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ABSTRACT

The fourth of a series of reports on the study, Mental Retardation in a Canadian Province, the document covers the initial months of field data gathering in Prince Edward Island, April to September 1969. The major objectives of the study, to describe and explore the most suitable definition of retardation for a Canadian population and to report on the prevalence of mental retardation in a geographically defined population, are stated and further broken down into null hypotheses. Problems involved in selecting the sample population and data on the final sample, the battery of instruments administered, staff selection and training, the interview process, and the use of publicity to introduce and support the project are described. Professional interest in the study is mentioned with the conclusion that the study can fill an important research void. (RJ)

MENTAL RETARDATION IN A CANADIAN PROVINCE

Report No.4

for the period April 1, 1969 to September 1, 1969

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October, 1969

MENTAL RETARDATION IN A CANADIAN PROVINCE

A Report for the Period:

April 1, 1969 to September 1, 1969

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PREFACE

This is the fourth of a series of brief reports on the study, Mental Retardation in a Canadian Province.

The report, a slightly edited version of a progress report issued early in October, 1969, covers the initial months of field data gathering in Prince Edward Island, from April to September, 1969.

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Introduction

This is a report on the progress of the study for the period April 1, 1969 to September 1, 1969. Since those were the initial months of the study proper, the report deals primarily with data gathering during that period, but also outlines modifications that have been made in the original research design.

The study is an extensive field research of a stratified sample of the total population of Prince Edward Island. From the initial sample, a sub-sample of mentally retarded will be identified and their data analyzed. The non-retarded portion of the sample will provide variously defined control groups. Identification of the retarded sub-sample will be by means of a Mental Retardation Index which is, in effect, a series of screening steps based upon performance and other indices.

The study was conceived in 1967 and a pilot study conducted in two villages of the Province in 1968. The Research Design for the present phase of the work grew from experience gained in the pilot study.

Objectives and Assumptions

The primary question being investigated by the study can be simply stated: what is the nature and prevalence of mental retardation in a geographically defined Canadian population? The question itself implies a large number of hypotheses, some of which will be tested and reported upon in the final publication of the study.

Underlying the study objectives are a number of assumptions or theses that have been basic to the development of the work. These assumptions have been stated in various forms in the Research Design, or in other

documents relating to the study, and constitute an important dimension of the work. When considered together, they provide a frame of reference within which the study not only developed but within which it is being carried out. They may be stated as follows:-

1) That the prevalence rate of three per cent mentally retarded is no longer tenable in view of the increasing community acceptance and understanding of mental retardation and recent study findings.
2) That mental retardation - in addition to medical aspects - also includes important psychological, intellectual, and sociological determinants.
3) That the most efficient use of human, material and economic resources in comprehensive planning for the mentally retarded must be based upon reliable prevalence data.
4) That the most useful prevalence data for medical, social and educational planning must be representative of geographically defined populations rather than selected sub-samples of the retarded population (i.e., hospital, clinic or school admissions).
5) That the objective of prevalence studies should be primarily one of the identification of a target population rather than an in-depth study of individuals. Identification, however, should be sufficiently relevant to the several disciplines concerned with mental retardation so that intensive follow-up studies could be undertaken by medical, psychiatric, psychological, educational and/or sociological investigators, if desirable.
6) That greater concern ought to be placed upon identification of the pre-school age group and upon those who have left school for whatever reason.

7) That instrumentation should be confined, so far as possible, to tests or sub-tests that are widely accepted and proven in the field.

8) That ease of replication can be facilitated through use of appropriate research instruments, sampling procedures, and through the use of national census data.

9) That replication of prevalence studies is an important step toward the further maturation of the field of mental retardation, and that replication of studies both within Canada and cross-culturally between or among countries is desirable. And;

10) that the cost of prevalence studies of general populations can be minimized through the use of adequate sampling procedures and minimal instrumentation while maintaining adequate reliability and validity of study findings.

HYPOTHESES

This section, which has been adapted from the original research design, is a re-statement of the former, but in terms of null hypotheses.

The two major objectives of the study - as previously stated - are to describe and explore the most suitable definition of retardation for a Canadian population and to report on the prevalence of mental retardation in a geographically defined population. These purposes, some of which lend themselves to further breakdown in terms of null hypotheses, may be stated as follows:

1) The Nature of Mental Retardation

Purpose 1: To arrive at a comprehensive operational definition of mental retardation that will have sensitivity to both the types and levels of retardation and have application to various regions of Canada and cross-culturally to other countries.

Purpose 2: To differentiate and to specify the relationship between retardation and other forms of physical, personal and social disability.

Purpose 3: To investigate the relationship of retardation to psychological and social variables.

Hypothesis 1: That there will not be a statistically significant relationship between the prevalence of mild retardation and the personal and social values of significant people in the retardates' environment.

Purpose 3: (cont'd) Hypothesis 2: That there will not be a statistically significant relationship between retardation of the mild type and characteristics of the social system in which the retardates live.

Hypothesis 3: That there will not be a statistically significant relationship between family and community attitudes towards the retarded on the basis in which the retarded are cared for.

Hypothesis 4: That there will not be a statistically significant relationship between the manner in which the retarded are cared for and the personal characteristics of their family members.

Purpose 4: To integrate the foregoing results and findings and to assess their significance in planning facilities and training of the mentally retarded.

2) The Prevalence of Mental Retardation

Purpose 1: To estimate the number of cases of retardation per 1,000 persons in the population studied.

Purpose 2: To estimate the number of cases of retardation within specific population ranges and specified ecological conditions.

Hypothesis 1: That there will not be a statistically significant difference in the prevalence of retardation on an age/sex basis.

Hypothesis 2: That there will not be a statistically significant difference in the prevalence of retardation across regional groups or populations.

Purpose 2: (cont'd)

Hypothesis 3: That there will not be a statistically significant difference between rural and urban prevalence rates of retardation.

Hypothesis 4: That there will not be a statistically significant difference in prevalence rates of retardation between low and high socio-economic areas.

Hypothesis 5: That there will not be a statistically significant difference in prevalence of retardation between bilingual and unilingual groups.

