A TEST OF VALIDITY OF PLACE RESIDENCE AS AN INDICATOR OF SOCIO-ECONOMIC CHARACTERISTICS OF PARTICIPANTS IN UNIVERSITY NON-CREDIT EVENING CLASSES

by

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Department of Education

We accept this thesis as conforming to the required standard .

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Department of Education.

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Date September, 1962.

To my wife, Kathleen Margaret Jones, and our daughter, Glenna Jean Jones, this study is dedicated.

ABSTRACT

The central problem of this study is to test the validity of using census tract data for the area of residence to determine the socio-economic characteristics of participants in university evening non-credit classes. This study has also explored certain socio-economic characteristics of university extension participants through an analysis of data of a 392 member sample from the participants in University of British Columbia Extension non-credit evening courses.

The method used in this study was the analytical survey method.

A fifty-seven class universe was stratified according to the type of class to form twelve groups. A random sample of classes in each of the twelve groups was selected, with the participants of the classes comprising the sample. Data obtained from the sample by questionnaire, was scrutinized on three accounts: the total sample, the segment of the sample residing in Vancouver, and the segment of the sample residing in the area outside Vancouver. An analysis of this data was carried out to determine certain socio-economic characteristics of the sample and to determine whether the socioeconomic characteristics of persons attending the evening classes from specific census tracts were representative of all evening class participants.

The second phase of this study was concentrated on the analysis of data for a fifteen tract segment of the Vancouver

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portion of the sample to determine whether there was a significant difference with respect to certain socioeconomic characteristics between the total population in a given census tract and residents from the tract attending non-credit evening classes. The chi-square was used to test data for the fifteen tract area.

Social status of the sample was analysed using data for the total labour force by application of the Blishen scale.

Perhaps the most significant outcome of the study of certain socio-economic characteristics of the total population in a given census tract and residents from that tract attending university non-credit evening classes is the demonstration of the significant difference in the characteristics of these two categories of persons. Results of the analysis of data for this study indicate that people who participate in university extension classes are above average in socio-economic status.

The methodology for determining the socio-economic characteristics of participants in university non-credit classes through use of census tract data for the area of residence would, therefore, be invalid.

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CHAPTER I

INTRODUCTION

Recent Studies on Characteristics of Adult Education Participants in Extension Classes

Understanding of the characteristics of users of university adult education is a major factor in maintaining and In the long run it developing such educational services. will be the consumer who determines what extension programs will be used, and to what extent. Because adult education is voluntary, knowing the characteristics of its participants is a major concern. Schueler has commented that: "At no level of education is the adage 'Know your students' more crucial." The problem then is to discover the fundamental characteristics of participants who may be widely differentiated in terms of their varying educational, cultural and socio-economic backgrounds.

Reports made by various committees of The National University Extension Association and The Adult Education Association have provided some statistics to this end and from time to time, more extensive specialized studies have been undertaken which were based upon either total enrollment, or samples.

l Schueler, Herbert, "The Method of Adult Education", <u>Adult Leadership</u>, April 1957, p. 308.

Review of the Literature

An examination of the results of various surveys of participant characteristics in programs of adult education suggests that the clientele has certain variables that can be isolated for analysis. This may be illustrated in a variety of patterns: for example, middle status groups appear to be served more effectively by extension programs than are groups of a lower status.¹ It may be well, however, to take into consideration local conditions that may cause a dissimilitude between various areas in this respect. Extension services appear to reach proportionately more people with a higher standard of education, high school and above, than those with less.²

Studies of participation revealed a consistent positive association of formal participation rates and patterns applied to variables, which may be considered as measures of socio-economic status.

It would seem most important, therefore, to examine the socio-economic factors associated with participation. As already noted, educational differences have been found extensively to be associated with distinctions in rates and patterns of social participation.

Education

John Morton in his study of university extension classes

l Brunner, Edmund, et al., <u>An Overview of Adult Educa-</u> <u>tion Research</u>, Chicago, Illinois: Adult Education Association of the U.S.A., 1959, p. 93. 2 <u>Ibid</u>.

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has identified the extension participant through various socio-economic features.¹ He found that the educational level was considerably above the average for the nation as a whole, as only five per cent of the group he studied had failed to complete high school.

Holden points out that participation in adult education increased in ratio to school achievement.² He found that 1.4 per cent of the participants had less than five years of schooling, 20.5 per cent had four years of college and 25.5 per cent more than four years of college.

Agger and Goldrich, in a comparative community study of local politics in two communities in the Far West, identified a positive relationship between socio-economic status and participation in community organizations, with education as the index of socio-economic status related closely to sociopolitical participation.³

Occupation

Participation in adult education in various institutions tends to be clearly distinguishable due to occupation. University extension tends to favour a certain group. Morton reports that more than three-quarters of extension participants

1 Morton, John R., <u>University Extension in the United</u> <u>States</u>, Birmingham, Alabama: University of Alabama Press, 1953, p. 89.

2 Holden, John B., "A Survey of Participation in Adult Education Classes", <u>Adult Leadership</u>, VI, April 1958, p. 260.

3 Agger, R. and Goldrich, D., "Community Power Structures and Partisanship", <u>American Sociological Review</u>, August, 1958, pp. 386-391.

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were holders of full time jobs.¹ One-third of the users were professional educators. Workers in business and industry were the second largest group, with almost as many in total number as education.

In the survey conducted by Holden twenty-five per cent of the participants were reported as professional and technical workers.² Managers accounted for sixteen per cent, while clerical and sales people, third in status, numbered the same as professional and technical users. Members of occupations with a low status accounted for a much lesser number of participants. Such information would tend to indicate that extension participation is more prominent among workers from the so-called prestige occupations.

