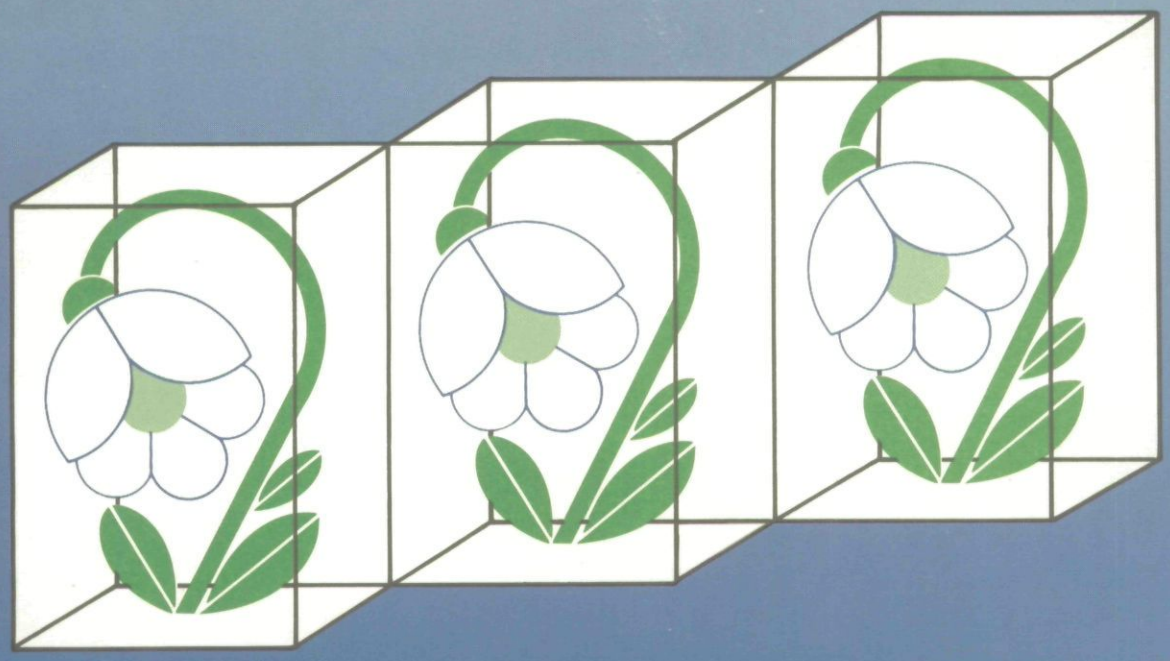
Catalogue 82-615

Blindness and visual impairment in Canada

3

Special topic series

The health and activity limitation survey



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3

Blindness and Visual Impairment in Canada

Special Topic Series from
The Health and Activity Limitation Survey

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Preface

The **Health and Activity Limitation Survey (HALS)** conducted in 1986 and 1987 provides a comprehensive picture of persons with disabilities in Canada. The survey covered persons with disabilities residing in both households and health-related institutions.

This report is part of the **Special Topic Report Series** which provides overviews of a wide variety of subjects which were included in **HALS**. The series has been written by experts, both inside and outside Statistics Canada, in non-technical language supported by simple tables and charts.

This report titled **"Blindness and Visual Impairment in Canada"** is the third in the series of nine reports. It compares various socio-economic characteristics of the visually impaired population with those of the non-disabled population. This report was authored by Kathleen Naeyaert, Canadian National Institute for the Blind, Toronto, Ontario.

I would like to express my appreciation to the authors, to the reviewers and to the staff of Statistics Canada involved in managing and producing this series.

We hope that the reports in the **Special Topic Report Series** will not only provide Canadians with very useful information on the issues facing persons with disabilities, but will also be an inducement for them to undertake further research on this topic.

Ivan P. Fellegi
Chief Statistician of Canada

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Highlights of the Study

General Characteristics

- In 1986, there were an estimated 3,316,870 persons with disabilities in Canada and of those, 581,110 or almost 18% reported a visual impairment.

- An estimated 51,005 individuals or almost nine percent of the visually impaired population indicated that they were legally blind. This number corresponds very closely to the 52,000 persons registered with the Canadian National Institute for the Blind.

- Approximately 77% of the visually impaired population and 76% of persons diagnosed as legally blind are adults aged 15 and older who were residing in households at the time of the survey.

- Over half of the adult visually disabled population residing in households are aged 65 and over.

- Many individuals with a visual impairment reported more than one type of disability. The youngest age group (15 to 29) reported the highest percentage with only one disability (21.8%), compared to 7.1% of the oldest age group (65 and older).

- As age increases, the proportion of the visually impaired population who fall into the severely disabled category increases.

- Disease, such as macular degeneration and diabetes, account for 38.7% of vision impairments. Approximately 10% of the visually impaired population reported that their condition existed at birth.

Socio-economic Characteristics

- Visually impaired females are more likely than their male counterparts to live alone and this trend holds true across all age groups.

- Vision impairment impedes educational attainment. Persons with a visual impairment are less likely to have post-secondary education than their non-disabled counterparts. This holds true across all age groups.

- If the onset of vision loss is at an early stage of education, it can have a twofold effect on the highest level of education; the majority will only complete primary education while a significant proportion will obtain a university degree.

- Regardless of age, persons with a visual impairment reported a lower income in 1985 than their non-disabled counterparts.

- Vision impairment impedes participation in the labour force; this effect is more acute as the age of onset of the impairment increases.

- Women with a visual impairment are less likely to be employed than men with a visual impairment; similarly both males and females with a visual impairment are less likely to be employed than their counterparts in the non-disabled population.

Participation in Activities

- "Watching television, listening to radio, records or tapes, or reading" was the leisure activity reported by the greatest percentage of visually impaired adults (95.8%).

- Persons with visual impairments are quite physically active with the majority in each age group participating in physical activity three times or more per week.

- Almost 60% of adults with a visual impairment required assistance with heavy housework; 45% required help with shopping; and approximately 30% required some assistance with meal preparation and personal finances.

1. Introduction

This Special Topic report presents data from the **Health and Activity Limitation Survey (HALS)** which was a survey of persons with disabilities. It was conducted in households in the fall of 1986 and in health-related institutions in the spring of 1987. **HALS** was undertaken as part of Statistics Canada's ongoing commitment to build and maintain a national database on disability.

The target population of **HALS** consisted of all persons with a physical or psychological disability who were living in Canada at the time of the 1986 Census. Notably, this includes residents of all provinces and both territories, persons living on Indian reserves, and permanent residents of most collective dwellings and health-related institutions. Details on the sample design are provided in this publication under Sample Design.

The type of data gathered include the nature and severity of disability and the barriers which disabled persons encounter in all aspects of their daily activities.

This report entitled **"Blindness and Visual Impairment in Canada"** is the third in the series of nine reports. It includes a demographic analysis of adults with visual impairments who, at the time of the survey, were residing in private households. Data on children with visual impairments will be highlighted in the special topic report entitled **"Disabled Children in Canada"**. Disabled adults with a visual impairment who were residing in health-related institutions will be included in the report entitled **"Profile of Disabled Persons Residing in Health Care Institutions in Canada"**.

The analysis of the comprehensive **HALS** data on blindness and visual impairment enables one to understand how this disability can affect people's participation in their communities. Moreover, the survey enables comparisons between the visually impaired population (VIP) and the non-disabled population (NDP), which highlights the impact of visual impairment.

2. General Characteristics

In 1986, there were an estimated 3,316,870 persons with disabilities in Canada, and of those, 581,110 or almost 18% reported a visual impairment. An estimated 51,005 individuals or almost nine percent of the visually impaired population indicated that they had been diagnosed by an eye specialist as being legally blind. This number corresponds very closely to the 52,000 persons registered with the Canadian National Institute for the Blind.

This report analyses the characteristics of those **445,875** disabled persons aged 15 and over with a visual impairment, who were residing in households. This population represents 77% of the visually disabled population in Canada at the time of the Census. Within this population of visually disabled adults, **38,665** reported that they had been diagnosed as legally blind. These individuals represent 76% of the legally blind population in Canada at the time of the Census.

Table 1. Persons with Disabilities by Place of Residence by Age Group, Canada

		Disabled Persons Residing in...	
	Total	**Households**	**Institutions**
Persons with Disabilities	**3,316,870**	**3,069,595**	**247,275**
Less than 15 years	277,445	275,045	2,395
15 years and over	3,039,430	2,794,550	244,880
Persons with Disabilities Reporting a Visual Impairment	**581,110**	**473,645**	**107,465**
Less than 15 years	28,525	27,770	755*
15 years and over	552,585	445,875	106,710
Persons with Disabilities Reporting "Legally Blind"	**51,005**	**42,735**	**8,270**
Less than 15 years	4,380	4,070	--
15 years and over	46,625	38,665	7,960

There were 28,525 children under the age of 15 who had a vision problem and 4,380 of these children were diagnosed as legally blind. The special topic report entitled **"Disabled Children in Canada"** will include an analysis of their characteristics.

There were also 106,710 disabled adults residing in health-related institutions who reported a visual impairment and, of those, 7,960 reported that they were legally blind. An analysis of their characteristics will be included in the special topic report entitled **"A Profile of Disabled Persons Residing in Health Care Institutions in Canada"**.

Age and Sex

Over half of the adult disabled population residing in households who reported a vision impairment (54%) are aged 65 and over. Among females, this age group accounts for almost 60% of the vision impaired population (VIP). Among males, the two older age groups (30 to 64 years and 65 years and over) report almost equal percentages, 45% and 46% respectively.

Table 2. Disabled Persons With a Vision Impairment Aged 15 and Over Residing in Households by Sex by Age Group, Canada

	Both Sexes		Male		Female	
Age Group	**Number**	**%**	**Number**	**%**	**Number**	**%**
All ages	**445,875**	**100.0**	**171,910**	**100.0**	**273,965**	**100.0**
15 to 29 years	29,900	6.7	16,185	9.4	13,715	5.0
30 to 64 years	174,460	39.1	77,165	44.9	97,295	35.5
65 years and over	241,515	54.2	78,560	45.7	162,955	59.5

Within the vision impaired population, 38,665 or 8.7% report that they have been diagnosed as legally blind. Males report a much higher rate, at 11.7%, as compared to females at 6.8%. Among the age groups, those aged 15 to 29 report the highest rate, at 14.2% for males and 11.3% for females.

Table 3. Disabled Persons With a Vision Impairment Who are Legally Blind Aged 15 and Over Residing in Households by Sex by Age Group, Canada

	Both Sexes		Males		Females	
Age Group	Legally Blind	% of Vision Impaired Population	Legally Blind	% of Vision Impaired Population	Legally Blind	% of Vision Impaired Population
All ages	**38,665**	**8.7**	**20,110**	**11.7**	**18,555**	**6.8**
15 to 29 years	3,855	12.9	2,305	14.2	1,550*	11.3*
30 to 64 years	16,440	9.4	10,460	13.6	5,980	6.1
65 years and over	18,370	7.6	7,345	9.3	11,025	6.8

Table 4 provides, by age, the percentage of people in each category of functional vision limitation (A = problems reading, B = problems recognizing people from a distance).

The functional limitation of vision for reading accounts for more than 50% of the VIP. In the A category (reading) and B category (recognition from a distance), the age groups 30 to 64 and 65 and over shared similar distribution. The proportions by age group vary significantly in the category "Both A and B"; the 65 and over age group accounts for more than 60% of the distribution.

Even though a large number of people experienced the combined vision limitation, the A category (reading) still represents the major type of vision limitation.

Table 4. Visually Impaired Population Aged 15 and Over Residing in Households by Age Group by Type of Vision Limitation, Canada

Type of Vision Limitation	All Ages	Age Group		
		15 to 29 Years %	30 to 64 Years %	65 Years and Over %
Total	**445,875**	**6.7**	**39.1**	**54.2**
A	236,170	6.7	43.3	50.0
B	38,040	13.2	44.6	42.2
Both A & B	171,660	5.2	32.2	62.6

Note: Type A vision limitation refers to problems reading.
Type B vision limitation refers to problems recognizing people from a distance.

Analysis of the data by age within province and territory indicates that Newfoundland has the highest proportion of visually impaired people (9.9%) in the 15 to 29 year age group and that the Northwest Territories has the greatest proportion (57.7%) in the 30 to 64 year age group, reflecting the younger population. The province with the highest proportion of visually impaired people in the age group 65 and over is Manitoba at 64.9%.

Table 5. Visually Impaired Population Aged 15 and Over Residing in Households by Age Group by Province and Territory, Canada

Province/ Territory	Age Group			
	All Ages	15 to 29 Years %	30 to 64 Years %	65 Years and Over %
Canada	**445,875**	**6.7**	**39.1**	**54.2**
Newfoundland	10,600	9.9	43.6	46.5
Prince Edward Island	2,895	--	29.2	62.7
Nova Scotia	18,705	9.2	36.4	54.4
New Brunswick	14,565	6.2	37.9	55.9
Quebec	103,275	6.2	44.6	49.2
Ontario	164,455	5.6	37.6	56.8
Manitoba	22,220	6.1	29.1	64.9
Saskatchewan	20,000	6.7	32.6	60.8
Alberta	33,750	8.8	45.0	46.1
British Columbia	54,855	8.4	36.9	54.6
Yukon	190*	--	--	--
Northwest Territories	355*	--	57.7*	--

Multiple Disabilities

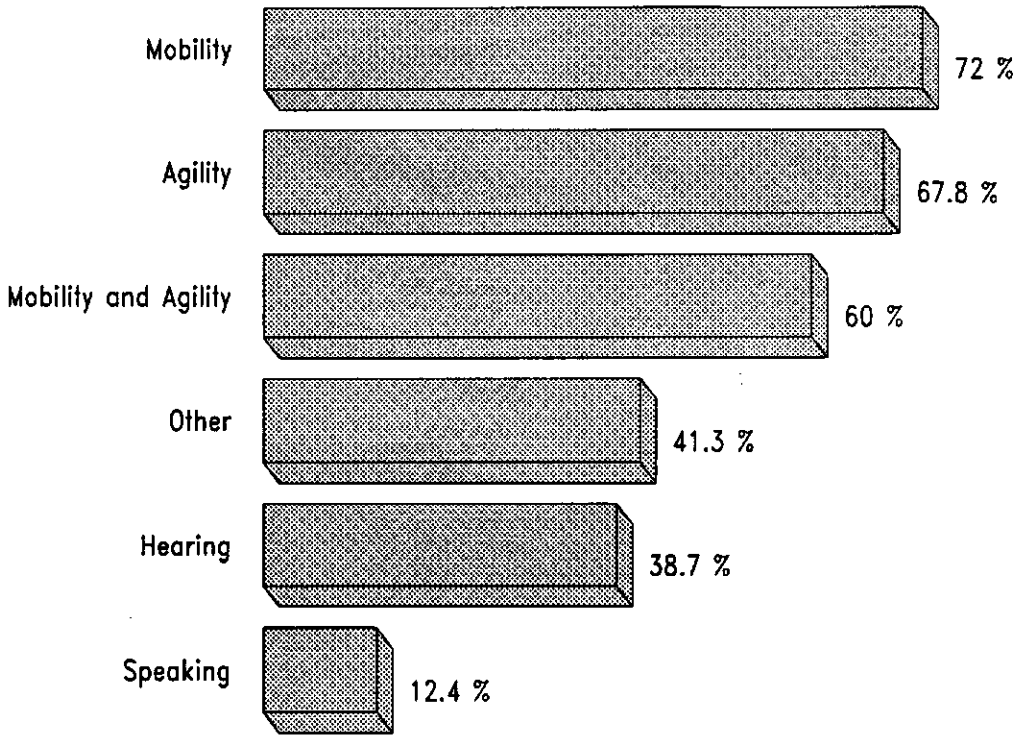
Many individuals with a visual impairment report more than one type of disability. A small percentage of the VIP report having only a visual impairment. The youngest age group, 15 to 29, had the highest percentage with only one disability (21.8%), as compared to the oldest age group with only 7.1%. Among visually impaired persons with more than one disability, it is most common to have three or four disabilities and this is true of all age groups. The VIP aged 15 to 29 were less likely to report three, four or five disabilities than the other age groups. Generally, the number of disabilities per person increases as age increases.

Table 6. Visually Impaired Population Aged 15 and Over Residing in Households by Number of Disabilities by Age Group , Canada

		Number of Disabilities					
Age Group	**Total**	**One** *%*	**Two** *%*	**Three** *%*	**Four** *%*	**Five** *%*	**Six** *%*
All ages	**445,875**	**10.9**	**15.8**	**26.3**	**27.8**	**15.7**	**3.6**
15 to 29 years	29,900	21.8	20.2	20.0	19.8	11.8	6.4
30 to 64 years	174,460	14.2	15.8	24.7	27.1	14.4	3.8
65 years and over	241,515	7.1	15.2	28.3	29.3	17.0	3.0

Figure 1 shows the percentage of visually impaired people that report other types of disabilities. Mobility (72.0%) and agility (67.8%) account for most of the other disabilities that accompany vision loss. Some of those who reported a mobility disability may include persons whose vision impairment restricts their mobility or independent movement. Therefore, as restricted as they feel with respect to mobility, the major limiting factor may be their vision loss. The dual disability of hearing and vision loss accounts for 38.7% of the VIP.

Figure 1. Nature of Other Types of Disabilities Reported by the Visually Impaired Population Aged 15 and Over Residing in Households, Canada



Further analysis of the incidence of other disabilities among the VIP by age group relate to Table 7. In all categories except speaking, the oldest age group (65 years and over) dominates the incidence of disability, often by more than 20%.

