requirements. These can be provided in printed form or on disk. Subject to confidentiality and sampling variability constraints, tabulations can be produced from the survey incorporating data items, populations and geographic areas selected to meet individual requirements. Inquiries should be made to the contact officer listed at the front of this publication.

29 Users may also wish to refer to the following publications which are available from the ABS:
Australian Social Trends (Cat. no. 4102.0)
Education and Training in Australia (Cat. no. 4224.0)
Labour Force, Australia (Cat. no. 6203.0)
Labour Force Status and Other Characteristics of Migrants, Australia (Cat. no. 6250.0)

Labour Force Status and Educational Attainment, Australia (Cat. no. 6235.0)
Transition from Education to Work, Australia (Cat. no. 6227.0)

30 The OECD and Statistics Canada have jointly released results of the first International Adult Literacy Survey (IALS) in a publication entitled Literacy, Economy and Society: Results of the first International Adult Literacy Survey, 1995.

31 An explanation of the symbols used in the publication tables is provided below:

- nil or rounded to zero
* subject to sampling variability higher than $25 \%$ (See Technical Notes for explanation of sampling variability)
Because estimates have been rounded, discrepancies may occur between sums of the component items and totals.


## DATA ITEM LISTING

| CATEGORY | DATA ITEMS |
| :---: | :---: |
| DEMOGRAPHICS | State or Territory of usual residence |
|  | Area of usual residence |
|  | Sex |
|  | Marital status |
|  | Relationship in household |
|  | Age |
|  | Birthplace |
|  | Year of arrival in Australia |
| HEALTH | Self perception of health |
|  | Whether disabled |
|  | Type of disability |
|  | Whether has learning difficulties |
|  | Extent to which learning difficulty has affected reading ability |
|  | Extent to which learning difficulty has affected writing ability |
|  | Extent to which learning difficulty has affected mathematical ability |
| LABOUR FORCE | Labour force status |
|  | Employment status |
|  | Whether had a job in the last 12 months |
|  | Occupation of current job |
|  | Industry of current job |
|  | Size of business in current job (employees in Australia) |
|  | Hours usually worked each week in current job(s) |
|  | Duration of unemployment |
|  | Work history |
|  | Number of employers or businesses in last 12 months |
|  | Occupation of main job in the last 12 months |
|  | Industry of main job in the last 12 months |
|  | Size of business in main job in the last 12 months (employees in Australia) |
|  | Hours usually worked per week in main job in the last 12 months |
|  | Main reason usually worked less than 35 hours a week |
|  | Main reason didn't want to work in the weeks without work in the last 12 months |
|  | Main reason did not look for work in all of the weeks without work |

Language first spoken
Self perception of current reading skills in language first spoken
Self perception of current writing skills in language first spoken
(If a person first spoke two languages equally, the above data items are available for both languages)
Age learned to speak English
Self perception of current English speaking skills
Age learned to read and write English
Age attended English language classes in Australia
Length of English language classes in Australia
Provider of English language classes in Australia
Languages spoken well enough to converse in
Language usually spoken at home
Language in which most at ease
Reasons for not taking training to improve English reading and writing skills
How often letters or memos were read or used in main job
How often reports, articles, magazines or journals were read or used in main job
How often manuals or reference books were read or used in main job
How often diagrams or plans were read or used in main job
How often bills, invoices, spreadsheets or budget tables were read or used in main job How often material written in a language other than English was read or used in main job How often directions or instructions for any products were used in main job

