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An attitude survey of optometrists in British Columbia and Alberta

W Scott Poxon
Pacific University

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Abstract

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An Attitude Survey of Optometrists in British Columbia and Alberta

W. Scott Poxon

Advisor: Dr. John R. Roggenkamp

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Approved:

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The author wishes to recognize his advisor, Doctor John R. Roggenkamp for his patience and guidance during a difficult time in my life.

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Purpose

The purpose of this study was to determine the attitudes, practice characteristics and instrumentation of optometrists in British Columbia and Alberta, Canada; to determine if differences exist between the provinces and to determine if differences exist between optometrists on the basis of time in practice.

Introduction

As the profession of Optometry moves into the eighties, many changes are occurring. Optometrists must compete for their share of the vision care market by offering better or exclusive services. Competition is fact of lip.

The goal of this study is to compare differences between provinces and between practitioners. Subsidiary goals include the use of modern technology, practitioner aides and leisure time. The attitudes of optometrists to their commercial colleagues, the opticians, are important. In British Columbia, opticians do not need a certified level of education to fit contact lenses. In Alberta a certificate is required. While fitting of soft contact lenses has become a simple procedure; can they be fit with-

out a knowledge of the biological side effects? Do opticians receive enough training?

The use of the microprocessor silicon chip has brought a technological advance to the world. Soon even subjective refraction will be automated. The utilization of computers for patient records, bills and files has only just begun. As utilization increases, leisure time will increase. This paper investigated the amount of leisure time and compared it to the time in practice. The estimated practice time before retirement was also investigated as well as employee utilization.

One very important fact about health care is its rate of utilization. North America is just beginning to climb out of an economic recession. The high interest rate policy severely affected the province of British Columbia where wood products are the basis of the economy. Alberta was partially insulated from the recession by virtue of its oil industry. This situation was also investigated by this paper.

Procedure

The area selected for the survey was Alberta and British Columbia. These provinces are the most westerly in Canada.

The names and addresses were obtained from the "1982 Blue Book of Optometrists".[1] A survey was mailed to every optometrist listed for Alberta and British Columbia.

Each envelope contained a cover letter, a survey and an addressed stamped return envelope. The return envelope was addressed with a sticker label which reduced the time to address them. To insure speedy delivery, an airmail sticker was also attached. The stamped envelope, the friendly tone of the letter and the invitation to receive a data summary likely increased the number of surveys returned.

The surveys and cover letter were photocopies of typed originals (See Appendix 1 and 2, respectively). The letter introduced the investigator and invited the optometrist to send a self-addressed envelope for a summary of the data.

The surveys were mailed on April 6, 1983 from Calgary, Alberta. One hundred and ninety-five were sent to British Columbia and one hundred and eighty-eight were sent to Alberta. As of May 6, 1983 two hundred and thirty-one had been returned. Of three hundred and eighty-three surveys, only two were returned as undeliverable. Both were from British Columbia. The majority were received within the first three weeks; only six were received the last seven days. The surveys from Alberta tended to arrive faster. One hundred and thirty-five were received from Alberta sources and ninety-four were received from British Columbia. Of the Alberta surveys returned, five were not useable. Of the British Columbian surveys, three were not useable. (See Appendix 3 for a more complete breakdown.)

Upon receipt, the envelopes were separated into provincial categories by postmark. After a sufficient quantity had arrived they were opened and marked. An "A" was used for Alberta and a "B" was used for British Columbia. Any envelopes for data summaries were separated and the stacks were shuffled to help assure anonymity.

After the initial sorting, the surveys were classified further by the response to the first question. The first question dealt with time in practice. Questions two, four six and seven were sorted to compare differences based on the time in practice. For question six, only the number of responses were recorded per age group to check utilization of employee services.

Questions 3, 4, 7, 8, 10, 11, 12, 13 and 15 were scored by recording the number of responses for each choice. Question 9, dealing with population was averaged and a standard deviation found. The data was then sorted into size groups. Questions 5 and 14 were scored by totaling the number of responses to each choice. The number of responses for question 5 could vary between 8 and 0. The number of responses for question 14 could vary between 0 and 15.

The data was then tabulated and displayed into bar graphs. The data was converted into a percentage ratio to facilitate graphing, where appropriate. After the numerical data was tabulated, representative comments for questions 8 and 13 were recorded. (See Appendix 4.)

Results

Table 1

Combined Results from the Survey of Alberta and British Columbia

	Total Number Sent:	383	
	Total Returned:	231	60.3%
Alberta:	Total Sent:	188	
	Total Returned:	135	71.8%
	Number Unuseable:	5	
	Net Number:	130	
British Columbia:	Total Sent	195	
	Total Returned:	94	48.2%
	Number Unuseable:	3	
	Net Number	91	

See Appendix 3 for a more complete breakdown of unuseable surveys.

All tables after this are corrected for unuseable surveys.

Table 2

Number of Surveys Per Time In Practice Group

Alberta:	Years in Practice	%	(N)
	0 - 5	17.7	23
	6 - 10	24.6	32
	11 - 20	20.8	27
	21 - 30	9.2	12
	30	27.7	36

British Columbia:	Years in Practice	%	(N)
	0 - 5	22.3	21
	6 - 10	16.0	15
	11 - 20	19.1	18
	21 - 30	12.8	12
	30	26.6	25

(N) is the number of surveys in the specific category.

Table 3

Answers From Question 2

Broken Down by Age Category

All values are percents, except for (N) which is the total number of responses in that category.

Alberta:

Practice Time In Years	ANSWERS 0-5	6-10	11-15	16-20	21-25	26-30	30	(N)
0 - 5	0	0	8.7	21.7	21.7	21.7	26.0	23
6 - 10	0	0	6.3	28.1	25.0	21.8	18.8	32
11 - 20	0	14.8	29.6	40.7	11.1	3.7	0	27
21 - 30	25.0	25.0	16.7	33.3	0	0	0	12
30	77.8	22.2	0	0	0	0	0	36

British Columbia:

Practice Time In Years	ANSWERS 0-5	6-10	11-15	16-20	21-25	26-30	30	(N)
0 - 5	0	0	4.8	9.5	14.3	33.3	38.0	21
6 - 10	0	6.7	0	20.0	33.3	13.3	26.7	15
11 - 20	5.6	5.6	22.2	11.1	33.3	16.7	5.6	18
21 - 30	8.3	83.3	8.3	0	0	0	0	12
30	68.0	24.0	4.0	0	0	0	4.0	25

Table 4

Percent of Responses Per Choice
For Question Three

All values are percents.

	a	b	c	d	e	f	g	h
Alberta	53.0	0.8	38.4	6.9	0	0	0	0.8
British Columbia	45.0	1.1	48.4	4.4	0	0	0	1.1

Table 5

Answers From Question Four

Broken Down by Age Category

All values are percents except for (N) which is the total number of responses in that category.

Alberta:

Practice Time In Years	ANSWERS					
	a	b	c	d	e	(N)
0 - 5	65.2	17.4	17.4	0	0	23
6 - 10	56.3	43.7	0	0	0	32
11 - 20	55.6	26.0	18.5	0	0	27
21 - 30	75.0	16.7	8.3	0	0	12
30	58.3	30.6	11.1	0	0	36

British Columbia:

Practice Time In Years	ANSWERS					
	a	b	c	d	e	(N)
0 - 5	52.4	38.0	4.8	0	4.8	21
6 - 10	46.7	33.3	20.0	0	6.7	15
11 - 20	44.4	38.9	16.7	0	0	18
21 - 30	66.7	8.3	25.0	0	0	12
30	92.0	0	8.0	0	0	25

Table 6

Number of Responses per Choice to Question 4

All values are percents except for (N) which is the total number of responses in that category.

	ANSWERS					
	a	b	c	d	e	(N)
Alberta	60.0	29.2	10.8	0	0	130
British Columbia	62.6	23.0	12.1	0	2.2	91
TOTALS	61.1	26.7	11.3	0	0.9	221

Table 7

Number of Responses Per Choice to Question 5

All values are numerical.

	ANSWERS						
	a	b	c	d	e	f	g
Alberta	34	7	64	3	65	58	2
British Columbia	29	6	48	1	44	51	3

Table 8

Percent of Age Categories Per Number of Responses for Question 6

All values are percents except for (NO which is the number of surveys per years in practice group.

Alberta:

Years In Practice	Number of Responses										
	(N)	0	1	2	3	4	5	6	7	8	8
0 - 5	23	0	30.4	17.4	26.1	8.7	8.7	4.3	0	0	4.3
6 - 10	32	0	0	21.9	21.9	9.4	12.5	21.9	6.3	3.1	3.1
11 - 20	27	0	25.9	25.9	14.8	11.1	18.5	3.7	7.4	0	14.8
21 - 30	12	0	0	33.3	50.0	0	8.3	8.3	0	8.3	8.3
30	36	5.6	8.3	19.4	25.0	11.1	13.8	5.6	0	2.8	2.8

British Columbia:

Years in Practice	Number of Responses										
	(N)	0	1	2	3	4	5	6	7	8	8
0 - 5	21	0	4.7	28.6	19.6	23.8	14.2	0	9.5	0	0
6 - 10	15	0	6.7	20.0	13.3	13.3	26.6	6.7	0	6.7	6.7
11 - 20	18	0	11.1	16.7	16.7	11.1	5.6	11.1	11.1	11.1	5.6
21 - 30	12	0	16.7	0	41.7	32.3	0	8.3	0	0	0
30	25	12.0	4.0	24.0	16.0	24.0	8.0	4.0	4.0	0	0

Table 9

Answers From Question Seven
Broken Down By Age Category

All values are percents except for (N) which is the number of surveys in that age category.

Alberta:

Time in Practice	ANSWERS								
	a	b	c	d	e	f	g	h	(N)
0 - 5	0	4.3	34.7	39.1	17.4	4.3	0	0	23
6 - 10	0	6.3	31.3	25.0	28.1	3.1	6.3	0	32
11 - 20	0	0	14.8	29.6	29.6	18.5	7.4	0	27
21 - 30	0	25.0	8.3	16.7	25.0	16.7	8.3	0	12
30	0	0	19.4	25.0	11.1	25.0	13.9	5.6	36

British Columbia:

Time in Practice	ANSWERS								
	a	b	c	d	e	f	g	h	(N)
0 - 5	0	14.2	33.3	19.0	14.2	14.2	4.8	0	21
6 - 10	0	6.7	6.7	26.7	33.3	13.3	13.3	0	15
11 - 20	0	5.6	16.7	11.1	11.1	33.3	22.2	0	18
21 - 30	0	8.3	0	16.7	41.7	16.7	16.7	0	12
30	0	4.0	12.0	24.0	20.0	16.0	12.0	4.0	25

Table 10

Number of Responses Per Choice to Question 8

All values are percents except for (N) which is the total number of surveys per province.

Choice	a	b	c	d	e
Alberta	40.0	16.2	36.2	4.6	3.1
British Columbia	31.9	25.3	35.2	5.5	2.2

Table 11

Data From Question Number 9

a) Mean and standard deviation:

Alberta	$\bar{x}$ = 277,793	= 321,663
British Columbia	$\bar{x}$ = 145,316	= 254,095

b) Breakdown of data into groups:

	Alberta %	British Columbia %
0 - 20,000	26.9	16.4
20,001 - 50,000	13.8	20.9
50,001 - 100,000	9.2	31.9
100,001 - 200,000	8.5	8.8
200,001 - 400,000	3.8	6.6
400,000	32.3	9.9
No Response	5.4	5.5

For Alberta the total number of survey used was 130.
For British Columbia the number was 91.

Table 12

Number of Responses Per Choice to Question 10

All values are percents.

	a	b	c	d	e	f	g	h
Alberta	1.5	33.8	15.3	6.9	18.5	0	10.0	13.8
British Columbia	1.1	47.3	12.1	16.5	7.7	0	7.7	8.8

The total number of surveys used from Alberta was 130. The corresponding figure from British Columbia was 91.