Hypothesis 6: That there will not be a statistically significant difference in the prevalence of retardation on the basis of ethnic factors.

Hypothesis 7: That there will not be a statistically significant difference in the prevalence of retardation on the basis of availability of educational facilities.

Hypothesis 8: That there will not be a statistically significant difference in the prevalence of retardation on the basis of fathers' occupational status.

Purpose 3: To integrate information from all the preceding areas in order to (1); make recommendations on the planning of facilities for the care and treatment of the mentally retarded, and (2); to make suggestions on how to maximize the personal development and self-fulfilment of retarded individuals.

THE SAMPLE

This section will outline modifications made in the sampling procedures subsequent to the Research Design of December, 1968.[11] It will also include a number of tables based upon field experience to September 1, 1969, indicating a high validity of the procedures now being followed.

The report of September, 1968[10] (page 17) and the Research Design (page 42) outlined a sampling procedure for the study based upon the selection of respondent families within a fixed radius of randomly selected points.[3] The procedure employed Mercator maps of Prince Edward Island (scale 1/50,000) on a scale sufficiently large to enable enumeration of all buildings in the Province. This was assumed to be an acceptable procedure for a prevalence study on an Island of numerous small communities and only two centres of significant population - a predominantly rural population.

During the period the Research Design was under review and the first actual field contact, a number of conditions arose that necessitated alterations in the size of the study sample and the manner in which it would be drawn. Initial field inspection revealed that many of the homes shown on the grid map and assumed to be occupied were, in fact, vacant. In many instances, the vacancy rate exceeded 50 per cent. This condition appeared to exist particularly in more remote areas of the province. In addition, a large number of the selected grids were unoccupied.

Presumably, the selection of additional grids would have replaced the lost population, but it would also have increased both the time required for sampling and cost of travel. In addition, there was an evident under-representation of the two major areas of population concentration. Despite the availability of statistical procedures for

controlling the deficiency in 'urban' data, a total re-examination of the sampling procedures was undertaken. A further reason for modification in selection procedures was the necessity to alter the total sample in accordance with a modified budget.

The total study sample, which had originally been estimated at 4.60 per cent of the Island population, was reduced to 4.15 per cent, or from a total of 5,000 interviews to 4,513. From this smaller sample a mentally retarded sub-sample will be identified and its data analyzed. Thus, on the basis of pilot study experience, the ultimate target population may be estimated as falling between three and thirteen per cent of the number of persons contacted.

The objectives of the re-assessment of sampling were then, twofold: to maintain or improve the representativeness of the drawn sample and to do so at a reduced ratio of sample to the total population.

A review of available census data indicated that stratification of the total population into urban, town/village, and rural sectors, would offer increased control in sampling. Also, if approached on a county or regional basis, a number of towns and villages within specified areas could be eliminated by random selection with interviewing concentrated in the remaining centres. Administratively, this was thought to be a refinement in the study.

Census reports for the Province of Prince Edward Island show a large number of communities ranging in population from 50 to 2,400. An on-site inspection of several of the smaller communities, however, revealed that they could be defined only in psychological or geographical terms. Many of the 'census' villages cannot be identified by a store, service-

station, church, school, community hall or other such facility usually associated with the term 'village'. As a result of this finding, a population of 200 was arbitrarily set as the dividing line between rural and village populations. Since there are major differences among Island communities of 200 or more population they were divided into five strata, as shown in Table I.

TABLE I

Stratified Sample by Counties and Populations of Communities

County	Population group	Population of group	Number of Communities: County	Number of Communities: sample	Sampling ratio	Sample size
Prince	10,000+	10,042	1	1	1:24	417
Queen's		18,427	1	1	1:24	765
Prince	1,000 to	2,441	2	2	1:24	100
Queen's	10,000	4,478	2	2	1:24	186
King's		2,732	2	2	1:24	114
Prince	500 to	4,573	6	3	1:12	202
Queen's	1,000	874	1	1	1:24	36
King's		1,348	2	2	1:24	56
Prince	300 to	725	2	1	1:12	33
Queen's	500	754	2	2	1:24	31
King's		790	2	2	1:24	32
Prince	200 to	3,290	14	7	1:12	138
Queen's	300	2,968	14	7	1:12	133
King's		1,876	7	7	1:24	63
Prince	Rural	21,612	-	-	1:24	896
Queen's		19,926	-	-	1:24	827
King's		11,652	-	-	1:24	484

Prince is the only county having more than two centres in any of the upper four population groups (300+ population). It has six villages in the 500 to 1,000 population range. In that group, 50 per cent - or three

villages - have been included in the sample. Two of the villages were eliminated by random selection, and the third eliminated arbitrarily since it had been used during the 1968 feasibility study. The Prince County population group - 300 to 500 - was reduced from two to one in order to eliminate the second village used in the 1968 pilot study. The population group - 200 to 300 - was reduced 50 per cent in both Queen's and Prince Counties. King's County was maintained at its full seven. King's is the smallest of the three Island counties and has no center exceeding a population of 1,443.

Selection of specific respondent households within urban and village/town categories was assigned to the same pair of field workers for all communities included in the sample. Street addresses are used in the larger communities and, in the smaller, maps have been prepared for this purpose.

Table I shows the sampling now being carried out for the study. The groups by population and range are shown with their totals. The ratio is based upon the 4.15 per cent sample and is altered according to the number of villages or towns in any group that have been retained in the final sample. The total sample by population group and rural is also shown.

The names of communities, by county, are given in Table II. Sherwood and Parkdale may be considered as suburbs of Charlottetown, and St. Eleanors as a suburb of Summerside.

TABLE II

Sampling Communities by Size and County

County	Size	Name
Prince	10,000 +	Summerside
	1,000 to 10,000	St. Eleanors
		Kensington
	500 to 1,000	Tignish
		Miscouche
		Borden
	300 to 500	Elmsdale
	200 to 300	Mont Carmel
		Alberton South
		Sherbrooke
		Knutsford
		Albany
		Carleton
		West Devon
Queen's	10,000 +	Charlottetown
	1,000 to 10,000	Sherwood
		Parkdale
	500 to 1,000	North Rustico
	300 to 500	Mount Stewart
		Hunter River
	200 to 300	Southport
		York
		Stanhope
		Mayfield
		Cornwall
		Covehead Road
		Clyde River
* King's	1,000 to 10,000	Souris
		Montague
	500 to 1,000	Georgetown
		Murray River
	300 to 500	Murray Harbour
		Morell
	200 to 500	St. Peters
		Sturgeon
		Cardigan
		Souris West
		Lower Montague
		Bear River

* There are no communities of more than 10,000 population in King's County. Souris, the largest centre, has a population of 1,443.

