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## TABLE OF CONTENTS

Executive Summary ..... 1
A. Introduction ..... 3

1. Study Objectives ..... 3
2. Source of Data ..... 3
3. Methodology ..... 4
4. Report Outline ..... 4
B. Basic Characteristics ..... 7
5. Population by Level of Hearing ..... 7
6. Age Profile ..... 9
7. Age Hearing Loss Started ..... 10
8. Presence of Disabilities ..... 12
9. Education Profile ..... 14
10. Reasons for Stopping Education ..... 16
11. Lifelong Training ..... 18
12. Labour Force Profile ..... 20
13. Methods of Communication ..... 22
C. Literacy ..... 25
14. Importance of Literacy ..... 25
15. Literacy Profile ..... 27
16. The Effect of Age and Education on Literacy ..... 29
17. The Economic Pay-Off of Literacy ..... 31
18. Self-Assessment of Literacy Skills at Work ..... 33
19. Self-Assessment of Literacy Skills in Everyday Life ..... 35
20. Need for Help with Literacy Tasks ..... 37
21. Activities Away from Work ..... 39
SELECTIVE READINGS ..... 41
Appendix A - Survey Background ..... 43
Appendix B - Tables: Ontario Literacy Survey of the Deaf and Hard of Hearing ..... 47
Appendix C - Tables: International Adult Literacy Survey, Ontario Sample ..... 73

## EXECUTIVE Summary

The objectives of this study are to provide a demographic profile of the Deaf and hard of hearing population living in Ontario and to assess their literacy skills, training needs, and barriers to training. The results of this study are based on the Ontario Literacy Survey of the Deaf and Hard of Hearing, a special survey commissioned by the Ontario Ministry of Education and Training. The survey was conducted by Statistics Canada in the fall of 1996 and it was modelled after the 1994 International Adult Literacy Survey (IALS).

## Demography

- 135,000 Ontarians or $2 \%$ of the provincial adult population age 16-65 are Deaf or hard of hearing: of this number, $36 \%$ have difficulty hearing a group; 39\% have also difficulty hearing a person; and $25 \%$ are completely unable to hear.
- The surveyed population is considerably older than the total Ontario population. Of the total number of Deaf and hard of hearing individuals age 16 to $65,45 \%$ were 55 or older; the corresponding percentage for the total Ontario population was 10\%.
- Loss of hearing is often accompanied by various disabilities: $40 \%$ of Deaf and hard of hearing individuals age 16 to 65 reported eye trouble, a speech disability, or a learning disability (compared to $13 \%$ among all Ontarians). The incidence of a learning disability was highest among ages 16 to 45 (36\%).
- Almost half of the Deaf and hard of hearing individuals have not completed high school. Loss of hearing as such does not appear to be a significant reason for not completing high school. Instead, the most common reason is financial; this rationale is equally true among both those with a loss of hearing and the population at large.
- Fewer Deaf and hard of hearing individuals received training in 1996 than the rest of the population ( $31 \%$ versus $37 \%$ ). However, the percentage who wanted to take more training was greater among the Deaf and hard of hearing (34\% versus 27\%). Financial reasons and courses not offered were the two main barriers to further training.
- Deaf and hard of hearing individuals are less likely to be employed and earn less on the average than the rest of Ontarians. This finding reflects mostly their older age profile, as well as their relatively low level of education and, as will be shown later, low literacy levels.


## Literacy

- The literacy level of the Deaf and hard of hearing population falls below that of the rest of the Ontario population. In particular, $52 \%$ have a low level of skills (below level 3) in document literacy, compared to $38 \%$ among the general Ontario population. Literacy
ranges widely depending on the level of hearing loss: those with partial difficulty have a somewhat lower incidence of low literacy (33\%), than the Ontario average while those completely unable to hear have a $71 \%$ incidence.
- The lower literacy of the Deaf and hard of hearing people is largely explained by their older age and lower level of education. However, even at the same level of education, loss of hearing is a negative factor, especially when it concerns achieving the top literacy level (level 4/5).
- Low levels of literacy are an important issue. Individuals with low literacy are less likely to be employed, have lower earnings, and tend to rely more on social assistance. These results are similar among the Deaf and hard of hearing and the general population.
- One-fifth of working Deaf and hard of hearing individuals rated their reading skills at work as moderate or poor. The rate increases to one-third among those unable to hear. Correspondingly, almost as high a percentage reported that inadequate reading skills limit their job opportunities.
- Close to one-quarter of all Deaf and hard of hearing people report moderate or poor reading skills in everyday life. An even higher percentage report moderate or poor skills in writing and math. Again, the results are more negative among those unable to hear, with $41 \%$ rating their reading skills as moderate or poor, while the corresponding rate for writing and math is around $50 \%$.
- Reading government and business information is the most challenging literacy task for many of the Deaf and hard of hearing individuals. One-third of all Deaf and hard of hearing need help often (9\%) or sometimes (23\%). Among those unable to hear, almost one half need help often (19\%) or sometimes (27\%).
- $44 \%$ of Deaf and hard of hearing individuals never go to the cinema or the theatre; the rate increases to $62 \%$ among those unable to hear. Attendance at or participation in sports is also lower. However, for most other activities, like reading newspapers and books or participating in voluntary organizations, there are no significant differences between Deaf and hard of hearing individuals and the hearing population.


## A. Introduction

## 1. Study Objectives

The objectives of this study are to provide a demographic profile of the Deaf and hard of hearing population living in Ontario and to assess their literacy skills, training needs, and barriers to training. Among the more specific objectives of the study are to find out how literacy skills affect the employment status of Deaf and hard of hearing adults, how literacy skills link to the level hearing loss, age, gender, education and other sociodemographic characteristics, and how the need for literacy services and the expectations of the potential clientele may be estimated.

## 2. Source of Data

The results of this study are based on the Ontario Literacy Survey of the Deaf and Hard of Hearing, a special survey commissioned by the Ontario Ministry of Education and Training. The survey was conducted by Statistics Canada in the fall of 1996 and it was modelled after the 1994 International Adult Literacy Survey (IALS).

The survey sample was drawn from Ontario residents who were classified as Deaf or hard of hearing by the 1991 Health and Activity Limitations Survey (HALS). According to HALS, 331,000 Ontarians (or 4.4\% of the adult population age 16 and over) were Deaf or hard of hearing in 1987. More than half of them were over the age 65 . Our survey surveyed 536 of these individuals, age 16 to 70 .

The level of hearing loss was confirmed before including participants in the survey. When a hearing aid completely eliminates the hearing problem, or the loss of hearing has lasted less than 6 months, such persons were not included in the survey. ${ }^{1}$

The survey interviewed 529 Deaf and hard of hearing individuals, age 16 to 70 . Of this sample:

- 22 were age 25 or under;
- 393 were age 26 to 65; and
- 114 were age 66 to 70 .

Analysis of literacy issues was restricted to 473 of the 529 respondents for whom it was possible to calculate a literacy score. Although the survey was conducted in both official languages, only six participants responded in French. As a result, no valid analysis could be made by language of respondent.

[^0]
## 3. Methodology

The main focus of the study is on adult Ontarians, age 16 to 65 . This focus is particularly appropriate for labour force and adult education issues. It also facilitates comparisons to comparable age groups available from the IALS results for Ontario.

Information on literacy and education for respondents age 66 to 70 is shown in Appendix B, Table 19b. The same table also shows the literacy profile of prelingual deaf. However, because of sample limitations, the latter statistics are subject to a wide margin of error.

The main challenge faced by the study was the small size of the sample. The challenge was compounded by the strong correlation between the level of hearing loss and the age of the individual. In our approach, we tried to strike a balance between two conflicting approaches:
a) survey results based on broader but less homogeneous groups: in this case, the estimated statistics are more precise, but the results are less revealing since they average out important differences; and
b) results based on more homogeneous groups: in this case. the estimated statistics are subject to a wider sampling error, but the results are more meaningful because they relate to individuals with more similar characteristics. ${ }^{2}$

## 4. Report Outline

Part A consists of this outline. Part B looks at the characteristics of the Deaf and hard of hearing population in Ontario. Part B:

- estimates their number by level of hearing loss;
- looks at their age of the start of the hearing loss;
- examines the presence of various disabilities;
- profiles their education and reasons for not completing high school;
- looks at their lifelong training;
- probes their labour force activity; and
- looks at methods of communications.

[^1]Part C focuses on literacy. It includes the following:

- looks at the distribution of the surveyed population by level of literacy;
- examines the effect of education and age on literacy;
- demonstrates the presence of a positive payoff for the individual and society of literacy;
- reviews the respondents self-assessment of literacy skills at work and in everyday life; and
- looks at their need for help with literacy tasks and the types of activities they are engaged in away from work.

Appendix A provides details on the survey. Appendix B, entitled "Demographic and Literacy Profile of Ontario's Deaf and Hard of Hearing Adults -- Detailed Tables" provides detailed tables for the Deaf and hard of hearing population based on our survey. Appendix C provides corresponding tables for the total Ontario population based on the Ontario sample of the IALS public use microdata.

## B. Basic Characteristics

## 1. Population by Level of Hearing

135,000 Ontarians, or $2 \%$ of the provincial population age 16-65, are Deaf or hard of hearing Of this population, $36 \%$ have difficulty hearing what is said in a group conversation; 39\% have also difficulty hearing what is said in a conversation one other person; and $25 \%$ are completely unable to hear.

- The focus of this study is on Deaf and hard of hearing Ontarians age 16 to 65. According to the survey, the estimated number in 1996 was 135,000. This number represents $2 \%$ of the entire provincial population in the same age range. ${ }^{3}$
- Three levels of hearing loss were identified:
(a) partial difficulty hearing in a group situation $(48,000)$; this difficulty was common to the entire survey sample;
(b) also partial difficulty hearing one person $(53,000)$; this situation represents a more serious loss of hearing than the previous level; and
(c) complete inability to hear a person or a group $(34,000)$; this represents the most serious level of hearing loss.

The last of the above three groups includes an estimated 5,000 individuals whose loss of hearing started before the age of 4 . This figure is a rough estimate of the number of prelingual Deaf people (individuals who developed a serious loss of hearing before developing verbal communication skills). Although this group is of great interest from the policy point of view, sample size limitations precluded further analysis.

[^2]

## 2. Age Profile

The surveyed population is considerably older than the total Ontario population. Of the total number of Deaf and hard of hearing individuals age 16 to $65,45 \%$ were 55 or older; the corresponding percentage for the total Ontario population was $10 \%$.

- The population of Deaf and hard of hearing is much older than the rest of the Ontario population. The percentage of older individuals (age 56-65) is even higher among those who are completely unable to hear (52\%).
- The incidence of loss of hearing among the Ontario population increase with age -from $1 \%$ among ages 16 to 45 , to $9 \%$ among ages 56 to 65 .
- The consequences of loss of hearing differ with the level of loss of hearing. The latter was used as one of the key characteristics throughout our analysis.
- There is also strong correlation between age, level of education, labour force activity, and other important aspects. Therefore, age was also used as another key variable throughout our analysis.



## 3. Age Hearing Loss Started

In one out of four cases, the loss of hearing started before the age of 20; among the latter group of individuals, only $17 \%$ had special schooling arrangements.

- In about $24 \%$ of the cases, the loss of hearing started before the age of 20 . The percentage is roughly the same for all three levels of hearing loss, although precise estimates are not possible because of sample limitations.
- This group is of particular interest because it provides a possible estimate of the potential demand for special schooling arrangements for Deaf and hard of hearing individuals.
- Among those who first experienced a loss of hearing before age 20, about 17\% attended a special school or a segregated class. This percentage more than doubles among those completely unable to hear.


Chart 4: Special School Arrangements Among Those Whose Loss of Hearing Started Before Age 20


## 4. Presence of Disabilities

Loss of hearing is often accompanied by various disabilities: 40\% of Deaf and hard of hearing individuals age 16 to 65 reported eye trouble, a speech disability, or a learning disability (compared to $13 \%$ among all Ontarians). The incidence of a learning disability was highest among ages 16 to 45 (36\%). The higher incidence suggests that loss of hearing often poses educational and training challenges.

- Deaf and hard of hearing individuals age 16 to 65 are three times more likely to have eye trouble, a speech disability, or a learning disability than all Ontarians in the same age group.
- The incidence of these three types of disability increases with the level of loss of hearing; for those completely unable to hear the incidence is $58 \%$.
- The incidence of eye trouble is similar across age groups. However, those under age 45 are more likely to report a speech or learning disability than the rest of the Deaf and hard of hearing individuals.
- Particularly important from the literacy point of view is the high incidence of learning disabilities: 19\% of Deaf and hard of hearing individuals reported a learning disability (compared to $4 \%$ among the general population). The incidence of a learning disability was highest among ages 16 to 45 (36\%).