As one would expect, the oldest age group accounts for a very large percentage (68.4%) in the hearing category. In all categories except for speaking, the youngest group represented a small percentage of cases.

Table 7. Visually Impaired Population Aged 15 and Over Residing in Households by Age Group by Nature of Other Types of Disabilities Reported, Canada

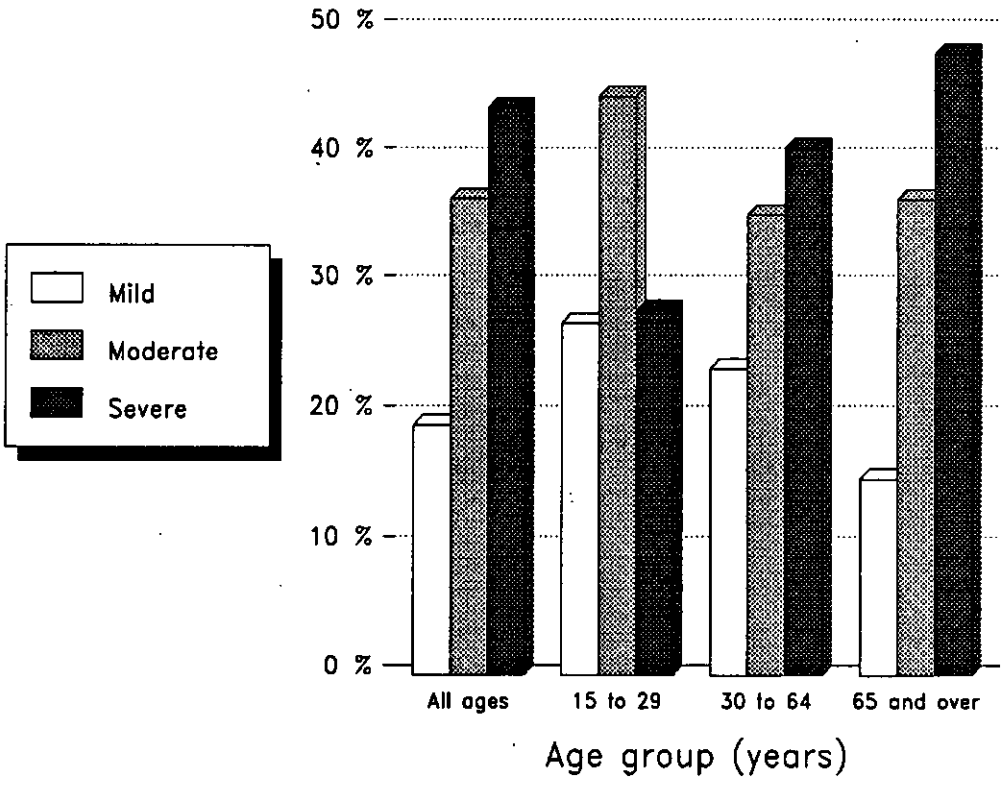
		Age Group		
	Total	15 to 29 Years %	30 to 64 Years %	65 Years and Over %
Total Visually Impaired	**445,875**	**6.7**	**39.1**	**54.2**
% Reporting...				
Other disabilities	**397,475**	**5.9**	**37.7**	**56.5**
Mobility	321,010	3.8	37.7	58.6
Agility	302,330	4.3	37.9	57.8
Mobility or agility[1]	267,630	3.4	38.4	58.1
Hearing	172,775	2.8	28.8	68.4
Speaking	55,460	18.0	42.8	39.2
Other	184,215	10.7	43.6	45.7

1 This category refers to visually impaired persons who have either a mobility or agility disability, or both.

Severity of Disability

Figure 2 shows that 19.3% of the VIP is mildly disabled. In the 15 to 29 age range, the majority are moderately disabled (44.8%), while those with mild or severe disabilities account for 27.1% and 28.1%. There is a shift in the severity scale in the 30 to 64 year age group. The percentage of mild and moderate disability drops to 23.6% and 35.6% respectively, while the percentage of severe disability increases dramatically to 40.8%. Not surprisingly, the proportion of severe disability continues to increase in the 65 and over age group (48.1%) while moderate disability increases slightly and the mild category falls to 15.2%. In summary, as age increases, the proportion of the VIP who fall into the severely disabled category increases.

Figure 2. Severity[1] of Disability for the Visually Impaired Population Aged 15 and Over Residing in Households by Age Group, Canada



1 Severity refers to the overall severity level, considering all disabilities reported by the person. See detailed definition of "severity" in Appendix C.

Age of Onset

The distribution of visually impaired persons by their age at the onset of disability indicates 24.0% became functionally visually impaired before 30 years of age, 37.9% between 30 and 64 years of age, and 38.1% over 64 years of age. When age at onset is examined at a more detailed level, it is revealed that the most frequently reported age was within the 70 to 79 year age bracket; this was reported by 18.0% of the VIP.

Comparing the age at onset by sex, the data indicate that as age at onset increases, a greater percentage of the VIP are female. In all age at onset groups, females represent a greater percentage of the VIP over males in the same age group. In fact, in the 65 and over age at onset group, the percentage of the female VIP more than doubles the percentage of male VIP. This is a result of women forming a greater percentage of an aged population, as well as the greater likelihood of visual impairment among the aged.

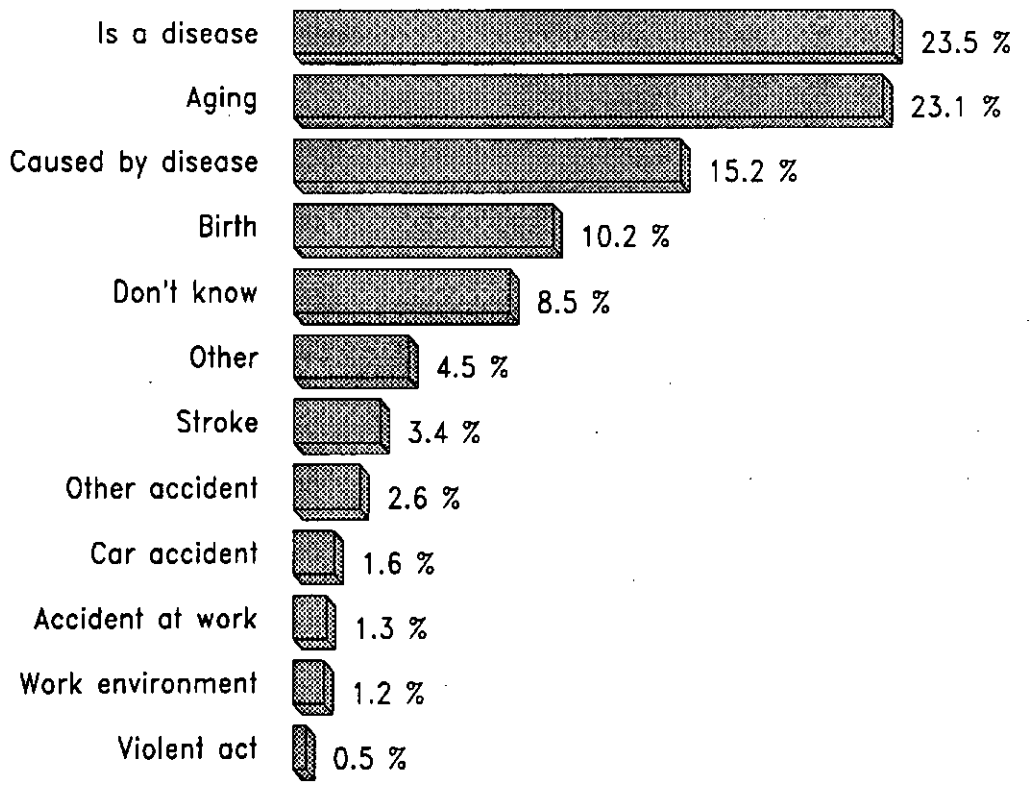
Table 8. Visually Impaired Population Aged 15 and Over Residing in Households by Sex by Age Group at Onset of Visual Impairment, Canada

Age Group at Onset	Both Sexes	Male %	Female %
All ages	**445,875**	**38.6**	**61.4**
14 and under	75,310	43.4	56.6
15 to 29 years	31,690	43.8	56.2
30 to 64 years	168,915	42.6	57.4
65 years and over	169,960	31.4	68.6

Cause of Visual Impairment

Aging is an important variable in the analysis of vision loss. In fact, the HALS data identify aging as the second leading cause of vision loss. Together, the categories "is a disease" and "caused by a disease" account for 38.7% of vision impairments. The category "is a disease" refers to pathological conditions which primarily or solely affect the eye. An example of such a condition is macular degeneration, an eye disease that is the leading cause of visual impairment among seniors and accounts for over 40% of cases (CNIB, 1987). The category "caused by a disease" refers to a condition not solely affecting the eye, but whose pathology often results in visual impairment. Vision loss attributable to diabetes, as an example, would fall into this category. It is worth noting that 10.2% of the VIP reported their visual impairment was evident at birth.

Figure 3. Cause of Vision Limitation Reported by the Visually Impaired Population Aged 15 and Over Residing in Households, Canada



Note: Cause of visual limitation relates to the condition with the earliest age of onset.

3. Socio-economic Characteristics

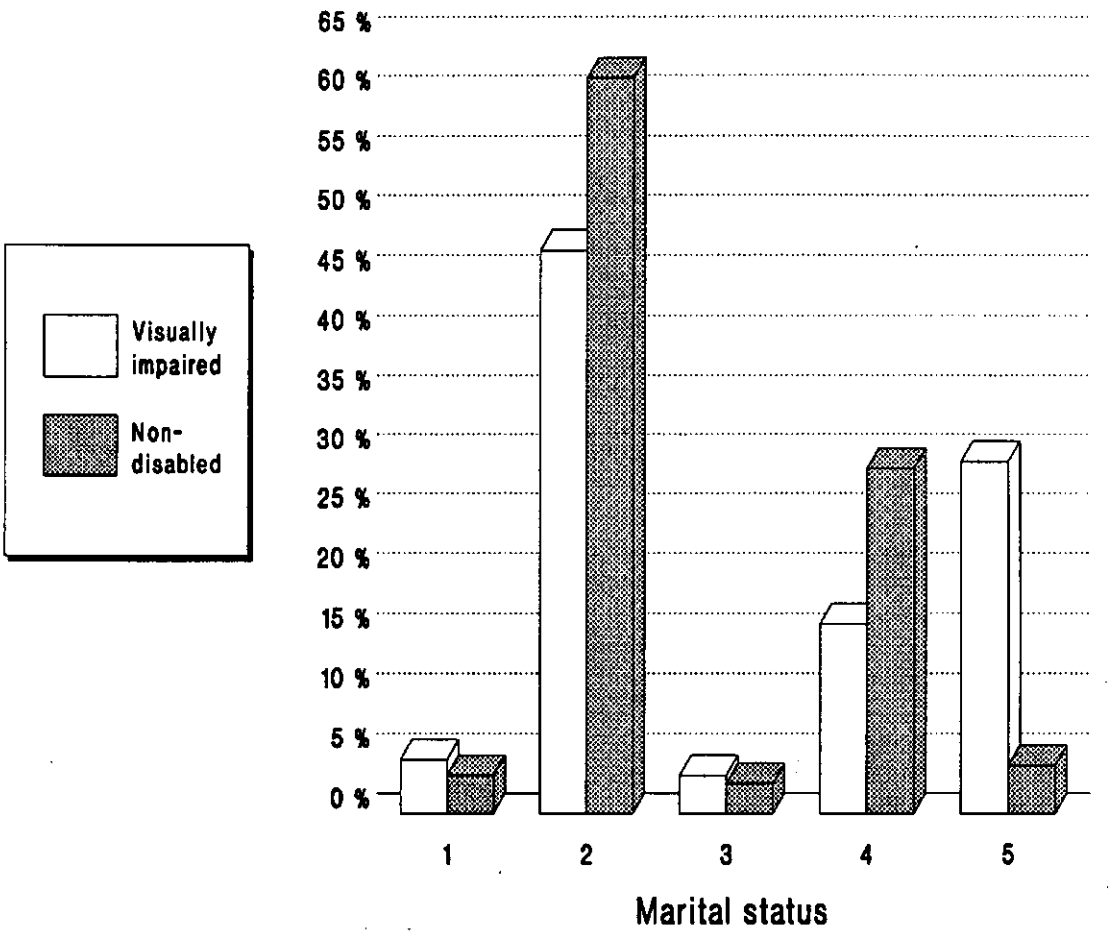
Variables such as marital status, family structure, rural/urban status, education, employment and income all influence and interact with one another in determining socio-economic status. Another variable that plays an integral role in the determination of status is the age at the onset of vision impairment. The following analysis compares the visually impaired population (VIP) with the non-disabled population (NDP) and, in some cases, will include a further analysis of age at onset in conjunction with socio-economic characteristics.

Marital Status

A comparison of marital status of the VIP and the non-disabled population (Figure 4), suggests that there are few differences between the two groups in the divorced and separated categories. Worthy of note is that the VIP is only slightly higher in both categories. The greatest difference within a category occurs for widowed, where 29.4% of the VIP is widowed compared to 4.0% of the non-disabled population. This is no doubt a direct result of the high percentage of females in the elderly VIP. The now married and never married categories were significantly lower for the VIP at 47.1% and 15.8% compared to 61.5% and 28.8% for the NDP; this difference is explained by the "widowed" category which is extremely high for the VIP.

The never married category figures are similar to the U.S. National Health Interview Survey conducted in 1979-80, in which 12.5% of the disabled population indicated they had never married while the percentage for the NDP for the same category was higher (Czajka, 1984). The probable explanation for the differences between the disabled and the non-disabled population is that there is a smaller representation of younger ages in the disabled population.

Figure 4. **Visually Impaired and Non-disabled Populations Aged 15 and Over Residing in Households by Marital Status, Canada**



Marital Status Categories

1	Divorced	3	Separated
2	Now Married	4	Never married
		5	Widowed

Urban/rural

Before comparing the family structure or living arrangements of the VIP and NDP, a note should be made on urban/rural status. Within the HALS data for both populations, there is virtually no difference in the urban/rural analysis.

The findings comparing rural/urban status by sex are consistently similar for both populations. Therefore, the urban/rural variable does not seem to be a factor in the socio-economic VIP and NDP comparison.

Table 9. Visually Impaired and Non-disabled Populations Aged 15 and Over Residing in Households by Rural/Urban Status by Age Group, Canada

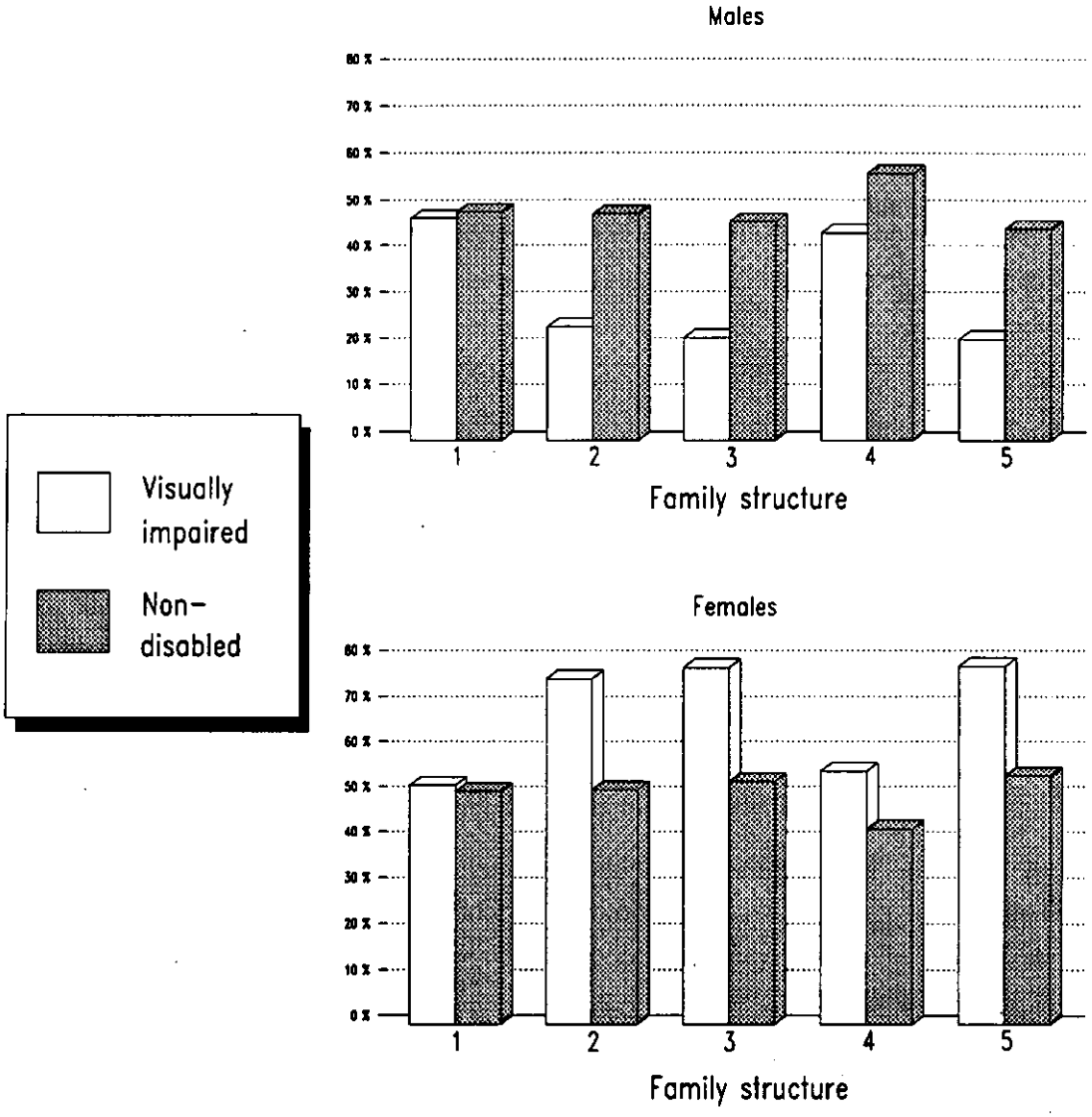
	Total		% Rural		% Urban	
Age Group	**VIP**	**NDP**	**VIP**	**NDP**	**VIP**	**NDP**
All ages	**445,875**	**16,689,310**	**22.9**	**24.2**	**77.1**	**75.8**
15 to 29 years	29,900	6,077,975	23.6	23.5	76.4	76.5
30 to 64 years	174,460	9,153,475	24.5	24.8	75.5	75.2
65 years and over	241,515	1,457,860	21.7	23.6	78.3	76.4

Family Structure

An analysis comparing the living arrangements of the visually impaired and non-disabled populations disclosed some interesting differences. This comparison was done by looking at respondents' census family status. A census family is a family unit consisting of a husband and a wife (with or without children who have never married, regardless of age), or a lone parent of any marital status, with one or more children who have never married, regardless of age, living in the same dwelling. More than 8 in 10 NDP respondents were members of a census family compared to only 60.6% of the VIP respondents. Another difference between the two groups, is the category living alone. The findings indicate that 15% more of the VIP live alone than do the NDP.