<u>Sex</u>

Differences in participation patterns of men and women have been widely reported. Morton, for one, has reported a fifty-seven per cent average of men participants.³ Among middle-class urban population, while men tend to be members of more organizations, women are frequently reported to attend meetings more regularly.⁴ According to Morton, twothirds of the participants are married. Widowed or divorced persons comprise a very small portion of the participants.⁵

1 Morton, <u>op</u>. <u>cit</u>., p. 91. 2 Holden, <u>op</u>. <u>cit</u>., p. 260. 3 Morton, <u>op</u>. <u>cit</u>., p. 88. 4 <u>Brunner, op</u>. <u>cit</u>., p. 106. 5 Morton, <u>op</u>. <u>cit</u>. Age

Age has been found to be associated with differences in participation rates. Dyer reported that the median age level for extension classes has been found to be thirty plus years,¹ while Morton indicated the level at thirty-eight years.² The age range extends approximately from eighteen years to sixty-five or seventy years, with very few users of extension services exceeding sixty years of age. Participation is generally low for youth and young adults, increasing sharply in the late twenties and early thirties, and remaining fairly constant in the thirty-five to fifty age group. Peak activity falls somewhere in this age group with very few users in older age brackets.³

Income

Economic status is another factor in rate of participation. Morton: found a higher than average income among university extension participants with the median income between \$3,600 and \$4,200 per year.⁴ Other reports indicate four out of five participants earning more than \$3,000 per annum.

Participant Research

Two main approaches to studies of participation in adult

l Dyer, John, <u>Ivory Towers in the Market Place</u>, Indianapolis: Bobbs-Merrill, 1956, p. 7.

2 Morton, op. cit., pp. 88-89.

3 Brunner, op. cit., p. 105.

4 Morton, <u>op</u>. <u>cit</u>., p. 91.

education have been: (1) the study of the characteristics of participants in particular institutions, and (2) a sampling of a population or area to determine differences between participants and non-participants.

A questionnaire sent directly to participants was used to collect data for the study of extension services in universities as well as data for a study of the Great Books program. A random sample survey and participant observation made up the research method used by Agger and Goldrich.¹

Peterson, in discussing university adult education and methods in current use to collect information, has indicated that data was sought through use of the questionnaire and interview.²

In a study by the Center for the Study of Liberal Education in 1952, three separate approaches were used: the telephone interview; the mail questionnaire; and the personal interview.³

Particular view survey questions were used in a sample survey made by the Bureau of the Census in 1957, to study the distribution of participation in adult education on a nation-wide scale.⁴

1 Agger and Goldrich, op. cit., p. 385.

2 Peterson, Renee, <u>University Adult Education; A Guide to</u> <u>Policy: A Project Planned by R. Rovetch</u>, New York, N.Y.: Harper and Bros., 1960, p. 40.

3 Carey, James T., <u>Why Students Drop Out</u>, Chicago, Illinois: Center for the Study of Liberal Education for Adults, 1953, p. 4.

4 Holden, op. cit.

Justification of the Study

It is fairly obvious that the questionnaire and interview techniques are used extensively to obtain data for analysis. These are techniques of the present: they enable the collection of data on various aspects of adult participation, but only after great expenditure of time and money. The analysis of such data is sometimes cumbersome and, all too often, comes too late to aid in the improvement of adult education activities through a better understanding of the participant.

By the proper use of existing data it may be possible not only to rapidly determine socio-economic characteristics of participants, but also to do so in sufficient time in order that the result may be of value in aiding class instruction.

A recent exploratory study conducted by Lindenberger and Verner was designed to examine the appropriateness of a modified form of ecology technique to analyse evening class participants.¹ This experiment consisted of a comparison of the participants in non-credit extension classes who live in the various postal zones with the socio-economic features of the zone. From the foregoing, one should be able to get a picture of the socio-economic characteristics of the participants.

A weakness in the study by Lindenberger and Verner would appear to be the lack of objectivity in determining the socio-

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l Lindenberger and Verner, "A Technique for Analyzing Extension Course Participants," Chicago, Ill.: <u>Adult Education</u>, Vol. XI, No. 1, Autumn, 1960, pp. 29-34.

economic characteristics of the postal zones. In order to overcome this criticism, the use of census information may be of value. Hence it may be possible to isolate specific indices of socio-economic status for various census tracts in a manner that will supply data that can be listed for significance as factors influencing participation. The authors themselves have stated that their study was only exploratory. It was, by its very nature, not complete in itself, but did indicate a line of research.

Problem

The central problem of this study is to test the validity of using census tract data for the area of residence to determine the socio-economic characteristics of participants in university non-credit classes.

Hypothesis

The hypothesis in the null form to be tested is: there is no significant difference with respect to certain socioeconomic characteristics between the total population in a given census tract and residents from that tract attending university non-credit evening classes.

Plan of the Study

This study describes the procedures used to validate a methodology for the collection of data on socio-economic characteristics of university extension non-credit participants. In order to carry out this study it was necessary to determine the following:

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(1) the socio-economic characteristics of participants in the University of British Columbia Extension non-credit evening courses;

(2) from census data, certain socio-economic characteristics of persons residing in specific census tracts for Vancouver City proper;

(3) whether there is a significant difference with respect to certain socio-economic characteristics between the total population in a given census tract and residents from that tract attending non-credit evening classes;

(4) whether the socio-economic characteristics of persons attending the evening classes from specific census tracts are representative of all evening class participants.