Due to the difficulty of drawing a study sample in Prince Edward Island, a decision was reached to test the validity of the sample at an early date and to make further modifications, if necessary. Consequently, rough tabulations were made on population group, family size, age and sex of respondents for the 511 families contacted to September 1. Since these data are of value in assessing the progress of the study, in addition to the validity of the sample, they are included here. The tabulation was part of the checking that has been carried out on each protocol received from the field.

TABLE III

Number and Per Cents of Households by Size for 1966 Census and the first 511 Households Drawn for the Sample

Household size (persons)	1966 Census		Sample	
	Number	Per Cent	Number	Per Cent
1	2460	9.70	52	10.17
2	5586	22.02	100	19.56
3	3949	15.57	105	20.55
4	3737	14.73	79	15.45
5	3127	12.33	52	10.17
6	2339	9.22	39	7.63
7	1605	6.32	34	6.65
8	957	3.77	14	2.73
9	624	2.46	15	2.93
10+	976	3.84	21	4.10
Totals:	25360	99.96	511	99.94

1966 Census data from D.B.S. Bulletin No. 93-605 (June, 1968)

Table III includes both 1966 census and sample data by household size. The same data are presented graphically in Figure 1. The two sets of data do not vary significantly ($t = 3.875$; $df = 9$; $.01 = >3.250$). It can be seen, however, that the sample distribution varies somewhat for the smaller and middle sized families. The data shows, as could be expected, a reduction in the number of medium size families with a consequent increase in smaller units. The mean 1966 Census household size is 4.2 persons, while the sample mean is 4.1 persons per household.

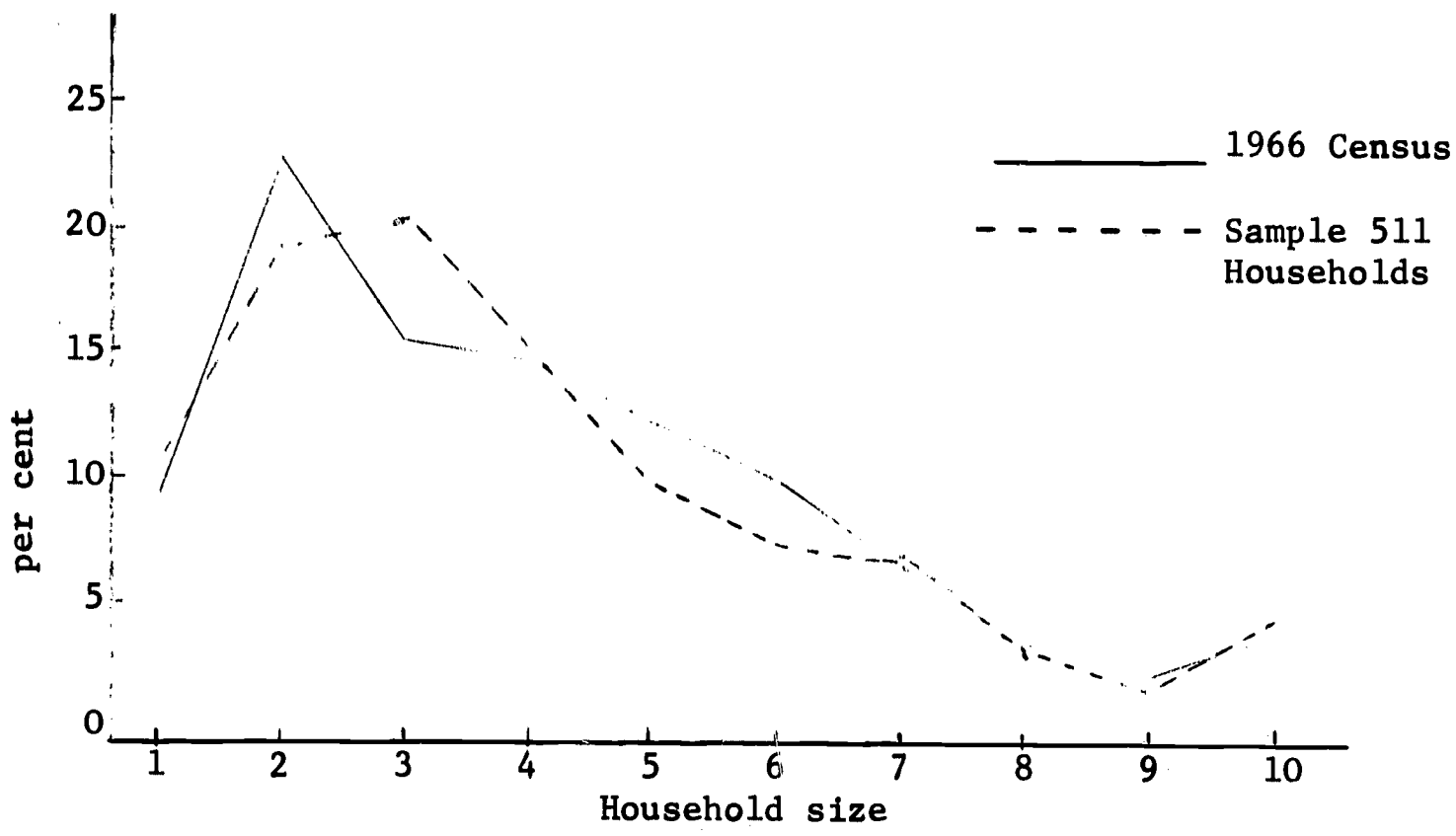

Figure 1: Households by size for 1966 Census and 511 Households

Age distribution may also be used to test the validity of a sampling procedure. When the urban, town/village and rural populations are weighted for the percentage of individuals contacted to September 1, and projected to the total sample of 4513, the final numbers and percentages are as shown in Table IV. The comparable information from the 1966 Census is also shown in the Table.