Table 1: Incidence of Selected Types of Disability by Age

|  | Eye <br> trouble | Speech <br> disability | Learning <br> disability | Any of the <br> three |
| :--- | ---: | ---: | ---: | ---: |
|  |  |  |  |  |
| Deaf and H ard of Hearing | $13 \%$ | $23 \%$ | $36 \%$ | $60 \%$ |
| $16-45$ | $21 \%$ | $11 \%$ | $13 \%$ | $33 \%$ |
| $46-55$ | $17 \%$ | $8 \%$ | $10 \%$ | $28 \%$ |
| $56-65$ | $17 \%$ | $14 \%$ | $19 \%$ | $40 \%$ |
| All ages |  |  |  |  |
|  |  |  |  |  |
| Total Ontario Population | $7 \%$ | $5 \%$ | $4 \%$ | $15 \%$ |
| $16-45$ | $3 \%$ | $1 \%$ | $4 \%$ | $7 \%$ |
| $46-55$ | $14 \%$ | $1 \%$ | $1 \%$ | $15 \%$ |
| $56-65$ | $7 \%$ | $4 \%$ | $4 \%$ | $13 \%$ |

## 5. Education Profile

## Almost half of the Deaf and hard of hearing individuals have not completed high school.

- The discussion of education focuses on ages 26 to 65 . The reason for excluding younger ages is because many in this age group are still students and, consequently, their education profile is incomplete. ${ }^{4}$
- Almost half of Deaf and hard of hearing individuals age 26 to 65 (47\%) have not completed high school. This percentage is double the rate among the general Ontario population (24\%).
- Similarly, at the other end of the education spectrum, the percentage of Deaf and hard of hearing Ontarians with a post-secondary degree or certificate is less than half (17\%) of the Ontario average ( $42 \%$ ).
- It will be shown later that there are also significant differences in the level of literacy between Deaf and hard of hearing individuals and the rest of the Ontario population.
- To a large extent, the difference in levels of education between Deaf and hard of hearing and the total Ontario population is attributable to their different age profile. However, even within the same age group there are still noticeable differences in the level of education.
- Finally, the level of education is lower at higher levels of loss of hearing. Thus, for example, two-thirds of those completely unable to hear do not have high school graduation, compared to one-third among those with partial difficulty hearing a group.

[^3]| Table 2: Education Distribution by Age |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: |
|  | Les than | High | Post-sec. | All |
|  | high school | school | degree | levels |
| Deaf and Hard of Hearing |  |  |  |  |
| $26-45$ | $15 \%$ | $55 \%$ | $31 \%$ | $100 \%$ |
| $46-55$ | $43 \%$ | $38 \%$ | $19 \%$ | $100 \%$ |
| $56-65$ | $73 \%$ | $20 \%$ | $7 \%$ | $100 \%$ |
| All ages | $47 \%$ | $36 \%$ | $17 \%$ | $100 \%$ |
| Total Ontario Population |  |  |  |  |
| $26-45$ |  |  |  |  |
| $46-55$ | $18 \%$ | $37 \%$ | $45 \%$ | $100 \%$ |
| $56-65$ | $27 \%$ | $33 \%$ | $41 \%$ | $100 \%$ |
| All ages | $54 \%$ | $20 \%$ | $26 \%$ | $100 \%$ |

Chart 6: Percentage Distribution by Level of Education
Among Deaf and Hard of Hearing Individuals, Age 26-65


## 6. Reasons for Stopping Education

Loss of hearing as such does not appear to be a significant reason for not completing high school. Instead, the most common reason is financial; this result is equally true among both those with a loss of hearing and the population at large.

- Almost half of Deaf and hard of hearing individuals did not complete high school. However, virtually no one gave loss of hearing as a reason. The most common reason for both Deaf and hard of hearing individuals and the Ontario population at large was financial (40\% and 37\% respectively).
- Hearing loss is not a common reason for not completing high school; in three-quarters of the cases, the hearing loss started after age 19.
- Among those whose loss of hearing started before age 20, reasons given for why they did not mention the loss of hearing as a factor are: (a) the loss of hearing was not serious; (b) the loss of hearing was dealt adequately through special schooling arrangements; or (c) the loss of hearing was not reported as a reason because there was another, more important reason present.
- The statistics do show that financial reasons are the most common factor for dropping out of high school, both among the Deaf and hard of hearing, like the rest of the Ontario population.
- On the positive side, the drop-out rate has declined significantly over time. This decline is equally true among the Deaf and hard of hearing as well as among the rest of the population.

| Table 3: Main Reason Stopped Schooling Before High School |  |  |
| :--- | ---: | ---: |
| Ontario Population, Age 26-65 |  |  |
|  | Hearing | Total Ontario |
|  | impaired | population |
| Had to work/ financial reasons | $40 \%$ | $37 \%$ |
| Wanted to work/ wanted to learn a trade | $34 \%$ | $17 \%$ |
| Other reasons | $8 \%$ | $14 \%$ |
| Family/health reasons | $11 \%$ | $13 \%$ |
| Did not like school/ did not do well in school | $7 \%$ | $19 \%$ |
| Due to hearing problem | $1 \%$ | $0 \%$ |
| Any Reason | $100 \%$ | $100 \%$ |

## 7. Lifelong Training

Fewer Deaf and hard of hearing individuals received training in 1996 than the rest of the population (31\% versus 37\%). However, the percentage who wanted to take more training was greater among the Deaf and hard of hearing (34\% versus 27\%). Financial reasons and required courses not offered were given as the main barriers to further training.

- Equally important to the formal level of education is the lifelong process of further learning though training or retraining and continuing adult education. Training, through the employer or through individual initiative, can be viewed as an essential process for maintaining and upgrading human capital and literacy levels.
- The survey asked respondents "during the past 12 months did you receive any training or education including courses, private lessons, correspondence courses, workshops, on-the-job training, apprenticeship training, arts, crafts, recreation courses, or any training or education?"
- While the definition is broad, for the most part respondents reported that training and education was through formal courses and programs. Also, in more than $90 \%$ of the cases, one of the reasons for taking training or education course was job or careerrelated.
- The incidence of training is lower among the Deaf and hard of hearing than the general population (31\% versus 37\%). In large part, their lower incidence of training is due to their older age profile.
- The desire for more education or training is relatively stronger among the Deaf and hard of hearing: $34 \%$ of this population (compared to $27 \%$ of the general population) reported that there was training or education that they wanted to take but did not. The rate was even higher among those unable to hear (43\%).
- Hearing loss does not appear to be a barrier to training. Financial reasons and nonavailability of required courses appear to be the most common reasons among the Deaf and hard of hearing for lack of training.


| Table 4: Reasons Given for Not Taking More Training Among |  |  |
| :--- | ---: | ---: |
| Those Who Wanted More Training: Ontario Population Age 26-65 |  |  |
|  | Deaf \& hard <br> of hearing | Total |
|  | $37 \%$ | $12 \%$ |
| population |  |  |
| Too expensive/lack of money | $27 \%$ | $7 \%$ |
| Course not offered | $22 \%$ | $71 \%$ |
| Too busy/lack of time | $15 \%$ | $3 \%$ |
| Health reasons | $10 \%$ | $24 \%$ |
| Too busy at work | $4 \%$ | $1 \%$ |
| Course offered at incovenient time | $3 \%$ | $12 \%$ |
| Family responsibilities | $3 \%$ | $\mathrm{n} / \mathrm{a}$ |
| Not accesible for deaf/hard of hearing | $3 \%$ | $4 \%$ |
| Other reasons | $1 \%$ | $0 \%$ |
| Lack of qualifications | $0 \%$ | $0 \%$ |
| Lack of employer support | $0 \%$ | $0 \%$ |
| Language reasons |  | 0 |
| Note: Respondents can give more than one reason. Reasons are sorted |  |  |
| descending order among deaf and hard of hearing respondents. |  |  |

## 8. Labour Force Profile

Deaf and hard of hearing individuals are less likely to be employed and earn less on average than other Ontarians. This finding reflects mostly their older age profile and relatively lower level of education as well as their lower literacy levels.

- Deaf and hard of hearing individuals are less likely to be employed than the total Ontario population. However, the differences are due primarily to the age composition. The two younger age groups have a slightly higher employment rate than the corresponding ages in the total Ontario population. The lower rate among those age 56-65 may reflect the heavier concentration of Deaf and hard of hearing individuals at the upper bound of the age bracket.
- The percentage of employed Deaf and hard of hearing individuals who are working fulltime is similar to the Ontario average.
- The unemployment rate of Deaf and hard of hearing is lower than the Ontario average. This finding again reflects mostly the older age of the Deaf and hard of hearing individuals.
- The average Deaf or hard of hearing individual earns two-thirds of the Ontario average. This relation though differs significantly depending on age and level of education. For example, in the case of post-secondary graduates, Deaf and heard of hearing individuals outperform the Ontario average.
- Because we are dealing with a subset of a small sample, most of the statistics referring to the labour force characteristics of Deaf and hard of hearing are subject to a wide margin of error. This margin is particularly the case with respect to annual earnings. Therefore, the statistics in this section should be used as broad indicators, rather than as precise measures.

| Table 5 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Labour Force Profile by Key Characteristics, Age 16-65 |  |  |  |  |
|  | Percentage | Percentage | Unemploy- | Average |
|  | of population | of employed | ment | annual |
|  | employed | working | rate | earnings |
|  |  | full-time |  |  |
| DEAF AND HARD OF HEARING |  |  |  |  |
| Level of Hearing Loss |  |  |  |  |
| Partial difficulty hearing a group | 62\% | 71\% | 3\% | \$24,096 |
| Also difficulty hearing a person | 55\% | 83\% | 2\% | \$18,427 |
| Unable to hear group/person | 48\% | 84\% | 9\% | \$21,860 |
| Age |  |  |  |  |
| 16-45 | 72\% | 73\% | 11\% | \$25,802 |
| 46-55 | 71\% | 86\% | 1\% | \$25,525 |
| 56-65 | 37\% | 79\% | 1\% | \$15,820 |
| Education |  |  |  |  |
| Less than high school | 44\% | 81\% | 2\% | \$17,194 |
| High school diploma | 60\% | 76\% | 7\% | \$17,426 |
| Post-secondary degree/diploma | 81\% | 78\% | 4\% | \$38,226 |
| Literacy Level |  |  |  |  |
| Level 1/2 | 37\% | 89\% | 6\% | \$12,687 |
| Level 3 | 75\% | 68\% | 3\% | \$27,687 |
| Level 4/5 | 56\% | 100\% | 5\% | \$29,604 |
| All Deaf and Hard of Hearing | 56\% | 78\% | 4\% | \$21,128 |
|  |  |  |  |  |
| TOTAL ONTARIO POPULATION |  |  |  |  |
| Age |  |  |  |  |
| 16-45 | 67\% | 74\% | 9\% | \$27,450 |
| 46-55 | 68\% | 95\% | 5\% | \$42,051 |
| 56-65 | 52\% | 92\% | 0\% | \$30,051 |
| Education |  |  |  |  |
| Less than high school | 41\% | 78\% | 21\% | \$18,925 |
| High school diploma | 74\% | 84\% | 6\% | \$29,879 |
| Post-secondary degree/diploma | 75\% | 74\% | 2\% | \$34,704 |
| Literacy Level |  |  |  |  |
| Level 1/2 | 52\% | 86\% | 14\% | \$28,116 |
| Level 3 | 73\% | 73\% | 4\% | \$28,788 |
| Level 4/5 | 74\% | 79\% | 5\% | \$33,586 |
| All Ontarians | 65\% | 79\% | 8\% | \$30,184 |

## 9. Methods of Communication

Even among those completely unable to hear a person or a group only a minority has a good or excellent ability to lip read (8\%) or use sign language (12\%).