CHAPTER II

PLAN AND PROCEDURE

The Plan

Two kinds of differentiated data had to be collected for the purposes of testing the hypothesis. Data on socio-economic characteristics of extension class participants were required as well as data on socio-economic characteristics of a comparison population in order to determine where there is any statistically significant difference between the two groups. In so far as possible identical kinds of data were collected from each.

The Universe

For purposes of this study the participants of fifty-seven non-credit extension classes that were in session during the two week period of February 5, 1962 and February 15, 1962, constituted the universe. Six additional classes in session at that time were excluded from the universe since they were atypical because of their specialist nature.

The fifty-seven classes were stratified by type of class into twelve groups as indicated in Table 1. A random sample was taken from each of these groups in such a manner that there was at least a twenty per cent selection of the classes. The participants from these selected classes made up the sample of the universe, and data on socio-economic characteristics were collected.

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TABLE 1	Group	ing of U	Jniversi	ity of B	ritish	Columbia	non-
credit ext	ension	classes	s for se	election	of sam	nple, and	class
breakdown	of sam	ple by g	group, H	February	5 to :	15, 1962.	

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Grouping of Extension Classes	The Universe			
	No. Classes	Enrollment		
Specialist	6	260		
Philosophy, Psychology, Sociology, Anthropology	4	115		
Arts and Crafts	10	210		
English Language	7	178		
Foreign Languages	18	447		
Music	4	61		
Home Economics	2	63		
Horticulture	1	19		
Travel	2	90		
Business and Finance	5	470		
History	2	71		
Creativity	l	40		
Recreation	1	10		
Total	63	2034		

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TABLE 1 -- Continued

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Sample of the Universe

	Classes	· · · · · · · · · · · · · · · · ·	Questionnai	res Completed
No.	Per Cent	Enrollment	No.	Per Cent of Sample Enrollment
۔ سِرَا 0	0			
1	25.0	70	47	67.1
2	20.0	45	28	62 .2
2	28.6	38	25	65.8
4	22.2	102	39	38.2
1	25.0	12	7	58.3
1	50.0	36	27	75.0
1	100.0	21	21	100.0
1	50.0	40	28	70.0
1	20.0	150	119	79.3
1	50.0	48	21	43.7
1	100.0	40	26	65.0
<u>1</u>	100.0	10	4	40.0
	a (1922) (1922) (1923) (1923) (1923) (1923) (1923) (1923) (1923) (1923) (1923) (1923) (1923) (1923) (1923) (192	612		64.2

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Observed Data

Data were obtained from the sample on sex, place of residence, age, marital status, years of schooling completed, number of persons in the household, number of single persons in a family, type of dwelling, whether the dwelling was owner inhabited or rented, occupation and income. These data on the selected socio-economic characteristics of the sample will henceforth be referred to as observed data.

Expected Data

The establishment of comparison with the observed data necessitated facts on the socio-economic characteristics of the general population. These data were obtained from a census report on the population and housing characteristics by census tracts.¹ The statistical data thus obtained will be referred to as expected data.

The Procedure

The instructor of each of the seventeen classes from which the observed data were to be collected was personally contacted, and his cooperation requested in making the survey. The distribution and completion of the questionnaire was done at the beginning of the class session. The observed data were transferred from the questionnaire to McBee Keysort punch cards for manual sorting and tabulation.

l Dominion Bureau of Statistics. Ninth Census of Canada, <u>Population and Housing Characteristics by Census Tracts</u>, Vancouver. Ottawa: Queen's Printer and Controller of Stationery, 1953.

Analysis of the observed data was then made for: the total sample, the segment of the sample residing in Vancouver, and the segment of the sample residing in the area outside Vancouver. The chi-square test was used on observed data to examine for any significant difference that might exist between data for the total sample and data for that part of the sample residing in Vancouver.¹ Data for the total sample was also tested for any significant difference that might exist between it and data from that portion of the sample residing in the area outside Vancouver.

Since residents in Vancouver proper were found to constitute 74.9 per cent of the sample and since there are thirty-seven census tracts in Vancouver, the information used to test the hypothesis was drawn for fifteen of these tracts with a large enough number in the sample to accommodate statistical techniques.

The chi-square test was used to determine the significance at the .30 level of the difference between the observed and expected data for each of the fifteen tracts separately as well as for the total number of tracts. This level of significance was selected in order to reduce the probability of a Type II error.²

Social status was analyzed, using data for the total

l Siegal, Sidney, <u>Nonparametric Statistics for the</u> Behavioral Sciences, Toronto: McGraw Hill Book Co., 1956.

2 In subsequent portions of this study whenever chisquare significance is indicated it is at the .30 level.

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labour force by application of the Blishen scale.¹ The Blishen scale for determining social class was used in preference to other standard scales because it was computed on Canadian data and, therefore, may be assumed to be more reliable for the study than scales not computed on Canadian data.

1 Blishen, B. R., <u>Canadian Society</u>, Toronto, Ont.: The Macmillan Co. of Canada, Ltd., 1961, pp. 479-484.

CHAPTER III

CHARACTERISTICS OF THE SAMPLE

This chapter will present an analysis of the socioeconomic characteristics of the sample of the universe.