Analysis by sex uncovers more differences in living arrangements between the two populations. Figure 5 illustrates that there is little or no difference in the proportion of females and males who are members of a census family. In the remaining four family structure categories, it is evident that the percentages for the visually impaired female population are considerably higher than for the non-disabled female population. The opposite is true in the population comparisons for males. This is explained by a greater proportion of the VIP being female, accounting for almost 61%, compared to the NDP where the male : female ratio is equal. Once again, it is clear that an older female population amongst the visually impaired affects many of the comparisons with the NDP.

Figure 5. **Proportion of Males and Females in the Visually Impaired and Non-disabled Populations Aged 15 and Over Residing in Households by Family Structure, Canada**



Family Structure Categories

1	Census family	3	Living with a relative
2	Non-census family	4	Living with a non-relative
		5	Living alone

A more detailed review of the data related to family structure includes information on living arrangements (living alone or not living alone) by age group and sex, as presented in Table 10. Visually impaired females are more likely than their male counterparts to live alone, and this trend held true across all age groups. In fact, in the 65 and over age group, the percentage of females living alone was almost triple the percentage of men living alone: 39.5 compared to 15.0.

The low percentage of 15 to 29 year olds living alone reflects the fact that many in this group are still living at home.

Table 10. Visually Impaired Population Aged 15 and Over Residing in Households by Family Structure by Sex by Age Group, Canada

	Total VIP		% Living Alone		% Not Living Alone	
Age Group	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
All ages	**171,910**	**273,965**	**13.3**	**30.3**	**86.7**	**69.7**
15 to 29 years	16,185	13,715	8.0*	11.3*	92.0	88.7
30 to 64 years	77,165	97,295	12.7	17.6	87.3	82.4
65 years and over	78,560	162,955	15.0	39.5	85.0	60.5

Education

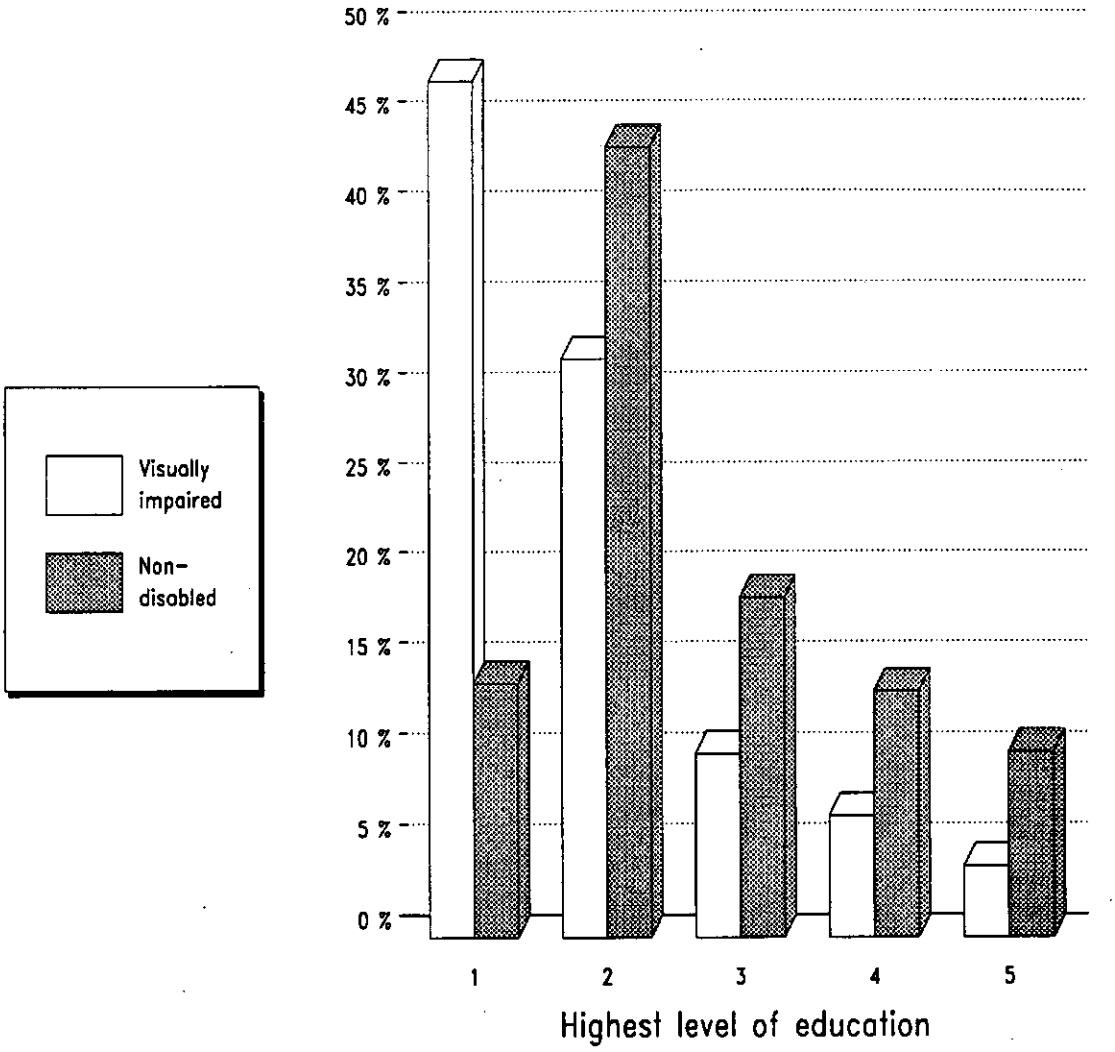
Level of education is one of the basic socio-economic indicators that influence employment and income. The findings for highest level of education for the VIP and NDP are remarkable. To date, most of the research in the field of education and vision impairment focuses on special education programs (Kirchner, 1985; Czajka, 1984). The HALS data have been presented in a manner that allows an overall comparison between the VIP and NDP of the highest level of education attained. **Note that the figures do not include the VIP population who reported having the "other" category of disability, which includes emotional and psychiatric disabilities, developmental delay as well as learning disabilities.**

Figure 6 illustrates, first of all, the dramatic difference between the two populations in the percentage of people whose highest level of education achieved is from 0 to 8 years of primary education. This graph shows that 47.3%, (almost half) of the VIP only completed 0 to 8 years of education compared to 14% of the NDP. Thus, approximately 50% of the VIP are distributed among the remaining 4 education categories whereas 86% of the NDP are distributed among the same categories. In the secondary category, there are 12% more of the non-disabled population than the VIP. In the post-secondary levels of education, the NDP consistently represented a higher incidence of completion. By comparing the VIP and NDP respectively, by education levels, the post-secondary figures are 10.1% and 18.7%; certificate or diploma 6.7% and 13.5%; and university degree, 3.9% and 10.2%. In summary, the majority of the VIP's highest level of education is 0 to 8 years and only a minority complete post-secondary education, approximately 21% of the VIP compared to 42% of the NDP. The incidence of a post-secondary education among the VIP is half of the NDP.

Education categories

- 0-8 years, which includes no schooling, as well as kindergarten up to completion of grade 8.
- Secondary, which includes people who have completed at least some secondary schooling (grades 9-12), including those who have not received diplomas or certificates as well as those whose highest level of schooling is a secondary school graduation certificate or a trades certificate/diploma.
- Some post-secondary, which includes people who have attended university or college but who have not received a degree or diploma.
- Post-secondary certificate/diploma, which includes people who have received a post-secondary non-university certificate/diploma.
- University degree, which includes those who have received at least one university degree.

Figure 6. **Visually Impaired[1] and Non-disabled Populations Aged 15 and Over Residing in Households by Highest Level of Education, Canada**



Education Categories

1	0 to 8 years	3	Post-secondary
2	Secondary (some or completed)	4	Certificate/diploma
		5	University degree

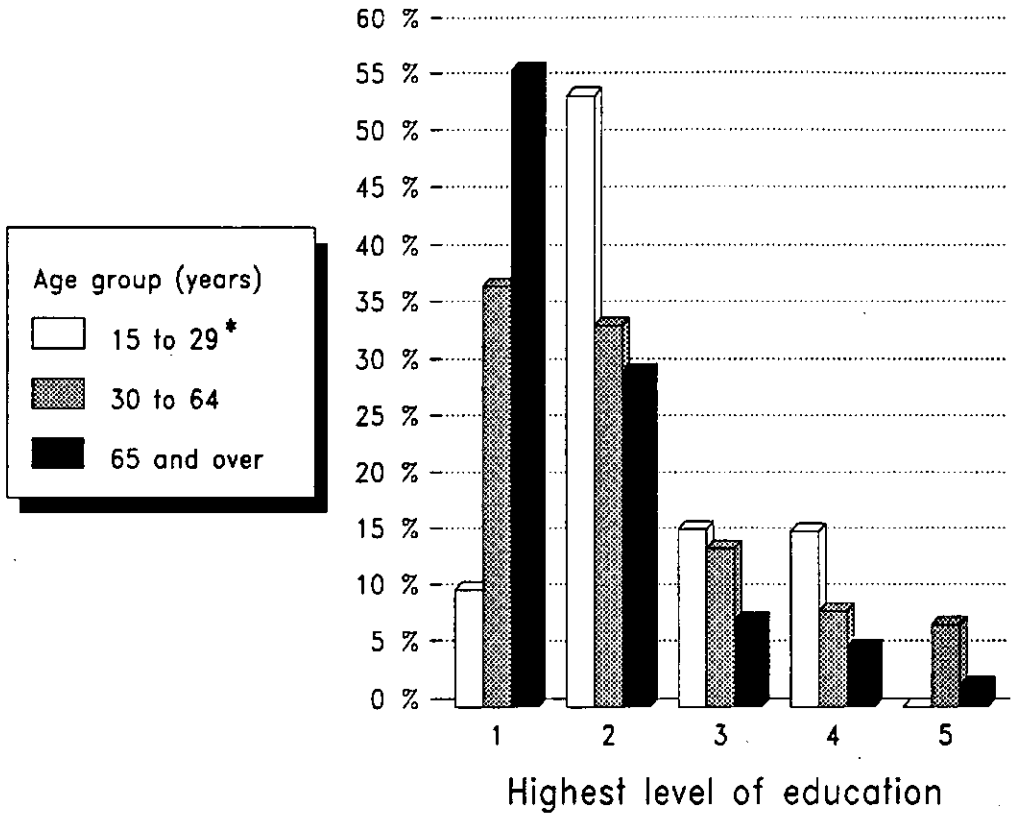
1 Excludes visually impaired persons with "other" nature of disability (that is, persons who are limited because of learning disability, emotional or psychiatric disability or developmental delay).

The analysis of the educational levels of the VIP in conjunction with age should first be preceded by a statement of the general trend noticed: as age increases, education levels become lower. This trend is constant in both the VIP and NDP data, but is more pronounced for the VIP.

Since it is established that only a small percentage of the VIP attain advanced levels of education, it is necessary to review the distribution of age and education among the VIP. Figure 7 shows that the vast majority of the 65 and over age group only completed from 0 to 8 years of primary education. This graph helps to explain the variance noted for this education category in Figure 6. A greater percentage of the VIP is found in the 65 and over age group as compared to the NDP and this may, in part, explain the percentage spread of the VIP and NDP by highest level of education (i.e., over-representation of seniors in the VIP).

It is also worth noting that within the VIP, the youngest age group (15 to 29 years of age) accounts for the majority (53.7%) of the secondary school category. Similarly, within the post-secondary and certificate or diploma categories, the younger age group is consistently better represented than older age groups within the VIP.

Figure 7. **Visually Impaired Population[1] Aged 15 and Over Residing in Households Showing Highest Level of Education by Age Group, Canada**



Education Categories

1	0 to 8 years	3	Post-secondary
2	Secondary (some or completed)	4	Certificate/diploma
	5 University degree		

1 Excludes visually impaired persons with "other" nature of disability (that is, persons who are limited because of learning disability, emotional or psychiatric disability or developmental delay).

** Data for the 15 to 29 year age group in education categories 1, 3 and 4 should be used with caution, due to high sampling variability. The figure for category 5 is not provided at all because the sampling variability is too high to permit use of the data.*

Table 11 provides detailed age information for both the VIP and NDP to allow comparison of educational levels between the two populations. It is clear that younger age groups for both populations have higher levels of education than the older age groups. As the trend holds true for age groups, it still holds true that each age group in the NDP exceeds the educational attainment of the VIP. There is only a small percentage of the 15 to 29 year age group of the VIP in the university degree category. The two older age groups of both the VIP and the NDP have a higher representation in this category. These findings may suggest that the youngest age group of the VIP is less likely to have advanced education as compared to the same age group of the NDP, although a significant proportion of them may still be attending school, being tutored, taking courses, etc.

Table 11. Percentage Distribution of Visually Impaired[1] and Non-disabled Populations Aged 15 and Over Residing in Households by Age Group by Highest Level of Education , Canada

Level of Education	Age Group			
	All Ages	15 to 29 Years	30 to 64 Years	65 Years and Over
Total Number				
VIP	**261,660**	**10,245**	**94,145**	**157,265**
NDP	**16,689,310**	**6,077,975**	**9,153,475**	**1,457,860**
0 to 8 years				
VIP	47.3	10.2*	37.0	55.9
NDP	14.0	3.6	16.2	43.0
Secondary				
VIP	32.0	53.7	33.6	29.6
NDP	43.6	53.5	38.3	35.7
Post-secondary				
VIP	10.1	15.6*	13.9	7.5
NDP	18.7	21.9	17.9	10.2
Certificate/diploma				
VIP	6.7	15.4*	8.3	5.1
NDP	13.5	13.3	14.7	6.5
University degree				
VIP	3.9	--	7.1	1.9
NDP	10.2	7.7	12.9	4.6

[1] *Excludes visually impaired persons with "other" nature of disability (that is, persons who are limited because of learning disability, emotional or psychiatric disability or developmental delay).*

An analysis of education by age at the onset of visual impairment suggests vision impairment impedes educational attainment. In Table 12, the VIP is divided into four groups for the age at onset and is presented by highest level of educational attainment.

When the onset of vision loss occurs at less than 15 years of age, there seems to be a contradiction in the results of highest level of education. Considering that 39.7% of the people affected with vision impairment at this age only complete 0 to 8 years of education, it is surprising that 10.6% receive a university degree.

In the 15 to 29 age at onset group, the percentage obtaining 8 years or less of education drops significantly to 22.3% and the fraction obtaining university degrees is considerably lower at 7.6%, but the post-secondary category is significantly higher in this age at onset group than in any of the others. This may suggest that if education is interrupted before finishing secondary school, visually impaired students may be systematically routed to post-secondary skills training. For those who lose their sight after 30 years of age, it would probably make little difference in the education they received, but it may impact dramatically on their income and employment status.

In summary, if the onset of vision loss is at an early stage of education, it can have a twofold effect on the highest level of education attained; the majority will only complete primary education while a significant proportion of the same group obtain a university degree.