| CATEGORY | DATA ITEMS |
| :---: | :---: |
| LANGUAGE, LITERACY AND | How often letters or memos were written in main job |
| NUMERACY continued | How often reports or articles were written in main job |
|  | How often estimates or technical specifications were written in main job |
|  | How often forms such as bills, invoices or budgets were filled out in main job |
|  | How often arithmetic was used in main job to measure or estimate the size or weight of objects |
|  | How often arithmetic was used in main job to work out prices, costs or budgets |
|  | Self perception of English reading skills for the needs of main job |
|  | Self perception of English writing skills for the needs of main job |
|  | Self perception of basic mathematical skills for the needs of main job |
|  | Whether job opportunities limited by English reading skills |
|  | Whether job opportunities limited by English writing skills |
|  | Whether job opportunities limited by basic mathematical skills |
|  | How often a public library is used |
|  | How often a movie, play or concert is attended |
|  | How often attends or takes part in a sporting event |
|  | How often letters or anything else that is more than one page in length are written |
|  | How often participates in volunteer or community organisations |
|  | How often newspapers or magazines are read |
|  | How often books are read |
|  | How often radio, records, tapes, cassettes or compact discs are listened to |
|  | Whether needs help to read newspaper articles in English |
|  | Whether needs help to read information in English from government agencies, businesses or other institutions |
|  | Whether needs help to read instructions, such as on a medicine bottle |
|  | Whether needs help to read instructions on packaged goods |
|  | Whether needs help to fill out forms |
|  | Whether needs help to do basic arithmetic |
|  | Whether needs help to write notes and letters |
|  | Type of reading material currently in home |
|  | Self perception of English reading skills for the needs of daily life |
|  | Self perception of English writing skills for the needs of daily life |
|  | Self perception of basic mathematical skills for the needs of daily life |
|  | Satisfaction with English reading and writing skills |
|  | Assessed skill level - prose |
|  | Assessed skill level - document |
|  | Assessed skill level - quantitative |
| PARENTS | Level of mother's educational attainment |
|  | Level of father's educational attainment |
|  | Occupation of mother's main job |
|  | Occupation of father's main job |
| INCOME | Personal income from wages, salary or self-employment only |
|  | Personal income from all sources |
|  | Types of income from government sources |

1 Estimates from the Survey of Aspects of Literacy (SAL) were calculated by the use of a complex ratio estimation procedure, which ensures that the survey estimates conform to independently estimated distributions (benchmarks) of the total population by age, sex and State, rather than to the age, sex and area distribution within the sample itself.

2 Two types of error are possible in an estimate based on a sample survey: sampling error and non-sampling error. The sampling error is a measure of the variability that occurs by chance because a sample, rather than the entire population, is surveyed. Since estimates from the SAL are based on information obtained from a sample of persons, they are subject to sampling variability; that is, they may differ from the estimates that would have been produced if all in-scope persons had been included in the survey. One measure of the likely difference is given by the standard error, which indicates the extent to which an estimate might have varied by chance because only a sample of persons was included. There are about two chances in three that a sample estimate will differ by less than one standard error from the estimate that would have been obtained if all persons had been included, and about 19 chances in 20 that the difference will be less than two standard errors. Another measure of sampling variability is the relative standard error which is obtained by expressing the standard error as a percentage of the estimate to which it refers. The relative standard error is a useful measure in that it provides an immediate indication of the percentage errors likely to have occurred due to sampling, and thus avoids the need to refer also to the size of the estimate.

3 The imprecision due to sampling variability, which is measured by the standard error, should not be confused with inaccuracies that may occur because of imperfections in reporting by respondents, errors made in collection such as in recording and coding data, and errors made in processing the data. Inaccuracies of this kind are referred to as the non-sampling error and they may occur in any enumeration, whether it be a full count or a sample. It is not possible to quantify non-sampling error, but every effort is made to reduce it to a minimum, as discussed under Data Quality in the Explanatory Notes. For the examples on the next page of this note, it is assumed to be zero. In practice, the potential for non-sampling error adds to the uncertainty of the estimates caused by sampling variability.
4 Standard errors for all tables in this publication and for other weighted estimates can be calculated using table A. The size of the standard error increases with the level of the estimate, so that the larger the estimate the larger is the standard error. However, it should be noted that the larger the sample estimate the smaller will be the standard error in percentage terms (that is the relative standard error). Thus, larger estimates will be relatively more reliable than smaller estimates.

5 As the standard errors in table A show, the smaller the estimate the higher is the relative standard error. Very small estimates are subject to such high standard errors (relative to the size of the estimate) as to detract seriously from their value for most reasonable uses. In the tables in this publication, only estimates with
relative standard errors of $25 \%$ or less, and percentages based on such estimates, are considered sufficiently reliable for most purposes. However, estimates and percentages with larger relative standard errors have been included and are preceded by an asterisk (e.g. *3.4) to indicate that they are subject to high standard errors and should be used with caution.

6 An example of the calculation and use of standard errors is given below.
7 Consider the estimate of 1,442,500 Australians aged 15-24 who rated their reading skills as excellent. By referring to table A , the estimate of $1,442,500$ persons is between $1,250,000$ and $1,500,000$, and the standard error will be between 38,200 and 40,650 . The standard error can be approximated to 40,100 Therefore, there are about two chances in three that the true value (the number that would have been obtained if the whole population had been included in the survey) is within the range $1,402,400$ to $1,482,600$. There are about 19 chances in 20 that the true value is within the range $1,362,300$ to $1,522,700$.