Survey returns were received from 392 persons, or 64.3 per cent of the enrollment. Of the 392 persons surveyed, 74.8 per cent lived in Vancouver proper.¹ The distribution of the remaining 25.2 per cent was from areas around Vancouver as indicated by Figure 1. Data on socio-economic characteristics are analysed for: (1) the sample; (2) the segment of the sample living in Vancouver; and (3) the segment of the sample living in an area outside Vancouver proper. These data were then tested for any significant difference. Only in a few instances, which are indicated, was such a difference noted. In all other cases no significant difference was found in the data from one region to the other.

l Attendance is not taken at the non-credit classes. Since enrollment, there may have been some dropout which will not be shown in the enrollment figures. The percentage surveyed, therefore, is probably somewhat higher than is shown in this report.

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	Vancouver Segment		Non-Van. Segment		Total Sample	
	No.	%	No.	.%	No.	%
Male	121	41.2	53	54.2	174	44.4
Female	173	58.8	45	45.8	218	55.6
Total	294	100.0	98	100.0	392 `	100.0

TABLE 2.--392 member sample of Extension Participants, University of British Columbia, February 1962, by sex.

Sex

The data with respect to sex is presented in Table 2. As is indicated, the sample and that portion of the sample residing in Vancouver were predominantly female. On the other hand, for that part of the sample living outside Vancouver, men outnumber women 54.2 to 45.8.

Age

Data on age were collected by age grouping and it was, therefore, not possible to calculate a median age. However, a median age group, identical in all three regions, was determined as containing ages thirty-five to forty-four years.¹ The age range is from the late 'teens to the seventies with a heavy concentration in the late twenties to early fifties. Few participants were found in the under twenty-five or over fifty-four years of age group. The age groups vary little among the three areas analysed.

1 Table 3, p. 19.

Age Group	Vancouver Segment		Non-Van. Segment		Total Sample	
	No.	%	No.	%	No.	%
15 to 19	7	2.4	4	4.1	11	2.8
20 to 24	34	11.5	6	6.1	40	10.2
25 to 34	90	30.6	36	36.8	126	32.1
35 to 44	70	23.8	20	20.4	90	23.0
45 to 54	60	20.4	25	25.5	85	21.6
55 to 64	27	9.2	6	6.1	33	8.4
65 to 69	2	•7	1	1.0	3	.8
70 and over	3	1.0		-	3	•8·
Not indicated	1	•4	· -	-	-1	• •3•
Total	294	100.0	98	100.0	392	100.0

TABLE 3.--392 member sample of Extension Participants, University of British Columbia, February 1962, by age group.

Marital Status

In the male sample, married men form the largest participant group. As may be seen from Table 4, married men were over twice as numerous as the single male in the three areas analysed. The largest proportion of married men came from the area outside Vancouver, with this region in turn accounting for a proportionately lower number of single participants. This, however, does not negate the fact that the single male ranked second in number for this area as well as in the remaining areas. Participation by widowed and divorced males was virtually negligible in the three areas.

<u>500.000</u>						
Marital Status	Vancouver Segment		Non-Vanc. Segment		Total Sample	
Male	No.	%	No.	%	No.	. %
Single	36	9.8	11	20.8	.47	27.0
Married	83	68.6	41	77.4	124	71.3
Widowed	1	.8	1	1.8	2	1.1
Divorced	1.	.8	-	·	1.	6
Total	121	100.0	53	100.0	174	100.0
Female						
Single	72	41.6	8	17.8	80	36.6
Married	89	51.4	34	75.5	123	56.5
Widowed	. 9	5.2	3	6.7	12	5.5
Divorced	3	1.8		· · · · ·	3.	1.4
Total	173	100.0	45	100.0	218	100.0

TABLE 4.--392 member sample of Extension Participants, University of British Columbia, February 1962, by marital status.

The largest proportion of female participants in the sample consisted of married women. By far the largest quota of married women came from the area outside Vancouver with a corresponding lower number of single women from this area. Single women comprised 41.6 per cent of the female participants living in Vancouver, and 36.6 per cent of the women in the sample. In other words married women were more inclined to travel a greater distance than single women to attend extension classes. Widowed women averaged 5.8 per cent of the female participants in each area, a figure that was approximately four times greater than the widowed male counterpart.

Years of School Completed

Data on total years of school completed were recorded by groups and, therefore, it was not possible to determine a median number of years of school completed.¹ The median total years of schooling would, however, fall in the thirteen years and over group. Participants in these classes had a median age group that was higher than the median age group for the total population. The range of education extended from one person, .2 per cent of the sample, who reported no formal education to 241, or 61.5 per cent of the sample who reported thirteen or over years of schooling. Participants who reported nine to twelve years of schooling form the largest group for any four year span. The proportion of participants of less than eighth grade level is negligible. There was no significant difference in the data collected for the total sample and data collected for that segment of the sample residing in Vancouver and outside Vancouver.

Number of Persons per Household

The median number of persons for the sample living in a household is within the two to three person group. Since this information is organized by group it is not possible to calculate a median number. The range extends from one person

l Table 5, p. 22.

Years of School Completed	Vancouver Segment		Non-Van. Segment		Total Sample	
	No.	%	No.	%	No.	%
None	1	.3	-	-	1	.2
1 to 4		-	-	-		-
5 to 8	12	4.1	4	4.1	16	4.1
9 to 12	95	32.4	38	38.7	133	34.0
13 and over	186	63.2	55	56.2	241	61.5
Not listed	-	-	1	1.0	1	.2
Total	294	100.0	98	100.0	392	100.0

TABLE 5.--392 member sample of Extension Participants, University of British Columbia, February 1962, by years of school completed.

per household, reported by 10.4 per cent of the participants, to ten or more persons per household reported by .3 per cent of the participants. As indicated in Table 6, 40.0 per cent of the sample live in a household of two to three persons, 37.2 per cent live in a household of four to five persons, 10.4 per cent live alone, 9.8 per cent in a household of six to nine persons, and .3 per cent in a household of ten or more persons. There is no significant difference in the data on numbers of persons per household between the sample and that segment of the sample residing in Vancouver.