Table 12. Visually Impaired Population[1] Aged 15 and Over Residing in Households by Highest Level of Education by Age Group at Onset of Visual Impairment, Canada

Age Group at Onset	Total	Highest Level of Education				
		0 to 8 Years %	Secondary %	Post-Secondary %	Certificate/ Diploma %	University Degree %
All ages	**261,660**	**47.3**	**32.0**	**10.1**	**6.7**	**3.9**
14 and under	33,535	39.7	33.6	8.7	7.4	10.6
15 to 29 years	21,335	22.3	45.8	18.7	5.6*	7.6
30 to 64 years	98,010	47.4	32.0	11.0	7.6	2.0
65 years and over	108,780	54.5	28.8	8.1	5.8	2.9

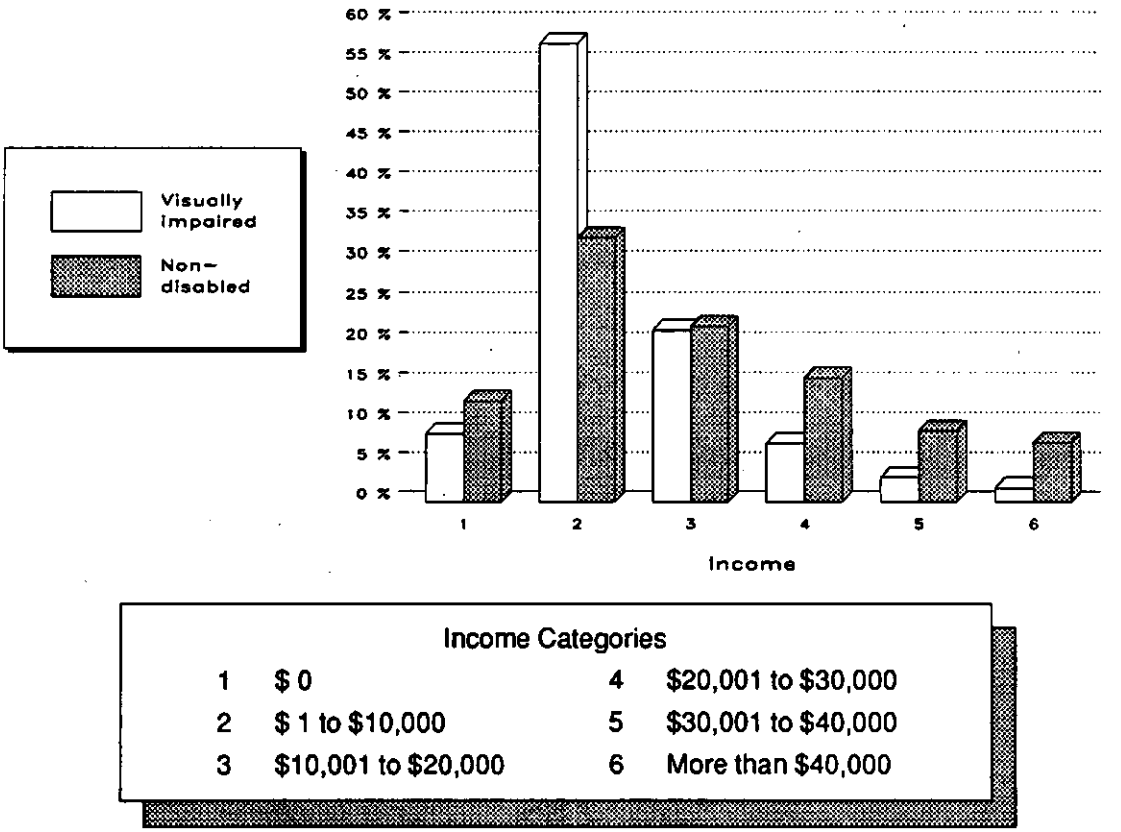
1 Excludes visually impaired persons with "other" nature of disability (that is, persons who are limited because of learning disability, emotional or psychiatric disability or developmental delay).

Income

Education has a direct impact on income and employment. Just as the VIP had a greater proportion in the lower education levels than the NDP, it also has a higher concentration of low incomes (Figure 8). Throughout this section, income refers to total individual money income received during the calender year 1985 from employment, pensions, interest, insurance, family allowance, etc.

The distribution of the VIP and the NDP are quite similar in the non-income earning category. The VIP has the highest portion of its population (57.4%) earning from 1 to 10,000 dollars compared to 32.9% of the NDP earning the same. Although a similar proportion of both the VIP and the NDP fall into the $10,001 to $20,000 income category, the proportion of the NDP always ranks significantly above the VIP for all income brackets above this.

Figure 8. Visually Impaired and Non-disabled Populations[1] Aged 15 and Over Residing in Households by Income, Canada



1 Persons with a negative income are not shown in the graph but were included in the total population used in calculating percentages.

Further information may be gleaned from an analysis of income earned, by age (Table 13). As might be expected, a higher percentage of the 15 to 29 year age group for both populations is found in the two lowest income categories ($0 and $1 to $10,000). A shift takes place in the $10,001 to $20,000 income category. The older age groups have the greatest percentage of people and the NDP has a greater proportion in the higher income earning categories ($20,001 to $30,000, $30,001 to $40,000 and more than $40,000). The explanation for this is related to education. It would seem that there is also a direct relationship between income and age; generally the younger the respondent, the lower the income.

This trend holds true for both the VIP and NDP; the VIP across all ages has a greater percentage in the lower income categories. These findings are in agreement with those of the 1979-80 National Health Interview Survey (Czajka, 1984).

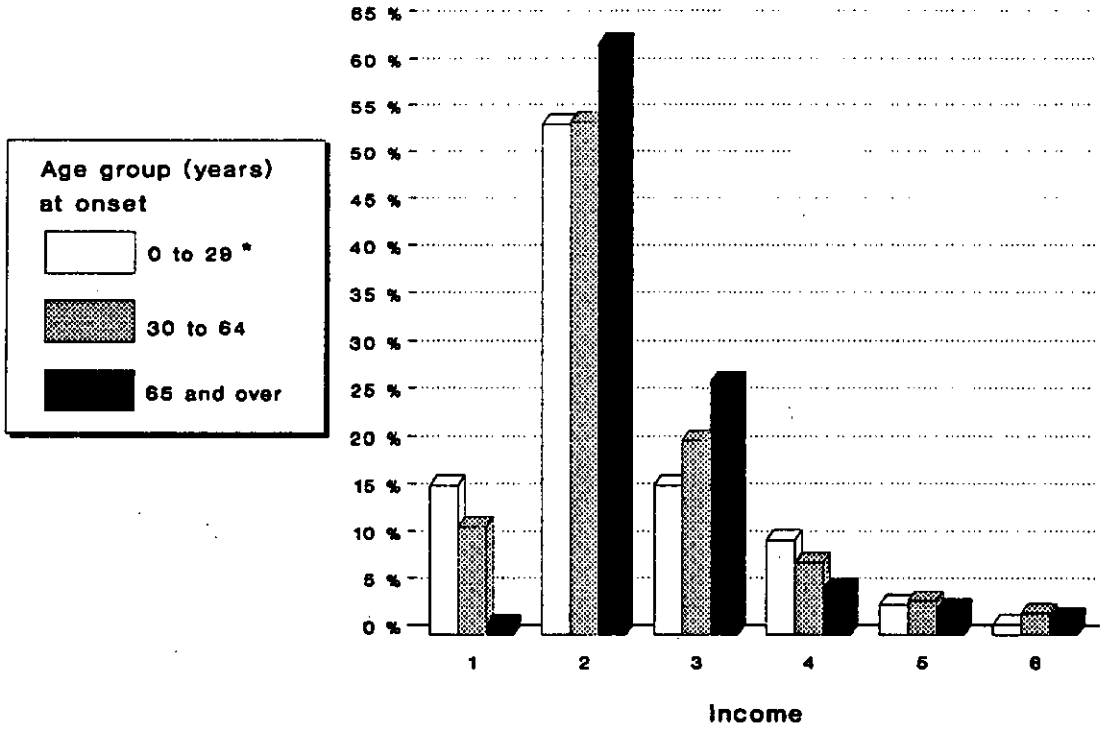
Table 13. Percentage Distribution of Visually Impaired and Non-Disabled Populations Aged 15 and Over Residing in Households by Age Group by Income Levels, Canada

	Age Group			
Income Level	**All Ages**	**15 to 29 Years**	**30 to 64 Years**	**65 Years and Over**
Total[1]				
VIP	**445,875**	**29,900**	**174,460**	**241,515**
NDP	**16,689,310**	**6,077,975**	**9,153,475**	**1,457,860**
$ 0				
VIP	8.7	24.8	16.3	1.2
NDP	12.7	19.4	10.1	1.4
$1 to $10,000				
VIP	57.4	58.4	47.3	64.5
NDP	32.9	44.7	22.4	49.9
$10,001 to $20,000				
VIP	21.5	10.7	18.1	25.2
NDP	22.0	20.6	21.6	30.4
$20,001 to $30,000				
VIP	7.4	4.8*	11.4	4.8
NDP	15.6	10.3	19.9	10.4
$30,001 to $40,000				
VIP	3.1	--	4.6	2.3
NDP	9.0	3.7	13.4	3.4
More than $40,000				
VIP	1.8	--	2.0	1.9
NDP	7.5	1.2	12.2	4.4

1 Total includes persons who reported a negative income.

Some of the trends continue to be true even when examining income data in conjunction with the age at onset of visual impairment (Figure 9). Notice that the 65 and over age group has very little representation in the lowest income category while very few members of the youngest (0 to 29) age group appear in the more than $40,000 income category. However, almost 90% of those whose vision impairment occurred at age 65 or over report an income between $1 and $20,000. Fewer in the other two age categories report this income but it is still a very significant proportion. In the income categories above $20,000, the middle (30 to 64) age group is well represented. Therefore, it would seem that if your vision was affected in the 30 to 64 age range, there is a better chance at maintaining or attaining a higher income.

Figure 9. Visually Impaired Population Aged 15 and Over Residing in Households by Income[1] by Age at Onset of Visual Impairment, Canada



Income Categories

1	$ 0	4	$20,001 to $30,000
2	$ 1 to $10,000	5	$30,001 to $40,000
3	$10,001 to $20,000	6	More than $40,000

1 Persons with a negative income are not shown in the graph but were included in the total population used in calculating percentages.

** Data for the 15 to 29 year age group in income category 6 should be used with caution, due to high sampling variability.*

Education And Income

In the comparison of income by level of education for the VIP and NDP, some differences are noteworthy. Table 14 reinforces the notion that visual impairment adversely affects earning potential. A detailed examination of the group with 0 to 8 years of education shows that the vast majority of the VIP (76.3%) earn less than $10,000 compared to 54.9% of the NDP. The difference between the VIP and the NDP in the $10,001 to $20,000 category is relatively small. However, the difference between the two populations for the higher income categories is more significant. Clearly the VIP is more likely to dominate the lower income categories and to have less representation in the higher income categories.

In the "secondary" level of education, the income of the VIP and NDP are not as dramatically different as in the 0 to 8 education category, but the VIP still has a much greater percentage in the low income category of $1 to $10,000. The most significant difference stated in a ratio between the VIP and NDP is in the more than $40,000 category which is 1:3 respectively.

As the level of education increases, one may believe that the distribution of income will be more similar between the two populations. An analysis of advanced education and income reveals that despite specialized training, the proportion of the VIP in the lower income categories is still greater than the NDP, therefore, the VIP are consistently less likely than the NDP to earn higher incomes.

Considering the small percentage of the VIP that completed a university degree compared to the NDP, one might expect a similar income distribution. There is no doubt that higher education influences income; this is evident in both populations. University graduates (both VIP and NDP) appear to be more evenly distributed across all income categories. Even though the distribution is more evenly divided, the VIP are over-represented in the lower income categories. Furthermore, the NDP has the highest percentage located in the more than $40,000 income category (28.3%), whereas the highest percentage (28%) of the VIP is located in the $20,001 to $30,000 income category. The NDP exceeds the VIP in the $40,000 plus category by 10%. This 10% gap in the upper income categories is the largest percentage spread across all education levels. Therefore, it would appear that increased education does influence the earning potential of the VIP and NDP, but the distribution of income by education still leaves the VIP in a subordinate position that is, in fact, amplified with education. This may suggest that the VIP are underemployed and/or underpaid.

Table 14. Visually Impaired and Non-disabled Populations Aged 15 and Over Residing in Households by Income Group by Level of Education , Canada

Level of Education	Total[1]	Income Group: Group 1 %	Group 2 %	Group 3 %	Group 4 %	Group 5 %	Group 6 %
Total							
VIP	**445,875**	**8.7**	**57.4**	**21.5**	**7.4**	**3.1**	**1.8**
NDP	**16,689,310**	**12.7**	**32.9**	**22.0**	**15.6**	**9.0**	**7.5**
0 to 8 years							
VIP	222,435	8.4	67.9	19.7	2.8	0.6*	0.6*
NDP	2,328,570	16.1	38.8	23.2	13.5	5.2	2.9
Secondary							
VIP	140,970	11.3	52.2	19.8	9.6	5.6	1.3
NDP	7,273,285	19.0	35.3	21.1	13.7	6.9	3.6
Post-secondary							
VIP	44,235	6.1	40.8	32.1	15.6	1.8*	3.3*
NDP	3,123,730	6.6	35.0	23.3	17.1	10.0	7.7
Certificate/ diploma							
VIP	24,805	4.7*	40.1	30.6	9.9	9.6	4.7*
NDP	2,255,495	4.7	27.9	25.3	21.1	12.0	8.6
University degree							
VIP	13,425	--	24.9	16.2	28.0	11.4*	17.5
NDP	1,708,215	3.1	17.6	17.6	16.0	17.2	28.3

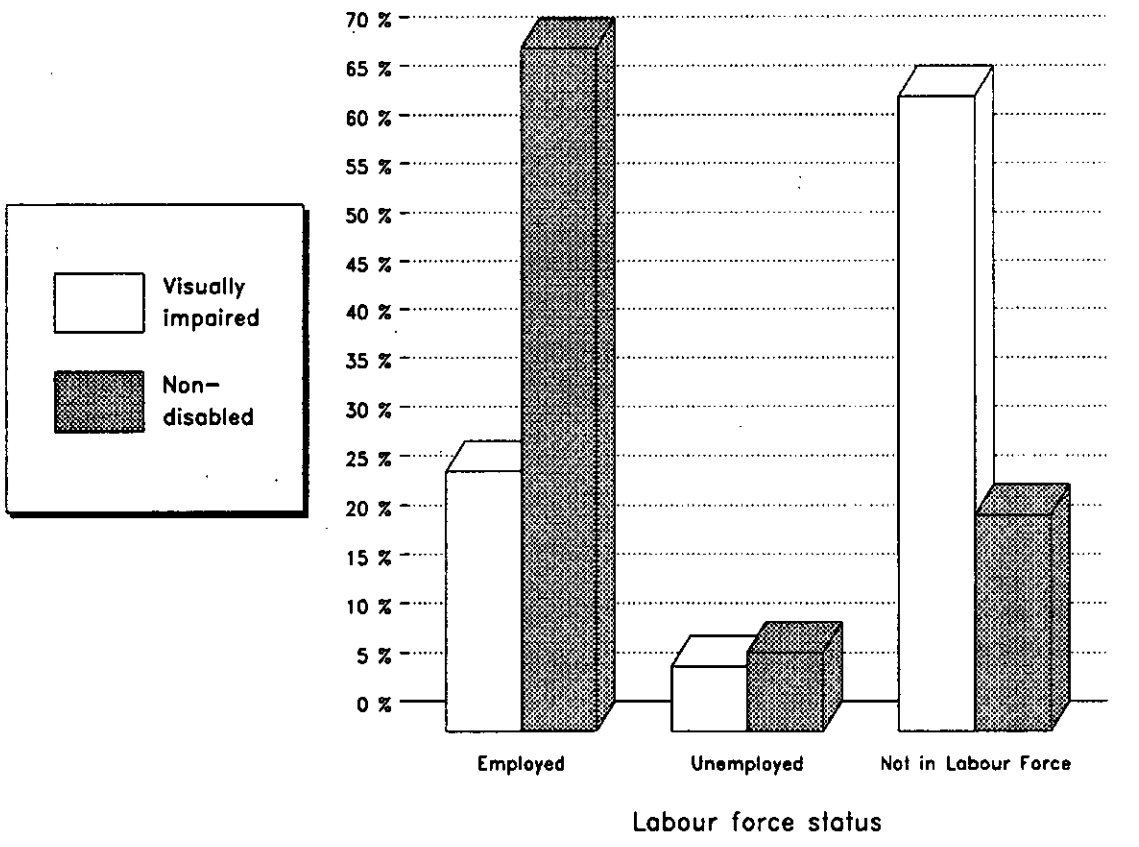
1 Total includes persons who reported a negative income.

Income Categories			
1	$ 0	4	$20,001 to $30,000
2	$ 1 to $10,000	5	$30,001 to $40,000
3	$10,001 to $20,000	6	More than $40,000

Labour Force Participation

An examination of income earned by the visually impaired would indicate a proportion of the VIP is employed. Figure 10 sets a very clear picture of the VIP and NDP labour force participation. Only 26.5% of the working-age VIP is employed, compared to 69.9% of the working-age NDP. These findings are similar to the findings of Kirchner and Petersons (1979;1985) who found one-third of the working aged VIP and almost three-quarters of the NDP are employed. However, the two populations share similar unemployment rates: 6.7% for the VIP and 8.1% for the NDP. A striking difference is seen in the proportion of the working-age of both populations who are not a part of the labour force. While only 22.1% of the NDP are not in the labour force, 64.9% of the VIP are similarly not in the labour force. The non-participation ratio is 3:1 for VIP:NDP. The disparity between these figures is surprising since the education and income levels between these age groups for both populations do not exhibit this degree of variation.

Figure 10. Visually Impaired and Non-disabled Populations Aged 15 to 64 Residing in Households by Labour Force Activity, Canada



One can speculate that the VIP is more prone to self obstruction and feelings of inadequacy in employment situations and thus prefers to remain outside the labour force. Another explanation implies those that lost their sight in the midst of their career may be more likely to take a forced or early retirement (Carroll, 1961).

An examination of labour force activity partitioned by sex offers several intriguing observations. The statistics for male and female VIP and NDP indicate that both populations have a similar labour force breakdown by gender. Two observations are pertinent: within both populations, women are less likely to be employed than men; similarly, both the male and female VIP are less likely to be employed than their counterparts in the NDP. The assertion inherent in these observations is that visually impaired women are in a double jeopardy, that is, their labour force activity is negatively affected by being women and by being disabled.