- Most Deaf and hard of hearing individuals are able to hear over the telephone. Even among those unable to hear a person or a group, $63 \%$ can hear without an aid, while $26 \%$ can hear with an aid; only $12 \%$ are not able to hear at all.
- The two most common aid devices used by Deaf and hard of hearing individuals are a hearing aid and a volume control telephone. Other aids or services, used primarily by those completely unable to hear a person or a group, are close caption decoders, T.D.D/T.T.Y. telephone systems, oral or sign language interpreters, a flashing visual alarm and a message relay service.
- About 4\% of all Deaf and hard of hearing individuals belong to a Deaf organization; the percentage rises to $14 \%$ among those completely unable to hear.
- The most common organization is the Canadian Hearing Society (over 4,000 members), followed by the Ontario Association of the Deaf (796 members) and the Canadian Hard of Hearing Association (631 members).

| Table 6 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| How Deaf and Hard of Hearing Individuals Communicate, Ages 16-65 |  |  |  |  |
|  | Partial | Partial | Unable | All deaf |
|  | difficulty | difficulty | to hear a | and hard of |
|  | hearing a | hearing a | person or | hearing |
|  | group | person | a group | individuals |
| Able to hear over the telephone? |  |  |  |  |
| Yes, without an aid | 83\% | 78\% | 63\% | 76\% |
| Yes, with an aid | 17\% | 18\% | 26\% | 20\% |
| No, not able | 0\% | 4\% | 12\% | 4\% |
| Which aids or services do you use? |  |  |  |  |
| A hearing aid | 20\% | 25\% | 49\% | 29\% |
| A volume control phone | 22\% | 29\% | 26\% | 25\% |
| A close caption decoder | 1\% | 4\% | 14\% | 5\% |
| T.D.D/T.T.Y. | 0\% | 0\% | 13\% | 4\% |
| Oral or sign language inerpreter | 0\% | 0\% | 13\% | 4\% |
| A flashing/visual alarm | 1\% | 1\% | 12\% | 4\% |
| An amplification system | 0\% | 5\% | 6\% | 3\% |
| A mesage relay service | 0\% | 0\% | 12\% | 3\% |
| A computer to communicate | 0\% | 1\% | 1\% | 0\% |
| Do you use sign language? |  |  |  |  |
| Excellent | 0\% | 0\% | 8\% | 2\% |
| Good | 0\% | 1\% | 4\% | 1\% |
| Moderate | 0\% | 2\% | 0\% | 1\% |
| Poor | 11\% | 4\% | 3\% | 6\% |
| Not at all | 89\% | 93\% | 85\% | 89\% |
| Can you lip read? |  |  |  |  |
| Excellent | 1\% | 2\% | 3\% | 2\% |
| Good | 5\% | 8\% | 5\% | 6\% |
| Moderate | 20\% | 7\% | 18\% | 15\% |
| Poor | 10\% | 3\% | 4\% | 6\% |
| Not at all | 64\% | 79\% | 70\% | 71\% |
| All deaf and hard of hearing | 100\% | 100\% | 100\% | 100\% |

## C. Literacy

## 1. Importance of Literacy

Education has long been recognized in the economic literature as a key determinant of earnings and financial self-sufficiency. Consequently, it has also been recognised that unequal access to education is a contributing factor to income inequality and poverty.

However, the importance of literacy as an outcome indicator has been virtually ignored in the economic literature, primarily because of the absence of literacy data. Instead, the term illiteracy, when raised in the literature, typically refers to the more narrow aspect of an inability to read and write or a low level of education (less than grade 9).

Lack of data has made it difficult in the past to assess fully the impact of literacy on such factors as: the quality of education, workplace training, continuing education, and the use of the literacy "muscle" at work or in everyday life. Also, lack of data on literacy has made it difficult to assess the implications of low literacy on employment opportunities, level of income, and participation in society.

The survey provides a unique opportunity for assessing the level of literacy of Deaf and hard of hearing individuals in Ontario, to assess whether the level of hearing loss has an effect on literacy and assess their literacy needs.

The IALS, after which this survey was modelled, was the first international, co-operative effort at measuring literacy, as well other related information, such as education and training. The IALS identified three types of literacy: document, prose, and quantitative literacy (Box 2).

For each type of literacy, five levels were defined: 1, 2, 3, and 4/5 (the two top literacy levels were collapsed into one for statistical reasons). Researchers often define literacy below level 3 as low literacy. This definition was also followed in this study.

Finally, for cost and logistic reasons, the survey only assessed document literacy. However, since it has been found that document literacy correlates closely with the other two types of literacy, this is not a major limitation of the survey.

## Box 2

## Definition of Literacy

Three types of literacy were tested by the IALS:
(a) prose literacy refers to the knowledge and skills needed to understand and use information from texts including editorials, news stories, poems and fiction;
(b) document literacy refers to the knowledge and skills required to locate and use information contained in various formats, including job applications, payroll forms, transportation schedules, maps, tables, and graphics; and
(c) quantitative literacy refers to the knowledge and skills required to apply arithmetic operations, either alone or sequentially, to numbers embedded in printed materials, such as balancing a checkbook, figuring out a tip, completing an order form, or determining the amount of interest on a loan from an advertisement.

In each of the three literacy domains, a scale from 0 to 500 was constructed, upon which tasks of varying difficulty were placed. The range of scores corresponding to each level are as follows: level 1 (0-225); level 2 (226-275); level 3 (276-325); level 4 (326-375); and level 5 (376-500).

The Ontario Literacy Survey of the Deaf and Hard of Hearing measured only document literacy. This was done for both methodological and logistical reasons. However, because of the close correlation between the three types of literacy (over 80\%), the exclusive focus on document literacy does not impose a major limitation to the findings of this study.

## 2. Literacy Profile

The literacy level of Deaf and hard of hearing is below that of the rest of the Ontario population. In particular, 52\% have low literacy (below level 3), compared to 38\% among the general Ontario population. Literacy ranges widely depending on the level of hearing loss: those with partial difficulty have a somewhat lower incidence of low literacy than the Ontario average (33\%), while those completely unable to hear have a $71 \%$ incidence.

- The literacy levels of the Deaf and hard of hearing individuals is lower than the general population. In particular, the incidence of low literacy (levels 1 and 2) is much higher (52\%) than the Ontario average (38\%).
- The level of hearing loss appears to have a significant effect on literacy. For example, the incidence of low literacy among those completely unable to hear is $71 \%$, more than double the rate among those with partial difficulty hearing a group (33\%).
- The difference in literacy levels is particularly large at the upper range of the literacy scale (levels 4 and 5). Only 5\% of the Deaf and hard of hearing individuals are at that level, compared to 30\% among the general population.

| Table 7: Distribution by Literacy Level |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | :---: |
| Ontario Population, Age 16-65 |  |  |  |  |  |  |
|  | Level 1 | Level 2 | Level 3 | Level 4/5 | All |  |
| Deaf and Hard of Hearing |  |  |  |  |  |  |
| Partial difficulty hearing a group | $15 \%$ | $17 \%$ | $58 \%$ | $10 \%$ | $100 \%$ |  |
| Also partial difficulty hearing a person | $24 \%$ | $33 \%$ | $40 \%$ | $3 \%$ | $100 \%$ |  |
| Unable to hear a group or a person | $40 \%$ | $31 \%$ | $27 \%$ | $2 \%$ | $100 \%$ |  |
| All deaf and hard of hearing | $25 \%$ | $27 \%$ | $43 \%$ | $5 \%$ | $100 \%$ |  |
|  |  |  |  |  |  |  |
| Total Ontario Population | $17 \%$ | $21 \%$ | $32 \%$ | $30 \%$ | $100 \%$ |  |

## Chart 8: Incidence of Low and High Literacy

 Ontario Population, Age 16-65

## 3. The Effect of Age and Education on Literacy

The lower literacy of the Deaf and hard of hearing individuals is to a large extent explained by their older age and lower level of education. However, even at the same level of education, loss of hearing is a negative factor, especially when it concerns achieving the top literacy level (level 4/5).

- By far, the most important determinant of literacy is the level of education. Both among the Deaf and hard of hearing individuals and the general population, the incidence of low literacy (levels 1 and 2) drop significantly at higher levels of education.
- Age also appears to have a negative effect on literacy, although this factor is mostly attributable to the lower level of education of the older population.
- The level of hearing loss appears to have a negative impact on literacy that goes beyond the potential impact of their older age or lower education, however. In particular:
(a) When comparisons are made within similar age groups, the Deaf and hard of hearing individuals still have relatively lower literacy levels. The difference is most pronounced at the high end of the literacy scale: relative to the rest of the population and regardless of age, the Deaf and hard of hearing individuals are more likely to be in the middle literacy range (level 3 ) than the top (levels $4 / 5$ ).
(b) The same general result holds when literacy comparisons are made within the same level of education. The incidence of low literacy (levels 1 and 2) within each level of education are similar regardless of presence of hearing loss or not. However, there are significant differences in the incidence of high literacy (levels $4 / 5$ ) between the Deaf and hard of hearing individuals and the general population.
- The data suggest that loss of hearing has a negative effect on literacy. This effect cannot be fully explained by their associated older age or lower education. The effect appears most pronounced at the upper range of the literacy scale: it tends to confine individuals to level 3 and make it difficult to move into the top literacy level (levels 4/5).

| Table 8: Literacy Level by Age |  |  |  |  |  |  |
| :---: | ---: | ---: | ---: | ---: | ---: | :---: |
|  | Level 1 | Level 2 | Level 3 | Level 4/5 | All |  |
| Deaf and Hard of Hearing |  |  |  |  |  |  |
| $16-45$ | $12 \%$ | $24 \%$ | $53 \%$ | $11 \%$ | $100 \%$ |  |
| $46-55$ | $23 \%$ | $37 \%$ | $40 \%$ | $0 \%$ | $100 \%$ |  |
| $56-65$ | $35 \%$ | $24 \%$ | $38 \%$ | $3 \%$ | $100 \%$ |  |
| All ages | $25 \%$ | $27 \%$ | $43 \%$ | $5 \%$ | $100 \%$ |  |
| Total Ontario Population |  |  |  |  |  |  |
| $16-45$ |  |  |  |  |  |  |
| $46-55$ | $13 \%$ | $18 \%$ | $38 \%$ | $32 \%$ | $100 \%$ |  |
| $56-65$ | $19 \%$ | $36 \%$ | $14 \%$ | $30 \%$ | $100 \%$ |  |
| All ages | $44 \%$ | $22 \%$ | $20 \%$ | $14 \%$ | $100 \%$ |  |


| Table 9: Literacy Level by Education |  |  |  |  |  |  |
| :---: | ---: | ---: | ---: | ---: | ---: | :---: |
|  | Level 1 | Level 2 | Level 3 | Level 4/5 | All |  |
| Deaf and Hard of Hearing |  |  |  |  |  |  |
| Less than high school | $43 \%$ | $35 \%$ | $20 \%$ | $2 \%$ | $100 \%$ |  |
| High school | $12 \%$ | $25 \%$ | $57 \%$ | $5 \%$ | $100 \%$ |  |
| Post secondary degree | $0 \%$ | $11 \%$ | $76 \%$ | $13 \%$ | $100 \%$ |  |
| All education levels | $25 \%$ | $27 \%$ | $43 \%$ | $5 \%$ | $100 \%$ |  |
|  |  |  |  |  |  |  |
| Total Ontario Population |  |  |  |  |  |  |
| Less than high school | $41 \%$ | $31 \%$ | $18 \%$ | $10 \%$ | $100 \%$ |  |
| High school | $14 \%$ | $25 \%$ | $37 \%$ | $25 \%$ | $100 \%$ |  |
| Post secondary degree | $5 \%$ | $10 \%$ | $38 \%$ | $47 \%$ | $100 \%$ |  |
| All education levels | $17 \%$ | $21 \%$ | $32 \%$ | $30 \%$ | $100 \%$ |  |

## 4. The Economic Pay-Off of Literacy

Low literacy is an important issue. Individuals with low literacy are less likely to be employed, have lower earnings, and tend to rely more on social assistance. These results are similar among the Deaf and hard of hearing and the general population.

- There are economic benefits associated with higher literacy, both from the individual's and society's point of view.
- From the individual's point of view, those with higher literacy levels are more likely to be active in the labour force and less likely to experience unemployment.
- Moreover, the level of earnings rises with the level of literacy. The earnings differential by level of literacy is particularly high among Deaf and hard of hearing individuals: those with high literacy (levels 4/5) earn on average three times as much as those with low literacy (levels 1/2).
- From society's point of view, analysis of the national IALS data shows that reliance on unemployment insurance and social assistance declines at higher levels of literacy.




## 5. Self-Assessment of Literacy Skills at Work

One-fifth of working Deaf and hard of hearing individuals rated their reading skills at work as moderate or poor. The rate increases to one-third among those unable to hear. Correspondingly, almost as high a percentage reports that this factor limits their job opportunities.