Table 13

Number of Responses Per Choice to Question 11

	CHOICES				
% Response	a	b	c	d	e
Alberta	35.4	38.4	16.9	3.8	5.4
British Columbia	25.3	40.7	30.8	1.1	2.2

The total number of surveys used from Alberta was 130. The corresponding figure from British Columbia was 91.

Table 14

Number of Responses Per Choice to Question 12

	CHOICES			
% Response	a	b	c	d (no response)
Alberta	14.6	67.7	10.8	6.9
British Columbia	8.8	71.4	12.1	7.7

The total number of surveys used from Alberta was 130.
The corresponding figure from British Columbia was 91.

Table 15

Number of Responses Per Choice to Question 13

	CHOICES				
% Response	a	b	c	d	e
Alberta	0	3.8	22.3	50.7	23.1
British Columbia	0	2.2	12.1	71.4	14.3

The total number of surveys used from Alberta was 130.
The corresponding figure from British Columbia was 91.

Table 16

Number of Responses Per Choice to Question 14

(More than one response possible.)

Alberta:

	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
No.	91	14	42	58	5	8	12	20	5	9	0	0	42	2	3

British Columbia:

	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
No.	44	11	31	37	5	3	8	5	2	10	0	1	23	0	6

Table 17

Number of Responses Per Choice to Question 15

Alberta:

	a	b	c	d	e	f
Percent	1.5	25.4	3.1	58.5	8.5	3.1

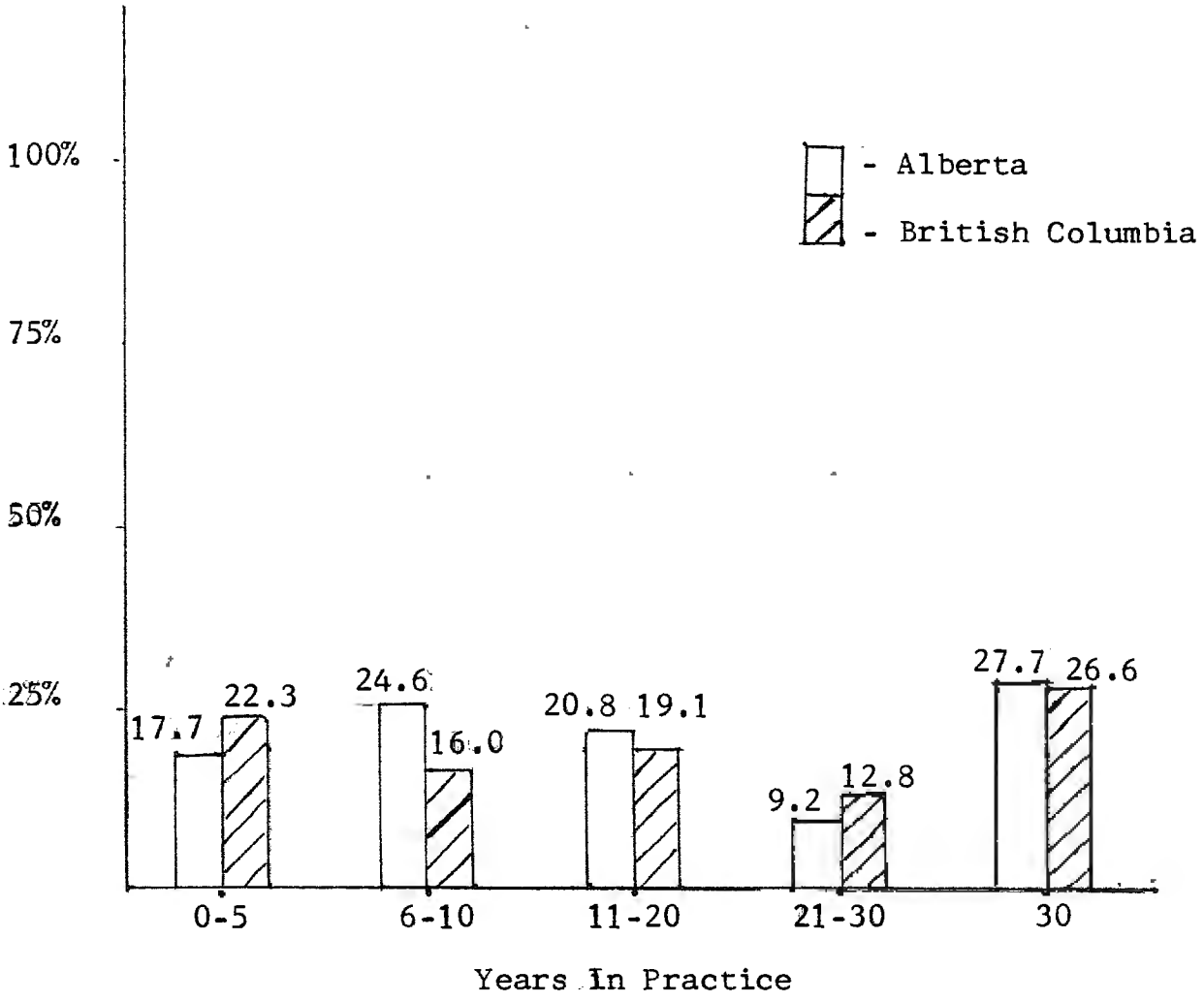
British Columbia:

	a	b	c	d	e	f
Percent	4.4	30.8	11.0	36.3	15.4	2.2

The total number of surveys used from Alberta was 130. The corresponding figure from British Columbia was 91.

Graph 1

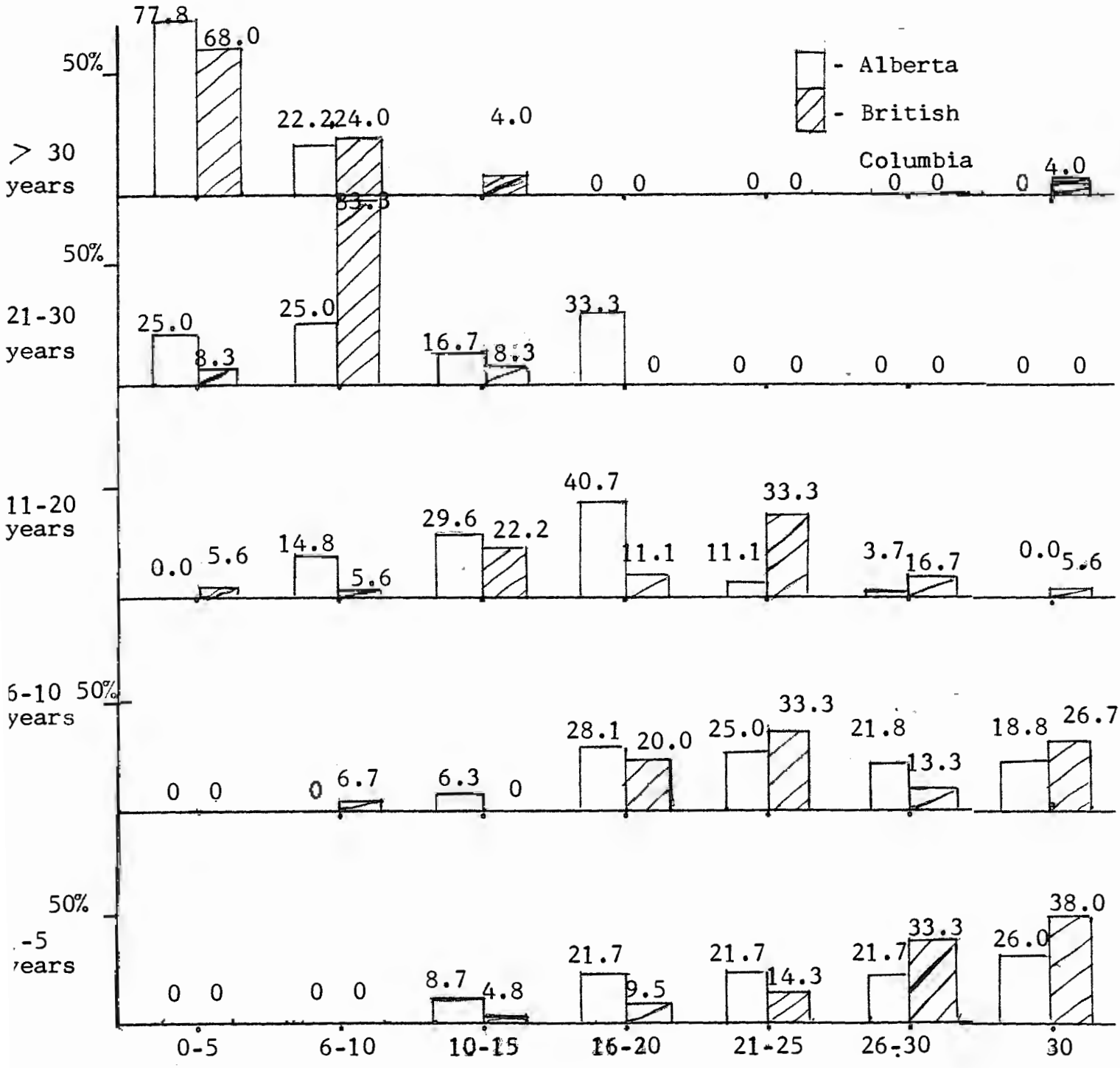
Time In Practice Versus Percent Response



This graph refers to table 2.

Graph 2

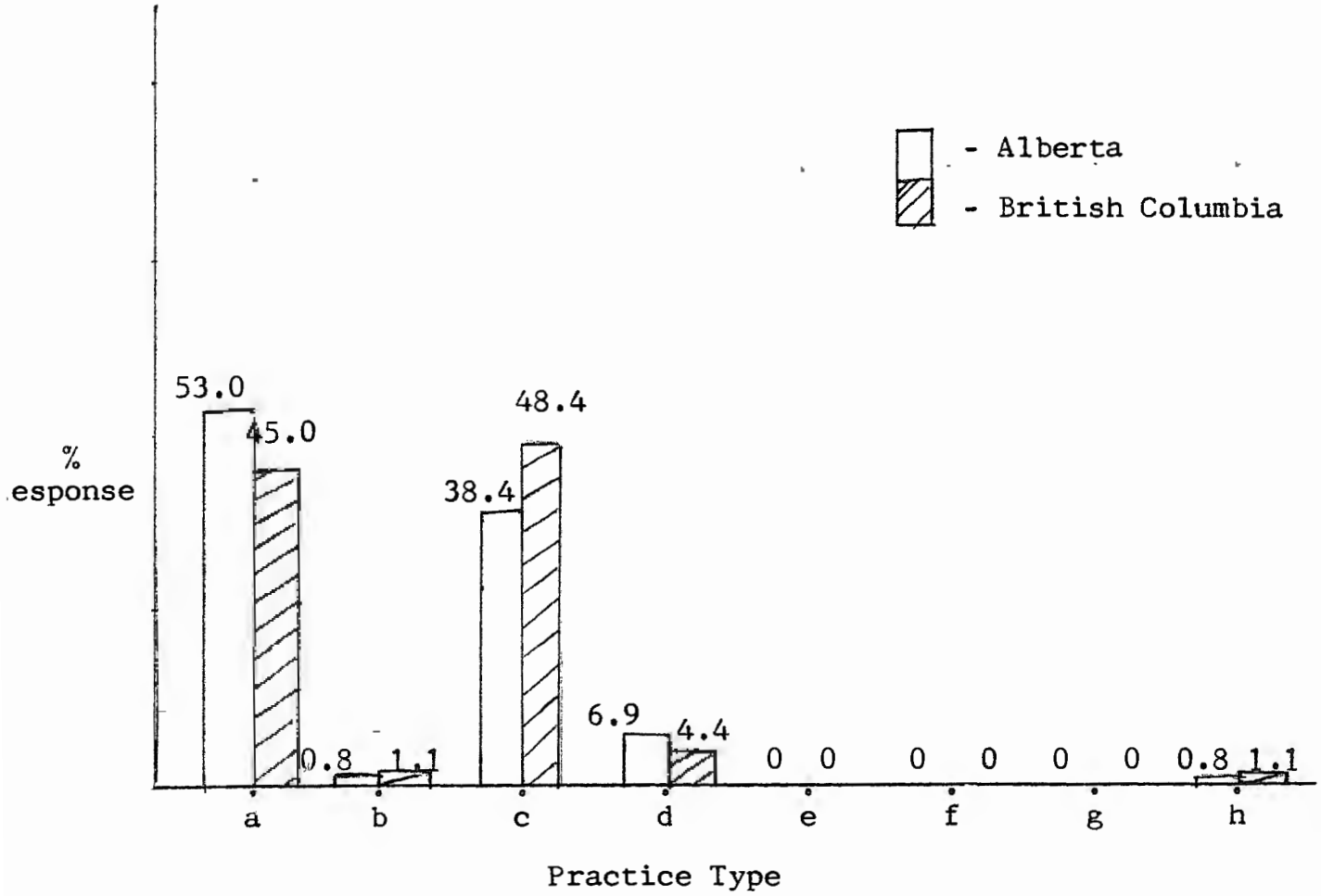
Estimated Time Until Retirement Versus Time In Practice



This graph refers to table 3.