Table 15. Visually Impaired and Non-disabled Populations Aged 15 to 64 Residing in Households by Labour Force Activity by Sex by Age Group, Canada

	Total[1]		Employed %		Unemployed %		Not in Labour Force %	
Sex/Age Group	**VIP**	**NDP**	**VIP**	**NDP**	**VIP**	**NDP**	**VIP**	**NDP**
Both sexes								
15 to 64 years	204,360	15,231,450	26.5	69.9	6.7	8.1	64.9	22.1
15 to 29 years	29,900	6,077,975	37.9	63.5	9.7	10.9	50.9	25.6
30 to 64 years	174,460	9,153,475	24.5	74.1	6.2	6.2	67.3	19.8
Male								
15 to 64 years	93,345	7,565,820	32.7	79.8	10.4	8.3	54.6	11.9
15 to 29 years	16,185	3,026,690	44.5	68.1	10.1	11.3	43.7	20.7
30 to 64 years	77,160	4,539,130	30.2	87.7	10.4	6.3	56.9	6.0
Female								
15 to 64 years	111,010	7,665,635	21.2	60.0	3.7	7.9	73.6	32.1
15 to 29 years	13,715	3,051,285	30.0	59.0	9.4	10.6	59.4	30.4
30 to 64 years	97,295	4,614,345	20.0	60.7	2.9	6.1	75.6	33.3

1 Total includes persons for whom labour force activity is unknown.

A more detailed analysis of the VIP's labour force activity by age and sex (Table 16) reveals that as age increases, participation in the labour force decreases. The number of employed among the female VIP drops dramatically from the 30 to 54 year age group (30.1%) to the 55 to 64 year age group (4.5%). Note that the decline is more significant for the female VIP than it is for the male VIP.

The number of unemployed also decreases with age, for both males and females, although the decrease is more pronounced for males. This is due to the fact that a larger proportion of the male VIP aged 30 to 54 years are looking for employment.

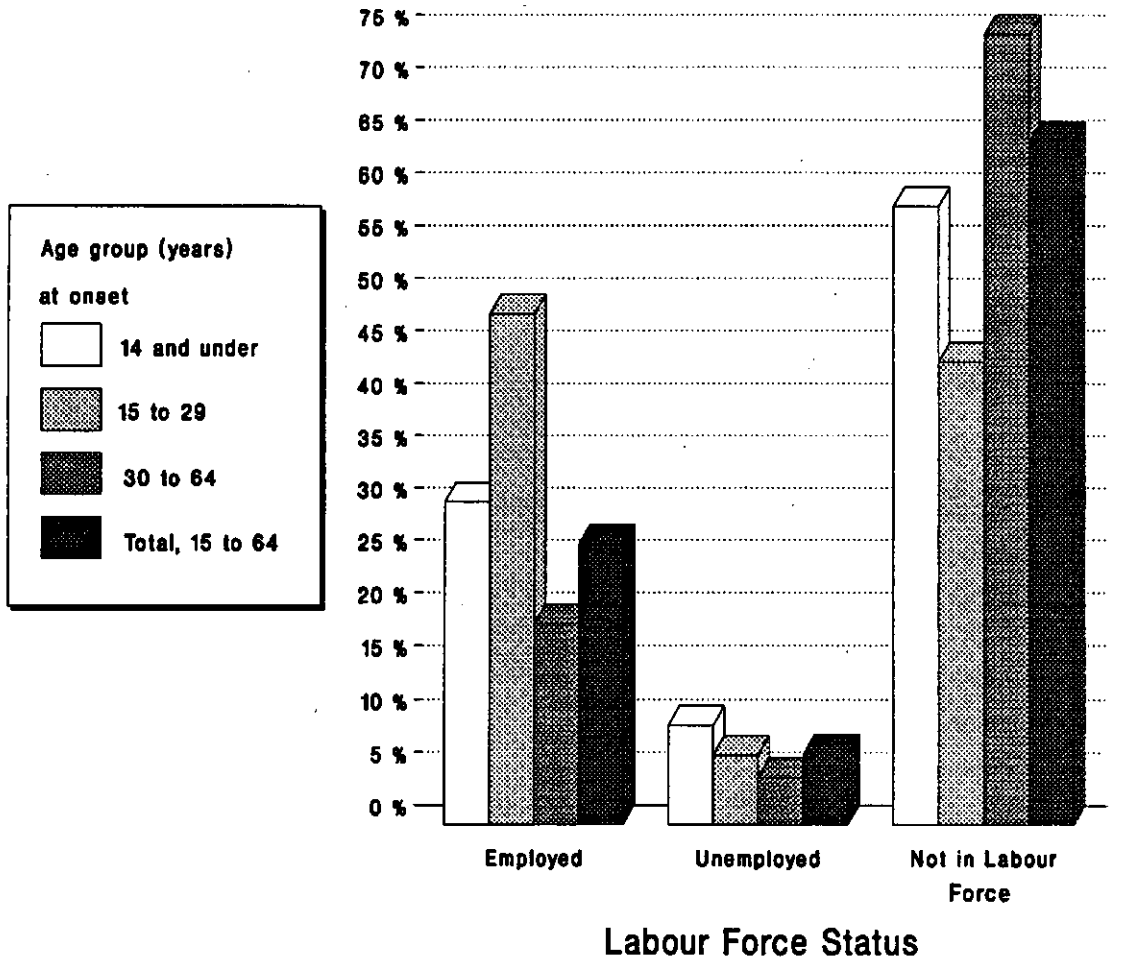
Table 16. Visually Impaired Population Aged 15 to 64 Residing in Households by Labour Force Activity by Sex by Age Group, Canada

	Total[1]		Employed %		Unemployed %		Not in Labour Force %	
Age Group	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
All ages	93,345	111,010	32.7	21.2	10.4	3.7	54.6	73.6
15 to 29 years	16,185	13,715	44.5	30.0	10.1	9.4	43.7	59.4
30 to 54 years	43,620	58,925	39.1	30.1	16.6	3.7	41.3	54.9
55 to 64 years	33,545	38,370	18.7	4.5	2.3*	--	77.1	92.0

1 Total includes persons for whom labour force activity is unknown.

At this point it may be beneficial to analyze the labour force participation of the VIP by age at onset. Figure 11 shows that a visually impaired individual in the 15 to 29 year age at onset group is more likely to be employed than a visually impaired individual in either the younger or older age at onset group. The percentage of unemployed in the youngest age at onset group is higher than in the older age at onset groups. The most significant observation regarding age at onset is that those individuals who became visually impaired under the age of 29 are much more likely to be in the labour force (either employed or unemployed) compared to those individuals who became visually impaired at a later age.

Figure 11. Visually Impaired Population Aged 15 to 64 Residing in Households Showing Labour Force Status by Age Group at Onset of Visual Impairment, Canada



Detailed analysis of age at onset and labour force participation would suggest that the later the age at onset of visual impairment during the working years, the greater the chance of leaving the work force.

Table 17. Visually Impaired Population Aged 15 to 64 Residing in Households by Labour Force Activity by Age Group at Onset of Visual Impairment, Canada

Age Group at Onset	Total[1]	Employed %	Unemployed %	Not in Labour Force %
Total	**204,360**	**26.5**	**6.7**	**64.9**
Less than one year	29,875	34.0	6.7	57.8
1 to 5 years	13,105	22.4	21.3	55.2
6 to 10 years	12,690	35.4	8.0*	55.4
11 to 14 years	6,905	21.6	--	75.5
15 to 17 years	5,845	50.6	--	41.8
18 to 29 years	22,900	48.0	6.8	44.4
30 to 39 years	22,560	17.5	7.8	73.6
40 to 49 years	36,935	28.3	5.4	64.8
50 to 59 years	37,125	14.0	2.5*	81.7
60 to 64 years	11,085	7.2*	--	89.4

1 Total includes persons for whom labour force activity is unknown.

In summary, vision impairment impedes one's participation in the labour force; this effect is more acute as the age at onset of the impairment increases.

4. Participation In Activities

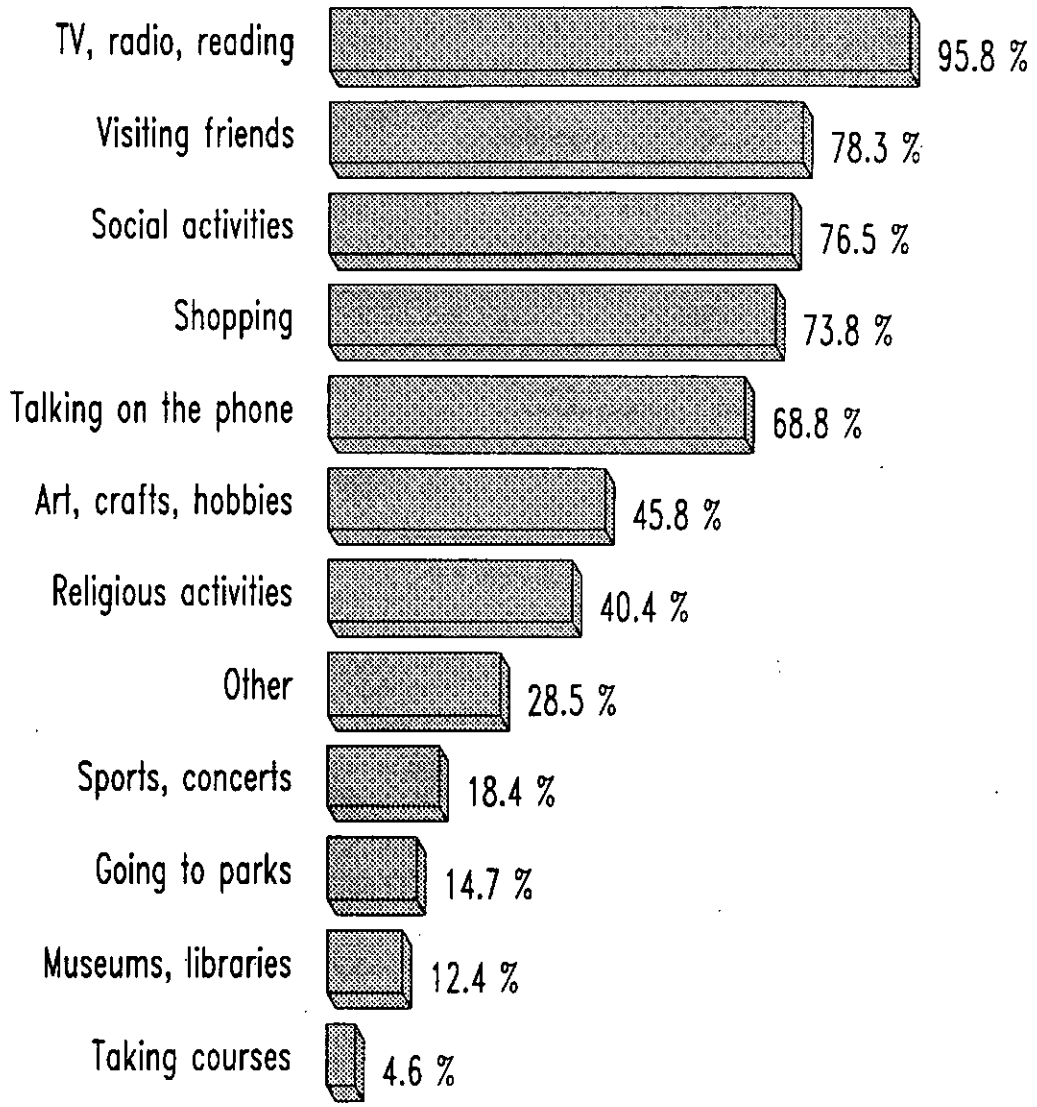
A common observation made of those blinded later in life is that they often have too much time on their hands and are sometimes bored and disinterested. Many variables contribute to this state of boredom and lethargy: these include the lack of retraining and skills development, low self-esteem and poor adjustment to blindness.

In some cases, recently blinded adults are delighted to learn that with some minor changes, they are still able to enjoy many forms of entertainment they enjoyed as a sighted person, for example dancing, listening to music or going to the movies. However, research warns that many tend to rely too heavily on radio and television as their sole source of entertainment. This research asserts that a variety of different recreation and leisure activities should be pursued, although each in moderation (Tuttle, 1984).

Participation In Leisure Activities

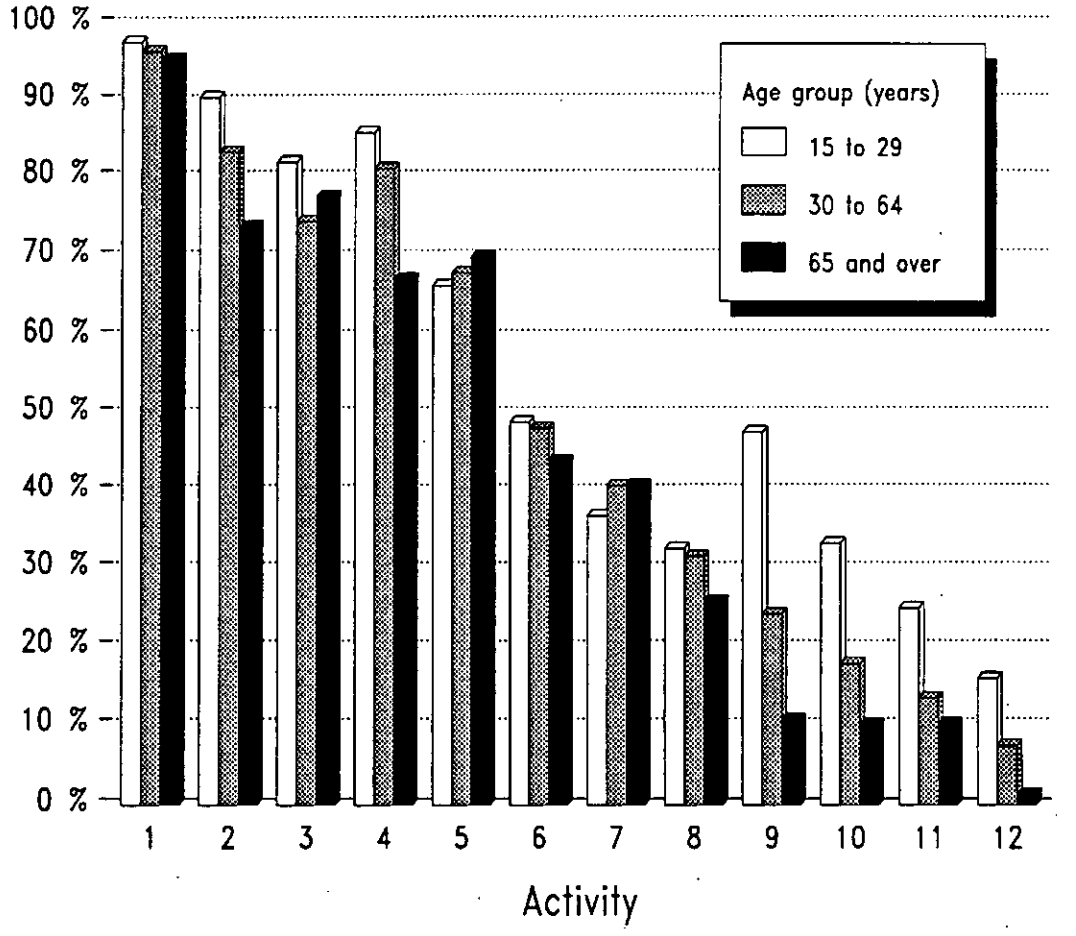
HALS included questions to determine the type and extent of involvement in leisure activities: the following is a summary of the data gathered from answers to these questions. Figure 12 describes the involvement of the visually impaired in the indicated activities. The activity in which the greatest percentage of the VIP reported participation is "watching television, listening to radio, records or tapes, or reading" which accounts for 95.8%. The activities ranking second and third by percentage of the VIP that participates are "visiting friends or relatives" (78.3%) and "social activities with family or friends" (76.5%). At the opposite extreme of the scale, the activity "taking courses, attending seminars" had the lowest involvement among the VIP with only 4.6% participation; this is a reflection of the age distribution in the VIP, the vast majority being over 65 years of age.

Figure 12. Visually Impaired Population Aged 15 and Over Residing in Households by Participation in Leisure Activities, Canada



A more detailed analysis of participation in specific activities by age is shown in Figure 13. The percentage of the VIP involved in specific activities varies little among the different age groups for most activities; however, some significant differences were noticeable. One of the most dramatic differences in participation was visiting parklands, with 33.2% involvement among the 15 to 29 year age group compared to 17.8% and 10% involvement in the 30 to 64 and 65 and over age groups respectively. Similarly, participation in sports declined in the older age groups: 47.5% involvement among the 15 to 29 year age group to only 10.6% among those aged 65 and over. A moderate or slight decrease in participation was shown by older respondents for certain activities, such as shopping and visiting friends, while participation in religion increased with the age of the respondent. A surprising observation was the equally high participation among all age groups in "watching television, listening to radio, records or tapes, or reading", generally exceeding 95%.

Figure 13. Visually Impaired Population Aged 15 and Over Residing in Households Showing Participation in Leisure Activities by Age Group, Canada



Activity Categories

1	TV, radio, reading	7	Religious activities
2	Visiting friends	8	Other
3	Social activities	9	Sports, concerts, movies
4	Shopping	10	Visiting parks
5	Talking on the phone	11	Museums, libraries
6	Arts , crafts, hobbies	12	Taking courses

The data on the participation of the VIP in activities are interesting when analyzed in conjunction with the extent or frequency of that participation. Given that over 95% of the VIP watch television, listen to radio or read, it is interesting to note, as shown in Figure 14A, that 67.3% participate in this activity eight hours or more a week while only 28.6% do this less than eight hours a week. The remaining 4% do not do this at all. Of the activities shown in Figure 14B, visiting friends appears to be an activity with a greater degree of participation, that is, 54.5% participate one to four times per week and 23.8% participate more than five times a month. Approximately 47% of the VIP shopped one to four times a week and 26.8% shopped at least five times a month or more.