- A high percentage of working respondents rated their literacy skills low. This view was particularly prominent among those unable to hear. Among the later group, close to one quarter rated their reading, writing, and math skills as poor, while an additional 10\% rated them as moderate.
- At the same time, a high percentage of respondents reported that their low literacy skills limit their job opportunities. This belief was particularly the case among those unable to hear. Among the later group, about one-fifth reported that their low skills greatly or somewhat limited their job opportunities.
- The self-assessment results reinforce the literacy test results. Both pieces of evidence demonstrate a high incidence of low literacy among the Deaf and hard of hearing, particularly among those unable to hear.

| Table 10: Self-Assessment of Literacy Skills at Work |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Ontario Deaf and Hard of Hearing People, Employed, Age 16-65) |  |  |  |  |
|  | Difficulty hearing a group | Difficulty hearing a person | Unable to hear | All |
| Reading skills |  |  |  |  |
| Excellent | 38\% | 58\% | 36\% | 45\% |
| Good | 49\% | 24\% | 32\% | 36\% |
| Moderate | 12\% | 11\% | 10\% | 11\% |
| Poor | 0\% | 7\% | 23\% | 8\% |
| Do reading skills limit job opportunities? |  |  |  |  |
| Greatly limiting | 0\% | 5\% | 7\% | 3\% |
| Somewhat limiting | 4\% | 16\% | 22\% | 12\% |
| Not at all limiting | 96\% | 80\% | 72\% | 84\% |
| Writing skills |  |  |  |  |
| Excellent | 28\% | 44\% | 22\% | 33\% |
| Good | 39\% | 37\% | 46\% | 40\% |
| Moderate | 22\% | 6\% | 13\% | 14\% |
| Poor | 11\% | 13\% | 19\% | 13\% |
| Do writing skills limit job opportunities? |  |  |  |  |
| Greatly limiting | 0\% | 6\% | 1\% | 3\% |
| Somewhat limiting | 10\% | 9\% | 17\% | 11\% |
| Not at all limiting | 90\% | 85\% | 82\% | 86\% |
| Math skills |  |  |  |  |
| Excellent | 38\% | 51\% | 34\% | 42\% |
| Good | 58\% | 33\% | 32\% | 44\% |
| Moderate | 4\% | 10\% | 12\% | 8\% |
| Poor | 0\% | 5\% | 22\% | 6\% |
| Do math skills limit job opportunities? |  |  |  |  |
| Greatly limiting | 0\% | 1\% | 1\% | 1\% |
| Somewhat limiting | 3\% | 8\% | 18\% | 8\% |
| Not at all limiting | 97\% | 91\% | 81\% | 91\% |
| All | 100\% | 100\% | 100\% | 100\% |

## 6. Self-Assessment of Literacy Skills in Everyday Life

Close to one-quarter of all Deaf and hard of hearing report moderate or poor reading skills in everyday life, and an even higher percentage report moderate or poor skills in writing and math. Again, the results are more negative among those unable to hear, with 41\% rating their reading skills as moderate or poor, while the corresponding rate for writing and math is around $50 \%$.

- The self-assessment of reading, writing, and math skills among all Deaf and hard of hearing presents an even more negative picture than the self-assessment of these skills at work by those currently employed.
- Overall, one-fifth of Deaf and hard of hearing are somewhat or very dissatisfied with their reading and writing skills. The percentage increases to one-third among those unable to hear.
- Clearly, the survey results demonstrate that the Deaf and hard of hearing population, particularly those unable to hear, have low literacy levels, both based on their test results and their own self-assessment. In both cases, the results are lower than to the Ontario average.

| Table 11: Self-Assessment of the Literacy Skills in Everyday Life |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: |
| Ontario Deaf and Hard of Hearing People, Age 16-65) <br> hearing a <br> group |  | Difficulty <br> hearing a <br> person | Unable to <br> hear | All |
| Reading skills |  |  |  |  |
| Excellent | $37 \%$ | $47 \%$ | $28 \%$ | $39 \%$ |
| Good | $48 \%$ | $34 \%$ | $31 \%$ | $39 \%$ |
| Moderate | $13 \%$ | $11 \%$ | $24 \%$ | $15 \%$ |
| Poor | $2 \%$ | $7 \%$ | $17 \%$ | $8 \%$ |
| Writing skills |  |  |  |  |
| Excellent | $31 \%$ | $38 \%$ | $19 \%$ | $31 \%$ |
| Good | $42 \%$ | $29 \%$ | $29 \%$ | $34 \%$ |
| Moderate | $18 \%$ | $21 \%$ | $31 \%$ | $23 \%$ |
| Poor | $10 \%$ | $11 \%$ | $21 \%$ | $13 \%$ |
| Math skills |  |  |  |  |
| Excellent | $44 \%$ | $32 \%$ | $25 \%$ | $34 \%$ |
| Good | $46 \%$ | $45 \%$ | $28 \%$ | $41 \%$ |
| Moderate | $8 \%$ | $15 \%$ | $28 \%$ | $16 \%$ |
| Poor | $2 \%$ | $8 \%$ | $19 \%$ | $9 \%$ |
| Satisfied with reading/math |  |  |  |  |
| skills? |  |  |  |  |
| Very satisfied | $60 \%$ | $49 \%$ | $45 \%$ | $52 \%$ |
| Somewhat satisfied | $27 \%$ | $33 \%$ | $21 \%$ | $28 \%$ |
| Somewhat dissatisfied | $11 \%$ | $10 \%$ | $23 \%$ | $14 \%$ |
| Very dissatisfied | $2 \%$ | $7 \%$ | $11 \%$ | $6 \%$ |
| All | $100 \%$ | $100 \%$ | $100 \%$ | $100 \%$ |

## 7. Need for Help with Literacy Tasks

Reading government and business information is the most challenging literacy task for many Deaf and hard of hearing individuals. One-third of all Deaf and hard of hearing need help often (9\%) or sometimes (23\%). Among those unable to hear, almost one-half need help often (19\%) or sometimes (27\%).

- Many Deaf and hard of hearing individuals often or sometimes need help with reading, writing, or math tasks. Help was most often required in reading government or business information. The second most challenging task was filling out forms.
- Other tasks, such as reading newspapers, reading instructions on medical bottles or packages, or doing basic math are less likely to require help often, although the percentage of those who require help sometimes, mostly among those unable to hear, is high.

| Table 12: Need for Help with Literacy Tasks |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| (Ontario Deaf and Hard of Hearing People, Age 16-65) |  |  |  |  |
|  | Difficulty hearing a group | Difficulty hearing a person | Unable to hear | All |
| Help reading newspapers |  |  |  |  |
| Often | 2\% | 3\% | 5\% | 3\% |
| Sometimes | 4\% | 7\% | 18\% | 9\% |
| Never | 94\% | 91\% | 76\% | 88\% |
| Help reading information from government/institutions |  |  |  |  |
| Often | 6\% | 5\% | 19\% | 9\% |
| Sometimes | 25\% | 18\% | 27\% | 23\% |
| Never | 69\% | 77\% | 54\% | 68\% |
| Help filling out forms |  |  |  |  |
| Often | 2\% | 5\% | 22\% | 8\% |
| Sometimes | 11\% | 11\% | 10\% | 11\% |
| Never | 88\% | 84\% | 68\% | 81\% |
| Help reading instructions on medical bottles |  |  |  |  |
| Often | 5\% | 10\% | 1\% | 6\% |
| Sometimes | 2\% | 4\% | 18\% | 7\% |
| Never | 93\% | 86\% | 80\% | 87\% |
| Help reading instructions on packages |  |  |  |  |
| Often | 4\% | 5\% | 3\% | 4\% |
| Sometimes | 2\% | 5\% | 17\% | 7\% |
| Never | 94\% | 90\% | 80\% | 89\% |
| Help reading instructions on packages |  |  |  |  |
| Often | 2\% | 3\% | 5\% | 3\% |
| Sometimes | 2\% | 8\% | 30\% | 12\% |
| Never | 96\% | 89\% | 65\% | 86\% |
| Help writing notes /letters |  |  |  |  |
| Often | 2\% | 8\% | 10\% | 7\% |
| Sometimes | 14\% | 6\% | 10\% | 10\% |
| Never | 84\% | 86\% | 80\% | 84\% |
| All | 100\% | 100\% | 100\% | 100\% |

## 8. Activities Away from Work

44\% of Deaf and hard of hearing individuals never go to the movies or to a play; the rate increases to $62 \%$ among those unable to hear. Attendance at or participation in sports is also lower. However, for most other activities, like reading newspapers and books or participating in voluntary organisations, there are no significant differences between Deaf and hard of hearing individuals and the hearing Ontario population.

- The loss of hearing affects daily activities, particularly when hearing is essential -- as is the case with movies, plays, or concerts. Participation rates are lower than the Ontario average and they also decline with the level of hearing loss.
- Loss of hearing appears to be less of a problem in attending or participating in sports, and even less so with such activities as using public libraries or volunteering.
- Reading and writing in general is somewhat less frequent among the Deaf and hard of hearing. This difference may not necessarily be connected directly to the loss of hearing, but it may be related to their lower literacy levels.

| Table 13: Non-Work Related Activities |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| (Ontario Deaf and Hard of Hearing People, Age 16-65) |  |  |  |  |
|  | hearing a group | hearing a person | hear | All |
| Daily/weekly | 5\% |  | 3\% | 6\% |
|  | 6\% | 18\% |  | 16\% |
| Several times a year |  | 19\% | 17\% |  |
| Never | 44\% |  | 54\% | 51\% |
|  |  |  |  |  |
| Daily/weekly |  | 3\% | 0\% |  |
| Every month | 22\% |  | 2\% | 13\% |
|  | 39\% | 43\% |  | 40\% |
| Never |  | 42\% | 62\% |  |
| Attend/take part in sports |  |  |  |  |
|  | 23\% | 30\% |  | 26\% |
| Every month |  | 1\% | 6\% |  |
| Several times a year | 28\% |  | 20\% | 22\% |
|  | 42\% | 51\% |  | 48\% |
| Write letters |  |  |  |  |
| Daily/weekly | 12\% |  | 19\% | 16\% |
|  | 19\% | 15\% |  | 19\% |
| Several times a year |  | 29\% | 12\% |  |
| Never | 56\% |  | 44\% | 45\% |
|  |  |  |  |  |
| Daily/weekly |  | 26\% | 12\% |  |
| Every month | 9\% |  | 29\% | 13\% |
|  | 15\% | 14\% |  | 12\% |
| Never |  | 53\% | 57\% |  |
| Read newspapers/magazines |  |  |  |  |
|  | 88\% | 88\% |  | 88\% |
| Every month |  | 7\% | 3\% |  |
| Several times a year | 2\% |  | 1\% | 3\% |
|  | 2\% | 2\% |  | 4\% |
| Read books |  |  |  |  |
| Daily/weekly | 47\% |  | 46\% | 49\% |
|  | 13\% | 10\% |  | 14\% |
| Several times a year |  | 14\% | 16\% |  |
| Never | 24\% |  | 17\% | 21\% |
|  | 100\% | 100\% |  | 100\% |

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## A A S BACKGROUND

The first national survey assessing literacy skills of Canadians was conducted in The design of the survey of Literacy Skills Used in Daily Activities (LSUDA) became a 1994 in several countries, including Canada.

The
estimates of the literacy skills of selected target populations living in Ontario. IALS is not
to provide such estimates, so separate surveys, comparable to IALS, had to be considered.
objective of the Ontario Literacy Survey of the Deaf and Hard of Hearing is the development survey also measures perceived literacy skills, training needs, and barriers to training.

MET and the literacy agencies serving be able to use survey results to find out:

- low literacy skills are affecting the employment status of Deaf and hard of hearing adults;
how literacy skills are linked to the level of hearing loss, age, sex, education and other
- both the need for literacy services and the expectations of the potential clientele.
a diagnosis of the situation will be useful for those designing appropriate literacy instruction and other literacy-related programs.

The frame file for this survey was the 1991 Health and Activity Limitation Survey Respondents to this survey who had indicated a hearing problem (a "yes" answer to group conversation, or, if there were no answers to both of these questions, they indicated they had a problem hearing over the telephone). Persons with these characteristics and persons on the HALS file in these categories, all were selected for the Ontario Survey.

After
no longer Deaf) were identified as such using the Background Questionnaire (BQ) status About 22\% of the frame was deemed out-of-scope. This rather large percentage of that was used in the HALS survey. Response and non-response records were also
identified. Those records which did not have sufficient data for assigning a literacy score were coded as non-response.

Of the total 1,112 initially sampled records, 529 records were response records, 334 were non-response and 249 were out-of-scope. The overall response rate is calculated as follows:

- 529 response records/ (1,112 total sample - 249 out-of-scope $)=61.1 \%$

The first part of the weighting system matched the HALS frame with the data captured file. The HALS weight was taken for the out-of-scope and response records. An adjustment was then made so that the weights on the Ontario Survey records matched HALS population totals by age and gender. A check was also done to ensure that the distribution of years of education for the HALS frame was similar to that obtained from the newly weighted file. It was not possible to adjust the weights according to the number of years of education because of the large number of records missing a value for this field.

To obtain weights for the hearing impaired only, persons who had answered "yes" to questions A1 (difficulty hearing in a conversation with one person) or A2 (difficulty hearing in a group conversation) were kept. There were 529 such records, providing a population estimate of roughly 166,000 hearing impaired persons in Ontario.