Graph 3

Practice Type Versus Percent Response



Codes

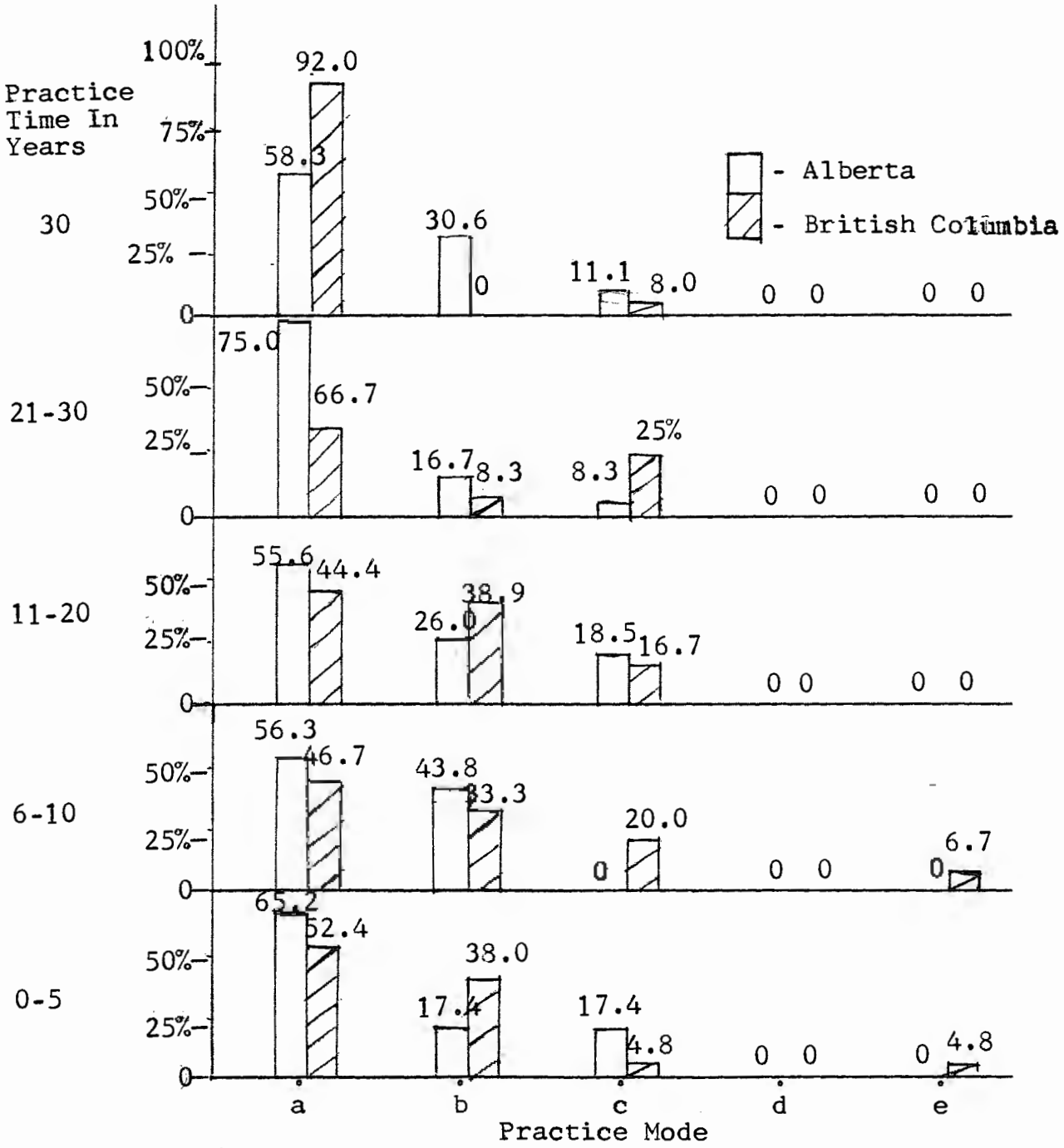
a) general practice with no particular emphasis
b) general practice with an emphasis on low vision
c) general practice with an emphasis on contact lenses
d) general practice with an emphasis on visual training, orthoptics or developmental optometry
e) practice limited to contact lenses
f) practice limited to low vision
g) practice limited to visual training orthoptics or developmental optometry
h) other, please specify _____

This graph refers to table 4.

Graph 4

Practice Mode Versus Percent Response

Per Time In Practice Category

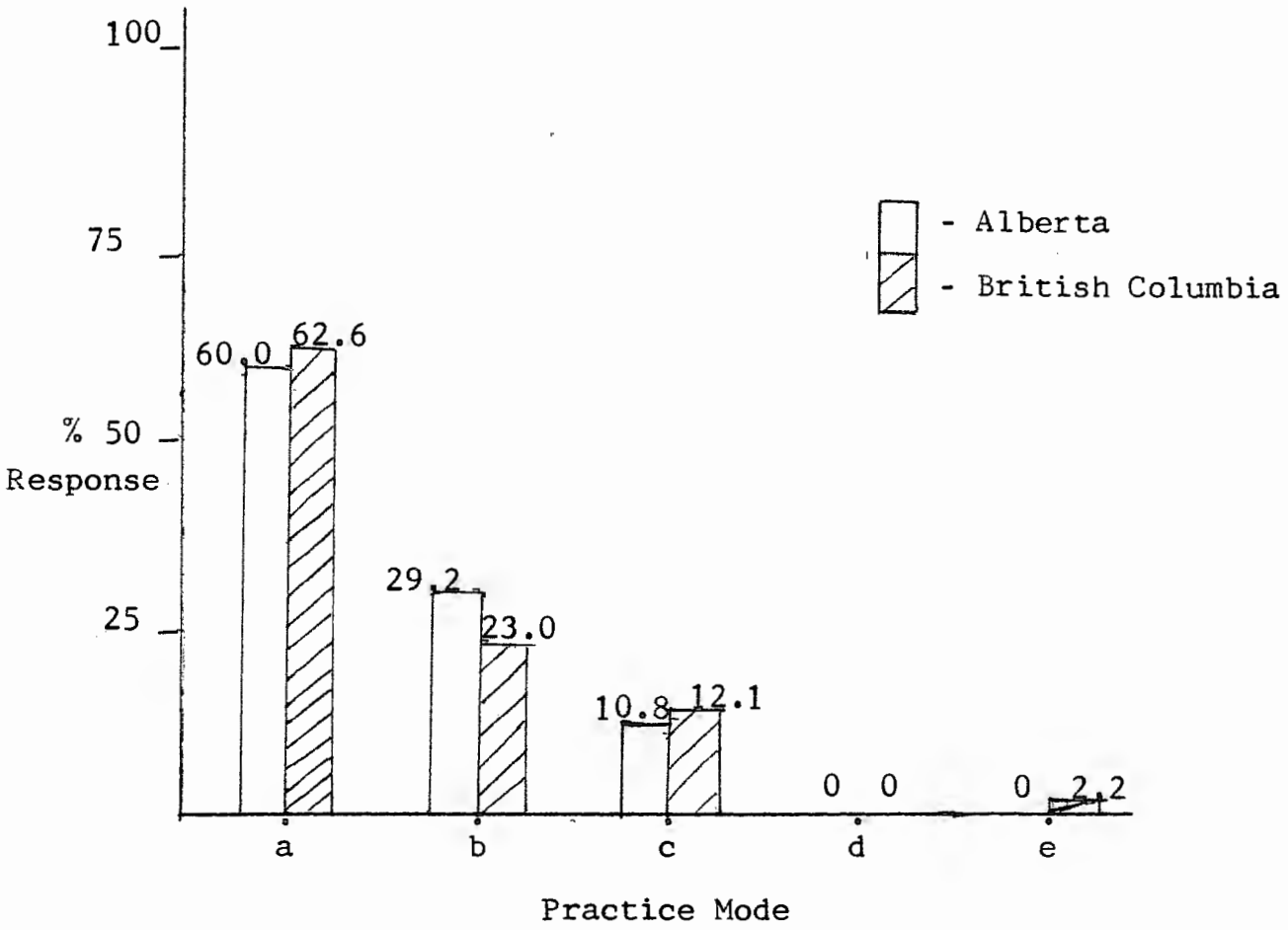


Code
a) solo
b) partnership
c) group practice or professional corporation
d) commercial practice
e) other

This graph refers to table 5.

Graph 5

Practice Mode Versus Percent Response



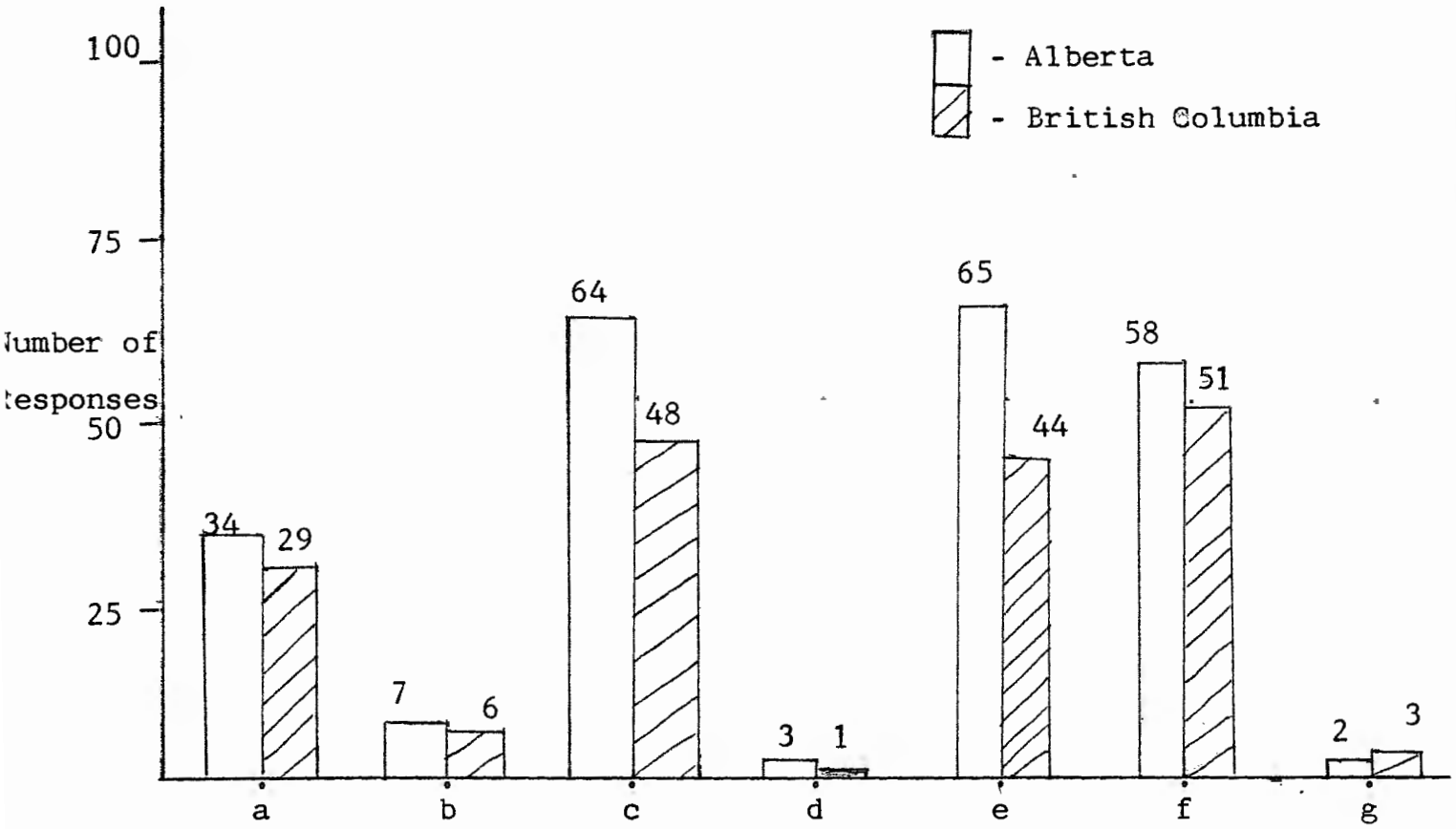
a) solo
b) partnership
c) group practice or professional corporation
d) commercial practice
e) other