TABLE IV

Projected Total Sample and 1966 Census by Age Group

Age group	1966 Census		Projected Sample	
	Number	Per Cent	Number	Per Cent
0 - 4	12,587	11.59	510	11.33
5 - 9	13,023	11.99	588	13.04
10 - 14	12,023	11.07	524	11.62
15 - 19	11,061	10.19	503	11.15
20 - 24	6,781	6.24	256	5.67
25 - 29	5,715	5.26	265	5.87
30 - 34	5,541	5.10	248	5.50
35 - 39	5,374	4.95	216	4.79
40 - 44	5,538	5.10	199	4.41
45 - 49	5,475	5.04	185	4.10
50 - 54	5,371	4.94	221	4.90
55 - 59	4,617	4.25	154	3.41
60 - 64	3,740	3.41	180	3.99
65 - 69	3,595	3.31	190	4.21
70 - 74	3,237	2.98	105	2.32
75+	4,857	4.47	165	3.65
Totals:	108,535	99.89	4,509	99.96

1966 Census data from DBS Bulletin No. 92-610 (March, 1968)

Of the 16 age groups considered, the difference between Census and projected sample exceeds one percentage point only in the 5 to 9 year age group. The mean deviation between the two sets of data is .609 percentage points. The projected sample is not significantly different from the 1966 Census at the .001 level. ($t = 9.0746$; $df = 15$; $.001 = > 4.073$). The relationship is shown graphically in Figure 2 on following page.

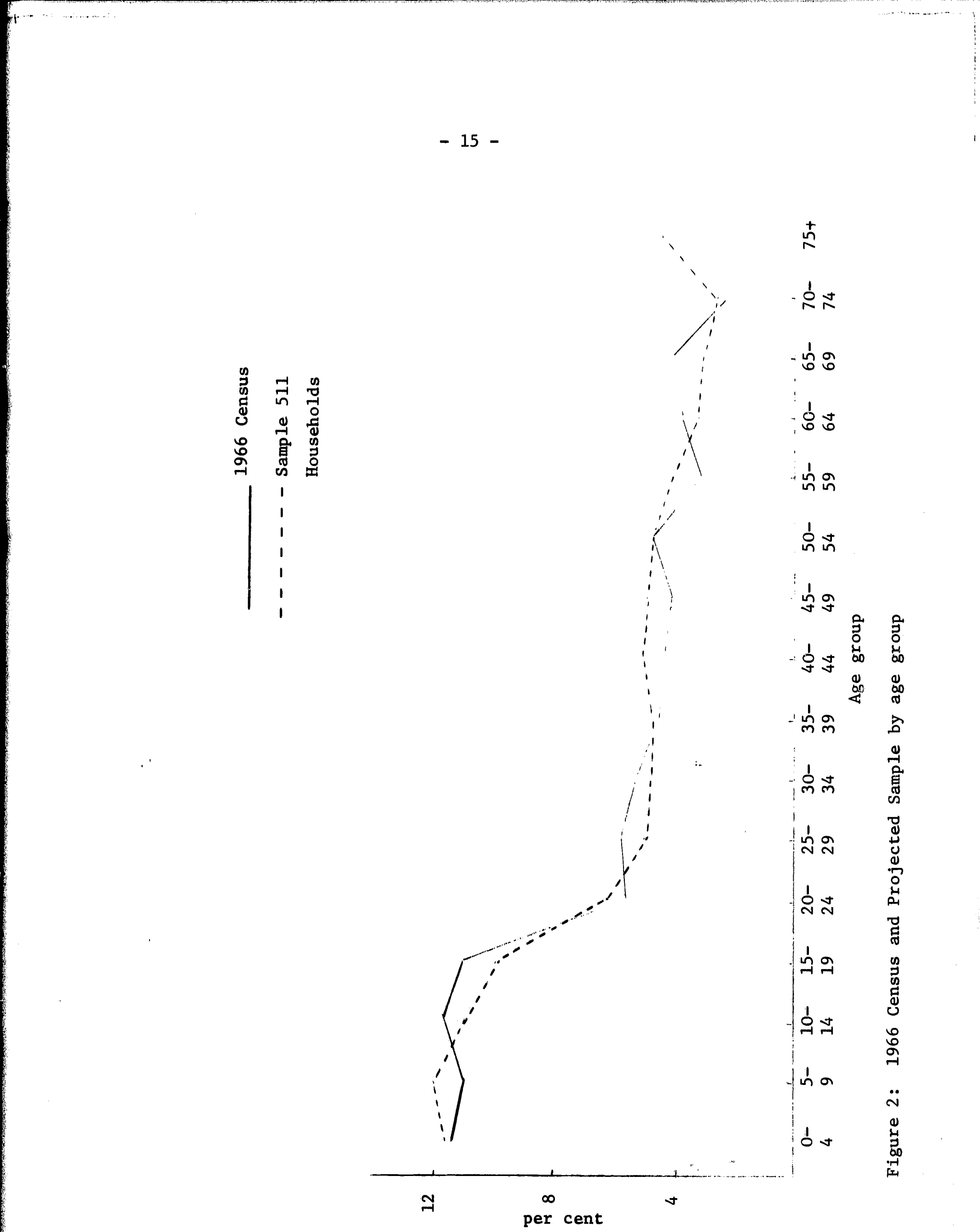

Figure 2: 1966 Census and Projected Sample by age group

Table V gives the age/sex distribution for members of the 511 households and the relevant data from the 1966 Census. There is no statisically significant difference between the Census data and either sex, (male t = 8.54; female t = 6.40; df = >4.073). The mean percentage point difference for males is .687 and .787 for females.