## Standard errors of rates and percentages

8 Proportions and percentages formed from the ratio of two estimates are also subject to sampling error. The size of the error depends on the accuracy of both the numerator and denominator. The formula for the relative standard error (RSE) of a proportion or percentage is given below.

$$
\operatorname{RSE}(\mathrm{x} / \mathrm{y})=\sqrt{[R S E(x)]^{2}-[\operatorname{RSE}(y)]^{2}}
$$

9 Considering the example from above, the 1,442,500 Australians represent $21.6 \%$ of the $6,674,800$ Australians aged $15-74$ years who rated their reading skills as excellent. The standard error of $1,442,500$ is approximately 40,100 so the relative standard error is $2.8 \%$. The relative standard error of $6,674,800$ is $1.0 \%$. Applying the above formula, the relative standard error of the proportion is $\sqrt{[2.8]^{2}-[1.0}$ or $2.6 \%$, giving a standard error for the proportion (21.6\%) of 0.6 percentage points. Therefore, there are about two chances in three that the true value (the number that would have been obtained if the whole population had been included in the survey) is within the range $21.0 \%$ to $22.2 \%$. There are about 19 chances in 20 that the true value is within the range $20.4 \%$ to $22.8 \%$.

10 The standard error of an estimated percentage or rate computed by using sample data for both numerator and denominator, depends on both the size of the numerator and the size of the denominator. However, the relative standard error of the estimated percentage or rate will generally be lower than the relative standard error of the estimate of the numerator.

11 Approximate standard errors of the rates or percentages may be derived by first obtaining the number of persons corresponding to the numerator of the rate or percentage and then applying this figure to the estimated rate or percentage.

12 The difference between two survey estimates is itself an estimate and is therefore subject to sampling variability. The standard error of the difference of two survey estimates depends on the standard errors of the original estimates and on the relationship (correlation) between the two original estimates. An approximate standard error (SE) of the difference between two estimates ( $\mathrm{x}-\mathrm{y}$ ) may be calculated by the following formula:

$$
\operatorname{SE}(\mathrm{x}-\mathrm{y})=\sqrt{[\operatorname{SE}(x)]^{2}+[\operatorname{SE}(y)]^{2}}
$$

13 While this formula will only be exact for differences between separate and uncorrelated (unrelated) characteristics or sub-populations, it is expected to provide a good approximation for all differences likely to be of interest.

14 Space does not allow for the separate indication of the standard errors of all estimates. Standard errors contained in table A are designed to provide an average standard error applicable to most SAL person estimates. Since, however, they are averages based on a limited number of estimates these numbers will not give a precise measure of the standard error of a particular estimate but they will provide an indication of its magnitude.

A STANDARD ERRORS OF ESTIMATES

| Size of estimate | Standard error | Relative standard error |
| :---: | :---: | :---: |
| no. | no. | \% |
| 400 | 640 | 160.0 |
| 1000 | 1160 | 116.0 |
| 5000 | 3050 | 61.0 |
| 10000 | 4500 | 45.0 |
| 20000 | 6450 | 32.3 |
| 30000 | 7950 | 26.5 |
| 40000 | 9150 | 22.9 |
| 50000 | 10200 | 20.4 |
| 60000 | 11100 | 18.5 |
| 70000 | 11900 | 17.0 |
| 80000 | 12650 | 15.8 |
| 90000 | 13350 | 14.8 |
| 100000 | 14000 | 14.0 |
| 120000 | 15200 | 12.7 |
| 140000 | 16250 | 11.6 |
| 160000 | 17200 | 10.8 |
| 180000 | 18100 | 10.1 |
| 200000 | 18950 | 9.5 |
| 250000 | 20800 | 8.3 |
| 300000 | 22400 | 7.5 |
| 400000 | 25100 | 6.3 |
| 500000 | 27350 | 5.5 |
| 750000 | 31850 | 4.2 |
| 1000000 | 35350 | 3.5 |
| 1250000 | 38200 | 3.1 |
| 1500000 | 40650 | 2.7 |
| 1750000 | 42800 | 2.4 |
| 2000000 | 44750 | 2.2 |
| 2500000 | 48100 | 1.9 |
| 3000000 | 50900 | 1.7 |
| 3500000 | 53400 | 1.5 |
| 4000000 | 55600 | 1.4 |
| 4500000 | 57550 | 1.3 |
| 5000000 | 59350 | 1.2 |
| 10000000 | 71900 | 0.7 |
| 13000000 | 76900 | 0.6 |

## GLOSSARY

Educational attainment Highest level of schooling or post-school educational qualification completed, e.g. trade qualification, certificate or university degree. These qualifications may have been obtained in any country and need not have been accredited or recognised in Australia.