There is, however, a statistically significant difference between the sample and that portion of the sample living in the area outside Vancouver. The median for non-Vancouver

Number of Persons per Household	Vancouver Segment		Non-Van. Segment		Total Sample	
	No.	%	No.	%	No.	%
l person	33	11.3	8	8.2	41	10.4
2 to 3	136	46.2	22	22.4	158	40.0
4 to 5	93	31.6	53	54.0	146	37.2
6 to 9	27	9.2	11	11.3	38	9.8
10 or more	1	•3	-	-	1	•3
Not listed	4	1.4	4	4.1	8	2.2
Total	294	100.0	98	100.0	392	100.0

TABLE 6.--392 member sample of Extension Participants, University of British Columbia, February 1962, by number of persons per household.

residents falls in the four to five person group with a range from a grouping of one person per household to a grouping of six to nine persons per household. 65.3 per cent of the segment of the sample living outside Vancouver as contrasted to 40.8 per cent of the segment living in Vancouver are from households of four to nine persons. Generally speaking, a larger proportion of the sample living outside the Vancouver area than in Vancouver come from a relatively large family.

Type of Dwelling

As may be seen from Table 7, persons occupying single family dwellings form 66.0 per cent of the portion of the sample who live in Vancouver, while over eighty per cent of

of dwelling inhabited	•	, 	. <u></u>			
Dwelling Type	Vancouver Segment		Non-Van. Segment		Total Sample	
	No.	%	No.	%	No.	.%
Single	194	66.0	79	80.7	273	69.6
Multiple	92	31.3	12	12.2	104	26.6
Other	8	2.7	7	7.1	15	3.8
Total	294	100.0	98	100.0	392	100.0
Owner Inhabited	138	46.9	57	58.1	195	49.8
Rental	124	42.2	27	27.6	151	38.5
Not Indicated	32	10.9	- 14	14.3	46	11.7
Total	294	100.0	98	100.0	392	100.0
Single Dwelling						
Owner Inhabited	133	68.6	- 56	70.9	189	169.2
Rented	47	24.2	17	21.5	64	23.5
Not Indicated	14	7.2	6	7.6	20	7.3
Total	194	100.0	79	100.0	273	100.0
Multiple Dwelling						
Owner Inhabited	5	5.4	1	8.3	6	5.7
Rented	77	83.8	10	83.4	87	83.5
Not Indicated	10	10.8	1	8.3	11	10.6
Total	92	100.0	12	100.0	104	100.0
Other	8		7		15	

TABLE 7.--392 member sample of Extension Participants, University of British Columbia, February 1962, by type

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Other
the non-Vancouver residents from the sample occupy single family dwellings.

Of the sample, 26.6 per cent occupied multiple dwelling units. For those participants of the sample who live outside Vancouver, only 12.2 per cent live in multiple dwellings as contrasted to 31.3 per cent of the Vancouver portion of the sample. Slightly less than half the sample reported their dwelling as owner inhabited. Owner inhabited dwellings for the non-Vancouver segment of the sample outnumbered the similar type of dwelling for the Vancouver portion of the sample 58.1 to 46.9.

Persons occupying rental property formed 38.5 per cent of the sample. It was indicated that 42.2 per cent of the segment of the sample residing in Vancouver were tenants as compared to 27.6 per cent of the segment not living in Vancouver.

No significant difference was found in data relating to single and multiple dwellings, owner inhabited or rented, between the sample, the Vancouver segment of the sample, and the non-Vancouver segment of the sample.

The largest proportion of the single family dwellings, 69.2 per cent were owner occupied, with 23.5 per cent tenant occupied. Over eighty per cent of the multiple dwellings were tenant occupied, with only 5.7 per cent owner occupied. The remainder of the sample did not specify type of residence.

Those of the sample owning their single family dwelling unit outnumbered those that rented by approximately three to

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one. On the other hand, of those members of the sample who lived in multiple dwelling units, approximately fourteen times more persons were tenants than owners.

Occupations

Two hundred fifty-eight participants, or 65.8 per cent of the sample, reported an occupation.

In the male portion of the sample, 86.8 per cent reported an occupation, 4.6 per cent were listed as retired, 5.7 per cent were students and the remaining 2.9 per cent did not report an activity.¹ For the occupations of the male sample there was no significant difference between the sample and the segment of the male sample living in Vancouver or the segment of the male sample living outside of Vancouver.

Among the male sample, the largest single occupational category was that of "professional" with workers from "proprietary and managerial" less numerous.² Clerical, commercial, and financial workers were only slightly less numerous than the proprietary and managerial category. Workers of skilled and semi-skilled categories comprised only a small portion of the sample as compared to the "white collar" worker.

For the female section of the sample, 49.2 per cent reported an occupation, 47.7 per cent indicated as housewife; 2.3 per cent as student; and .4 per cent as retired.³ There

- l Table 8, p. 27.
- 2 Table 9, p. 28.
- 3 Table 8, p. 27.