TABLE V

Projected Total Sample and 1966 Census by Age/Sex Categories

	Projected Sample				1966 Census			
	Male		Female		Male		Female	
Age	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
0-4	271	11.79	239	10.81	6471	11.77	6116	11.41
5-9	310	13.48	279	12.63	6582	11.97	6441	12.02
10-14	282	12.27	241	10.90	6115	11.12	5908	11.03
15-19	256	11.14	248	11.22	5560	10.11	5501	10.27
20-24	152	6.61	103	4.66	3475	6.32	3306	6.17
25-29	123	5.35	142	6.42	2892	5.26	2823	5.27
30-34	133	5.78	115	5.20	2895	5.26	2646	4.94
35-39	106	4.61	109	4.93	2747	4.99	2627	4.90
40-42	84	3.65	115	5.20	2819	5.12	2719	5.07
45-49	95	4.13	90	4.07	2740	4.98	2735	5.10
50-54	96	4.17	125	5.65	2710	4.92	2661	4.96
55-59	78	3.39	75	3.39	2473	4.49	2144	4.00
60-64	83	3.61	97	4.39	1929	3.50	1811	3.38
65-69	94	4.09	96	4.34	1848	3.36	1747	3.26
70-74	55	2.39	50	2.26	1534	2.79	1703	3.17
75+	80	3.48	85	3.84	2184	3.97	2673	4.99
Totals:	2298	99.94	2209	99.91	54974	99.93	53561	99.94

1966 Census from DBS Bulletin No.92-610 (March, 1968)

The data presented show that the stratified sampling procedure being used in the study will yield a highly representative sample of the Prince Edward Island population. There may, in fact, be a higher relationship between the projected sample and the actual population of the province at this date than

is indicated by the above data. While the population of the Island is known to be stable, a review of several census shows that fluctuations have occurred. Previous data relating to the many additional variables of concern to the study are not available, but it can be assumed that they will be adequately represented in the projected sample.

It is also appropriate at this point to re-examine the sample projections in relation to that of the Research Design. This is particularly relevant due to the sample reduction from 4.60 to 4.15 per cent of the total population and the probable effects upon the size of the target sample of retardates. The objective of the study is to isolate a sub-sample of retardates from the general population and to analyze the data of that smaller group. The total sample must yield sufficient data for purposes of hypotheses testing if the study is to have meaning.

Table VI (page 18) enables comparisons to be made between the sample assumed in the Research Design and the projections based upon the 511 households. Columns 1 and 8 are taken from Table V of the Research Design and give the age/sex distribution for the 4.6 per cent sample. Columns 4 and 11, in addition to columns 5 and 13, are taken from Tables VI and VIII of the Research Design and are estimates of the final retardation sample in terms, respectively, of 3 and 13 per cent prevalence rates. It should be kept in mind that data from the Research Design were derived from the 4.60 per cent sample estimates while the projections given are for the reduced sample.

Columns 2 and 9 are the original (columns 1 and 8) data weighted for the new sample. They show, in effect, the numbers of subjects which

TABLE VI

ANTICIPATED AGE AND SEX DISTRIBUTION OF FINAL SAMPLE

Male

Age	Table 5 (1)	Column 1 (weighted) (2)	*Project. (3)	Table 6 3% (4)	Project. 3% (5)	Table 8 13% (6)	Project. 13% (7)
0-4	294	269	271	9	8	39	35
5-9	299	274	310	9	9	39	40
10-14	278	254	282	8	8	36	37
15-19	253	232	256	8	8	31	33
20-65	1121	1025	950	34	29	136	124
65 plus	253	232	229	8	7	31	30
Total:	2498	2286	2298	76	69	312	299

Female

Age	Table 5 (8)	Column 8 (weighted) (9)	*Project. (10)	Table 6 3% (11)	Project. 3% (12)	Table 8 13% (13)	Project. 13% (14)	Male and Female Columns 6 & 13 (15)	7 & 14 (16)
0-4	278	254	239	8	7	36	31	75	66
5-9	293	268	279	9	8	39	36	78	76
10-14	269	246	241	8	7	35	31	71	68
15-19	250	229	248	8	7	33	32	64	65
20-65	1067	977	971	32	29	139	126	275	250
65 plus	278	254	231	8	7	36	30	67	60
Total:	2435	2228	2209	73	65	318	286	630	585

* Project = projection

would have been anticipated in a 4.15 per cent sample as calculated for the Research Design. Columns 3 and 10 include present sample projections, as given previously in Table V of this report. Assuming a 3 per cent prevalence (columns 5 and 12) the study, as now being carried out, can be expected to yield a retarded sample of 69 males and 65 females which is a reduction from the original 76 and 73 (columns 4 and 11).

Since a rejection of the classical 3 per cent prevalence rate is a thesis of the present study, the data given in Table VIII of the Research Design must receive comment. Columns 6 and 13 give the 13 per cent prevalence rates from Table VIII while columns 7 and 14 relate to projections of the reduced sample. Totals for male and female are given in columns 15 and 16. It can be observed that the target sample of retardates for whom data will be available has been reduced from 630 to 585 persons. The projected sample of 585 persons will - for purposes of data analysis - be considered in 32 age/sex categories with an average of 18 persons per group. It is clear that a sampling ratio of 4.15 per cent of a general population is the minimum from which to draw a sub-sample of retardates if the resulting data are to be sufficiently representative of the various population paramaters of concern to a prevalence study.

INSTRUMENTATION

Instrumentation for the study was designed to take an enumeration of the total sample whether or not individuals are available for interview, to yield data relevant to the prevalence of retardation throughout the Province of Prince Edward Island, and to facilitate the examination and definition of retardation as it appears in the sample. This section of the report is a review of the research battery, as described previously in the Research Design, and an outline of a number of subsequent modifications.

The research battery itself may be described as falling into seven major categories, with the specific application to individuals depending upon age and status within the respondent families. Subjects over twelve years of age are administered a variety of tests and questionnaires, with additional information solicited from the mother or alternative caretaker. Subjects from age five to twelve have fewer tasks, while subjects under five years of age have the fewest. Additional data on the latter group are gathered from the mother or caretaker. The major areas of concern to the research are as follows:-

A) Enumeration
B) Social Performance
C) Intelligence and Social Maturity
D) Past and Present Life History
E) Personality Variables
F) Attitudinal Variables
G) Assessment of Interviewee Behaviour.

For ease in administration, the various sections of the research battery have been combined into a number of protocols according to the age group or family status of the respondents.