Figure 14A. Visually Impaired Population Aged 15 and Over Residing in Households Showing Hours per Week Spent Participating in Selected Leisure Activities, Canada

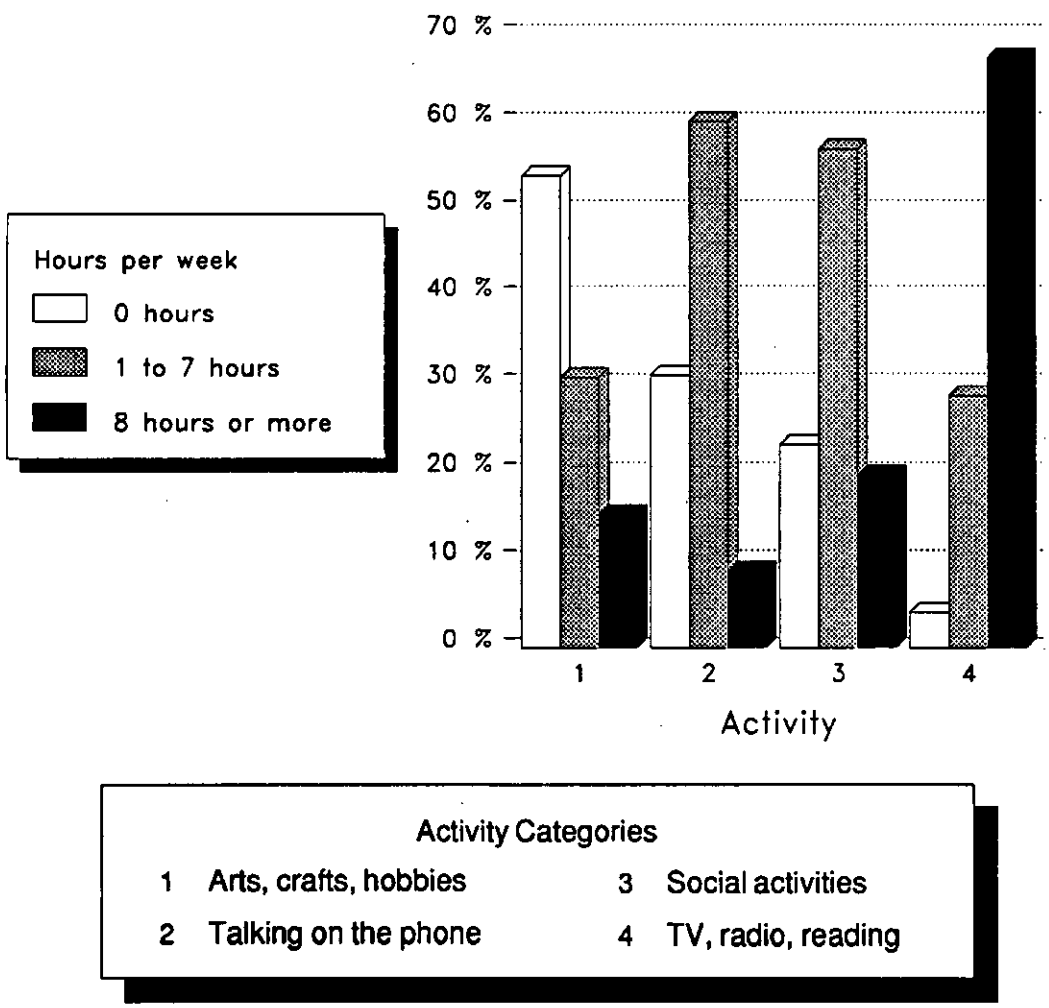
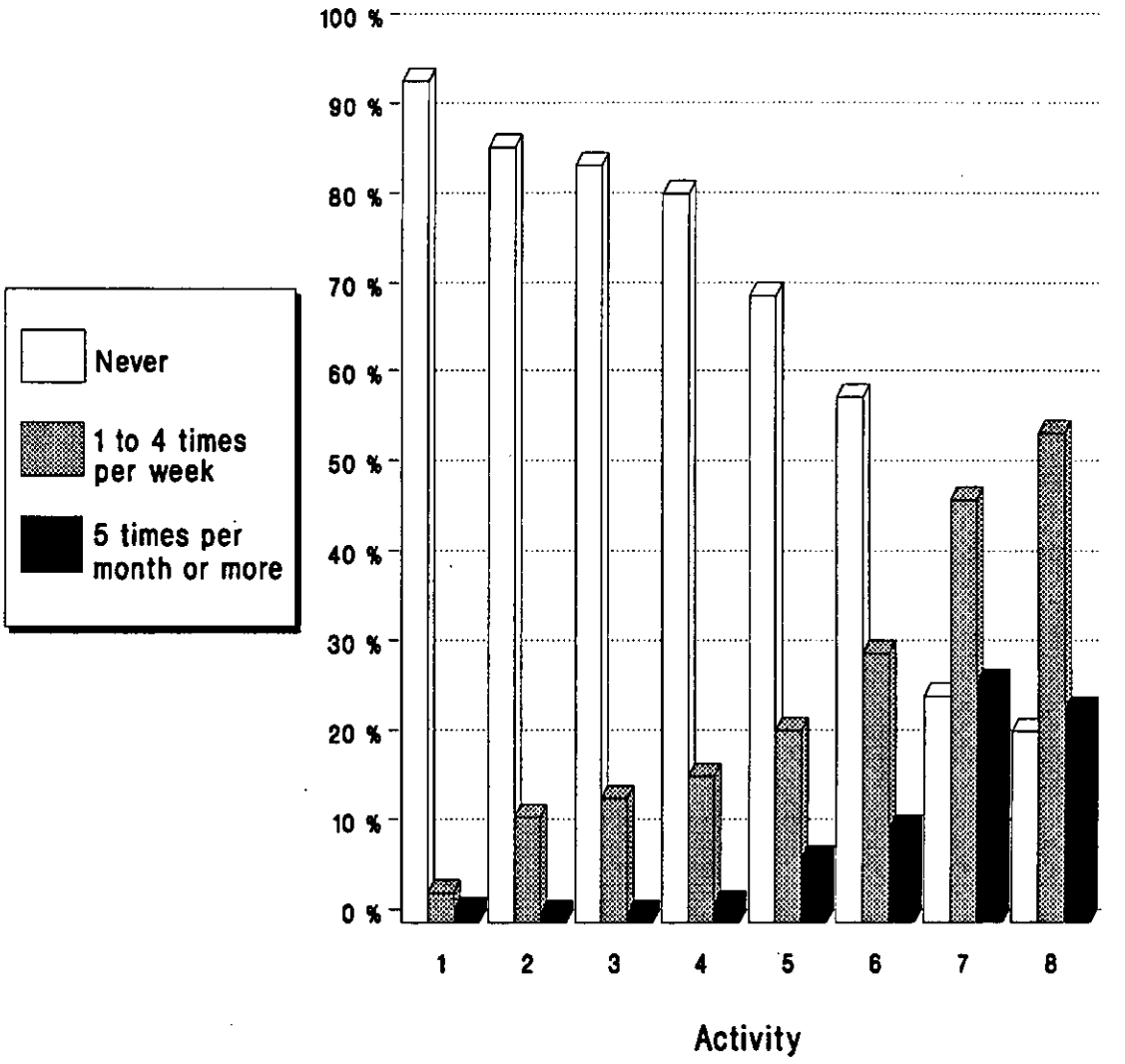


Figure 14B. Visually Impaired Population Aged 15 and Over Residing in Households Showing Frequency of Participation in Selected Leisure Activities, Canada



Activity Categories

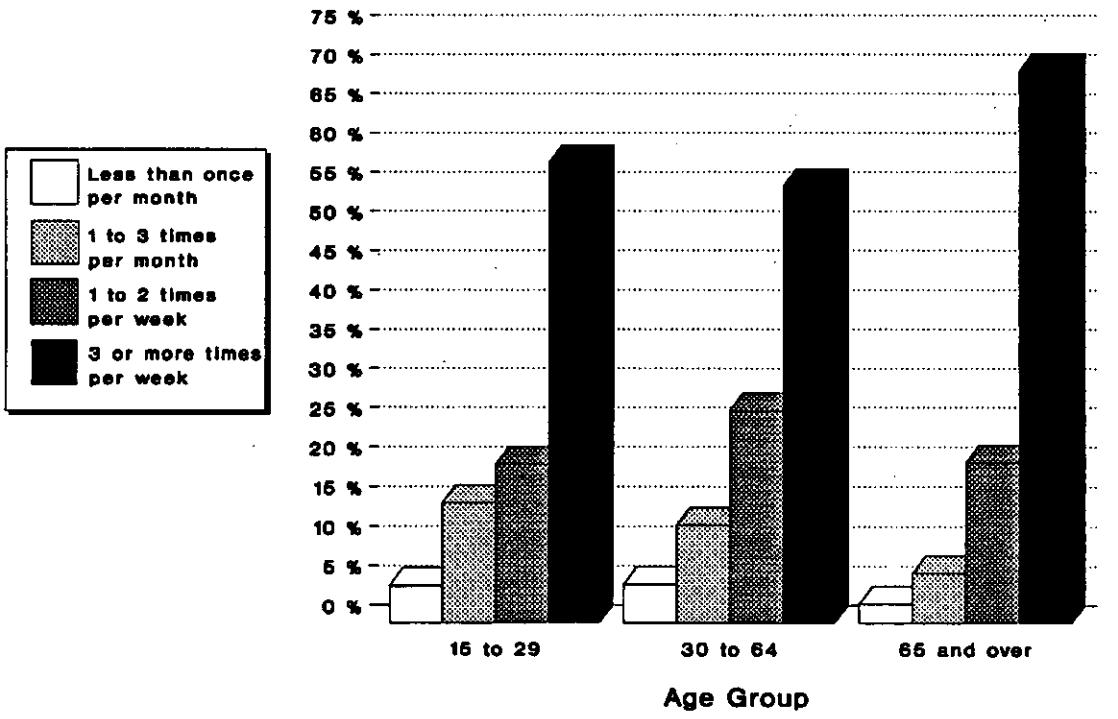
1	Taking courses	5	Other
2	Museums, libraries	6	Religious activities
3	Visiting parks	7	Shopping
4	Sports, concerts, movies	8	Visiting friends

Although the level of activity with the VIP is well documented by the HALS statistics, there is no "yard stick" to measure by; a comparison of either the participation rates of the VIP and the NDP, or the participation rates of the VIP before and after visual impairment would be required to evaluate the effect of visual impairment on participation in activities. However, these findings would suggest that the VIP are relatively active in a wide variety of activities.

Participation In Physical Activities

The distribution of the VIP according to the frequency of physical activity suggests that, overall, the VIP is quite physically active. Figure 15 shows that the majority of people within each age group participate in physical activity 3 times or more a week: the older age group has the highest percentage in this category, with 70.2%, while the youngest age group has 58.4% in this category. Conversely, less than 5% of the VIP within each age group participate once a month or less. Twenty to thirty percent of the VIP within each age group take part in physical activity a medium amount, 1 to 2 times a week.

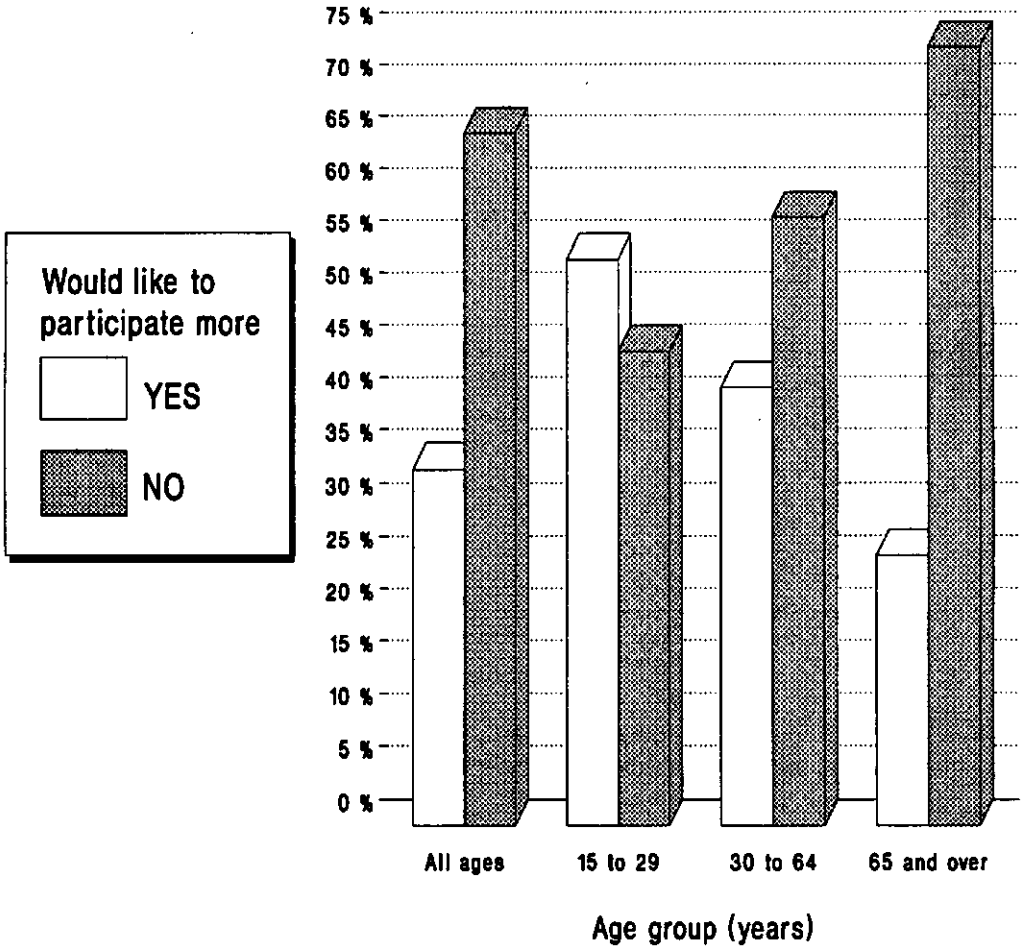
Figure 15. Visually Impaired Population Aged 15 and Over Residing in Households Showing Frequency of Physical Activity by Age Group, Canada



Note: Percentages represent the % of those who take part in physical activities.

Relevant to a consideration of the participation of the VIP in physical activities is an examination of the desire for greater participation in physical activities. Figure 16 presents this information by age. When asked if they would like to participate more, 53.8% of the VIP aged 15 to 29 answered yes. This proportion declines among the elder respondents with only 41.4% and 25.6% answering yes for the 30 to 64 and 65 and over age brackets respectively. Conversely, the percentage of people not interested in more participation is, overall, 65.8% and the proportion increases with age.

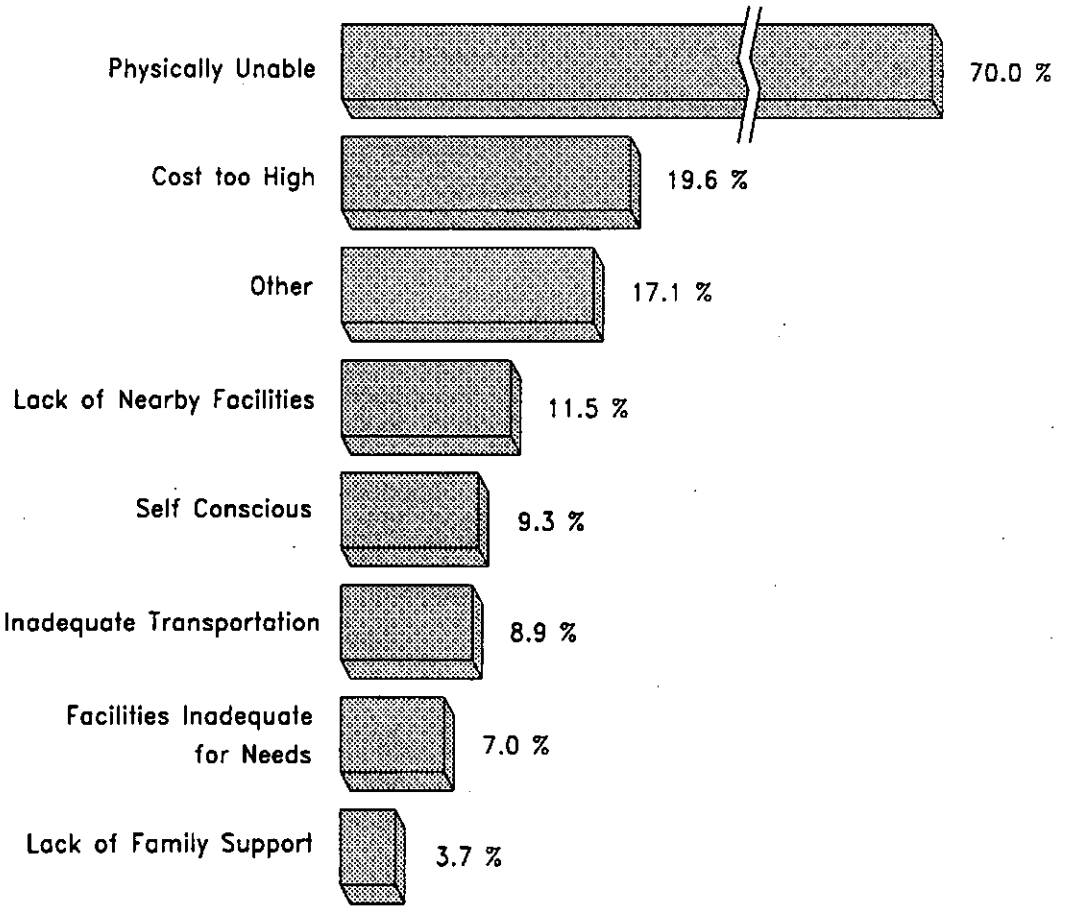
Figure 16. Visually Impaired Population Aged 15 and Over Residing in Households Showing Satisfaction with the Level of Participation in Physical Activities by Age Group, Canada



Having explored the details of who participates in physical activity and how much, it seems pertinent to examine the reasons why people do not participate as much as they would like to. In order to better appreciate the reasons for not participating, the following Figure 17 identifies the relative percentage of individuals reporting each reason.