Employed Persons aged 15-74 who worked in a job, business or farm in the reference week, or who had a job, business or farm but were not at work, and who:

- usually worked for one hour or more per week for pay, profit, commission or payment in kind (comprising employees, employers and own account workers); or
- usually worked for one hour or more per week without pay in a family business or farm (i.e. contributing family workers).

First language spoken Up to two languages may be mentioned by the respondent, if both languages were spoken equally. If either the first or second mention is English, then the person is not defined as a person whose first language was not English.

Highest level of secondary school available The highest level of secondary school (or equivalent) offered by the education at the time the respondent left school.

Income quintiles A classification of income values which divides the distribution of the total population into five groups having equal frequencies.

Industry Industry is classified according to the Australian and New Zealand Standard Industrial Classification (ANZSIC), 1993.

Labour force status Whether employed, unemployed or not in the labour force (as defined).

Literacy and numeracy skills The information processing skills necessary to use printed material found at work, at home, and in the community. Respondents were asked to rate their own reading, writing and basic mathematical skills for the needs of daily life, and those respondents who had worked in the last 12 months were asked to rate their reading, writing and basic mathematical skills for the needs of their main job. Respondents whose first language was not English were asked to rate their English reading and English writing skills in each case.

Language Classified according to the Australian Standard Classification of Languages (Cat. no. 1267.0).

Literacy activities in daily life
Respondents were asked how often they performed the following activities in daily life:

- reading newspapers or magazines;
- reading books;
- writing letters or anything else that is more than one page in length;
- listening to radio, records, tapes, cassettes or compact discs;
- using public libraries;
- attending movies, plays or concerts;
- attending or taking part in a sporting event; and
- participating in volunteer or community organisations.

| Literacy and numeracy tasks in the workplace | Respondents who had worked in the last 12 months were asked whether they performed any of the following tasks in their main job, and if so, how often. <br> Read or used: <br> - letters or memos; <br> - reports, articles, magazines or journals; <br> - manuals or reference books, including catalogues; <br> - diagrams or plans; <br> - bills, invoices, spreadsheets or budget tables; <br> - material written in a language other than English; and <br> - directions or instructions for any products. <br> Wrote: <br> - letters or memos; <br> - reports or articles; and <br> - estimates or technical specifications. <br> Filled out: <br> - forms such as bills, invoices or budgets. <br> Used arithmetic or mathematics to: <br> - measure or estimate the size or weight of objects; and <br> - work out prices, costs or budgets. |
| :---: | :---: |
| Main job | The job in which employed persons usually worked the most hours. |
| Not in the labour force | Persons who were not in the categories employed or unemployed, as defined. |
| Occupation | Occupation is classified according to the Australian Standard Classification of Occupations (ASCO), 1986. |
| Post-school qualifications | Qualifications held by those persons who had left school and since leaving school have obtained a trade qualification, certificate, diploma, degree or any other qualification. |
| Self perception | Respondents were asked to rate their reading, writing and basic mathematical skills as excellent, good, moderate or poor. Respondents whose first language was not English were asked to rate their English reading and English writing skills. 'Self rating' is another term used to describe how respondents rated their own literacy skills. |
| Unemployed | Persons aged 15-74 who were not employed (as defined), had actively looked for full-time or part-time work at any time in the four weeks up to the end of the reference week, and were available for work in the reference week if they had found a job. |
| Whether job opportunities limited | Respondents were asked whether their reading, writing or basic mathematical skills were limiting their job opportunities in general. Respondents whose first language was not English were asked whether their English reading or English writing skills were limiting their job opportunities in general. |
| Whether took training to improve skills | Respondents were asked whether they had ever taken any training to improve their reading and writing skills. Respondents whose first language was not English were asked whether they had ever taken any training to improve their English reading and English writing skills. |
| Worked in the last 12 months | Had had at least one employer or own business in the last 12 months. |