1) Family Interview Form (FIF) - an enumeration device used to ensure complete coverage of the designated sample, including persons not available for interview. The FIF is used as a check on the field work and is valuable in scheduling interviews. It is a useful means of approaching respondent families and has been found of value in preparing subjects psychologically for subsequent sections of the research battery.

2) Individual Life History (ILH) - a questionnaire used for all respondents over fifteen years of age. The form includes a number of indices relevant to present and past history, in addition to measures of social competence. The scale of verbal hostility [2] used in the 1968 pilot study has been deleted from the ILH in favour of the Leighton scale [9], which is assumed to have more relevance in the present research situation. The scale was developed originally for use in the Nova Scotia study and relates to mental health. Following study and consultation, the scale was divided into two sections, one of which includes only seven items. This shortened version is being administered as part of the ILH with a smaller control group of respondents receiving the full scale.

Both the short version of the Bradburn scale [1] and the Gough scale [7] have been retained, as discussed in the Research Design.

3) Vineland Social Maturity Scale (SMS) - The Vineland Scale [4] was administered during the pilot study in a shortened form of 36 items from the lower range. Later study indicated that increased relevance could be attained if the scale was administered in the

3) original form but still confined for use to the lower age range in addition to known or suspected retardates. This alteration in procedure requires, on the average, slightly more interview time but will enable the resulting data to be more easily compared with findings from studies in clinics and other situations.

4) <u>The Wechsler Intelligence Test (WISC)</u> - The Wechsler Scales (15) are widely used measures of individual intelligence in North American and other cultures and, consequently, much data have been gathered on their use for both clinical and research purposes. In the present research situation, the administration of the full complement of ten or twelve sub-tests is impractical due to the factors of time and the difficulty of the interview environment. Further, the reliability attainable with selected verbal and comprehension sub-tests is considered sufficiently high for purposes of prevalence study.

During the pilot study, four sub-tests were administered with a view to assessing their suitability for use in the major study. The four tests used were comprehension, similarities, picture completion and picture arrangement. Study and consultation subsequent to the Research Design indicated that the objectives of the study would be better served by the substitution of information and object assembly sub-tests for comprehension and picture completion.

Glasser (5) noted that the quartet, including information, similarities, picture arrangement and object assembly, correlated at .95 for age $10\frac{1}{2}$ with the standardization sample; .94 at age $13\frac{1}{2}$,

4) while it reached .88 for a retarded sample. Correlations of .90 [14] between a brief form and the full scale, result in an estimated error of 8.6 scale score units. That is, a correlation of .90 calculated from a brief test would be no more than nine IQ points above or below the full scale IQ score. In the present research, with the estimated N per cell, it may be assumed that the selected verbal and comprehension sub-tests will provide an acceptable base line of data. The vocabulary sub-test, which is widely accepted as the best single measure of intelligence, has not been included in the test battery due to the amount of time required for administration and the subjectivity of scoring.

The Wechsler sub-tests are possibly the most discriminating of the several assessment techniques being used in the study and are administered to subjects beginning at age five. An intent of the study is to extend the chronological age range for which data is available. The extension applies to both ends of the age range but must be considered highly experimental at both ends. Although maximum age at which administration of the battery is practical is still unknown, it appears that any clarification of the issue would have value particularly in this era of increasing life span and concern for the aged. The assessment of retardation at an earlier age is also of importance since it may facilitate more effective and earlier planning. These considerations led to the use of the children's version of the scale rather than the original Wechsler-Bellevue(WB).

5) Draw-A-Person(DAP) [6,8] - The DAP, following the outline in the Research Design, is being administered to children aged three to twelve and to known or suspected retardates.

6) Parental Attitude Research Instrument (PARI) - The Parental Attitude Research Instrument, as developed by Schaeffer and Bell, (12, 13) has been included in the research battery due to its value in assessing the retardate's home environment. The total scale of 115 items has had widespread research application over the past 15 years. It is a measure of 23 different variables, with sufficient reliability for group comparisons.

Five of the sub-scales of the PARI are included in the present research. The shortened version of five scales are: fostering verbalization, fostering dependency, marital conflict, comradeship and sharing. These scales include 25 items and are being administered to mothers who have children 21 years of age or less in the home. This will afford sufficiently large experimental and control groups for analysis purposes.

STAFF

Following approval of the project by the Department of National Health and Welfare on April 1, 1969, immediate steps were taken to finalize plans for the field work. An earlier decision to staff the project so far as possible with personnel from the Maritime Provinces, preferably Prince Edward Island, was followed. Interviews were held in various university cities with the final selection of persons from Dalhousie University, the University of Moncton, the University of New Brunswick and St. Dunstan's University (now the University of Prince Edward Island) Charlottetown. Of the seven interviewers chosen from the Eastern Provinces, five were residents of the Island.

In addition to the above, the field staff included four persons from Ontario. With one exception, these four persons held university degrees in the social sciences. The fourth interviewer, a registered nurse, possessed unusual aptitude for field work in mental retardation.

The selection of field staff from the Maritime Provinces was deemed to be mutually advantageous to both personnel and project. It was thought that they would possess a better understanding of the culture of the area and be motivated in an attempt to better understand the social problems of their own people. Staff morale would, it was expected, be more easily maintained under often difficult interviewing circumstances, and transportation costs to and from the field site would be reduced. The opportunity for students of local universities to gain additional experience through immediate involvement in research was viewed by several persons as having both short and long term advantages.

Personnel brought into the area had the advantage of greater experience and more extensive training in the field of mental retardation.

They were expected to carry additional field responsibility and to serve as training agents for the total group. In two instances, they had been heavily involved with the project since 1968.

The project's field staff - as finally constituted - was somewhat smaller than originally anticipated in the Research Design of December 1968.

STAFF TRAINING

Staff training was based largely upon experience gained during the 1968 pilot study and outlined in the Research Design. That is, the training included:- lectures, practice test administration, practice testing in the field, assigned reading, discussions, assessment and, when possible, visits to facilities for the mentally retarded.

The main deviation between the application of training procedures and those outlined in the Research Design lay in the amount of time that could be allocated. One month had been scheduled for training; but the period was reduced to two weeks in accordance with prevailing circumstances.