This graph refers to table 6.

Graph 6

Number of Responses Versus Employee Class

Question 5



Codes

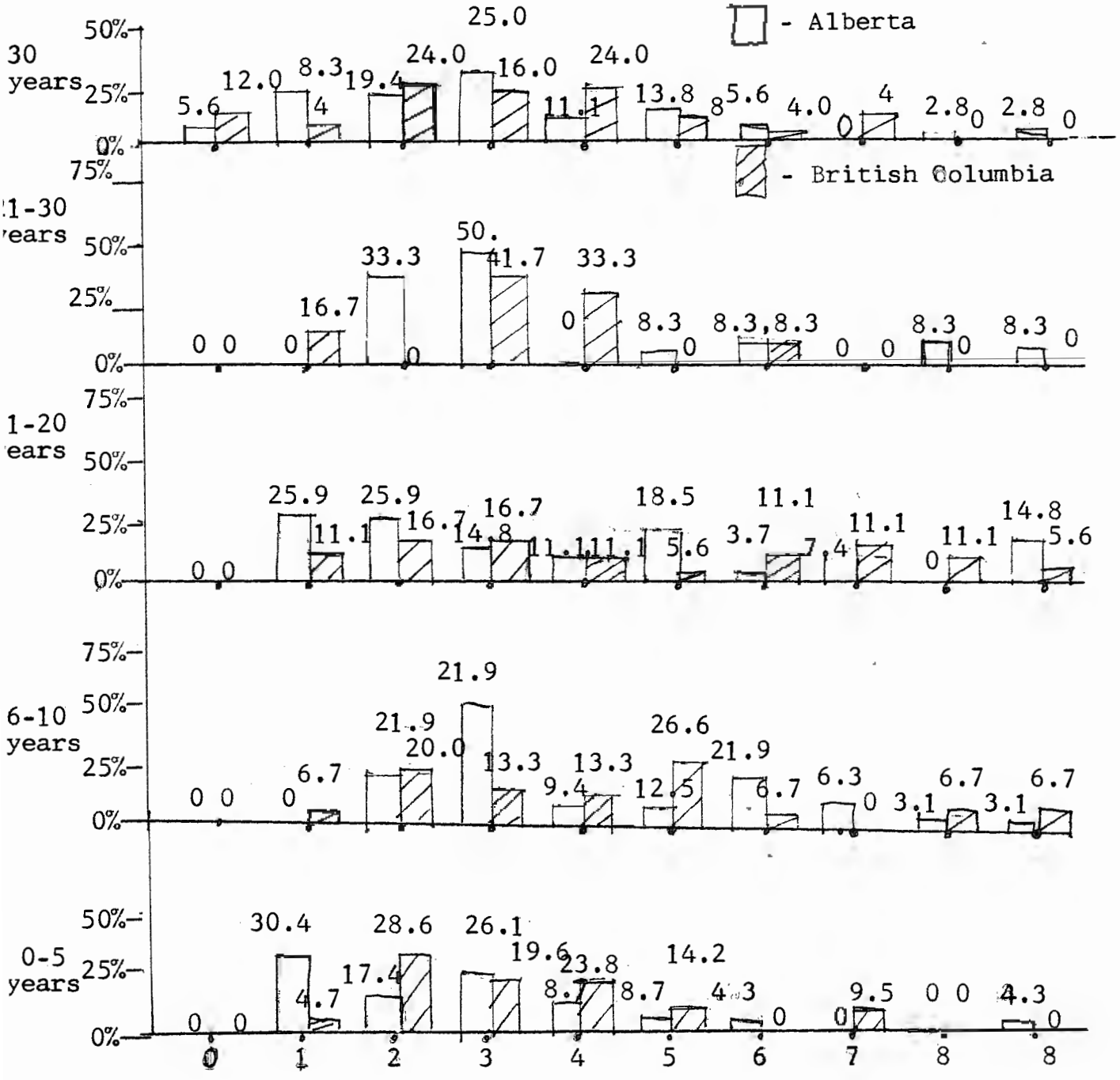
a) licensed optician
b) formally trained paraoptometric aide
c) practitioner trained aide
d) formally trained visual training / orthoptic aide
e) receptionist / bookkeeper
f) aide / receptionist / bookkeeper
g) other

This graph refers to table 7.

Graph 7

Employee Responsibility Category Versus Percent

Response per Time in Practice Catagary

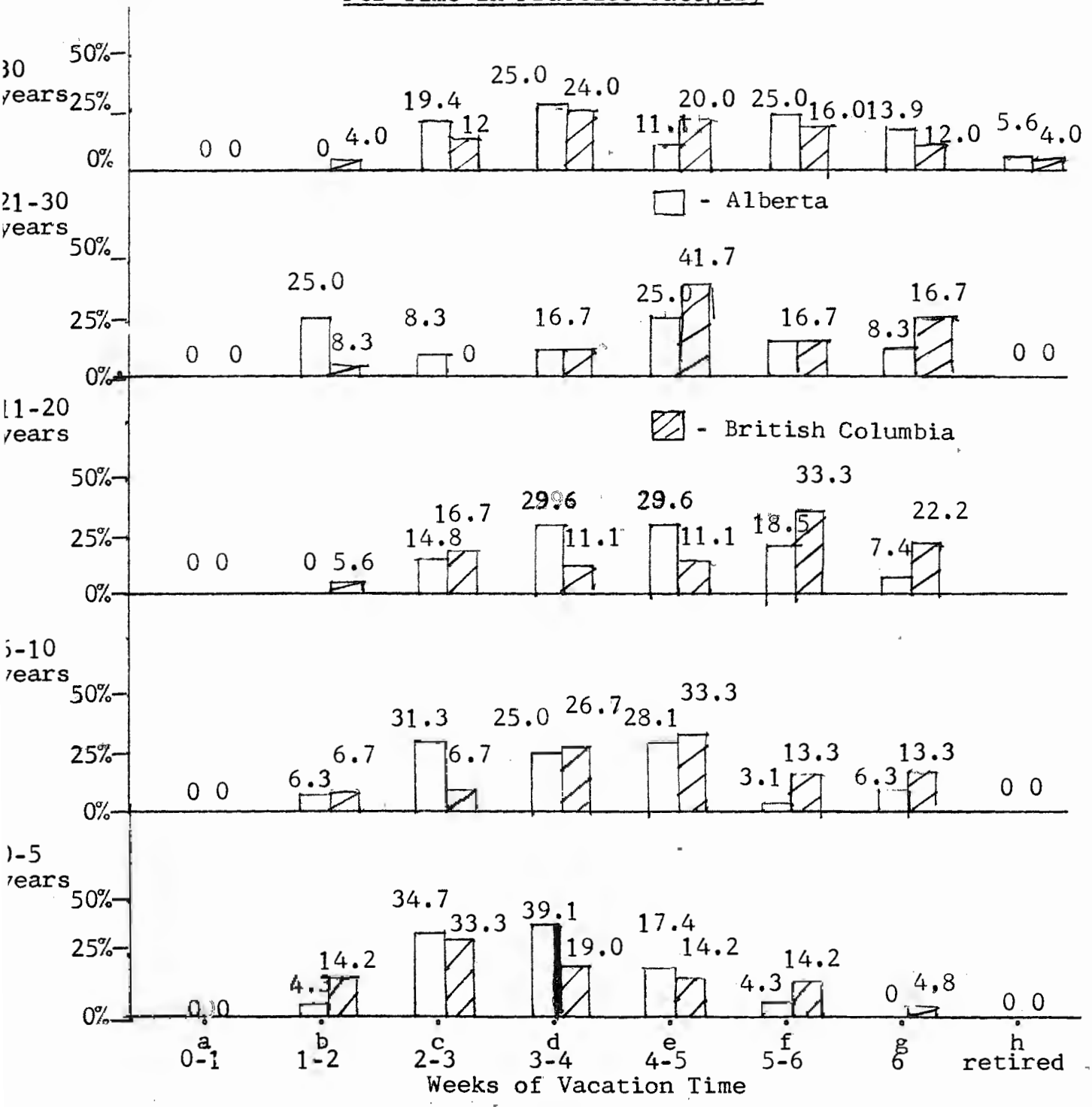


This graph refers to table 8.