## Age of the Respondent

It is possible to administer the IALS assessment to adults age 16 and over, but collection involving older adults suffers from lower response rates which in turn introduces bias and increases costs. To avoid these problems, the target population was limited to those 16 to 70 years of age.

## Residence of Respondent

Another important dimension in defining the target population is the distinction made between those who live in institutions and those who do not. According to the 1991 HALS, there were 285,000 adults (15-69 years old) with partial or complete hearing loss living in Ontario households and 4,155 living in institutions. Their living conditions and literacy needs are so different from the household residents, that ideally separate estimates should be produced for this sub-population. However, the HALS database has only 66 records of Deaf and hard of hearing individuals residing in Ontario institutions. Therefore, for operational and methodological reasons, individuals in institutions were not surveyed.

## Other Exclusions

For operational or methodological reasons, the following groups of individuals were excluded from the surveyed population:

- individuals with severe visual loss (primarily because severe visual loss has a direct bearing on literacy);
- persons living on
living in institutions (primarily for operational reasons); and
- the survey was conducted in both official languages, only six respondents were Francophone. As a result no valid analysis could be made by language of


## Data Collection

As
informing them about the upcoming telephone call from a Statistics Canada interviewer.
the interviewer called to obtain appointments for personal interviews and to ask if the assistance
sign language interpretation was used in nine cases. In many instances, the telephone and addresses were outdated and interviewers had to trace respondents who had moved since the 1991 HALS interview.
administering the literacy test, the interviewers completed a background questionnaire, data on literacy practices, and self-evaluation of literacy skills. Respondents with serious loss were asked to read the questions themselves and point to the answers. The first
correctly at least two of the six questions were asked to complete the main part of the test. The tests did not require verbal explanations as written instructions were provided.
correctly at least two of the six questions were asked to complete the main part of the test. The tests did not require verbal explanations, as written instructions were provided. Interviews typically lasted one hour.
first questions of the background questionnaire were identical to the HALS questions any bias, all the respondents proceeded with the survey, independently of the result of this Later, the questionnaires of those who did not meet the criteria of being Deaf, deafened, or hard of hearing
who worked on this survey had IALS experience. All the interviewers studied a detailed

## Response to the Survey

The
according to the 1991 HALS survey were at that time Deaf or hard of hearing. Of the above

- 536 individuals met the survey criteria and responded to the survey;

346 individuals could not be traced, were in poor health condition or, in 88 cases,

- 304 did not meet the survey criteria (did not have a hearing impairment or resided outside Ontario or in an institution).


## Literacy Scores

The answers to the test were scored according to the IALS scoring guidelines by two independent scorers, according to the IALS scoring guidelines. Not all the respondents who participated in the survey completed all the literacy tasks. In those cases, the missing scores were imputed when possible. Overall:

- 409 individuals answered enough cognitive items to determine their literacy score with no need for imputations;
- 64 individuals did not answer enough cognitive items. However, it was established from the background information and failing scores that they had low literacy skills. They were assigned the mean score for literacy level 1.
- 56 individuals were not assigned any score because they did not answer enough cognitive items for reasons other than low literacy.


## Appendix B - Tables: Ontario Literacy Survey of the Deaf and Hard of Hearing

Table la: Sample Size by Level of Hearing Loss (Ontario Deaf and Hard of Hearing People, Total Sample)


1996 Ontario Literacy Survey of the Deaf and Hard of Hearing

Table 1b: Population Estimate by Level of Hearing Loss (Ontario Deaf and Hard of Hearing People, Total Sample)

|  | LEVEL OF HEARING LOSS |  |  | ALL |
| :---: | :---: | :---: | :---: | :---: |
|  | Partial difficulty hearing a group | Partial difficult hearing a person | Unable to hear a person or a group |  |
| AGE |  |  |  |  |
| 16-25 | 3,109 | 3,698 | 90 | 6,897 |
| 26-45 | 16,728 | 13,401 | 7,722 | 37,851 |
| 46-55 | 7,255 | 13,396 | 8,641 | 29,292 |
| 56-65 | 21,213 | 22,068 | 17,910 | 61, 192 |
| 66-70. | 7,754 | 14,016 | 4,633 | 26,403 |
| PRELINGUAL DEAF (BY AGE 3) |  |  |  |  |
| No. | 56,058 | 66,579 | 34,042 | 156,680 |
| Yes. | 0 | 0 | 4,954 | 4,954 |
| \| ALL . . | 56,058 | 66,579 | 38,996 | 161,634 |

Table 2: Percentage Distribution by Age Hearing Loss Started (Ontario Deaf and Hard of Hearing People, Age 16-65)


Table 3: Percentage Incidence of Eye, Speech or Learning Disabilities (Ontario Deaf and Hard of Hearing People, Age 16-65)


4: Percentage Distribution by Demographic Characteristics (Ontario Deaf and Hard of Hearing People, Age 16-65)

|  | LEVEL OF HEARING LOSS |  |  | ALL |
| :---: | :---: | :---: | :---: | :---: |
|  | Partial difficulty hearing a group | ```Partial difficulty hearing a person``` | ```Unable to hear a person or a group``` |  |
| \| AGE |  |  |  |  |
| 16-45. | 41\% | 33\% | 23\% | 33\% |
| 46-55. | 15\% | 25\% | 25\% | 22\% |
| 56-65. | 44\% | 42\% | 52\% | 45\% |
| \|SEX OF RESPONDENT. |  |  |  |  |
| Male. | 61\% | 59\% | 51\% | 58\% |
| Female. | 39\% | 41\% | 49\% | 42\% |
| \|BROAD LEVEL OF EDUCATION |  |  |  |  |
| Less than high school. | 32\% | 50\% | 65\% | 47\% |
| High school diploma. | 47\% | 34\% | 22\% | 36\% |
| Post-sec. degree..... | 22\% | 16\% | 13\% | 17\% |
| \|WERE YOU BORN IN CANADA? |  |  |  |  |
| Yes.... . . . . . . . . |  |  |  |  |
| No........ | 20\% | 32\% | 18\% | 24\% |
| HOW MANY PEOPLE LIVE IN THIS HOUSEHOLD |  |  |  |  |
| 1 member................... | 6\% | 14\% | 5\% | 9\% |
| 2 members. | 41\% | 39\% | 60\% | 45\% |
| $3+$ members. | 53\% | 47\% | 35\% | 46\% |
| \|ALL. | 100\% | 100\% | 100\% | 100\% |

1996 Ontario Literacy Survey of the Deaf and Hard of Hearing

Table 5a: Percentage Distribution by Level of Education (Ontario Deaf and Hard of Hearing People, Age 26-65)

|  | BROAD LEVEL OF EDUCATION |  |  | ALL |
| :---: | :---: | :---: | :---: | :---: |
|  | Less than high school | High school diploma | $\begin{array}{r} \text { Post-sec } . \\ \text { degree } \end{array}$ |  |
| LEVEL OF HEARING LOSS |  |  |  |  |
| Partial difficulty hearing a group....................... | 32\% | 47\% | 22\% | 100\% |
| Partial difficulty hearing a person. | 50\% | 34\% | 16\% | 100\% |
| Unable to hear a person or a group........................ . | 65\% | 22\% | 13\% | 100\% |
| AGE |  |  |  |  |
| 26-45. | 15\% | 55\% | 31\% | 100\% |
| 46-55...................... | 43\% | 38\% | 19\% | 100\% |
| 56-65.................... . . . | 73\% | 20\% | 7\% | 100\% |
| \| ALL. . | 47\% | 36\% | 17\% | 100\% |

1996 Ontario Literacy Survey of the Deaf and Hard of Hearing

Table 5b: Average Years of Schooling (Ontario Deaf and Hard of Hearing People, Age 26-65)

|  | YEARS OF EDUCATION |
| :---: | :---: |
| LEVEL OF HEARING LOSS |  |
| Partial difficulty hearing a group. | 12.0 |
| Partial difficulty hearing a person | 10.5 |
| Unable to hear a person or a group. | 10.1 |
| AGE |  |
| 26-45 | 13.4 |
| 46-55 | 11.0 |
| 56-65 | 9.4 |
| BROAD LEVEL OF EDUCATION |  |
| Less than high school. | 8.1 |
| High school diploma. | 12.9 |
| Post-sec. degree............... | 15.2 |
| \| ALL. | 10.9 |

1996 Ontario Literacy Survey of the Deaf and Hard of Hearing

Table 6: Percentage Distribution by Special Schooling Arrangements For Those Who First Experienced Hearing Loss Before Age 20 (Ontario Deaf and Hard of Hearing People, Age 16-65)

| AGE HEARING LOSS STARTED |  |
| :---: | :---: |
| $0-19$ | 100\% |
| ATTENDED SPECIAL SCHOOL |  |
| Yes | 6\% |
| No. | 94\% |
| WAS IN A SEGREGATED CLASS |  |
| Yes | 12\% |
| No. | 88\% |
| SPECIAL SCHOOL OR SEGREGATED CLASS |  |
| Yes. | 16\% |
| No...... . | $84 \%$ |
| ALL. | 100\% |

1996 Ontario Literacy Survey of the Deaf and Hard of Hearing

Table 7: Percentage Distribution by Main Reason Did Not Complete High School (Ontario Deaf and Hard of Hearing People, Age 26-65)

| MAIN REASON YOU STOPPED YOUR SCHOOLING |  |
| :---: | :---: |
| Wanted to work/Had enough education. | 34\% |
| Had work/Financial reasons | 40\% |
| Family/Health reasons. | 11\% |
| Did not like school/ did not do well | 7\% |
| Other reasons | 8\% |
| Because of loss of hearing. | 1\% |
| ALL. | 100\% |

1996 Ontario Literacy Survey of the Deaf and Hard of Hearing

Table 8a: Percentage Distribution by Education \& Training in Previous 12 mths (Ontario Deaf and Hard of Hearing People, Age 26-65)

|  | LEVEL OF HEARING LOSS |  |  | ALL |
| :---: | :---: | :---: | :---: | :---: |
|  | Partial difficulty $\mid$ hearing a group | Partial difficulty hearing a person | Unable to hear a person or a group |  |
| PAST YEAR DID YOU RECEIVE ANYTRAINING |  |  |  |  |
|  |  |  |  |  |  |
| Yes | 27\% | 40\% | 22\% | 31\% |
| No. | 73\% | 60\% | 78\% | 69\% |
| DID TAKE THIS TRAINING FOR JOBPURPOSE |  |  |  |  |
| Yes. | 25\% | 38\% | 19\% | 28\% |
| No. | 75\% | 62\% | 81\% | 72\% |
| DID TAKE THIS TRAINING FOR PERSONAL |  |  |  |  |
| Yes. | 21\% | 19\% | 12\% | 18\% |
| No. | 79\% | 81\% | 88\% | 82\% |
| ANY TRAINING THAT YOU WANTEDBUT DID NOT |  |  |  |  |
| Yes. | 27\% | 34\% | 43\% | 34\% |
| No. . . . . . . . . . . . . . . . . . . . . . . | 73\% | 66\% | 57\% | 66\% |
| ALL. | 100\% | 100\% | 100\% | 100\% |

Table 8b: Percentage Distribution by Education \& Training in Previous 12 mths (Ontario Deaf and Hard of Hearing People, Age 26-65 Who Are Employed)

|  | LEVEL OF HEARING LOSS |  |  | ALL |
| :---: | :---: | :---: | :---: | :---: |
|  | Partial difficulty hearing a group | Partial difficulty hearing a person | Unable to hear a person or a group |  |
| PAST YEAR DID YOU RECEIVE ANY TRAINING |  |  |  |  |
| Yes | 33\% | 66\% | 36\% | 47\% |
| No. . . . . . . . . . . . . . . . . . . . . . . | 67\% | $34 \%$ | 64\% | 53\% |
| DID TAKE THIS TRAINING FOR JOB PURPOSE |  |  |  |  |
| Yes. | 33\% | 63\% | 33\% | 45\% |
| No. . . . . . . . . . . . . . . . . . . . . . . | 67\% | 37\% | 67\% | 55\% |
| DID TAKE THIS TRAINING FORPERSONAL |  |  |  |  |
| Yes. | 24\% | 31\% | 19\% | 25\% |
| No. . . . . . . . . . . . . . . . . . . . . . . | 76\% | 69\% | 81\% | 75\% |
| ANY TRAINING THAT YOU WANTED BUT DID NOT |  |  |  |  |
| Yes | 35\% | 49\% | 54\% | 45\% |
| No. . . . . . . . . . . . . . . . . . . . . . . | 65\% | 51\% | 46\% | 55\% |
| ALL. | 100\% | 100\% | 100\% | 100\% |