While the shortened training period had the effect of placing personnel in the field at an earlier date, it was probably detrimental on the whole. Many problems of field interviewing with complex research instruments occurred after assignment of personnel to widely distributed sampling areas, whereas many issues, perhaps most, could have been encountered during lectures and field practice. Furthermore, difficulties encountered with 'sample' families require sensitive and costly follow-up by senior personnel if a high rate of completed interviews is to be attained and maintained. Additional staff meetings and other time consuming devices were required during the early period to maintain interviewer morale and data validity.

INCOMPLETE INTERVIEWS

The rate of incomplete interviews is, as implied above, a major determinant of data validity and one of the major problems of social research outside the laboratory. The issues involved become magnified when, as in the present project, the research battery is complex, is fairly lengthy, and deals with an area of inquiry that many persons believe to be personal.

At this point in the study it is not possible to report data on the refusal rate itself since follow-up of incomplete protocols is still underway. It appears, however, that hard core refusals will be maintained within acceptable limits and, hopefully, well below ten per cent of persons contacted.

A number of incomplete interviews are due to the harsh, immediate and sustained refusal of individuals to co-operate in any manner with the project staff. Refusal itself may be considered a symptom of underlying conditions or past experience of the persons involved. In this sense it becomes necessary that all reasonable steps be taken to complete interviews.

Incomplete and difficult interviews exemplify a wide range of problems, many of which can be handled successfully by careful and adequate follow-up. Although the variation in interview problems seems infinite, most fall into one or more of the following categories:-

1) suspicion and negativism
2) seasonal aspects of local industries, i.e., fishing and potato farming
3) holidays
4) school
5) working wives
6) illness
7) senility
8) alcoholism

9) dislike of surveys and/or unfortunate experiences with previous studies
10) fear of not performing well on tests
11) disbelief that the study can be effective
12) identification of the Canadian Welfare Council with governmental authority and/or misinterpretation of the term 'Welfare'.
13) misunderstanding of study objectives
14) intellectual, psychological, and/or social maladjustment
15) factors associated with the interviewers.

Typically, an incomplete interview effects data from only one person in a respondent household or, perhaps, only one section of the total research battery. There are, however, a few instances where total families have been lost to the sample due to the stern refusal of a single parent. Seldom is a refusal such that the Family Interview Form cannot be completed.

All incomplete interviews, for whatever reason, will be reviewed and followed up by senior staff persons.

COMPLETE INTERVIEWS

Prince Edward Island people have experienced a large number of studies dealing with widely diversified topics. Unfortunately, there is strong evidence that researchers have often overlooked their responsibilities to the population under study with the result that respondents often react negatively to further encounters. On the whole, it appears that the Islanders have received little or no acknowledgment of their important role in social and economic research and perceive little benefit accruing to their Province from the constant intrusion into their personal lives and affairs. This condition is evident despite the fact that the vast majority of respondents receive Council interviewers with courtesy and gladly donate considerable time through repeated interruptions of their daily schedule.

To minimize possible difficulty for future researchers, each respondent family receives a brief follow-up letter expressing appreciation for their co-operation and again outlining the objectives of the study.

THE INTERVIEW PERIOD

Characteristics of a particular piece of research, the location of the study, available personnel, the availability of respondents, and numerous other factors dictate what policy may or may not be formulated under a given set of circumstances. Unfortunately, the present research is not an exception to the rule. While a field staff of university personnel has obvious advantages for social research, a marked limitation arises due to the amount of time available between final examinations one term and registration for the following winter session. In the present study, the problem of available time has been compounded by the distances involved, the amount of time required to reach proficiency with the research battery, the time required to reach full productivity through a continuity of appointments and, finally, the time involved in completing interviews of co-operative families assigned to the interviewers concerned. Most families require several appointments to co-ordinate interviews with the various activities of both parents and children. Fathers present particular difficulties since they often work long hours potato farming or fishing.

Most interviewers joined the project during the last half of May and departed in late August or early in September. Thus, their time devoted to full productivity was relatively brief, with a consequent reduction in the average number of completed interviews. That condition, when combined

with other limitations on data gathering, has reduced the number of interviews completed considerably below what had been anticipated.

Interviewers who have remained with the project for a longer period have become more experienced, their weekly average of completed contacts is higher, the validity of data is higher, while the rate of incompleted interviews is somewhat less.

TRAVEL

Travel estimates for the data gathering phase of the study were difficult to project due to numerous factors that were not encountered during the earlier pilot study carried out in two small villages. Despite stratification of the study sample into areas of more concentrated interviewing, and the stationing of personnel at three locations throughout the province, a number of issues have tended to maintain travel requirements at a high level:-

1) The interview/grid ratio is much less than previously estimated due to the high vacancy rate of homes in rural areas. Several dozen additional randomly selected grids have been added to the sample to attain the required number of interviews.
2) A large number of grids are shown as vacant on all available maps, but must be checked nonetheless. The on-site check of all grids has revealed a number of newly constructed homes that rightly belong in the sample.
3) The difficulty in making initial contact with respondent families. Often, in fact very often, two or more calls are required before respondents can be found at home.

4) Appointments, following the initial contact, must be made at the convenience of respondents. Subsequent appointments are required for a number of reasons, including the inability of all household members to be present at one time and the reluctance of some individuals to honour appointments.
5) The difficulty in obtaining accommodation for interviewers in the most convenient locations throughout the Province.
6) Interviewer morale and their need for frequent contact with other staff members.
7) Difficulty in co-ordinating appointments even where families live in close proximity to one another. This is exemplified by two neighbour families located in an isolated grid.
8) A decision by the project director to concentrate on rural areas and villages early in the period. This was calculated to give interviewers additional experience before encountering the more sophisticated urban population and to assure that winter weather would not seriously disrupt data gathering.
9) The necessity of maintaining the highest possible rate of completed interviews.
10) The varying capability of individual staff members to organize their work schedule for maximum efficiency.

PUBLICITY

The use of publicity to introduce and support the project has been, and remains, an issue of continuing debate among staff members.