Graph 8

Weeks Of Vacation Versus Percent Response

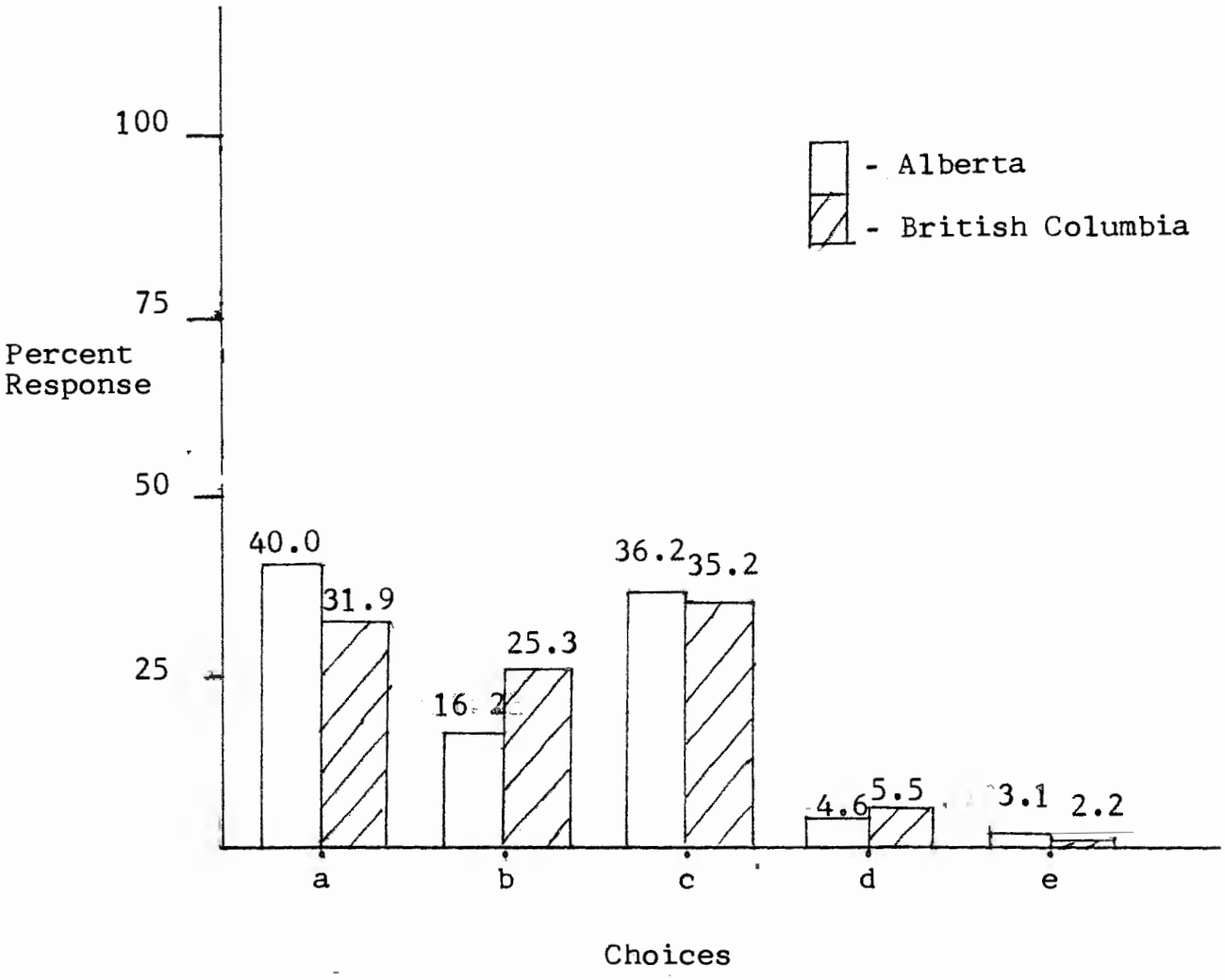
Per Time In Practice Category



This graph refers to table 9.

Graph 9

Percent Responses Per Choice To Question Eight



Codes

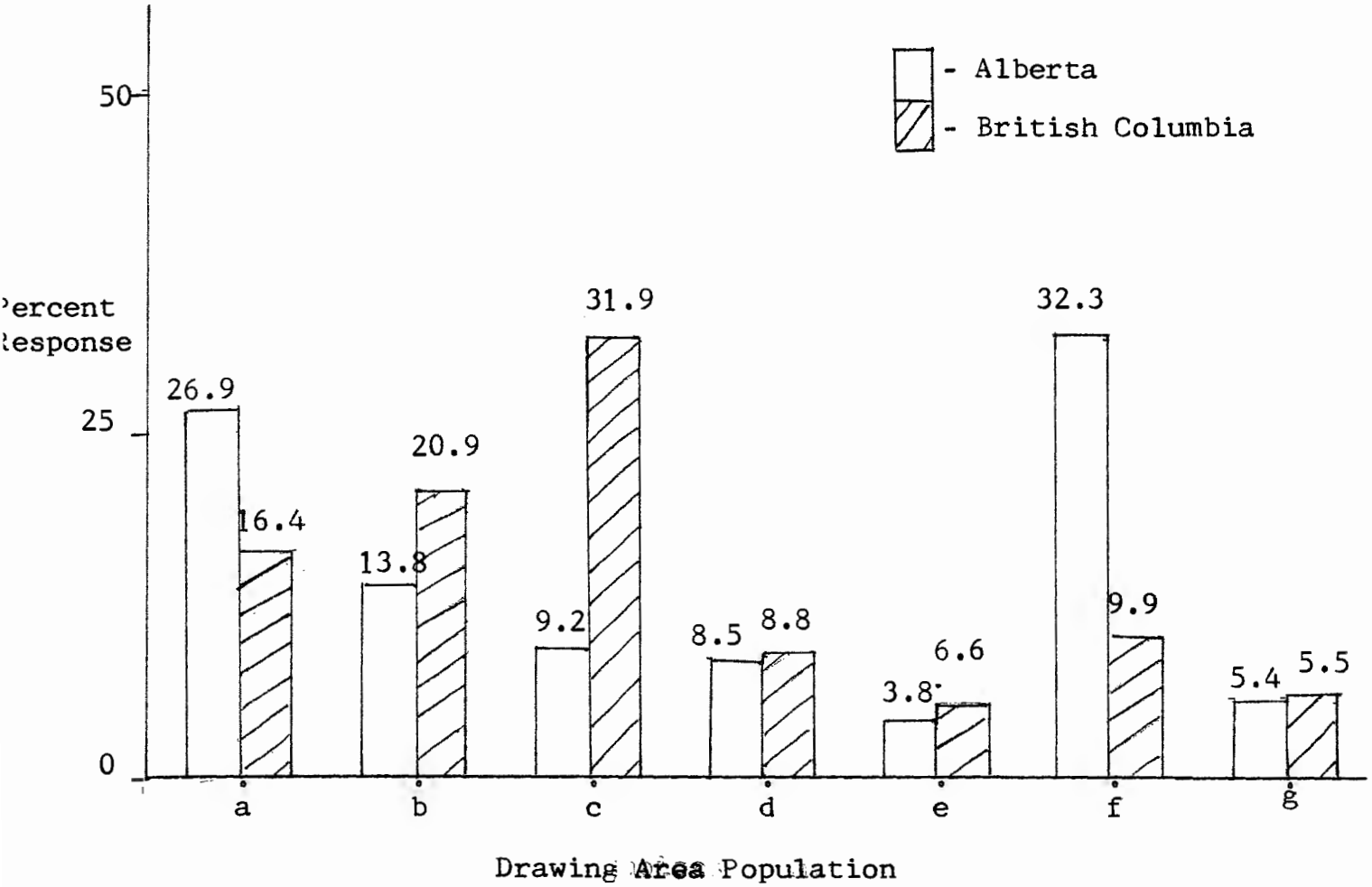
a) No, hardly at all.
b) Yes, most patients are more concerned about the cost of materials and services than 2-3 years ago.
c) Yes, some patients are more concerned about the cost of materials and services than 2-3 years ago.
d) Yes, Most patients are deferring examinations and new ophthalmic materials.
e) Yes, (please comment) _____

Appendix 4 refers to choice e.

This graph refers to table 10.

Graph 10

Practice Drawing Area Population Versus Number Of Responses



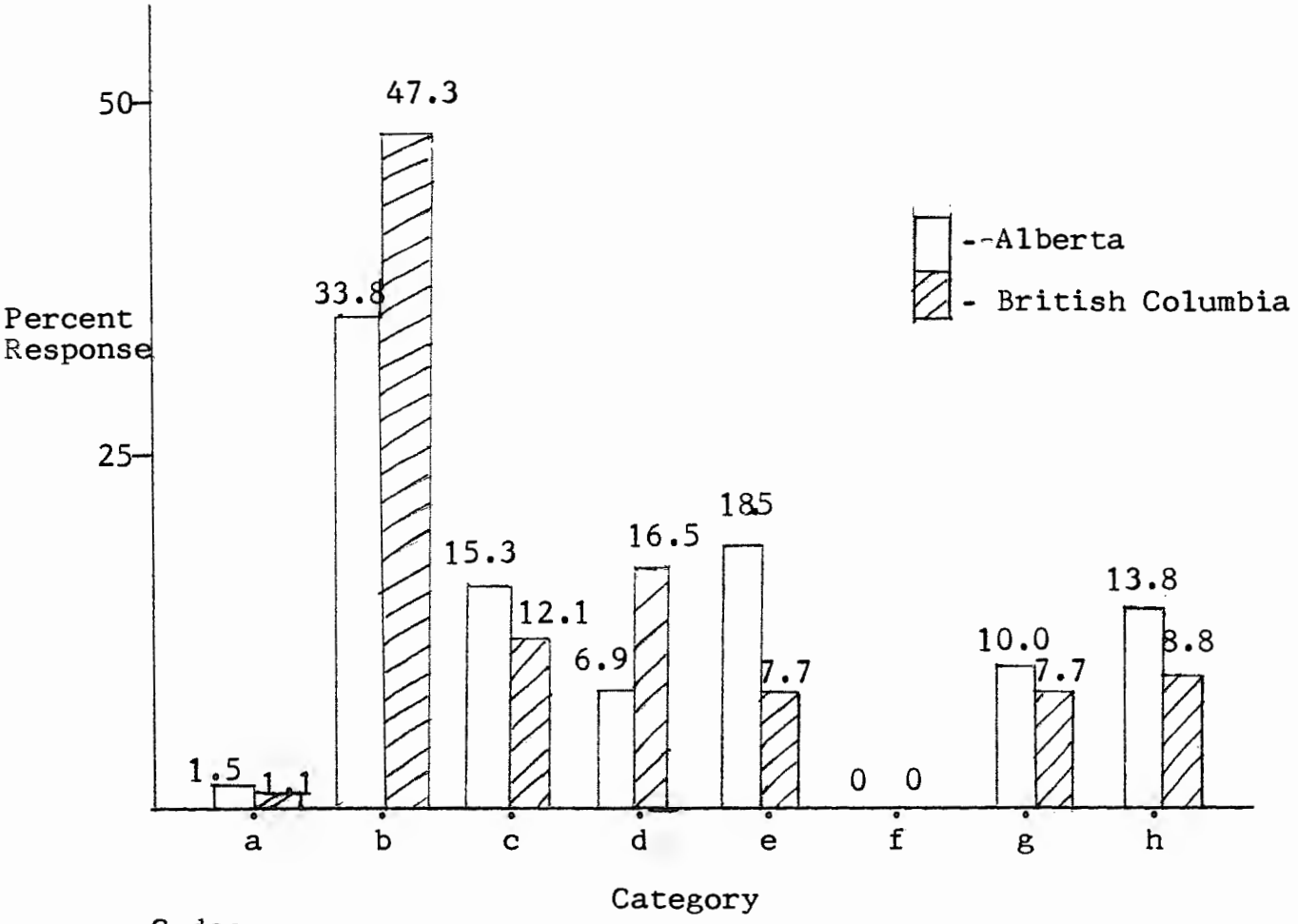
Codes

a) 0 -- 20,000
b) 20.001 - 50,000
c) 50,001 - 100,000
d) 100,001 - 200,000
e) 200,001 - 400,000
f) greater than 400,000
g) no response

This graph refers to table 11.