Being physically unable to do more is the leading reason given for not participating at the level preferred (70%). There is no precise definition of being physically unable - some people may have reported that their vision impairment renders them physically unable, therefore, the results may be misleading. The high costs associated with participation discourage a significant portion (19.6%) of the VIP from participating in physical activities.

Figure 17. Visually Impaired Population Aged 15 and Over Residing in Households by Reasons for Not Doing More Physical Activity, Canada

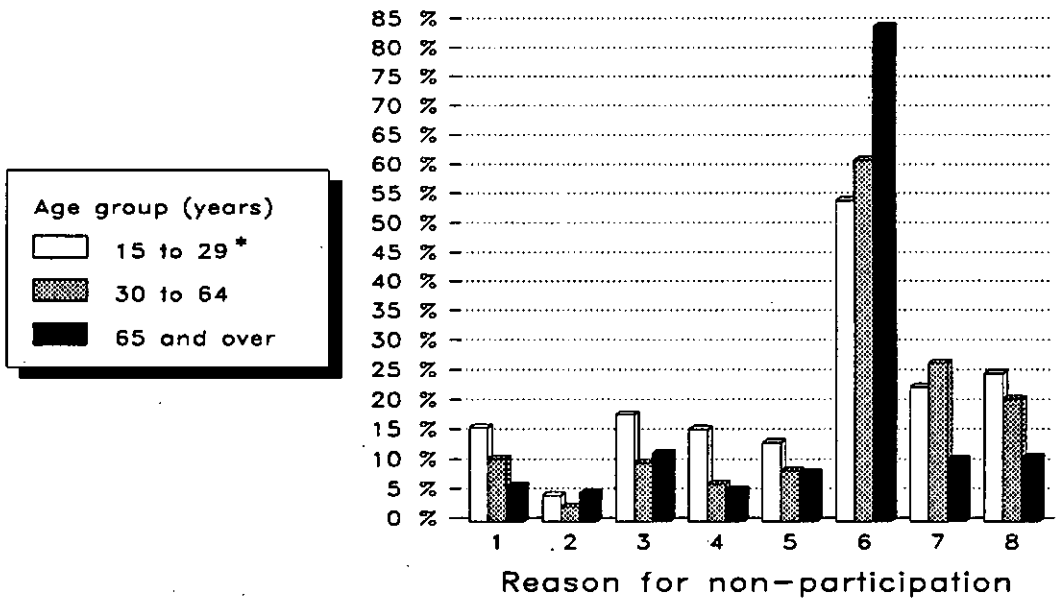


Note: Percentages represent the % of those who want to participate in more physical activity.

Given this background information, further analysis of the "reasons" for not participating more may provide a better understanding of which age group is affected the most within each category. As shown in Figure 18, the 15 to 29 year age group reported the following categories more often than the other age groups: self-conscious, lack of nearby facilities, facilities not suitable and inadequate transportation. Among those who reported "lack of family support", the oldest age group has a slightly higher representation.

The greatest difference between age groups is found in the category "physically unable", where all age groups exceeded 50% but 84.2% of the oldest age group reported this. The "high cost" category is dominated by the 30 to 64 age group, but it only surpasses the youngest group by 4%, a negligible difference.

Figure 18. Visually Impaired Population Aged 15 and Over Residing in Households Showing Reason for Not Participating in Physical Activities[1] by Age Group, Canada



Reason for Non-participation Categories			
1	Self-Conscious	5	Inadequate transportation
2	Lack of Family Support	6	Physically unable
3	Lack of Nearby Facilities	7	Cost too high
4	Facilities Not Suitable	8	Other

1 Percentages represent the % of those who want to participate in more physical activity.

** Data for the 15 to 29 year age group in category 2 should be used with caution, due to high sampling variability.*

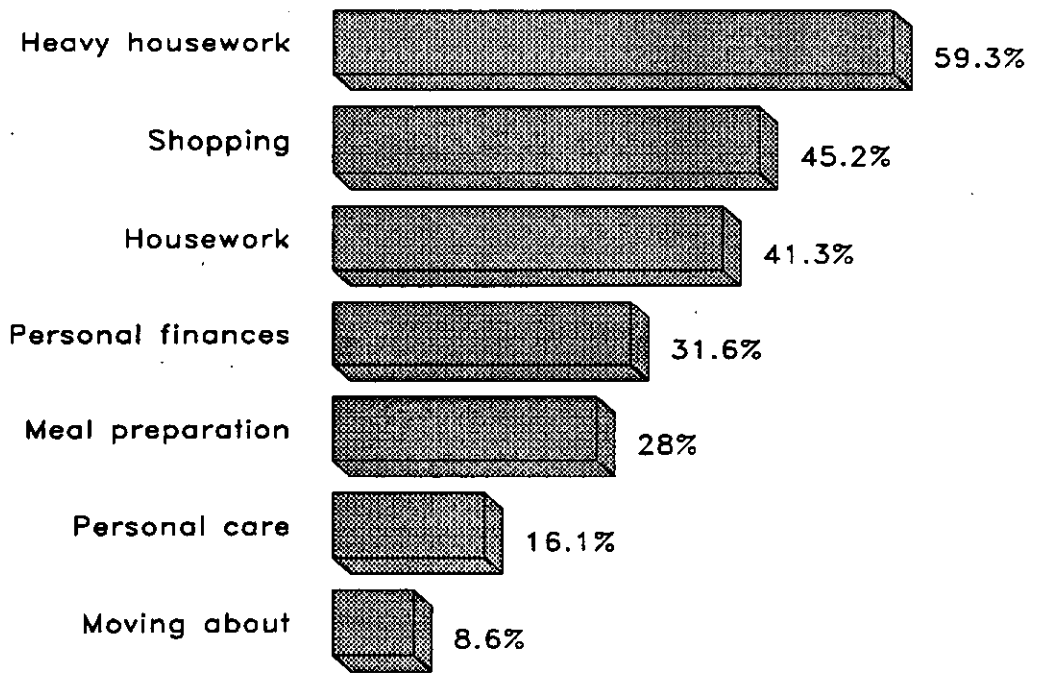
General Activities

An analysis follows of the help needed by the VIP in order to carry out general activites such as shopping, housework, etc. This reveals the degree to which the visually impaired are dependent on others for assistance with these activities, as well as indicating the type of assistance required.

Figure 19 identifies the percentage of the VIP that requires assistance with each type of activity. The activity for which the highest proportion of the VIP required assistance is heavy housework (59.3%), followed by shopping (45.2%) and then everyday housework (41.3%). Roughly 30% of the VIP required assistance with meal preparation and personal finances.

The activity category that required the least amount of assistance is "moving about"; it seems the majority of the VIP are relatively confident in moving about their own living area.

Figure 19. Visually Impaired Population Aged 15 and Over Residing in Households by Assistance Required with General Activities, Canada



Further analysis shows that there are gender differences in dependency among the VIP. Reviewing Figure 20, it is immediately apparent that for most of the activities listed, a greater percentage of females require assistance. The figures provided for meal preparation do not support the commonly held belief that men require more assistance in domestic tasks than women; 29.7% of females and only 25.1% of males were dependent upon someone else for meal preparation. The trend is repeated for shopping, housework, heavy housework, personal finances and moving about. The only category with a higher percentage of males is personal care.

Also worth noting is the fact that the broad percentage difference between females and males decreases with the categories that require more personal disclosure. One possible explanation for the large percentage difference between females and males in the domestic categories (meal preparation, shopping, housework, heavy housework) may be due to the fact that the male population is still living with a spouse, who is typically responsible for domestic tasks, therefore, visual impairment may not affect the specified activities. Likewise, this may also explain the higher percentage of females requiring assistance with these tasks since they, typically, had the primary responsibility for domestic tasks before their vision loss.

Figure 20. Visually Impaired Population Aged 15 and Over Residing in Households Showing Assistance Required with General Activities by Sex, Canada

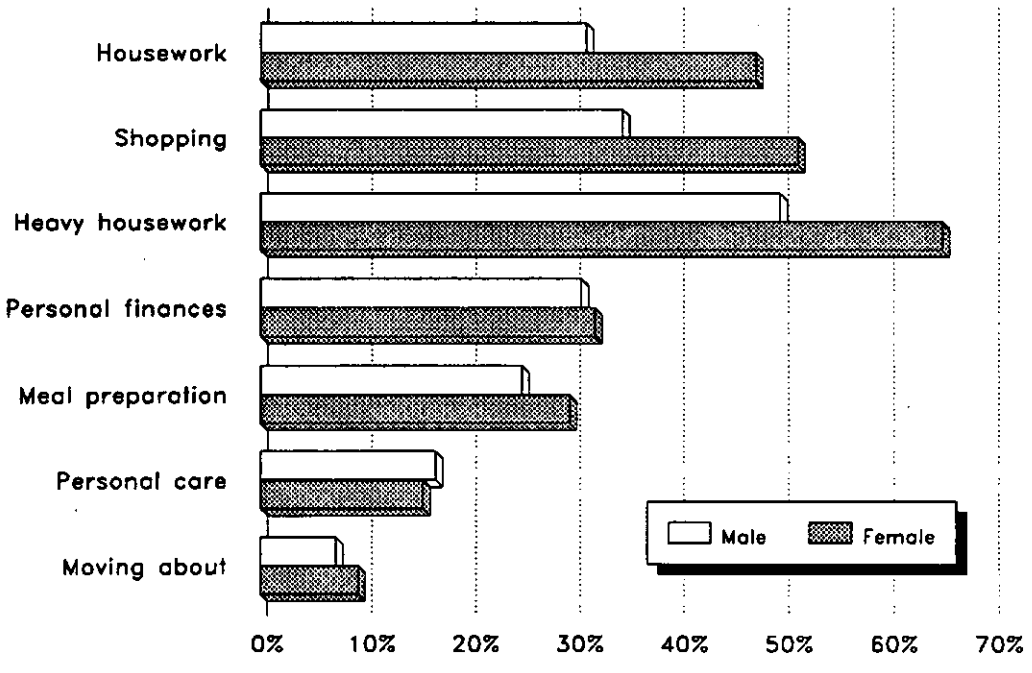


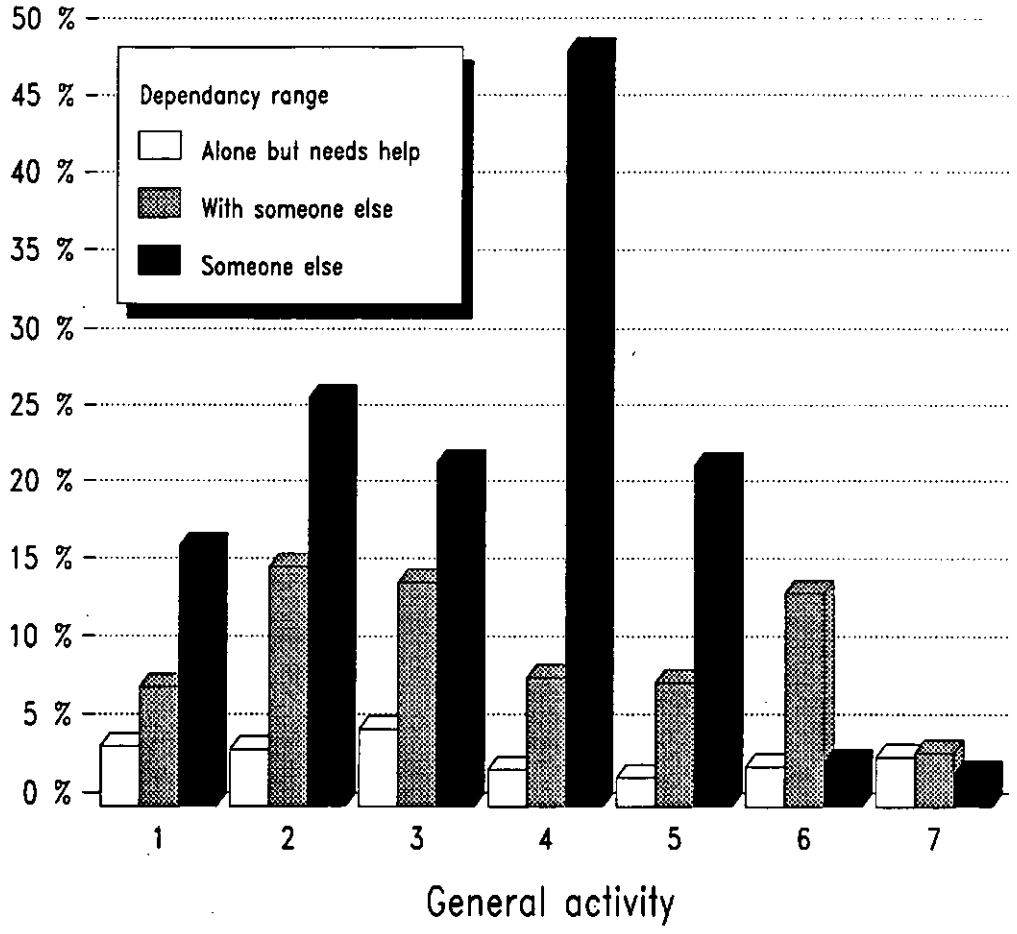
Figure 21 specifies the range of dependency for each activity. Dependency is ranked as follows: "alone but needs help" means that the respondent currently does need assistance but is performing the task alone; "with someone else" refers to a requirement for some supervision or minimal assistance (that is, the activity is completed by the respondent and someone else); and "someone else", the highest level of dependence indicates that the visually impaired person absolutely requires someone else's assistance to complete a task.

For all activities, (with the sole exception of heavy housework), the majority of VIP require no help whatsoever. However, for certain activities, a significant proportion require some degree of assistance. The activity that shows the greatest degree of dependency is heavy housework where 48.9% need someone else to do this task for them. This is followed by shopping, housework, and looking after personal finances where 25.3%, 22.1% and 21.9%, respectively, require someone else to do this activity for them. A striking observation is the fact that for most activities, the higher proportion of those requiring help required someone else to do the task for them completely. The data would suggest that although most visually impaired individuals are quite independent, those that are dependent require a very high level of assistance. In essence, dependency seems to be an "all or nothing" variable when applied to the visually impaired.

The HALS analysis of dependency in general activities is similar to the findings of the 1985 United Senior Citizens of Ontario (Cusco, 1985) research. The activities that required the greatest amount of assistance were meal preparation, housework and shopping in both the HALS and USCO data. The USCO research only analyzed this information by age group and did not identify health limitation reasons for required assistance.

Additional analysis of these activities by age and limiting conditions would provide a more comprehensive understanding of how vision loss affects dependency.

Figure 21. Visually Impaired Population Aged 15 and Over Residing in Households by Level of Dependency for each General Activity, Canada



General Activity Categories

1	Meal preparation	4	Heavy household chores
2	Shopping	5	Personal finances
3	Household chores	6	Personal care
		7	Moving about

5. Summary

Centuries of isolated and segregated treatment of persons with disabilities have resulted in many negative stereotypic images of these persons. The impact of the negative attitudes has had a tremendous effect on the blind and visually impaired population. The analysis of the HALS data presented some outstanding differences in a variety of socio-economic variables such as marital status, family structure, education, income, and employment. Some of the differences in marital status and family structure are no doubt influenced by an older, female population. However, the subordinate status of the blind and visually impaired was very evident in the analysis of education, income, and employment. A comparison of the education levels of the VIP and the NDP revealed that the NDP had a normal distribution in each level of education, unlike the VIP - the VIP were disproportionately over-represented in the lower levels of education.

The same pattern existed in the distribution of income. A greater proportion of the VIP appeared in the lower income categories compared to the NDP.

The examination of income by level of education revealed the same trend, that is, a large proportion of the VIP was consistently in the lower levels of education and income. The analysis of income within each education category revealed the fact that equal levels of education still yielded lower incomes for the VIP. In fact, as education increased, particularly in the university category, the variance between the VIP and the NDP income range increased, especially in the upper income categories. This may suggest that the VIP is underemployed. The employment data of the VIP indicated that only one-quarter were employed, compared to the NDP, where almost three-quarters were employed. Additional research in areas of occupational classification and under-employment would help fill in the gaps to better understand the complexities in employment of the visually impaired.

The examination of the VIP's participation in a variety of leisure and general activities indicated that the VIP is active and independent. Further analysis revealed that with increased age comes greater levels of participation in leisure and physical activities.

In general, levels of dependency also increased with age. Even though the majority of the VIP were independent for most activities, it was evident that if assistance was required with general activities, the degree of assistance or dependency was high and most prevalent in the older female age group.