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Activity	Vancouver Segment		Non-Van. Segment		Total Sample	
Male	No.	%	No.	%	No.	%
Labour Force	105 g	82.1	46	100.0	151 8	86.8
Student	10	7.8	-	-	10	5.7
Not Indicated	5	3.9	-	-	5	2.9
Total	128	100.0	46	100.0	174	100.0
Female						
Labour Force	. 90	52.3	17	36.9	107	49.2
Housewife	76	44.2	28	60.9	104	47.7
Retired	1	.6	- .	-	1	•4
Student	5	2.9	-	-	5	2.3
Not Indicated	-		1	2.2	1	•4
Total	172	100.0	46	100.0	218	100.0

TABLE 8.--392 member sample of Extension Participants, University of British Columbia, February 1962, by activity.

Occupation	Vancouver Segment		Non Segi	Non-Van. Segment		Total Sample	
	No.	%	No.	%	No.	%	
Proprietary and Managerial	12	11.4	10	21.7	22	14.6	
Professional	- 44	41.8	17	36.9	61	40.4	
Clerical	10	9.5	1	2.2	11	7.3	
Primary	3	2.9	-	-	3	2.0	
Manufacturing and Mechanical	. 5	4.8	2	. 4.4	. 7	4.6	
Construction	4	3.8	1	2.2	5	3.3	
Transportation and Communication	5	4.8	3	6.5	8	5.3	
Commercial and Financial	12	11.4	8	17.4	20	13.3	
Service	3	2.9	· –	-	3	2.0	
Service, personal	2	1.9	-	-	2	1.3	
Labourers	5	4.8	4	8.7	. 9	. 5.9	
Total	105	100.0	46	100.0	151	100.0	

TABLE 9.--392 member sample of Extension Participants, University of British Columbia, February 1962, by occupation for male labour force.

is no significant difference in occupation status between the female members of the sample and the Vancouver residents. The largest single occupational category for women was professional, with workers from the clerical category only slightly less numerous. This relationship is illustrated in Table 10. The number of women from the proprietary and managerial category was extremely slight. Occupational categories requiring less

Occupation	Vancouver Segment		Non-Van. Segment		Total Sample	
	No.	%	No.	%	No.	%
Proprietary and Managerial	2	2.2	2	11.8	4	3.7
Professional	36	40.0	8	47.0	44	41.2
Clerical	39	43.4	4	23.6	43	40.2
Primary	-	-		-	-	-
Manufacturing and Mechanical	-	-	_`	-	· –	-
Construction	-		-	· -	-	~
Transportation and Communication	2	2.2	-	-	2	1.9
Commercial and Financial	7	7.8	2	11.7	9	8.4
Service	3	3.3	1	5.9	4	3.7
Service, personal	-	-	-	-	-	
Labourers	. 1	1.1	. .	_	1	•9
Total	. 90	100.0	17	100.0	107	100.0

TABLE 10.--392 member sample of Extension Participants, University of British Columbia, February 1962, by occupation for female labour force.

education rather than more, accounted for the remainder of the female sample.

The occupations of the female sample who were non-Vancouver residents differed significantly from the female sample. This is particularly notable in the proprietary and managerial category where the proportion of the non-Vancouver segment to the sample is approximately three to one. The participation of females in the clerical category favours the sample two to one over the segment of the sample living outside Vancouver. A significant difference exists in the commercial, financial and service categories between the participation of the non-Vancouver segment of the sample and the sample.

It would be well to note that of the male and female participants signifying their occupation as proprietary and managerial, the greater percentage of these persons came from outside the Vancouver area.

Income

Income data were collected in groups and it was not possible to calculate a median income. It is possible, however, to state that the median income for the male sample falls in the \$4,000 and over bracket, with a range from under \$1,000 to over \$4,000 per year. As may be noted in Table 11, 83.5 per cent of the male sample earned \$4,000 or over per year, 9.9 per cent earned between \$3,000 and \$3,999, with the remainder earning less than \$3,000 per year. The results for the male segment of the sample residing in Vancouver showed no significant difference to those of the male sample.

There was, however, a significant difference in the segment of the male sample living outside of Vancouver where 93.4 per cent of the segment earned over \$4,000 per year as contrasted to earnings of over \$4,000 per year for only 83.5 per cent of the male sample and 78.2 per cent of the male segment living in Vancouver. Of the male non Vancouver participants 6.6 per cent earned less than \$4,000 per year.

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TABLE 11.-- 392 member sample of Extension Participants, University of British Columbia, February 1962, by income for the male labour force.

Income per year	Vancouver Segment		Non-Van. Segment		Total Sample	
	No.	%	No.	%	No.	%
Under \$1,000	1	1.0	1	2.2	2	1.3
\$1,000 to \$1,999	· 3	2.9	-	-	3.	2.0
\$2,000 to \$2999	4	3.8	1	2.2	5	3.3
\$3,000 to \$3,999	14	13.2	1	2.2	15	9.9
\$4,000 and over	83	78.2	43	93.4	126	83.5
Total	105	100.0	46	100.0	151	100.0

The median income for the female sample fell within the \$3,000 to \$3,999 per year group with a range from under \$1,000per year to over \$4,000 per year. Of the female participants, 39.3 per cent from the sample reported an income of \$4,000 or over per year, with 33.6 per cent in the \$3,000 to \$3,999group, 16.8 per cent in the \$2,000 to \$2,999 range and the remaining 10.3 per cent earning less than \$2,000 per year.¹ The data on income for the female segment of the sample residing in Vancouver indicated no significant difference from the female sample. Once again, however, a significant difference was indicated in the non-Vancouver female residents

O

l Table 12, p. 32.