Graph 11

Practice Location Category Versus Percent Response



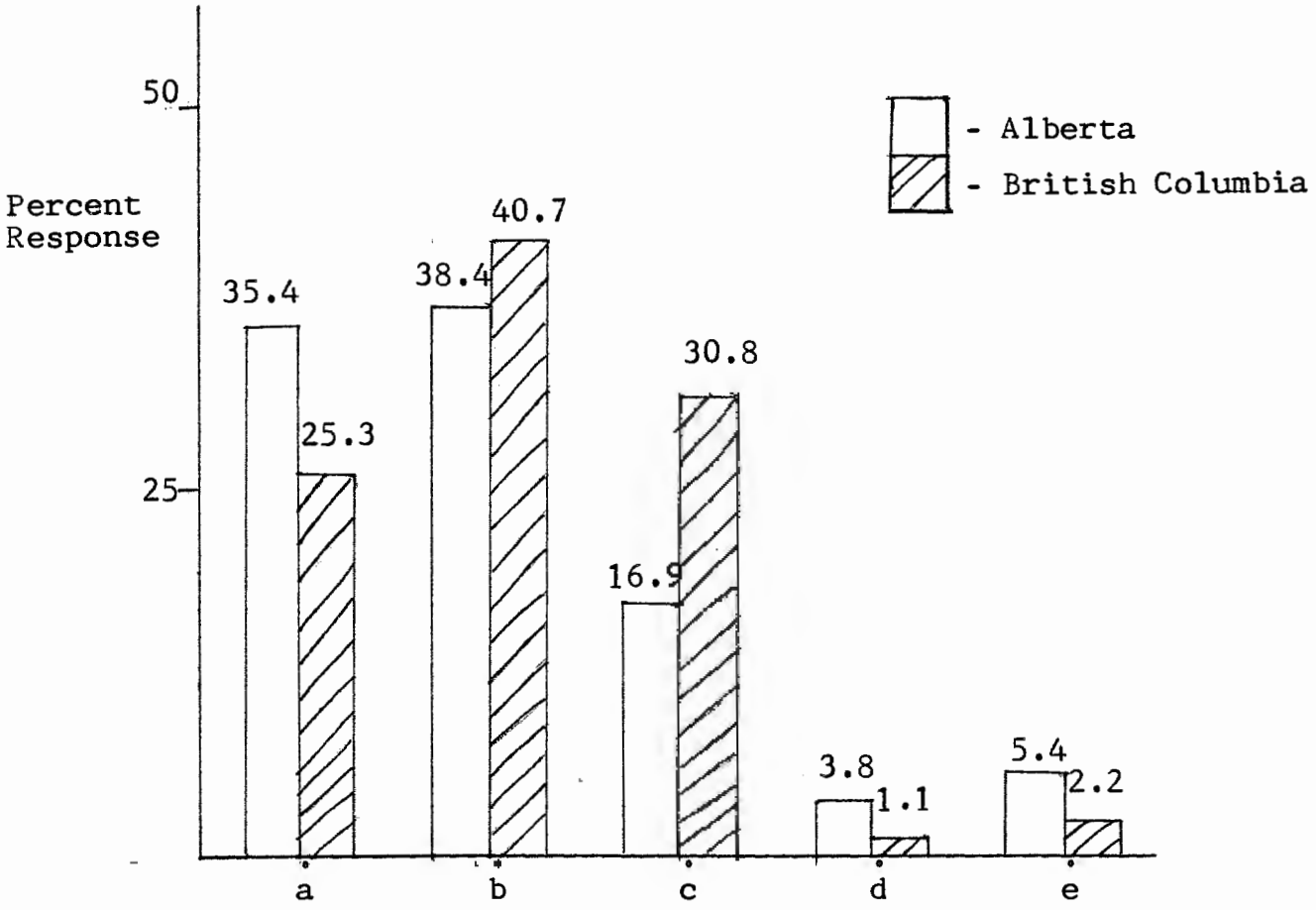
Codes

a) Commercial practice associated with a retail chain.
b) Practice located in an urban core office building.
c) Practice located in an urban core medical building.
d) Practice located in a suburban neighbourhood
e) Practice located in a suburban medical building.
f) Practice located in a hospital.
g) Practice located ina shopping mall
h) Other. Please specify _____

This graph refers to table 12

Graph 12

Extended Wear Lens Attitude Versus Percent Response.

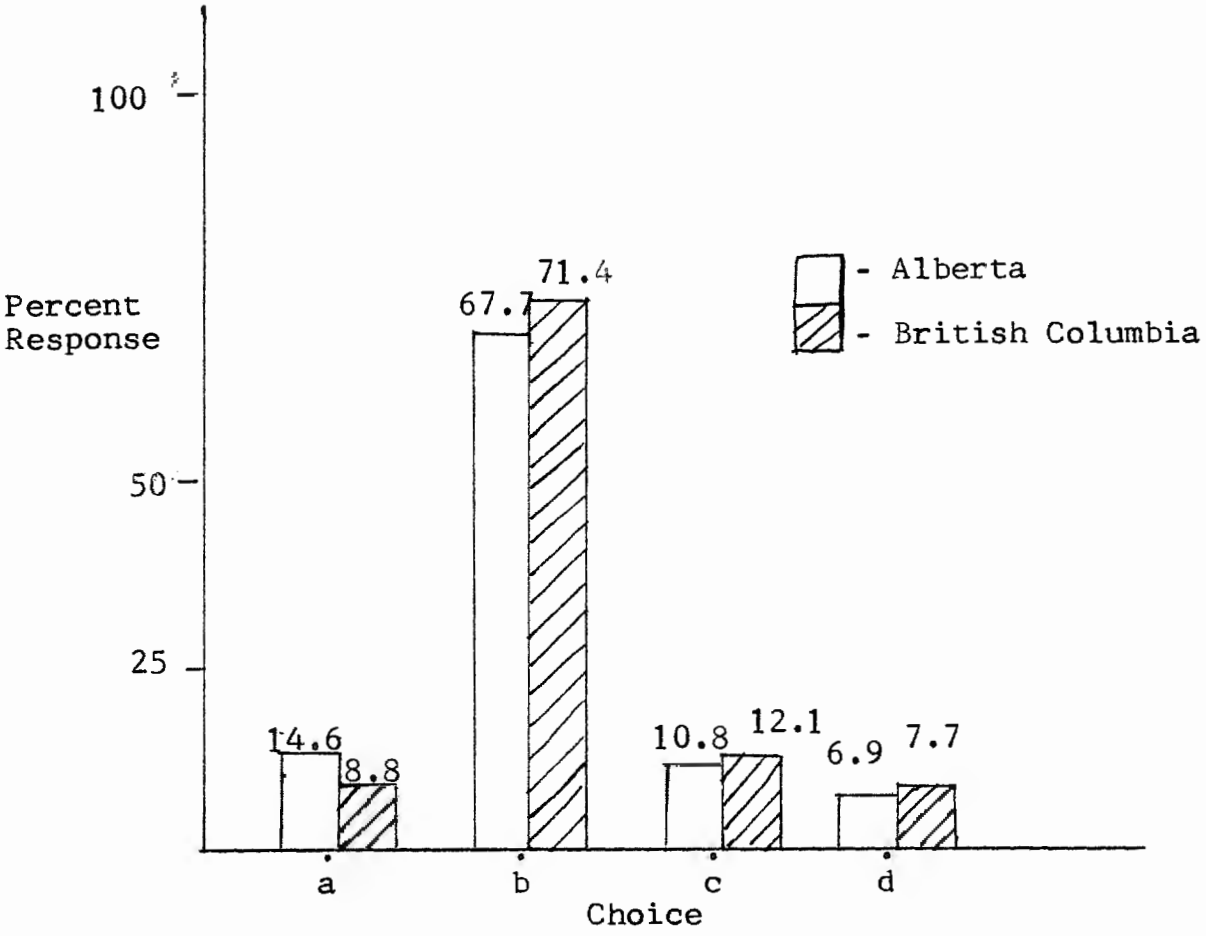


Codes

a) I do not prescribe them.
b) I tend to be conservative in my prescription of them because the long term reasearch has not been completed.
c) I prescribe them routinely on selected patients.
d) I prescribe them on aphakics only.
e) Other _____

This graph refers to table 13.

Graph 13



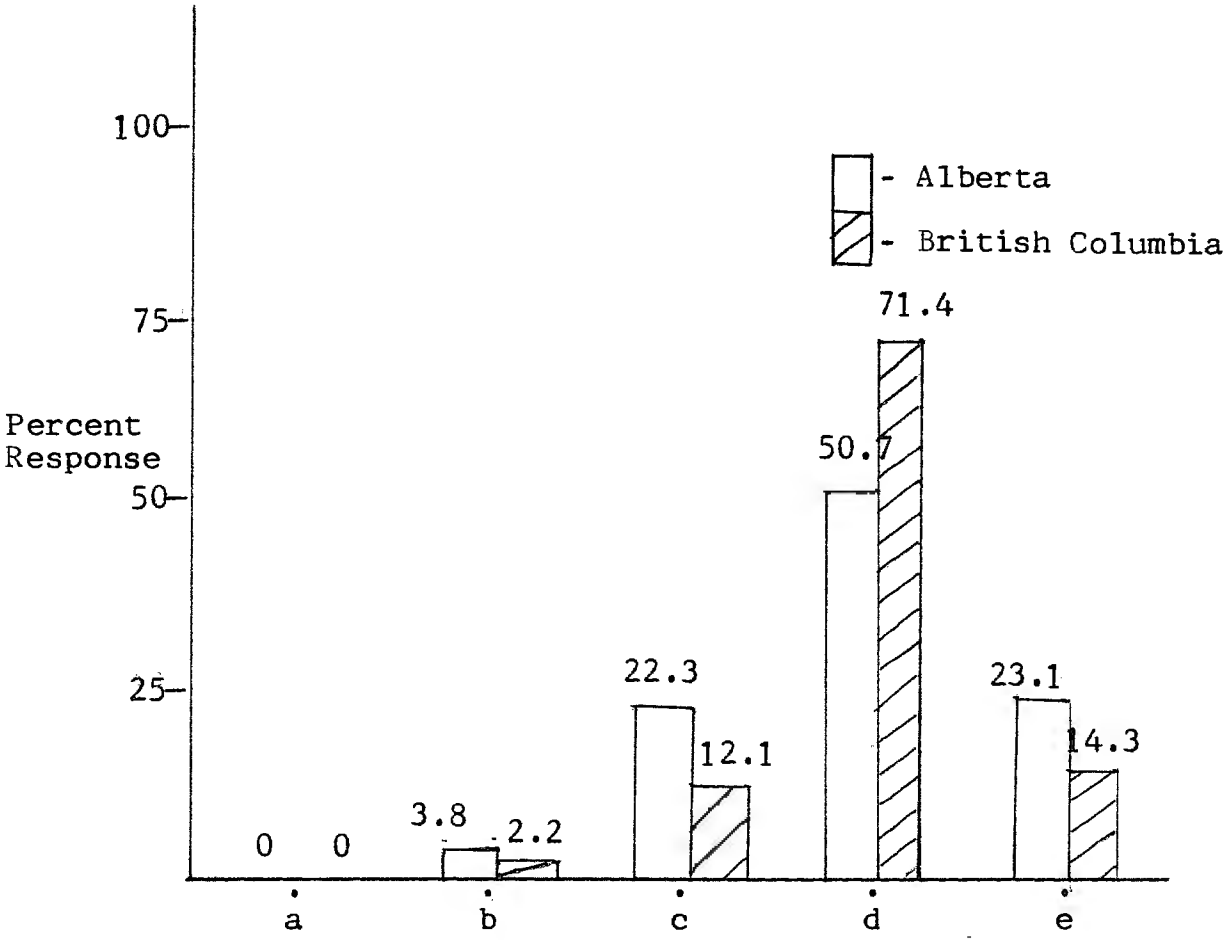
Codes

a) Yes.
b) No.
c) Undecided
d) No response.

This graph refers to table 14.