Table 10: Labour Force Profile (Ontario Deaf and Hard of Hearing People, Age 16-65)

|  | LEVEL OF HEARING LOSS |  |  | ALL |
| :---: | :---: | :---: | :---: | :---: |
|  | Partial difficulty hearing a group | Partial difficulty hearing a person | Unable to hear a person or a group |  |
| \|WHAT IS YOUR CURRENT WORK| |  |  |  |  |
| SITUATION? |  |  |  |  |
| Employed.............. | 62\% | 55\% | 48\% | 56\% |
| Retired................ | 24\% | 17\% | 25\% | 21\% |
| Unemployed/looking for work. | $2 \%$ | 1\% | 7\% | 3\% |
| student(including Work Programs).............. | 3\% | 7\% | 2\% | 4\% |
| homemaker............. | 3\% | 11\% | 7\% | 7\% |
| other. | 6\% | 9\% | 11\% | 9\% |
| WORK MOSTLY FULL-TIME OR PART-TIME |  |  |  |  |
| \| Missing info/not applic| | 34\% | 36\% | 43\% | 37\% |
| Full -Time........... | 46\% | 48\% | 44\% | 46\% |
| Part-Time.. | 20\% | 15\% | 13\% | 16\% |
| HOW MUCH PERSONAL INCOME FROM WAGES |  |  |  |  |
| No income. | 30\% | 42\% | 47\% | 40\% |
| Under \$30,000......... | 39\% | 33\% | 19\% | 31\% |
| \$30,000 plus......... | 32\% | 25\% | $34 \%$ | 30\% |
| \|ALL. . . . . . . . . . . . . . . . . . . . | 100\% | 100\% | 100\% | 100\% |
| \| EARN . . . . . . . . . . . . . . . . . . . . | \$24,096 | \$18,427 | \$21,860 | \$21, 128 |

1996 Ontario Literacy Survey of the Deaf and Hard of Hearing

Table 11: Labour Force Profile by Key Characteristics (Ontario Deaf and Hard of Hearing People, Age 16-65)


Table 12: Percentage Distribution by Family Income Level (Ontario Deaf and Hard of Hearing People, Age 16-65)


1996 Ontario Literacy Survey of the Deaf and Hard of Hearing

Table 13: Percentage Reporting Various Sources of Income (Ontario Deaf and Hard of Hearing People, Age 16-65)

|  | LEVEL <br> Partial difficulty hearing a group | OF HEARING <br> Partial difficulty hearing a person | LOSS <br> Unable <br> to hear a person or a group | ALL |
| :---: | :---: | :---: | :---: | :---: |
| PERSONAL...INCOME FROM WAGES | 79\% | 63\% | 57\% | 67\% |
| PERSONAL...WORKERS COMP./VOC. REHAB. | 13\% | 20\% | 19\% | 17\% |
| PERSONAL...FAMILY ALLOWANCE, U.I.C. | 27\% | 12\% | 14\% | 18\% |
| PERSONAL...CPP/QPP OLD AGE |  |  |  |  |
| PENSIONS. | $34 \%$ | 27\% | 38\% | 32\% |
| PERSONAL...INCOME FROM |  |  |  |  |
| INTEREST. | 52\% | 18\% | 36\% | 35\% |
| PERSONAL...INCOME ANY OTHER |  |  |  |  |
| SOURCES.. | 10\% | 6\% | 1\% | 6\% |

1996 Ontario Literacy Survey of the Deaf and Hard of Hearing

Table 14: Are you able to hear what is being said over a telephone? (Ontario Deaf and Hard of Hearing People, Age 16-65)


1996 Ontario Literacy Survey of the Deaf and Hard of Hearing

Table 15: Which of the following aids or services do you now use? (Ontario Deaf and Hard of Hearing People, Age 16-65)


1996 Ontario Literacy Survey of the Deaf and Hard of Hearing

Table 16: Modes of Communication Used by the Deaf and Hard of Hearing People (Ontario Deaf and Hard of Hearing People, Age 16-65)

|  | LEVEL OF HEARING LOSS |  |  | ALL |
| :---: | :---: | :---: | :---: | :---: |
|  | Partial difficulty hearing a group | Partial difficulty hearing a person | Unable to hear a person or a group |  |
| \|USE SIGN LANGUAGE SUCH AS ASL |  |  |  |  |
| Yes. . . . . . . . . . . . . . . . . . . . | 11\% | 7\% | 15\% | 11\% |
| No. | 89\% | 93\% | 85\% | 89\% |
| RATE YOUR ABILITY TO SIGN |  |  |  |  |
| Not applicable............. | 89\% | 93\% | 85\% | 89\% |
| Excellent... | 0\% | 0\% | 8\% | 2\% |
| Good. | 0\% | 1\% | 4\% | 1\% |
| Moderate. | 0\% | 2\% | 0\% | 1\% |
| Poor. | 11\% | 4\% | 3\% | 6\% |
| No opinion................ | 0\% | 0\% | 0\% | 0\% |
| CAN YOU LIP READ OR SPEECHREAD |  |  |  |  |
| Yes.. | 36\% | 21\% | 30\% | 29\% |
| No. . | 64\% | 79\% | 70\% | 71\% |
| RATE YOUR ABILITY TO LIP READ/SPEECH |  |  |  |  |
| Not applicable............. | 64\% | 79\% | 70\% | 71\% |
| Excellent. | 1\% | 2\% | 3\% | 2\% |
| Good. . . . . . . . . . . . . . . . . . . . . . | 5\% | 8\% | 5\% | 6\% |
| Moderate. | 20\% | 7\% | 18\% | 15\% |
| Poor...................... | 10\% | 3\% | 4\% | 6\% |
| ALL . | 100\% | 100\% | 100\% | 100\% |

1996 Ontario Literacy Survey of the Deaf and Hard of Hearing

Table 17: Estimate of Membership in an Organization for the Deaf and Hard of Hearing People (Ontario Deaf and Hard of Hearing People, Age 16-65)

|  | LEVEL <br> Partial difficulty hearing a group | OF HEARING $\qquad$ <br> Partial difficulty hearing a person | LOSS <br> Unable <br> to hear a person or a group | ALL |
| :---: | :---: | :---: | :---: | :---: |
| MEMBER OF ANY DEAF ORGANIZATIONS <br> No. <br> Yes. | $\begin{array}{r} 47,845 \\ 460 \end{array}$ | $\begin{array}{r} 52,326 \\ 237 \end{array}$ | $\begin{array}{r} 30,061 \\ 4,303 \end{array}$ | $\begin{array}{r} 130,231 \\ 5,000 \end{array}$ |
| CANADIAN ASSOCIATION OF THE DEAF <br> No. <br> Yes. | $\begin{array}{r} 48,275 \\ 30 \end{array}$ | $\begin{array}{r} 52,563 \\ 0 \end{array}$ | $\begin{array}{r} 34,004 \\ 359 \end{array}$ | $\begin{array}{r} 134,842 \\ 389 \end{array}$ |
| CANADIAN CULTURAL SOCIETY OF THE DEAF |  |  |  |  |
| No. | 48,305 | 52,563 | 34,221 | 135,089 |
| Yes | 0 | 0 | 143 | 143 |
| CANADIAN DEAF SPORTS ASSOCIATION No. | 48,305 | 52,563 | 34,060 | 134,928 |
| Yes. | 0 | 0 | 303 | 303 |
| CANADIAN DEAFENED PERSONS ASSOCIATION |  |  |  |  |
| No. . | 48,305 | 52,563 | 34,363 | 135,231 |
| CANADIAN HEARING SOCIETY No. | 47,845 | 52,545 | 30,702 | 131,092 |
| Yes. | 460 | 18 | 3,661 | 4,139 |
| CANADIAN HARD OF HEARING ASSOCIATION |  |  |  |  |
| No | 48,275 | 52,454 | 33,871 | 134,600 |
| Yes. | 30 | 109 | 493 | 631 |
| INTERNATIONAL CATHOLIC DEAF ASSOCIATION |  |  |  |  |
| No. . . . . . . . . | 48,305 | 52,563 | 34,363 | 135,231 |
| NATIONAL FRATERNAL SOCIETY FOR THE DEAF |  |  |  |  |
| No.... | 48,305 | 52,563 | 34,363 | 135,231 |
| ONTARIO ASSOCIATION OF THE DEAF |  |  |  |  |
| No. | 48,305 | 52,563 | 33,567 | 134,435 |
| Yes....... . . . . . . . . . . . . . . . . | 0 | 0 | 796 | 796 |
| OTHER ORGANISATIONS |  |  |  |  |
| No. . . . . . . . . . . . . . . . . . . . . . . . . . | 48,305 | 52,563 | 34,363 | 135,231 |
| \| ALL. . | 48,305 | 52,563 | 34,363 | 135,231 |

1996 Ontario Literacy Survey of the Deaf and Hard of Hearing

Table 18a: Population Estimate by Literacy Level (Ontario Deaf and Hard of Hearing People, Age 16-65)

|  | DOCUMENT LITERACY LEVEL |  |  |  | ALL |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Level | Level 2 | Level 3 | Level 4/5 |  |
| LEVEL OF HEARING LOSS Partial difficulty hearing a group.... |  |  |  |  |  |
|  | 7,199 | 8,117 | 26,927 | 4,586 | 46,829 |
| Partial difficulty hearing a person... | 11,752 | 16,452 | 19,759 | 1,407 | 49,370 |
| Unable to hear pers. or a group......... | 12,418 | 9,598 | 8,200 | 655 | 30,871 |
| AGE |  |  |  |  |  |
| 16-45 | 5,353 | 10,217 | 22,688 | 4,671 | 42,929 |
| 46-55 | 6,288 | 10,093 | 10,844 | 0 | 27,225 |
| 56-65 | 19,728 | 13,858 | 21,354 | 1,977 | 56,916 |
| BROAD LEVEL OF EDUCAT. |  |  |  |  |  |
| Less than high schl. | 24,860 | 19,974 | 11,373 | 1,417 | 57,625 |
| High school diploma. | 5,637 | 11,728 | 26,670 | 2,443 | 46,478 |
| Post-sec. degree... | 0 | 2,424 | 16,798 | 2,787 | 22,009 |
| \| ALL. | , 369 | 34,168 | 54,887 | 6,647 | 127,071 |

Table 18b: Percentage Distribution by Literacy Level (Ontario Deaf and Hard of Hearing People, Age 16-65)


Table 19a: Literacy and Years of Schooling by Selected Characteristics (Ontario Deaf and Hard of Hearing People, Age 16-65)

| ) | SCORE | $\begin{aligned} & \text { DOCUMENT } \\ & \text { LITERACY } \\ & \text { BELOW } \\ & \text { LEVEL } 3 \end{aligned}$ | YEARS OF EDUCATION |
| :---: | :---: | :---: | :---: |
| \|LEVEL OF HEARING LOSS |  |  |  |
| Partial difficulty hearing a group....................... | 276 | 33\% | 12.1 |
| Partial difficulty hearing a person...................... | 258 | 57\% | 10.6 |
| Unable to hear a person or a group. | 242 | 71\% | 10.7 |
| \| AGE |  |  |  |
| 16-45 | 279 | 36\% | 13.2 |
| 46-55 | 253 | 60\% | 11.1 |
| 56-65. | 251 | 59\% | 9.7 |
| \| BROAD LEVEL OF EDUCATION |  |  |  |
| Less than high school. | 236 | 78\% | 8.5 |
| High school diploma. | 275 | 37\% | 12.8 |
| Post-sec. degree.......... | 298 | 11\% | 15.2 |
| \| ALL. . . . . . . . . . . . . . . . . . . . . . . . . . | 261 | 52\% | 11.2 |

Table 19b: Literacy and Years of Schooling Results for Prelingual Deaf and Individuals up to Age 70 (Ontario Deaf and Hard of Hearing People, Age 16-70)

| \| | SCORE | $\begin{aligned} & \text { DOCUMENT } \\ & \text { LITERACY } \\ & \text { BELOW } \\ & \text { LEVEL } 3 \end{aligned}$ | YEARS OF EDUCATION |
| :---: | :---: | :---: | :---: |
| \|LEVEL OF HEARING LOSS |  |  |  |
| ```Partial difficulty hearing a group...................... Partial difficulty hearing a``` | 271 | 38\% | 11.9 |
| person. | 245 | 64\% | 10.2 |
| Unable to hear a person or a group........................ | 242 | 71\% | 10.1 |
| Prelingual deaf (deaf by age <br> 3) | 208 | 89\% | 13.4 |
| AGE |  |  |  |
| 16-45. | 279 | 36\% | 13.2 |
| 46-55. | 253 | 60\% | 11.1 |
| 56-65. | 251 | 59\% | 9.7 |
| 66-70. | 205 | 85\% | 9.2 |
| \| ALL. | 252 | 57\% | 10.9 |

```
            By Literacy Level and Selected Characteristics
        (Ontario Deaf and Hard of Hearing People, Age 16-65)
```