During the pilot study of 1968, the work received support from leading citizens in both small villages involved at that time. In this respect Roman Catholic and Protestant clergy were particularly helpful and accepted personal responsibility for informing their respective congregations of the pending study. Communication was fairly direct and all residents of the villages were involved in the study.

By contrast, the present study involves a relatively small sampling of the total population and precludes the more immediate communication found effective in 1968. While the mass media presents a distinct advantage insofar as coverage is concerned, it also raises the possibility of a misinterpretation of the study or, perhaps worse, of leaving important questions unanswered.

Following additional consideration of the issues involved and consultation with Island officials, it was decided to bypass all indirect channels of information. Introduction of the study is left to the interviewer in his personal encounter with the respondent. In this way, a respondent can receive immediate answers to questions or areas of concern. Although the procedure has inherent weaknesses, it does appear to counter-balance a number of the issues previously mentioned as factors in the ratio of incomplete interviews.

Each interviewer carries credentials consisting of a letter from Dr. M.N. Beck, Director of Mental Health for the Province of Prince Edward Island, and another from the study director.

OFFICE FACILITIES

The Division of Mental Health of the Province of Prince Edward Island has provided office and store room facilities, without cost, for the study director and field staff.

CONSULTANTS

A number of professional persons named in previous reports on the study have made helpful suggestions during and since the writing of the original feasibility proposal in 1967. Their comments have covered several areas of concern to the study, including: sociology, psychiatry, psychology, epidemiology, rehabilitation and education.

Following initiation of the study proper in the Spring of 1969, Dr. H.D. Beach, Miss Peggy Sheffer and Miss Brenda Van Zoost, psychologists of Dalhousie University, Halifax, accepted consultative roles on the project. In the interim period, they have made contributions to the study through discussion and attendance at staff meetings.

Additional consultants, presently available to the study, are discussed briefly in a later section of this report.

COMMITTEE OF THE C.W.C. BOARD OF GOVERNORS

With approval of the study for funding, the present research became one of the major projects under Canadian Welfare Council sponsorship. Administratively, however, the work is not part of the Research Branch nor of any Division of the Council. In this sense, the project occupies a unique position relative to the Council, but is devoid of a direct interpretive link to the Board of Governors.

At the initiation of the Council's Executive Director, an attempt is presently underway to establish a project committee of lay persons whose chairman will be an appointee to the Board of Governors. The Committee's terms of reference are still indefinite but, hopefully, will include the following:

1) Interpretation of the project for the Board of Governors.
2) Study and consultation with the project director on all aspects of the study, and;
3) Interpretation of study findings and the promotion of social action.

PROFESSIONAL INTEREST IN THE STUDY

This section is included as part of the progress report, although it relates more to the growing acceptance of the study - particularly in an international sense - than to more immediate field concerns. Also, the topics dealt with are still in a developmental stage and must, therefore, be accepted as speculative.

1) Initial discussions have been held with a view to further study of the sub-sample of mentally retarded that will be isolated from the general population of Prince Edward Island. Such studies, if they develop, would involve more detailed analysis of specific aspects of mental retardation as it occurs in the population and would relate to the immediate concerns of the Provincial agencies involved.
2) Early in 1969, the project director met with representatives of the Canadian Association for the Mentally Retarded with a view to developing a research co-ordination between the

2) Association's Metrics project and the Council's current research.

Under arrangements reached at that time, Council staff were to undertake field interviewing on behalf of the Association later in the year. Respondents for the Association's study would be drawn from the sub-sample of retardates or suspected retardates isolated as part of the Council's current research. Research instruments and field procedures would be those previously employed by the Association.

Final arrangements for the joint CAMR-CWC work are now being completed and field work is expected to begin with the immediate future.

3) An arrangement was completed with a group of United States researchers whereby the methodology developed for the Council's project would be adapted to an American inner-city situation. A further step in this collaboration is envisioned in a future joint study to be carried out on a selected Canadian population - possibly in one of the Western Provinces.

Three major studies, two of which relate to Canadian populations using similar or identical research instruments and methodology, would present analysis possibilities of a comparative nature that would otherwise not be possible. It would, in fact, be the first time that comprehensive and directly comparable data relating to the prevalence of mental retardation, would be available for two or more discrete populations.

3) The possible development of a further Canadian study must be viewed as a long-term undertaking, although a few fairly immediate decisions are required. In this sense, the following points are noted as guidelines to any subsequent development:-

i) A future Canadian study would not overlap in time with the present Prince Edward Island research.

ii) A grant submission would be made to a United States funding agency by St. Louis University.

iii) The Canadian Welfare Council would, if arrangements can be completed, be the co-sponsoring Canadian agency.

iv) The study would be carried out in Western Canada, and;

v) The present director of the Island study would also direct the Western Canadian project.

To initiate the long-term development of both proposed studies, the research director, in collaboration with United States colleagues, wrote the initial draft of the urban study research design during the summer of 1969. In accordance with the desirability of comparative studies between Canada and the United States, the proposed research leans heavily on the present Prince Edward Island research design. Sampling procedures, however, were devised specifically for application to a highly urbanized inner-city area.

Later, the draft was studied and further refined by members of a Project Committee established for the purpose of guiding the proposed work. Formal submission of the research design and application is anticipated by late Fall, 1969. In the event that funding is provided, the study will be initiated during 1970.

3) A major benefit has accrued to the Prince Edward Island study in the form of direct access to the excellent Professional Advisory Committee established as part of the United States study. The Committee - which will be announced publicly if the project is funded - includes a number of outstanding persons in the mental retardation and related health and welfare fields in the United States.

CONCLUSION

The topics discussed in the preceding pages were intended as a brief over-view of the project for the initial five-month period rather than a well rounded presentation of the total study. The latter purpose would have involved a discussion, for example, of the Mental Retardation Index, analysis procedures and a number of other issues that were not central concerns during the period under review.

Included in the discussion are a number of points that do not bear directly on the field work phase of the study. These items have been included since they occurred during the period under review and are relevant to the total study. They point out practical applications of study methodology, theory and findings, both in Canada and beyond. It is believed that developments such as these are confirmation that the study, Mental Retardation in a Canadian Province, can fill an important research void.

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