Graph 14

Attitude Toward Opticians Versus Percent Response



Codes

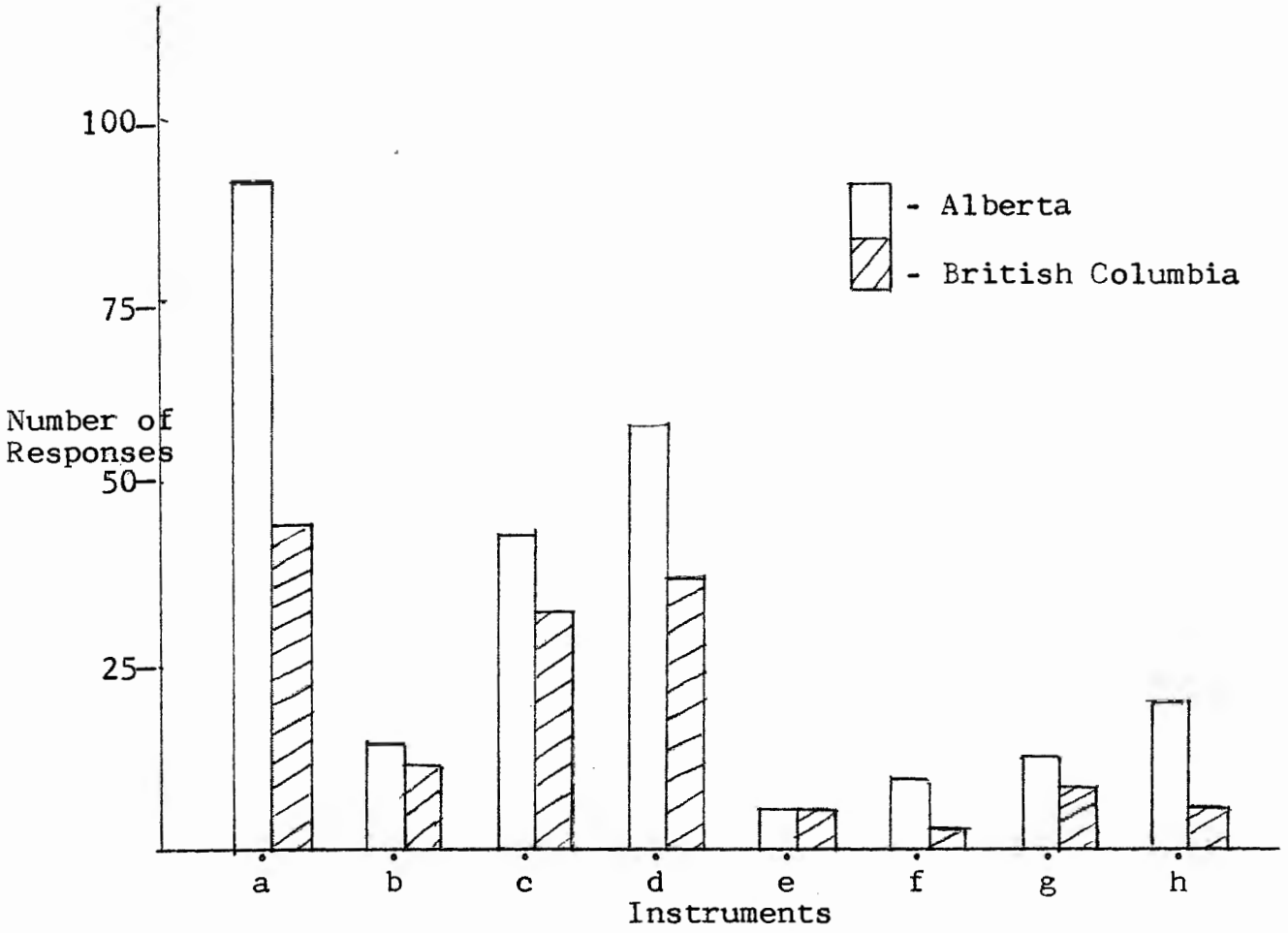
a) Most provide competent service every bit as good as myself.
b) Most provide competent service, but at a lower skill level than my own.
c) Most have good fitting skills, but do not adequately provide follow up care.
d) Qualified opticians do not receive enough education to fit contact lenses.
e) Other. _____

This graph refers to table 15.

Graph 15

Number of Responses Per Choice To Question 14

Choices A - H



Codes

a) A.O. non-contact tonometer
b) Schiotz indentation tonometer
c) Goldmann applanation tonometer
d) monocular indirect opthalmoscope
e) binocular indirect opthalmoscope
f) automated subjective refraction system
g) automated objective refraction system
h) automatic visual field system

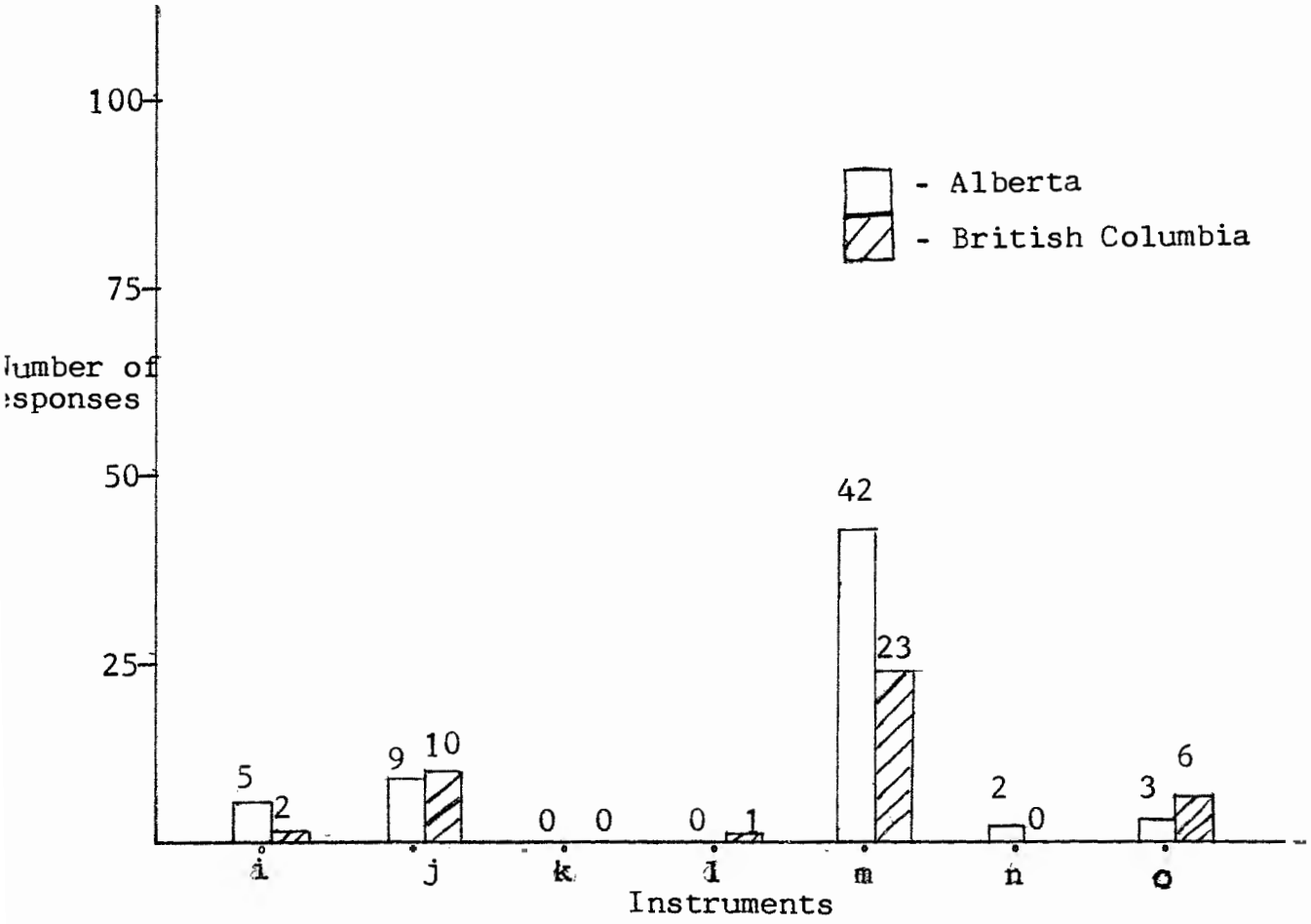
I - J continued on the next graph

This graph refers to table 16

Graph 16

Number of Responses Per Choice To Question 14

Choices I - O



Codes

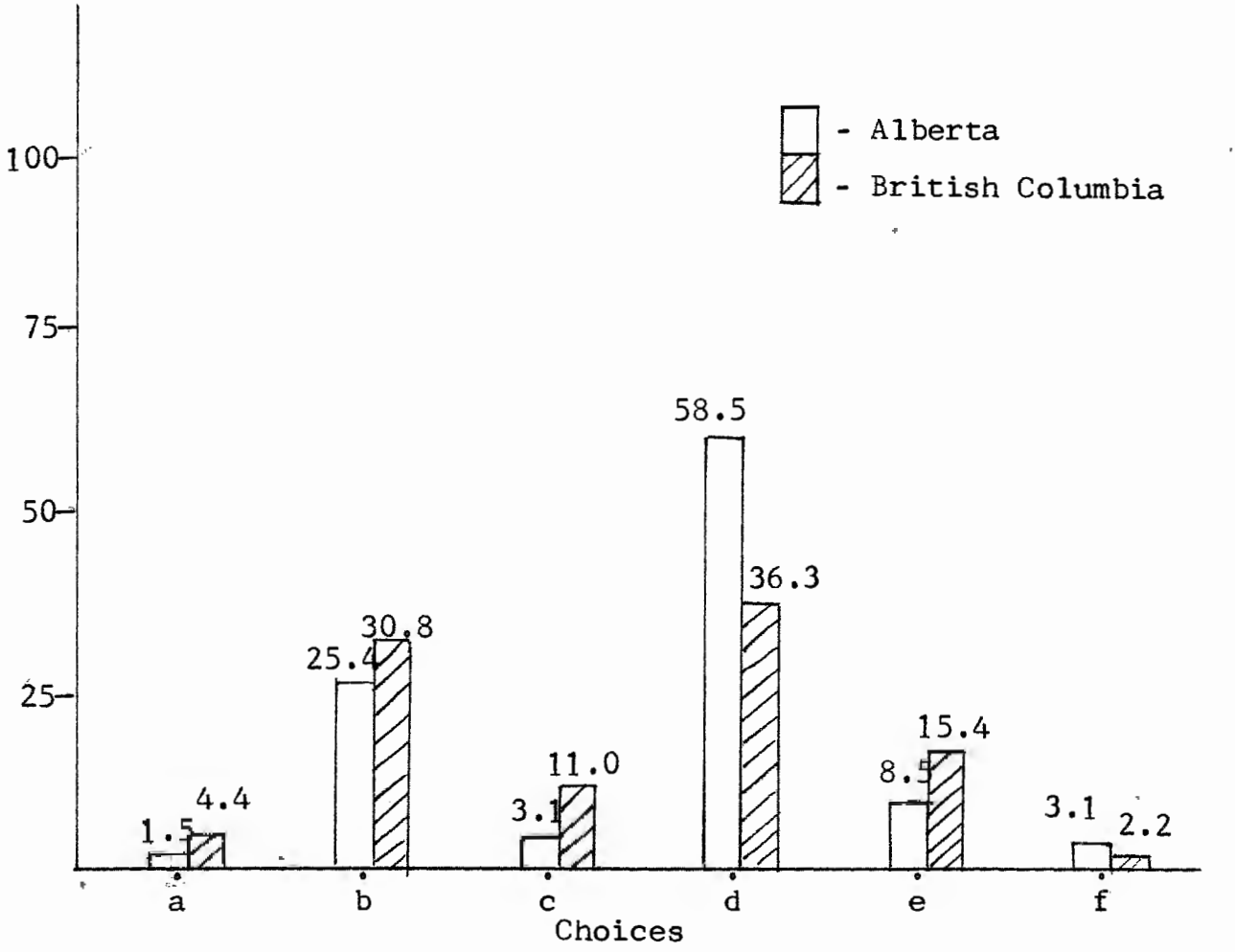
i) visual evoked response system
j) pneumatic electronic tonometer
k) electroretinogram system
l) eikonmeter
m) stereoscope
n) anomoloscope
o) in office computer system

This graph refers to table 16.

Graph 17

Preferred Method Of Intraocular Pressure Determination

Versus Percent Response



Codes

a) Schiotz indentation tonometer
b) Goldmann applanation tonometer
c) Tonomat applanation tonometer
d) American Optical non - contact tonometer
e) McKay - Marg electronic tonometer
f) pneumatic electronic tonometer

This graph refers to table 17

Discussion

All percent values were rounded to the nearest tenth.