Table 21: Document Literacy Tasks at Work How often do you read or use information from each of the following as part of your main job?
(Ontario Deaf and Hard of Hearing People, Employed, Age 16-65)

|  | LEVEL OF HEARING LOSS |  |  | ALL |
| :---: | :---: | :---: | :---: | :---: |
|  | Partial difficulty hearing a group | Partial difficulty hearing a person | Unable to hear a person or a group |  |
| READ MAIN JOB...LETTERS/MEMOS |  |  |  |  |
| Every day. | 35\% | 68\% | 60\% | 53\% |
| A few times a week. | 2\% | 8\% | 23\% | 9\% |
| Once a week. | 5\% | 14\% | 6\% | 8\% |
| Less than once a week | 23\% | 6\% | 7\% | 13\% |
| Rarely or never. | 36\% | 5\% | 5\% | 17\% |
| READ MAIN JOB...REPORTS, ARTICL |  |  |  |  |
| A few times a week | 5\% | 21\% | 13\% | 13\% |
| Once a week. | 6\% | 17\% | 8\% | 10\% |
| Less than once a week | 6\% | 8\% | 9\% | 7\% |
| Rarely or never............. | 53\% | 11\% | 38\% | $34 \%$ |
| READ MAIN JOB...MANUALS/REFER. BOOKS |  |  |  |  |
| Every day. | 27\% | 46\% | 21\% | 33\% |
| A few times a week | 9\% | 19\% | 10\% | 13\% |
| Once a week. | 8\% | 3\% | 7\% | 6\% |
| Less than once a week | 27\% | 11\% | 5\% | 16\% |
| Rarely or never............. | 29\% | 20\% | 56\% | 32\% |
| READ MAIN JOB...DIAGRAMS OR SCHEMATICS |  |  |  |  |
| Every day. | 18\% | 25\% | 14\% | 20\% |
| A few times a week | 2\% | 12\% | 8\% | 7\% |
| Once a week. | 0\% | 11\% | 7\% | 6\% |
| Less than once a week | 28\% | 9\% | 4\% | 15\% |
| Rarely or never............. | 52\% | 43\% | 67\% | 52\% |
| READ MAIN JOB...BILLS, SPREAD-SHEETS |  |  |  |  |
| Every day. | 37\% | 36\% | 24\% | 34\% |
| A few times a week | 1\% | 6\% | 5\% | 4\% |
| Once a week. | 9\% | 15\% | 18\% | 13\% |
| Less than once a week | 30\% | 8\% | 0\% | 15\% |
| Rarely or never............. | 23\% | 36\% | 53\% | 35\% |
| READ MAIN JOB...DIR./INSTR. MEDICINES |  |  |  |  |
| Every day.................... | 8\% | 29\% | 33\% | 22\% |
| A few times a week. | 8\% | 5\% | 1\% | 6\% |
| Once a week.................. | 7\% | 9\% | 23\% | 11\% |
| Less than once a week....... | 16\% | 8\% | 3\% | 10\% |
| Rarely or never............ | 61\% | 48\% | 39\% | 51\% |
| \| ALL. . . . . . . . . . . . . . . . . . . . . . . . . . . . | 100\% | 100\% | 100\% | 100\% |

1996 Ontario Literacy Survey of the Deaf and Hard of Hearing

Table 22: Prose Literacy Tasks at Work How often do you write or fill out each of the following as a part of your main job? (Ontario Deaf and Hard of Hearing People, Employed, Age 16-65)


1996 Ontario Literacy Survey of the Deaf and Hard of Hearing

Table 23: Quantitative Literacy Tasks at Work In your main job how often do you use arithmetic or mathematics? (Ontario Deaf and Hard of Hearing People, Employed, Age 16-65):AGE ADJUSTED

|  | LEVEL OF HEARING LOSS |  |  | ALL |
| :---: | :---: | :---: | :---: | :---: |
|  | Partial difficulty hearing a group | Partial difficulty hearing a person | Unable to hear a person or a group |  |
| MAIN JOB USE MATH MEASUREOBJECTS |  |  |  |  |
| Every day. | 53\% | 66\% | 60\% | 59\% |
| A few times a week | 3\% | 10\% | 1\% | 5\% |
| Once a week. | 11\% | 1\% | 0\% | 5\% |
| Less than once a week | 18\% | 4\% | 27\% | 15\% |
| Never... | 14\% | 19\% | 12\% | 16\% |
| MAIN JOB USE MATH CALCULATEPRICES |  |  |  |  |
| Every day.. | 20\% | 33\% | 14\% | 24\% |
| A few times a week | 4\% | 9\% | 11\% | 7\% |
| Once a week. | 2\% | 2\% | 0\% | 2\% |
| Less than once a week. | 26\% | 13\% | 10\% | 18\% |
| Never.................. | 48\% | 43\% | 65\% | 50\% |
| ALL. | 100\% | 100\% | 100\% | 100\% | 1996 Ontario Literacy Survey of the Deaf and Hard of Hearing

Table 24: Self-Assessment of Literacy Skills at Work (Ontario Deaf and Hard of Hearing People, Employed, Age 16-65)


Table 25: Reading and Writing in General (Ontario Deaf and Hard of Hearing People, Age 16-65)

|  | LEVEL OF HEARING LOSS |  |  | ALL |
| :---: | :---: | :---: | :---: | :---: |
|  | ```\| Partial ``` | $\left\|\begin{array}{c}\text { Partial } \\ \text { difficulty } \\ \text { hearing a } \\ \text { person }\end{array}\right\|$ | Unable to hear a person or a group |  |
| HOW OFTEN USE A PUBLIC LIBRARY |  |  |  |  |
| Daily. | 1\% | 1\% | 1\% | 1\% |
| Weekly. | 4\% | 6\% | 2\% | 5\% |
| Every month. | 6\% | 18\% | 26\% | 16\% |
| Several times a year. | 44\% | 19\% | 17\% | 27\% |
| Never.... | 44\% | 56\% | 54\% | 51\% |
| HOW Often Attend A movie, Play |  |  |  |  |
| Weekly. | 6\% | 3\% | 0\% | 3\% |
| Every month. | 22\% | 11\% | 2\% | 13\% |
| Several times a year........... | 39\% | 43\% | 36\% | 40\% |
| Never.. | 33\% | 42\% | 62\% | 44\% |
| \|HOW OFTEN ATTEND/ TAKE PART IN SPORT |  |  |  |  |
| Daily...... | 3\% | 3\% | 10\% | 5\% |
| Weekly. | 20\% | 27\% | 12\% | 21\% |
| Every month. | 6\% | 1\% | 6\% | 4\% |
| Several times a year | 28\% | 19\% | 20\% | 22\% |
| Never........ | 42\% | 51\% | 52\% | 48\% |
| \|how Often ... WRITE LEtters etc. |  |  |  |  |
| Daily. | 6\% | 11\% | 3\% | 7\% |
| Weekly. | 6\% | 9\% | 16\% | 9\% |
| Every month. | 19\% | 15\% | 26\% | 19\% |
| Several times a year | 13\% | 29\% | 12\% | 19\% |
| Never.. | 56\% | 37\% | 44\% | 45\% |
| HOW OFTEN ... VOLUNTEER FOR ORGANISATION |  |  |  |  |
| Daily.. | 3\% | 9\% | 5\% | 6\% |
| Weekly. | 7\% | 17\% | 7\% | 11\% |
| Every month..................... | 9\% | 7\% | 29\% | 13\% |
| Several times a year | 15\% | 14\% | 3\% | 12\% |
| Never............ | 66\% | 53\% | 57\% | 59\% |
| \|HOW OFTEN DO YOU...READ NEWSPAPER/MAG. |  |  |  |  |
| Daily........ | 69\% | 61\% | 64\% | 65\% |
| Weekly. | 19\% | 27\% | 23\% | 23\% |
| Every month. | 8\% | 7\% | 3\% | 6\% |
| Several times a year........... | 2\% | 4\% | 1\% | 3\% |
| Never................ | 2\% | 2\% | 9\% | 4\% |
| \|HOW OFTEN DO YOU...READ BOOKS |  |  |  |  |
| Daily. . . . . . . . . . . . . . . . . . . . . | 39\% | 41\% | 26\% | 36\% |
| Weekly..... | 8\% | 13\% | 20\% | 13\% |
| Every month..................... | 13\% | 10\% | 22\% | 14\% |
| Several times a year........... | 16\% | 14\% | 16\% | 15\% |
| Never................ . . . . . . . . . | 24\% | 22\% | 17\% | 21\% |

Table 26: Sources of Information (Ontario Deaf and Hard of Hearing People, Age 16-65)

|  | LEVEL <br> Partial difficulty hearing a group | OF HEARING $\qquad$ <br> Partial difficulty hearing a person | LOSS <br> Unable to hear a person or a group | ALL |
| :---: | :---: | :---: | :---: | :---: |
| \|WATCH TELEVISION WITH CAPTIONS |  |  |  |  |
| All or most of the time.... | 1\% | 1\% | 14\% | 5\% |
| About half of the time. | 0\% | 1\% | 0\% | 1\% |
| Less than half of the time.. | 0\% | 1\% | 2\% | 1\% |
| Hardly ever. | 98\% | 97\% | 84\% | 94\% |
| YOUR HOME...DAILY NEWSPAPER |  |  |  |  |
| No. . | $34 \%$ | 40\% | 31\% | 36\% |
| YOUR HOME...WEEKLY NEWSPAPERS/ MAGAZINES |  |  |  |  |
| Yes. | 85\% | 72\% | 74\% | 77\% |
| No....... | 15\% | 28\% | 26\% | 23\% |
| YOUR HOME...MORE THAN 25 BOOKS |  |  |  |  |
| Yes. | 86\% | 78\% | 76\% | 81\% |
| No. | 14\% | 22\% | 24\% | 19\% |
| YOUR HOME...A (MULTI-VOL.) ENCYCLOPEDIA |  |  |  |  |
| Yes........................ | 63\% | 59\% | 57\% | 60\% |
| No........... . . . . . . . . . . . . . . | 37\% | 41\% | 43\% | 40\% |
| YOUR HOME...A DICTIONARY |  |  |  |  |
| Yes. | 97\% | 90\% | 86\% | 92\% |
| No......................... . | 3\% | 10\% | 14\% | 8\% |
| ALL. | 100\% | 100\% | 100\% | 100\% |

1996 Ontario Literacy Survey of the Deaf and Hard of Hearing

Table 27: Need for Help with Literacy Tasks (Ontario Deaf and Hard of Hearing People, Age 16-65)


Table 28: Self-Assessment of the Literacy Skills in Everyday Life (Ontario Deaf and Hard of Hearing People, Age 16-65)


1996 Ontario Literacy Survey of the Deaf and Hard of Hearing

## AppendixC-Tables:International Adult Literacy Survey, OntarioSample



Table 4: Percentage Distribution by Demographic Characteristics (Ontario Population, Age 16-65)

| AGE |  |
| :---: | :---: |
| 16-45 | 72.6\% |
| 46-55 | 17.4\% |
| 56-65 | 9.9\% |
| SEX |  |
| MALE | 49.3\% |
| FEMALE. | $50.7 \%$ |
| EDUCATION |  |
| Less than high school | 25.6\% |
| High school diploma. | $36.2 \%$ |
| Post-secondary degree | $38.2 \%$ |
| WERE YOU BORN IN CANADA? |  |
| YES | 70.0\% |
| NO. | 30.0\% |
| ALL . | 100.0\% |

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Table 5a: Percentage Distribution by Level of Education (Ontario Population, Age 26-65)


Table 5b: Average Years of Schooling (Ontario Population, Age 26-65)

|  | YEARS OF FORMAL EDUCATION |
| :---: | :---: |
| AGE |  |
| 26-45. | 14.0 |
| 46-55 | 12.9 |
| 56-65. | 10.8 |
| SEX |  |
| MALE. | 13.1 |
| FEMALE. | 13.7 |
| EDUCATION |  |
| Less than high school. | 8.7 |
| High school diploma. | 12.4 |
| Post-secondary degree. | 16.9 |
| WERE YOU BORN IN CANADA? |  |
| YES. | 13.3 |
| NO. . | 13.6 |
| ALL. | 13.4 |