Income per year	Vancouver Segment		Non-Van. Segment		Total Sample	
	No.	%	No.	%	No.	%
Under \$1,000	4	4.5	2	11.7	6	5.6
\$1,000 to \$1,999	4	4.5	1	5.9	5	4.7
\$2,000 to \$2,999	18	20.0	-	-	18	16.8
\$3,000 to \$3,999	33	36.6	3	17.6	36	33.6
\$4,000 and over	31	34.4	11	64.8	42	39.3
Total	90	100.0	17	100.0	107	100.0

where nearly double the proportion of the sample earned \$4,000 or over per year. The remaining 35.2 per cent of the non-Vancouver segment earned less than \$4,000 per year.

Social Status

B.R. Blishen has prepared a social status scale for ranking and grouping occupations into seven categories on the basis of a combined standard score for income and years of schooling, by sex, from the census of Canada for 1951.¹ Rank one contains such prestige occupations as dental, medical, law and engineering. Rank seven, on the other hand contains occupations that are low in prestige, require little

1 Blishen, B.R., <u>op</u>. <u>cit</u>., pp. 481-484.

Blishen Scale Group No.	Vancouver Segment		Non-Van. Segment		Total Sample	
	No.	%	No.	%	No.	%
One	25	12.7	9	14.3	34	12.7
Two	86	44.1	. 33	52.3	119	46.3
Three	37	19.0	10	15.9	47	18.3
Four	20	10.3	,7	11.1	27	10.5
Five	20	10.3	3	4.8	23	8.9
Six	5	2.6	1	1.6	6	2.4
Seven	2	1.0	. –	-	2.	•9
Total	195	100.0	63	100.0	258	100.0

TABLE 13.---258 member labour force of sample from Extension Participants, University of British Columbia, February 1962, according to the Blishen Scale.

schooling and generally earn a lower wage.

In applying the Blishen scale to the labour force of the sample, it is noted that the two top ranks account for 59.0 per cent of the sample, as shown in Table 13. Percentages of 56.8 and 66.6 are found for the top two ranks of the Vancouver segment and non-Vancouver segment respectively. After rank two on the Blishen scale the percentage of the labour force from the sample steadily decreases as we approach the lowest group on the scale. This would indicate that a major portion of the persons attending the extension classes come from the higher socio-economic level as measured by Blishen. Slightly over three-quarters of the labour force from the sample are in the top three classifications of the Blishen scale. This proportion holds true for the Vancouver and non-Vancouver portion of the total sample.

Summary

A significant difference was indicated in the data between Vancouver residents and non-Vancouver residents with respect to the socio-economic determinants of dwelling, female occupations and female income. For the remaining socioeconomic characteristics studied no significant difference was found in the data supplied by: (1) the sample and that segment of the sample residing in Vancouver; and (2) the sample and that segment of the sample living in the fringe areas of Vancouver.

From the data supplied by the sample it is apparent that the typical extension participant would be a married woman, and housewife, between the ages of twenty-five to thirty-four, with thirteen or more years of schooling. She would be living in a single family dwelling that was owner inhabited and be a member of a family group of two to three persons. Her husband would be a professional person earning over \$4,000 per year.

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CHAPTER IV

TESTING THE HYPOTHESIS

The expected and observed data used to test the hypothesis were chosen from the portion of the sample that reside in Vancouver proper for three reasons: (1) 74.9 per cent of the sample were found to be residents of Vancouver proper; (2) the analysis of the participants indicated no statistically significant difference between the characteristics of the sample and the Vancouver segment of the sample; and (3) the Vancouver proper area had the smallest per cent increase in population since 1951.¹

There are thirty-seven census tracts in the City of Vancouver. The information was drawn from fifteen of these census tracts with a large enough number of extension participants to use statistical processes. The fifteen tracts selected are indicated in Figure 2.

In testing the data for the fifteen census tracts it was found that in nearly all cases there was a significant difference between that segment of the sample and the general populace. In five of the fifteen tracts there were

^{1 1951} census tract information was used for this study since the 1961 figures by tract were not available. Preliminary figures for the Lower Mainland of British Columbia for 1961, as shown in Table 14, indicate that most areas had a considerable population increase in the ten year period since the 1951 census. The increase for Vancouver City proper was the smallest at 9.27 per cent.

				<u> </u>
Area	Popul	ation	Population Change	
	1961	1951	_No.	%
Vancouver Proper	376,808	344,833	31,975	91.27
University Land	3,194	2,120	1,074	50.66
New Westminster	33,473	28,639	4,834	16.88
Burnaby	97,730	58,376	39 , 354	67.41
Coquitlam	29,194	15,697	13,497	85.98
Fraser Mills	369	165	204	123.64
North Vancouver	23,964	15,687	8,277	52.76
North Vancouver Dist	38,600	14,469	24,131	166.77
Port Coquitlam	7,997	3,232	4,765	147.43
Port Moody	4,744	2,246	2,498	111.21
Richmond	42,598	19,186	23,412	82.20
Surrey	69,848	9,735	60,113	617.49
West Vancouver	25,045	13,990	11,055	79.02

TABLE 14.--Population figures for 1951 and 1961 Canadian Census with population change for Lower Mainland areas of British Columbia

no significant chi-square values for any of the socio-economic characteristics under consideration. Nine of the remaining ten tracts approached a level of significance of .30 in certain of the socio-economic characteristics. In the one remaining tract there was a significant chi-square value for one of the socio-economic characteristics.

In a comparison of the observed and expected data for the total of the fifteen tracts, there were significant chi-



square values for two socio-economic characteristics. For the remaining characteristics no significant chi-square values were found.

Three of the one hundred and forty-four values calculated for the chi-square test, were found to be significant. The results of this test would therefore indicate that there is a significant difference between the observed and expected data for that segment of the population residing in the fifteen tracts in Vancouver.