On question 12 the word optician was misspelled as "option". Only 6.9% from Alberta and 7.7% from British Columbia did not answer the survey or indicated they did not understand the question. These represent only 7.2% of the surveys returned. The misspelling probably did not affect the results.

Conclusions

The overall rate of return was very acceptable at 60.3 percent.

There was no large difference in the distribution of optometrists by age, though slightly fewer responded in the 21-30 year group. The Alberton 6-10 year group was slightly larger than the British Columbia group.

The time in practice versus estimated time until retirement (Graph 2) revealed a general trend. The longer a person had practiced, the more likely he was to retire in the near future. Most of the optometrists indicated a career length of 35 to 45 years. This was estimated by adding the time

in practice mode to the time in retirement mode. The minimum practice time was estimated to be about 20 years.

There were two dominant practice types. Both were under the general practice category with the second indicating an emphasis in contact lenses. The first category was general practice.

The only other significant group practiced general optometry with an emphasis in vision training, orthoptics and developmental optometry. They represented 6.9 percent in Alberta and 4.4 percent in British Columbia.

Over 60 percent of the surveys indicated a solo practice. Nearly 27% were in a partnership. Only 11% indicated a group practice or professional corporation. Most of the older practitioners from British Columbia and Alberta practiced in a solo mode.

Three main categories of employees were utilized most. These included practitioner trained aides, receptionist-bookkeeper and opticians. Very few utilzied a paraoptometric aide.

The routine delegation of office employees was mostly not related to the time in practice. Most surveys indicated five or fewer responses to question 6. There was no large difference between Alberta and British Columbia.

Some unusual trends developed from the responses to question 7. Some of the older practitioners took less vacation time than the younger practitioners, especially in Alberta. This effect was most noticeable in the 21-30 years of practice group. The majority took two to five weeks of vacation time annually.

The economic situation did not seem to affect about one-third of the practices in Alberta and British Columbia. Two-thirds of the surveys indicated that consumers are concerned about the costs of opthalmic goods and services. A small minority in each province (about 5%) indicated that most patients were deferring examinations and new purchases because of cost. Some very enlightening comments were written about this question. (See Appendix 4.)

The average drawing area for a practice was much higher for Alberta than for British Columbia. Most surveys stated a drawing area of under 100,000. About one third of Alberta surveys indicated a drawing area of greater than 400,000.

The most common practice location in Alberta and British Columbia was an urban core office building. Other popular locations included urban core medical buildings, suburban medical buildings and neighborhoods. Commercial practices associated with a retail chain and hospitals were the least utilized locations.

Most surveys indicated that practitioners were being conservative about extended wear contact lens prescriptions. A healthy proportion (35.4% in Alberta, 25.3% in British Columbia), indicated they did not prescribe them. Nearly 17% of Alberton surveys and 30.8% of British Columbian surveys indicated that extend-wear lenses were prescribed routinely on selected patients. Very few practitioners prescribed them on aphasics only.

Of the practitioners responding to question 12, the majority indicated they would not be associated with an optician fitting contact lenses. There was no large difference (3.7%) between provinces. Nearly 6% more Alberton surveys indicated they would be associated with an optician fitting lenses.

None of the surveys indicated that opticians provided the same level of care as an optometrist. Nearly 72% of the surveys from British Columbia indicated that opticians were not receiving enough education to fit lenses. Only about 51 percent of Alberton surveys felt the same way. About one-fifth of Albertan surveys indicated that opticians could fit lenses, but were lax about follow up care. A significant proportion (Alberta - 23.1%, British Columbia - 14.3%) indicated a choice other than the ones given on the question.

Question 14 showed that only 4% surveys indicated the use of an in office computer system. Only 1% of the surveys showed the use of an anomoloscope for color vision testing. The steroscope was a feature in 29.4% of the practices sampled. No surveys indicated use of an electroretingram system while 3.2% indicated use of a visual evoked response system. Objective autorefracters were found in 9.04% of the practices. Subjective autorefracters were found in 5% of the practices sampled. The binocular indirect opthalmoscope choice was chosen 4.5% of the times, while the American Optical monocular indirect was chosen 42.5% of the times. The non contact tonometer choice was checked 61.1%, the schiatz indentation tonometer was checked in 10.8% and the

Goldman applonation tonometer was checked in 33%. The pneumatic electronic tonometer was checked in 8.6 percent.

The preferred method of determining intraocular pressure was the non contact tonometer. The Schiotz tonometer was the least popular. Alberta surveys showed 58.5 percent preferred the non contact tonometer while only 36.3% of British Columbia surveys preferred it. The Mckay-Marg tonometer was more popular in British Columbia (15.4% vs. 8.5%). The new electronic pneumatic tonometers were about as popular as the old Schiotz model.

The overall rate of usage of the more modern diagnostic instruments was not as high as expected. Very few of the optometrists surveyed made extensive use of technology and assistants. Perhaps the initial cost is too high to make them cost effective. The assistants tended to be receptionists, bookkeepers and aides.

The length of time in practice does not seem to affect the length of vacations to any strong degree. Some of the older optometrists took fewer days holidays than some of the younger practitioners. The graphs showed minor differences.

There were really very few major differences between provinces. The optometrists surveyed tended to use the same instrumentation.

References

1. The Blue Book of Optometrists, published by The Professional Press, Inc., 11 East Adams Street, Chicago, Ill. 60603. c 1982.

Appendix 1

The following is a copy of the survey.

PLEASE CIRCLE THE APPROPRIATE ANSWER

1. Approximately how many years have you been in practice?

   a) 0-5 years
   b) 6-10 years
   c) 11-20 years
   d) 21-30 years
   e) more than 30 years

2. Approximately how many more years do you intend to practice before your retirement?

   a) 0-5 years
   b) 6-10 years
   c) 11-15 years
   d) 15-20 years
   e) 21-25 years
   f) 26-30 years
   g) more than 30 years

3. How would you characterize your practice?

   a) general practice with no particular emphasis
   b) general practice with an emphasis on low vision
   c) general practice with an emphasis on contact lenses
   d) general practice with an emphasis in visual training, orthoptics or developmental optometry
   e) practice limited to contact lenses
   f) practice limited to low vision
   g) practice limited to visual training, orthoptics or developmental optometry
   h) Other, please specify _____

4. How would you characterize your practice?

   a) solo
   b) partnership
   c) group practice or professional corporation
   d) commercial practice
   e) other

5. Which of the following classes of employees do you utilize in your practice?

   a) licensed optician
   b) formally trained paraoptometric aide
   c) practitioner trained aide
   d) formally trained visual training/orthoptic aide
   e) receptionist/bookkeeper
   f) aide/receptionist/bookkeeper
   g) Other

6. Please circle the letters of the following areas that your office employees are routinely responsible for. (Subject to your supervision, review and approval)

a) visual acuity
b) preliminary interview (name, address, age, etc.)
c) limited case history (main complaint)
d) keratometry
e) visual fields
f) color vision testing
g) contact lens parameter verification
h) spectacle lens verification
i) blood pressure determination
j) contact lens insertion, removal and care regimen
k) visual training/orthoptics exercises
l) office accounting procedures/patient billing
m) automated refraction, automated retinoscopy
n) tonometry

7. Approximately how many weeks of vacation time do you take annually?

a) zero to one week
b) one week to two weeks
c) two weeks to three weeks
d) three weeks to four weeks
e) four weeks to five weeks
f) five weeks to six weeks
g) greater than six weeks
h) semi-retired or work less than one-half of the year

8. Has the current economic situation affected the local utilization of eye care and to what extent?

a) No, hardly at all
b) Yes, most patients are more concerned about the cost of materials and services than 2-3 years ago
c) Yes, some patients are more concerned about the material goods and services than 2-3 years ago
d) Yes, most patients are deferring examinations and new ophthalmic materials
e) Yes, (please comment) _____

9. What is the population of the drawing area of your practice?

_____

10. Which category best describes your practice location?

a) Commercial practice associated with retail chain
b) Practice located in an urban core office building
c) Practice located in an urban core medical building
d) Practice located in a suburban neighbourhood
e) Practice located in a suburban medical building
f) Practice located in a hospital
g) Practice located in a shopping mall
h) Other (please specify) _____

11. What is your attitude toward extended wear contacts?

a) I do not prescribe them
b) I tend to be conservative in my prescription of them because the long-term research has not been completed.
c) I prescribe them routinely on selected patients.
d) I prescribe them on aphakics only.
e) Other_____

12. Would you employ or be professionally associated with an option fitting contact lenses?

a) yes b) no c) undecided

13. Please circle the letter of the response that best describes your attitude toward opticians fitting contact lenses.

a) Most provide competent service every bit as good as myself
b) Most provide competent service, but at a lower skill level than my own
c) Most have good fitting skills, but do not adequately provide follow up care
d) Qualified opticians do not receive enough education to fit contact lenses
e) Other_____

14. Please circle the letter or letters of the following instruments or systems you utilize in your practice.

a) A.O. non-contact tonometer (air puff)
b) Schiotz indentation tonometer
c) Goldmann applanation tonometer
d) monocular indirect ophthalmoscope

continued on next page

14. Continued

e) binocular indirect ophthalmoscope
f) automated subjective refraction system
g) automated objective refraction system
h) automatic visual field system
i) visual evoked response test system
j) pneumatic electronic tonometer
k) electroretinogram system
l) eikonometer
m) stereoscope
n) anomoloscope
o) In-office computor system

15. What is your preferred method of intraoculor pressure determination?

a) Schiotz indentation tonometer
b) Goldmann applanation tonometer
c) Tonomat applanation tonometer
d) American Optical non-contact tonometer
e) McKay - Marg electronic tonometer
f) pneumatic electronic tonometer

Appendix 2

The following is a copy of the cover letter sent with the survey.

ORIGINAL COPY

March 28, 1983

Scott Poxon
Box 97 U.C.
Pacific University
College of Optometry
Forest Grove, Oregon 97116
U. S. A.

Dear Doctor:

I am a Canadian student enrolled in the fourth year of the optometry program at Pacific University College of Optometry, Forest Grove, Oregon.

As part of my degree requirements, I am completing a thesis, investigating the attitudes, practice characteristics and distribution of Optometrists in Alberta and British Columbia.

The survey will also investigate the utilization of modern technology in today's practice. The data will be organized to compare the differences among optometrists based on the length of time in practice.

It would be of great help to me if you would complete the enclosed questionnaire and return it at your earliest convenience, in the stamped, self-addressed envelope. To assure anonymity please do not make any unnecessary marks on the survey.

If you would like a summary of the data, simply send a self-addressed envelope to me at the above address.

Your co-operation in completing this survey is greatly appreciated. Many thanks.

Yours truly,

Scott Poxon

Scott Poxon
Class of '83

Appendix 3

Accounting of Unuseable Surveys

Of 383 surveys sent out, 2 were returned from British Columbia as undeliverable (0.52%). Of the 135 surveys received from Alberta, 5 were not useable (3.7%). Of these, one was returned blank, 1 optometrist was no longer in the country, and three had retired. Of the 94 surveys received from British Columbia, 3 were not useable (3.2%). All three had been sent to retirees.

Total sent	383
Total returned	231 = 60.3%
Total unuseable	10 = 2.6%
Total sent to Alberta	188
Total returned from Alberta	135 = 71.8%
Total sent to British Columbia	195
Total returned from British Columbia	94 = 48.2%

Appendix 4

Selected Comments From Questions

Question 8:

Question 8 deals with the economic effects on utilization of eye care.

"...I am getting more requests for Rx's"

"...more refractions - using outside dispensers."

Question 13:

Question 13 deals with opticians fitting contact lenses.

"They should not."

"They should not be fitting them."

"They should not be allowed to fit."

"Most are merchants."

"No opticians act in British Columbia."

"They tend to fit only 1 or 2 brands of lenses."

"Some provide competant service but at a lower skill level than my own."

"Most do not schedule follow up care."