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Table 7: Reasons Stopped Schooling Before Completing High School Percentage Distribution Among those who did not Complete High School (Ontario Population, Age 26-65)

| \|MAIN REASON YOU STOPPTED SCHOOLING |  |
| :---: | :---: |
| WANTED TO WORK/LEARN A TRADE/ENOUGH EDUCATION. | 17\% |
| HAD TO WORK/FINANCIAL REASONS | 37\% |
| FAMILY REASONS | 13\% |
| DID NOT LIKE/DO WELL IN SCHOOL/BOREDOM. | 19\% |
| SCHOOL NOT AVAILABLE/ACCESSIBLE. | 1\% |
| OTHER REASONS. | 13\% |
| \| ALL. | 100\% |

$$
1994 \text { IALS -- Ontario Sample }
$$

Table 8a: Percentage Distribution by Education \& Training in Previous 12 mths (Ontario Population, Age 26-65)

| HAVE YOU RECEIVED ANY TRAINING OR ED |  |
| :---: | :---: |
| YES | 37\% |
| NO. | 63\% |
| COULDN'T TAKE TRAIN/ED YOU WANTED (REC) |  |
| YES. | 27\% |
| NO. | 73\% |
| NOT STATED. | 0\% |
| ALL. | 100\% |

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Table 8b: Percentage Distribution by Education \& Training in Previous 12 mths (Ontario Population, Age 26-65 Who Are Employed)

| \|HAVE YOU RECEIVED ANY TRAINING OR ED |  |
| :---: | :---: |
|  | 39\% |
| NO. | 61\% |
| COULDN'T TAKE TRAIN/ED YOU WANTED (REC) |  |
| YES. | 32\% |
| NO. | 68\% |
| \| ALL. | 100\% |



| Table 10: Labour Force Profile (Ontario Population, Age 16-65) |  |
| :---: | :---: |
| \| CURRENT WORK SITUATION |  |
| EMPLOYED. | 65\% |
| RETIRED. | 4\% |
| UNEMPLOYED/LOOKING FOR WORK. | 5\% |
| STUDENT (INCLUDING WORK PROGRAMS) | 10\% |
| HOMEMAKER. | 11\% |
| OTHER. . | 4\% |
| WORKED FULL OR PART TIME |  |
| INFO MISSING/NOT APPLIC | 35\% |
| Full-Time | 52\% |
| Part-Time. | 14\% |
| INCOME FROM WAGES |  |
| No wage income | 26\% |
| Less than 30,000 | 37\% |
| 30,000 or more. | 36\% |
| ALL . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . | 100\% |
| ANNUAL EARNINGS. | \$30,184 |

Table 11: Labour Force Profile by Key Characteristics (Ontario Population, Age 16-65)


Table 18b: Document Literacy Level (Ontario Population, Age 16-65)

| \| | DOCUMENT LEVEL |  |  |  | ALL |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | LEVEL 1 | LEVEL 2 | LEVEL 3 | $\begin{aligned} & \text { LEVEL } \\ & 4 / 5 \end{aligned}$ |  |
| AGE |  |  |  |  |  |
| 16-45. | 13\% | 18\% | 38\% | 32\% | 100\% |
| 46-55. | 19\% | 36\% | 14\% | 30\% | 100\% |
| 56-65.............. | 44\% | 22\% | 20\% | 14\% | 100\% |
| EDUCATION |  |  |  |  |  |
| Less than high schl. | 41\% | 31\% | 18\% | 10\% | 100\% |
| High school diploma. | 14\% | 25\% | 37\% | 25\% | 100\% |
| Post-secondary degr. | 5\% | 10\% | 38\% | 47\% | 100\% |
| \| ALL . . | 17\% | 21\% | 32\% | 30\% | 100\% |

Table 19a: Document Literacy Score, Low Document Literacy, \& Years of Schooling (Ontario Population, Age 16-65)

|  | DOCUMENT <br> LITERACY <br> SCORE | ```LITERACY BELOW LEVEL 3``` | ```YEARS OF FORMAL EDUCATION``` |
| :---: | :---: | :---: | :---: |
| AGE |  |  |  |
| 16-45 | 299 | 31\% | 13.9 |
| 46-55 | 272 | 55\% | 12.9 |
| 56-65. | 218 | 66\% | 13.5 |
| EDUCATION |  |  |  |
| Less than high school. | 228 | 72\% | 9.2 |
| High school diploma... | 291 | 38\% | 12.7 |
| Post-secondary degree. | 321 | 15\% | 16.7 |
| ALL. | 286 | 38\% | 13.7 |

Table 20: Percentage Employed and Employed Full-Time By Literacy Level and Selected Characteristics (Ontario Population, Age 16-65)

|  | PCT OF POPULATION EMP LOYED | ```EMP LOYED WORKING FULL-TIME``` |
| :---: | :---: | :---: |
| DOCUMENT LEVEL |  |  |
| LEVEL 1 | 51\% | 90\% |
| LEVEL 2 | 53\% | 83\% |
| LEVEL 3 | 73\% | 73\% |
| LEVEL 4/5 | 74\% | 79\% |
| EDUCATION |  |  |
| Less than high school. | 41\% | 78\% |
| High school diploma. | 74\% | 84\% |
| Post-secondary degree. | 75\% | $74 \%$ |
| AGE |  |  |
| 16-45 | 67\% | 74\% |
| 46-55 | 68\% | 95\% |
| 56-65. | 52\% | 92\% |
| ALL. | 65\% | 79\% |

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Table 21: Document Literacy Tasks at Work
How often do you read or use information from each of the following as part of your main job?
(Ontario Population, Age 16-65)


Table 22: Prose Literacy Tasks at Work How often do you write or fill out each of the following as a part of your main job?
(Ontario Population, Age 16-65)


Table 23: Quantitative Literacy Tasks at Work
In your main job how often do you use arithmetic or mathematics? (Ontario Population, Age 16-65)


Table 24: Self-Assessment of Literacy Skills at Work (Ontario Population, Age 16-65)

| READING SKILLS IN (E/F) FOR WORK |  |
| :---: | :---: |
| EXCELLENT | 66\% |
| GOOD. | 28\% |
| MODERATE | 4\% |
| POOR. . | 2\% |
| READING SKILLS (E/F) LIMIT JOB OPTIONS |  |
| GREATLY LIMITING. | 1\% |
| SOMEWHAT LIMITING. | 7\% |
| NOT AT ALL LIMITING | 92\% |
| WRITING SKILLS IN (E/F) FOR JOB |  |
| EXCELLENT. | 55\% |
| GOOD. | 35\% |
| MODERATE | 5\% |
| POOR. | 5\% |
| WRITING IN (E/F) LIMITING JOB OPPORTUN. |  |
| GREATLY LIMITING | 1\% |
| SOMEWHAT LIMITING. | 5\% |
| NOT AT ALL LIMITING | 94\% |
| RATE MATH SKILLS FOR MAIN JOB |  |
| EXCELLENT | 49\% |
| GOOD. | 40\% |
| MODERATE | 10\% |
| POOR. | 1\% |
| MATH SKILLS LIMITING JOB OPPORTUNITIES |  |
| GREATLY LIMITING. | 1\% |
| SOMEWHAT LIMITING. | 5\% |
| NOT AT ALL LIMITING. | 94\% |
| ALL . . . . . . . | 100\% |

## Table 25: Reading and Writing in General

 (Ontario Population, Age 16-65)| HOW OFTEN DO YOU USE A PUBLIC LIBRARY |  |
| :---: | :---: |
| DAILY | $2 \%$ |
| WEEKLY. | 12\% |
| MONTHLY. | 16\% |
| YEARLY. | 26\% |
| NEVER. | 43\% |
| DO YOU GO TO A MOVIE/PLAY/CONCERT... |  |
| DAILY. | 0\% |
| WEEKLY. | 9\% |
| MONTHLY. | $34 \%$ |
| YEARLY | 39\% |
| NEVER. | 19\% |
| DO YOU ATTEND/TAKE PART IN SPORTS |  |
| DAILY. | 7\% |
| WEEKLY | 22\% |
| MONTHLY. | 12\% |
| YEARLY. | 26\% |
| NEVER. | 32\% |
| DO YOU WRITE LETTERS |  |
| DAILY | 7\% |
| WEEKLY. | 15\% |
| MONTHLY | 19\% |
| YEARLY. | 25\% |
| NEVER. | $34 \%$ |
| YOU PARTICIPATE IN VOLUNT./COMM. ORG. |  |
| DAILY | 3\% |
| WEEKLY | 10\% |
| MONTHLY. | 12\% |
| YEARLY | 20\% |
| NEVER. | 56\% |
| DO YOU READ NEWSPAPERS OR MAGAZINES... |  |
| DAILY. | 62\% |
| WEEKLY | 27\% |
| MONTHLY | 5\% |
| YEARLY. | 4\% |
| NEVER. | 2\% |
| HOW OFTEN DO YOU READ BOOKS? |  |
| DAILY | 42\% |
| WEEKLY. | $14 \%$ |
| MONTHLY | 13\% |
| YEARLY | 15\% |
| NEVER. | 16\% |
| ALL. . | 100\% |

Table 26: Sources of Information (Ontario Population, Age 16-65)


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## Table 27: Need for Help with Literacy Tasks

 (Ontario Population, Age 16-65)| \|NEED HELP TO READ NEWSPAPER ARTICLES. OFTEN. |  |
| :---: | :---: |
|  | 4\% |
| SOMETIMES. | 4\% |
| NEVER. | 91\% |
| NOT STATED. | 1\% |
| NEED HELP READING GOVERNMENT INFO/ETC. |  |
| OFTEN. | 5\% |
| SOMETIMES. . | 11\% |
| NEVER. | 84\% |
| NOT STATED. | 1\% |
| HELP NEEDED TO FILLING OUT FORMS |  |
| OFTEN. | 4\% |
| SOMETIMES. | 8\% |
| NEVER. | 87\% |
| NOT STATED. | 1\% |
| HELP NEEDED TO READ INSTRUCTIONS (MEDS) |  |
| OFTEN. | 4\% |
| SOMETIMES. | 5\% |
| NEVER. | 90\% |
| NOT STATED. | 1\% |
| HELP NEEDED TO READ INSTRUC. (PACK.GDS) |  |
| OFTEN. | 2\% |
| SOMETIMES. | 6\% |
| NEVER. | 91\% |
| NOT STATED. | 1\% |
| HELP NEEDED TO DO BASIC MATH/ARITHM. |  |
| OFTEN. | 2\% |
| SOMETIMES. | 3\% |
| NEVER. | 94\% |
| NOT STATED. | 1\% |
| HELP NEEDED WRITING NOTES/LETTERS |  |
| OFTEN. | 2\% |
| SOMETIMES. | 7\% |
| NEVER. | 90\% |
| NOT STATED. | 1\% |
| ALL. | 100\% |

Table 28: Self-Assessment of the Literacy Skills in Everyday Life (Ontario Population, Age 16-65)

| RATE YOUR E READING SKILLS: DAILY LIFE |  |
| :---: | :---: |
| EXCELLENT. | 61\% |
| GOOD. | 27\% |
| MODERATE. | 5\% |
| POOR. | 7\% |
| NO OPINION. | 0\% |
| RATE YOUR WRITING SKILLS: DAILY LIFE |  |
| EXCELLENT | 52\% |
| GOOD . | 32\% |
| MODERATE | 7\% |
| POOR. | 9\% |
| NO OPINION. | 1\% |
| RATE YOUR MATH SKILLS: DAILY LIFE |  |
| EXCELLENT. | 48\% |
| GOOD. | 35\% |
| MODERATE | 13\% |
| POOR. | 4\% |
| NO OPINION. | 1\% |
| SATISFACTION WITH READ./WRIT. SKILLS |  |
| VERY SATISFIED. | 64\% |
| SOMEWHAT SATISFIED. | 25\% |
| SOMEWHAT DISSATISFIED. | 5\% |
| VERY DISSATISFIED. | 5\% |
| NO OPINION.. | 0\% |
| ALL | 100\% |

1994 IALS -- Ontario Sample


[^0]:    ${ }^{1}$ See Appendix A for more details on the Ontario Literacy Survey of Deaf and Hard of Hearing.

[^1]:    ${ }^{2}$ The tables were designed so that the number of respondents per cell was at least 100 . This cell size is associated with a margin of error of about 8.7 percentage points, $95 \%$ of the time. This means that when, for example, 50 out of 100 respondents report that they participated in training in the previous 12 months, the true incidence of training could range from $41.3 \%$ to $58.7 \%$. The estimate of the margin of error reflects the survey design effect associated with the cluster sampling method of the survey.

[^2]:    ${ }^{3}$ The 135,000 estimate of Deaf and hard of hearing individuals age 16 to 65 is close to the HALS estimate of approximately 150,000 individuals in the same age group.

[^3]:    ${ }^{4}$ Of the total sample of 529 Deaf and hard of hearing individuals, 22 individuals were age 25 or under and were excluded from the education analysis.