For the majority of the VIP, vision loss occurs later in life, hence the transition from being sighted to visually impaired can be difficult. The period of adjustment may be further complicated by other impairments associated with aging. In the HALS analysis of prevalence, it was noted that visual impairment affects 9% of the Canadian population aged 65 and over, or one person in eleven. Considering the statistics on visual impairment and incidence of other disabilities, one can appreciate why adjustment can be so difficult. Vision impairment can also act as a contributing factor to other social and health risks. Social isolation may be intensified for an older visually impaired person if they do not have the mobility training and/or confidence to venture beyond the security of their home (Biegel et al, 1989, Tuttle 1984). Other associated health risks include: loneliness, depression, and vulnerability to additional limitations resulting from falls.

Biegel et al noted that approximately "85% of all injuries sustained by persons aged 65 and over are caused by falls, 25% of which have been attributed to vision problems."

This clearly suggests that vision impairment among older persons is a multifaceted issue with a variety of intervening variables (other disabilities and associated costs) that affect an individual's interest in activities and level of participation.

Appendix A

Sample Design

Sample Design

Sample Design Considerations

The Health and Activity Limitation Survey consists of two distinct samples: **households** and **institutions**. A **household** is a person or group of persons (other than foreign residents) who occupy a dwelling and do not have a usual place of residence elsewhere in Canada. It usually consists of a family group with or without lodgers, employees, etc. However, it may consist of two or more families sharing a dwelling, a group of unrelated persons, or one person living alone. Some types of collective dwellings, such as hotels, motels, YM/YWCAs and school residences, were included in the household sample if the occupants had no other usual place of residence. Household members who are temporarily absent (e.g., temporary residents elsewhere) are considered as part of their usual household. As in the census, every person is a member of one and only one household.

The individuals residing in households who participated in HALS were identified through their response to the disability question on the 1986 Census long questionnaire which was completed by 20% of Canadian households. This disability question was general in nature and asked the respondents to indicate if they were limited in the kind or amount of activity they could undertake because of a health problem or condition. This question had been used in a previous disability survey, and the results indicated that it would identify the severely disabled population, and some of the less severely disabled population. Some of the less severely disabled would answer "No" to the census disability question.

Approximately 112,000 individuals who answered "Yes" to this disability question were subsequently selected to represent disabled persons of all ages. The questions posed included questions on trouble with or inability to perform daily activities to determine, with more specificity, if they had any long-term limitations because of their health problem or condition. These questions on daily activities (referred to later in this text as screening questions) also identified the nature and severity of the individual's disability. Approximately 22,040 of the 112,000 individuals who had responded that they had a limitation in their activities on the census stated that they had no trouble in performing any of the daily activities in the subsequent follow-up. As this indicated that these individuals had no long-term limitation (disability), they were excluded from the disabled population estimates. Of the 112,000 individuals, approximately 11,735 were non-respondents.

Because of the possibility that some less severely disabled persons might have answered "No" to the census disability question, an additional 72,500 individuals who answered "No" to the census disability question were also selected. Through a telephone interview, these individuals were asked the same detailed screening questions. Approximately 3,910 individuals responded positively to the detailed screening questions, and these individuals were included as disabled in the survey. It should be noted, as expected, that subsequent analysis of these 3,910 individuals indicated that they are younger and less severely disabled, and that they experience fewer barriers as a result of their disability than the sample who responded"Yes" to the census disability question. Of the 72,500 individuals, approximately 5,270 were non-respondents.

A more complete description of the sample design and the differences between the two household samples is available from the Post-Censal Surveys Program, or through the Statistics Canada Regional Offices.

A sample of approximately 20,000 individuals who resided in health-related **institutions** was also selected to ensure that all disabled persons were represented in the sample.

The five types of institutions included in HALS were:

- orphanages and children's homes;
- special care homes and institutions for the elderly and chronically ill;
- general hospitals;
- psychiatric institutions; and
- treatment centres and institutions for the physically handicapped.

The 1986 Census of Population provided a list of institutions from which a sample, based on type and size, was selected within each province.

Within each selected institution, a sample of residents was selected, based on a list provided by the institution. Residents were included in the list if they were living in the institution on March 1, 1987 and had been in an institution for a continuous period of six months or more.

The data presented in this publication have been weighted to estimate the total disabled population. The data shown in the table below provide the user with the distribution of the disabled population by sample type.

Number of Disabled Persons by Sample Type

	Number	%
1. Households sample		
• "Yes" to census disability question	1,835,980	55.3
• "No" to census disability question	1,233,620	37.2
2. Institutions sample	247,275	7.5
3. TOTAL	3,316,875	100.0

Data Quality

Statistics from the HALS data base are estimates based on a sample survey of a portion of the Canadian population (approximately 1 out of every 25 persons in the "Yes" sample and 1 out of every 300 persons in the "No" sample). As a result, the statistics are subject to two types of errors: sampling and non-sampling errors.

A sampling error is the difference between the estimate derived from a sample and the result that would have been obtained from a population census using the same data collection procedures. For a sample survey such as HALS, this error can be estimated from the survey data. The degree of error reflects the standard deviation of the estimate. Data have been suppressed when the sampling error is more than 25% of the estimate. In such cases, the symbol "--" appears in the tables in place of the estimate. When the sampling error is between 16.5% and 25% the corresponding estimate is accompanied by the symbol "*". These estimates should be used with caution.

All other types of errors (observation, response, processing and non-response errors) are called non-sampling errors. Identifying and evaluating the importance of many of these errors can be difficult.

Observation errors arise when there is a difference between the target population and the sample population. Integrating HALS with the census of population has made it possible to reduce this type of error. Only a certain portion of Indian reserves and collective dwellings were systematically ignored in the sampling process, but their importance is negligible compared to the total population. Consequently, observation errors should not have a significant influence on the HALS data.

All statistical surveys are susceptible to a certain percentage of non-response among the selected sample. A total non-response occurs when, for one reason or another, a selected respondent could not be interviewed. The non-response is said to be partial if only part of the questionnaire is complete. The impact of non-response errors on estimates depends on the level of non-response and, particularly, on any differences between the characteristics of respondents and non-respondents. In principle, the more marked these differences, the greater the impact on the accuracy of the estimates.

With respect to HALS, the response rate (90%) compares favourably with the rate generally observed for this type of survey. In addition, various methods have been used to reduce the bias caused by any total non-responses, notably by adjusting the data to reflect the distribution of certain demographic characteristics obtained by the census. As well, response rates were higher for most specific questions. In the tables, non-responses appear as "Unknown" or "Not Stated".

Appendix B

Definitions

Definitions

Disability

> *"In the context of health experience, a disability is any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being"* [1]

With the development of the International Classification of Impairments, Disabilities and Handicaps, the World Health Organization has developed a framework within which one can measure the consequence of disease. The "disability" concept was operationalized through a series of questions that has come to be known as "Activities of Daily Living".[2]

For the purpose of the national data base on disability, the functional limitation approach has been utilized for the adult population (aged 15 and older) through the use of a modified version of the "Activities of Daily Living" questions. Individuals are not considered disabled if they use a technical aid and that aid completely eliminates the limitation, e.g. - an individual who uses a hearing aid and states that he has no limitation when using the aid would not be included in the data base. The concept of time has also been added as an additional parameter - the limitation has to be of a minimum six months duration, i.e. has lasted or is expected to last six months or more.

For children under the age of 15, the two surveys (**CHDS** and **HALS**) used a general limitation approach along with a list of chronic conditions and a list of technical aids. A positive response in any one of these categories indicates a disability.

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1 ***International Classification of Impairments, Disabilities and Handicaps***, World Health Organization, 1980 - page 143.

2 Special Study No. 5, ***Measuring Disability***, O.E.C.D., 1982.

Nature of Disability

Mobility: limited in ability to walk, move from room to room, carry an object for 10 metres, or stand for long periods.

Agility: limited in ability to bend, dress or undress oneself, get in and out of bed, cut toenails, use fingers to grasp or handle objects, reach, or cut own food.

Seeing: limited in ability to read ordinary newsprint or to see someone from 4 metres, even when wearing glasses.

Hearing: limited in ability to hear what is being said in conversation with one other person or two more persons, even when wearing a hearing aid.

Speaking: limited in ability to speak and be understood.

Other: limited because of learning disability or emotional or psychiatric disability, or because of developmental delay.

Unknown: limited by nature not specified.

Severity of Disability

A severity scale for adults has been developed using the responses to the screening questions plus two additional questions on the use of aids for seeing and hearing disabilities. (For a more complete description of the scale, contact the Post-Censal Surveys Program.) The scoring was first derived by adding together the individual severity scores of all screening questions, counting one point for each partial loss of function and two points for each total loss of function (i.e. completely unable to perform the function). The total score is then categorized as follows:

mild	-	less than 5 points
moderate	-	5 - 10 points
severe	-	11 or more points

Labour Force Activity

Refers to the labour market activity of the working age population who, in the week prior to enumeration were **employed** or **unemployed**. The remainder of the working age population is classified as **not in labour force**. Data are available for persons 15 to 64 years of age, excluding institutional residents.

Employed

Refers to persons who, during the week prior to enumeration:

(a) did any work at all excluding housework or other maintenance or repairs around the home and volunteer work; or

(b) were absent from their job or business because of own temporary illness or disability, vacation, labour dispute at their place of work, or were absent for other reasons.

Data are available for persons 15 to 64 years of age, excluding institutional residents.

Unemployed

Refers to persons who, during the week prior to enumeration:

(a) were without work, had actively looked for work in the past four weeks and were available for work; or

(b) had been on lay-off and expected to return to their job; or

(c) had definite arrangements to start a new job in four weeks or less.

Data are available for persons 15 to 64 years of age, excluding institutional residents.

Not in Labour Force

The Not in Labour Force classification refers to those persons who, in the week prior to enumeration, were unwilling or unable to offer or supply their labour services under conditions existing in the labour market. It includes persons who looked for work during the last four weeks but who were not available to start work in the reference week, as well as persons who did not work, did not have a new job to start in four weeks or less, were not on temporary lay-off or did not look for work in the four weeks prior to enumeration. Data are available for persons 15 to 64 years of age, excluding institutional residents.

Unemployment Rate

The unemployment rate represents the number of unemployed persons expressed as a percentage of the labour force. The unemployment rate for a particular group (age, sex marital status, etc.) is the number unemployed in that group expressed as a percentage of the labour force for that group.

Participation Rate

The participation rate represents the labour force expressed as a percentage of the population 15 to 64 years of age. The participation rate for a particular group (age, sex, marital status, etc.) is the labour force in that group expressed as a percentage of the population for that group.

Appendix C

Products and Publications From HALS

Products and Publications from HALS

Available now.....

Custom Data Service

The **HALS** Custom Data Service enables users to identify their specific requirements for data about persons with disabilities. With the help of a **HALS** technical advisor, these requirements are transformed into tables and/or analytical reports. The cost to produce the tables and the time required for the production is negotiated with the user.

HALS can provide information for selected cities, large municipalities, and groupings of smaller municipalities. The **HALS** Custom Data Service can regroup geographic areas to ensure that the specific needs of the client are satisfied..

Publications

HALS **Fact Sheets** are a series of one page summaries of pertinent information from the Health and Activity Limitation Survey. Topics available now include data on Transportation, Accommodation, Recreation, Employment and Education, both at the Canada and province levels. Fact Sheets with a focus on seniors and persons with disabilities in institutions at the Canada level are also available. The Fact Sheets are available free of charge.

*

A **User's Guide** has been produced to provide background information about the survey, a summary of the survey methodology, copies of all questionnaires, a list of available Census variables, and instructions for ordering tabulations through HALS Custom Data Service. There is no charge for this publication.

*

Disability and the Labour Market - An Analysis of Disabled Persons not in the Labour Force, by Gary L. Cohen, ($15.00) outlines the main factors associated with the high level of non-participation among persons with disabilities who face work limitations. The report focuses on comparisons between persons with disabilities who were active in the labour market and those who were not in the labour market.

*

A Profile of Three Disabled Populations, by Gary L. Cohen, ($15.00) divides the disabled population into three groups: those whose condition or health problem does not limit their ability to work, those who are limited but able to work and those who are completely unable to work. The report provides profiles of these three populations and outlines their similarities and their differences.

Highlights: Disabled Persons in Canada is a presentation of HALS data at the Canada, province and territorial level for various age groups. This includes selected demographic data for persons residing in households as well as information on the nature and severity of disability, lifestyle, out-of-pocket expenses, income and the barriers faced by persons with disabilities in the conduct of their everyday activities. Catalogue # 82-602, $25.00 ($30.00 outside Canada).

*

Subprovincial/subterritorial profiles feature HALS data similar to those presented in Catalogue No. 82-602 above, at a more detailed geographic level.

Each profile includes data for selected census metropolitan areas (where applicable) as well as data for selected municipalities or groupings of municipalities. The series consists of:

Subprovincial Data for...

	Cat.#
Newfoundland	82-603
Prince Edward Island	82-604
Nova Scotia	82-605
New Brunswick	82-606
Quebec	82-607
Ontario	82-608
Manitoba	82-609
Saskatchewan	82-610
Alberta	82-611
British Columbia	82-612

Subterritorial Data for...

Yukon	82-613
Northwest Territories	82-614

Each publication costs $26.00 ($31.00 outside Canada) except for Quebec and Ontario which each cost $30.00 ($36.00 outside Canada). The entire series of publications are available at the reduced price of $256.00.

Microdata Files

The first microdata file contains approximately 132,000 non-identifiable records of **adults aged 15 and over**, (71,900 adults with disabilities and 60,000 non-disabled adults), **residing in households**. Tabulations on this file are possible at the Canada, province and territory level, as well as for 8 census metropolitan areas (CMA): St. John's, Halifax, Montreal, Toronto, Winnipeg, Edmonton, Calgary and Vancouver. If the record is not part of a CMA, its geographic designation (viz urban or rural) is indicated.

The cost of this microdata file, including full documentation, is $3000. This documentation includes a record layout and a full description of the 553 variables. Standard statistical packages such as SPSS and SAS can be used to produce tabulations from this file.

*

The second microdata file contains approximately 17,400 non-identifiable records of **disabled adults aged 15 and over residing in health-related institutions**. Tabulations on this file are possible at the Canada level (excluding Yukon and the Northwest Territories) and province level, and by type of institution consisting of two groupings: special care homes and institutions for the elderly and chronically ill, and all other institutions. The cost of this microdata file, including full documentation, is $1,500.

*

The third microdata file contains approximately 35,160 non-identifiable records of **disabled and non-disabled children aged 14 years and under residing in households**. Tabulations on this file are possible for Canada and the regions: East, Quebec, Ontario and West (including Yukon and the Northwest Territories). The cost of this microdata file, including full documentation, is $1,000.

To be released in 1990.....

Publications

Special Topic Reports - a series of nine reports. Each report examines a particular subgroup within the population with disabilities, or deals with a major aspect of life for the entire population with disabilities. In addition to this report, the series consists of:

The Use of Assistive Devices by Persons with Disabilities

This report will focus on assistive devices used and needed by persons with disabilities aged 15 and older residing in households. A broad range of information will be provided including information on the specific assistive device used by type and severity of the disability. The information is presented for Canada, the provinces and territories.

Employment and Income Characteristics of Persons with a Disability

This report will provide information on the association of employment and income and disability. Using data from HALS and the 1986 Census of Population, the report will examine the differences in labour market activity between the non-disabled population and the population with disabilities for persons aged 15 to 64.

The report will focus on those Canadians with disabilities who are able to work as well as those who are unable to work. It will present results for the individuals with disabilities who returned to school after the onset of their disability as well as those who did not do so.

Selected Socio-Economic Consequences of Disability for Women in Canada

This report focuses on the education, labour force characteristics and income of women with disabilities. This population is compared to males with disabilities as well as to the non-disabled male and female populations. Catalogue #82-615, Volume 2, available September 12, 1990, $ 35 ($ 42 US in U.S.A., $49 US other countries).

Disabled Children in Canada

This report presents an analysis of the characteristics of disabled children by age group, gender and the type and severity of disability. It also examines how disabilities have affected various aspects of life such as education, leisure activities and ability to travel.

Barriers Confronting Seniors with Disabilities in Canada

This report presents an analysis of the characteristics of seniors with disabilities residing both in households and institutions. For the first time in Canada, this report provides an in-depth analysis of the extent of barriers to independent living and the accomplishments in providing support to seniors with disabilities.

This report documents those barriers confronting seniors with disabilities with respect to income, education, transportation, leisure activities and recreation, as well as housing accessibility, and the availability of special aids and devices, special services and supports. Catalogue #82-615, Volume 1, available August 13, 1990, $ 35 ($ 42 US in U.S.A., $ 49 US other countries).

Profile of Disabled Persons Residing in Health Care Institutions

This report will profile adults with disabilities who reside in health care institutions. The severity, nature and underlying cause of the disability are examined for these persons and a comparison is made with the disabled residing in households. Some areas of analysis will include out-of-pocket expenses, mobility and sources of help for selected activities. As well, a section on children with disabilities in institutions includes analysis by gender, age group and geographic region.

Leisure and Lifestyles of Persons with Disabilities in Canada

This report will analyze the recreation and lifestyles of persons with disabilities residing in households. It will highlight details of the frequency of participation in activities such as visiting friends, talking on the telephone, shopping, etc. as well as obstacles encountered during such participation. The report will also examine support services used and/or needed for everyday activities.

Canadians with Impaired Hearing

This report will analyze HALS data for hearing impaired persons residing in households. It deals with the severity and cause of hearing impairments by age of onset and gender. The use of technical aids and the number and nature of other disabilities is also analyzed. The report will compare the hearing impaired population with the non-disabled population for such variables as marital status, family structure, education, employment and income.

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Appendix D

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