An analysis of the data in the fifteen Vancouver census tracts for each of the socio-economic characteristics used in this study is now presented.

Age Group

When the chi-square test was applied to the observed and expected data for age groups, there were no significant chisquare values. Table 15 indicates the totals of these populations for the various age groupings.

The rejection of the null hypothesis is then indicated. In other words, the age groups of the sample members resident in the fifteen selected tracts are significantly different from the age groups of the general population resident in those same tracts. A proportionately larger percentage of the sample were found in the age groups ranging from twenty-five to fifty-four years than would be expected in the general population. The age groupings under twenty-four years and over fifty-four years account for a smaller percentage of the sample than do the similar age groupings for the general population. Even though the percent of participation starts to

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Age	Observed p	population	Expected p	opulation	
	No.	%	No.	%	
15 - 19	4	1.6	6,915	6.1	
20 - 24	20	7.8	10,088	8.9	
25 - 34	79	32.1	21,777	.19 . 1	
35 - 44	61	25.1	22,342	19.6	
45 - 54	54	22.2	17,354	15.2	
55 - 64	22	9.1	16,481	14.4	
65 - 69	2	.8	7,812	6.8	
70 and over	• 3	1.2	11,252		
Total	245	100.0	114,011	100.0	

TABLE 15.--15 tract portion of the Vancouver segment of the sample for the observed population and the expected population showing age.

decline with the thirty-five to forty-four year age group, it is interesting to note that the largest number of participants are in the thirty-five to fifty-four age groups.

Marital Status

There were three tracts that approached a level of significance of .30. Tract 21 and tract 31 had a probability falling between .05 and .02. Tract 23 had a probability between .20 and .10. Since, however, these figures are below the level of significance, the null hypothesis is rejected for these tracts as well as the remaining twelve



Fig. 3. - Showing the relationship of age groups for extension participants and general population in a selected 15 tract area of Vancouver proper.



Extension Participants

General Population

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Marital Status	Observed	population	Expected p	opulation
	No.	%	No.	%
Single	83	33.8	53,961	38.2
Married	149	60.8	73,681	52.1
Widowed	9	3.7	11,162	7.8
Divorced	4	1.63	1,363	1.0
Total	245	100.0	140,167	100.0

TABLE 16.--15 tract portion of the Vancouver segment of the sample for the observed population, and the expected population showing marital status.

tracts where there were no significant chi-square values. The marital status of the segment of the sample who reside in Vancouver as represented in the fifteen selected tracts is significantly different from that of the general population residing in the same census tracts, as shown in Table 16. A higher percentage of married and divorced persons attended extension classes than would be indicated for the general populace.

Years of School Completed

There were no significant chi-square values for the data on the number of years of school completed, therefore, the null hypothesis is rejected. The percentage of the sample residing in the fifteen tracts who reported an education of nine or more years of school completed was much higher than the percent-



Fig. 4. - Showing the relationship of marital status for extension participants and general population in a selected 15 tract area of Vancouver proper.



Extension Participants

General Population

TABLE 17.--15 tract portion of the Vancouver segment of the sample for the observed population, and the expected population showing years of school completed.

Years of School Completed	Observed population I		Expected population	
	No.	%	No.	%
None	1	•4	3,105	5.7
1 - 4	-	-	1,762	3.2
5 - 8	9	3.7	22,243	40.8
9 - 12	74	30.2	6,238	11.5
13 and over	161	65.7	21,143	38.8
Total	245	100.0	54,491	100.0

age of the general populace reporting an education of nine or more years. This is indicated in Table 17.

Households - Number of Persons

In testing the data for this characteristic, it was found that in nine of the fifteen tracts there were no significant chi-square values. Of the six remaining tracts, three tracts, numbers 2, 31 and 32, had a probability of occurrence which fell between .01 and .001; one tract, number 15, with a probability of occurrence between .02 and .01; and one tract, number 33, with a probability of occurrence at .30. Since these probabilities are equal to or less than the level of significance the hypothesis in the null form is rejected in the above cases.



Fig. 5. - Showing the relationship of years of school completed by extension participants and general population in a selected 15 tract area of Vancouver proper.

Extension Participants General Population

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Persons per Household	Observed	population	Expected population		
	No.	%	No.	%	
1	28	11.6	4,841	11.1	
2 to 3	113	46.7	23,786	54.1	
4 to 5	77	31.8	11,932	27.2	
6 to 9	23	9.5	3,006	6.8	
10 and over	1	•4	350	.8	
Total	242	100.0	43,915	100.0	

TABLE 18.--15 tract portion of the Vancouver segment of the sample for the observed population, and the expected population showing number of persons per household.

The data for census tract eleven when tested gives a probability of occurrence greater than .30. The null hypothesis can, therefore, be accepted for this tract. The probability of occurrence for the total of the fifteen tract area is also greater than .30 with the resulting acceptance of the null hypothesis for this total area.

Taking the fifteen tract area under observation in total, no significant difference is evidenced between the observed and expected data for the number of persons per household, as shown in Fig. 18. This applies also for tract eleven data. In the remaining tracts there was a significant difference.



Fig. 6. - Showing the relationship of number of persons per household for extension participants and general population in a selected 15 tract area of Vancouver proper.

Extension Participants

General Population

TABLE 19.--15 tract portion of the Vancouver segment of the sample for the observed population, and the expected population showing type of dwelling occupied.

Type of Dwelling	Observed population		Expected population	
	No.	%	No.	%
Single detached	177	72.2	27,935	67.1
Multiple	68	27.8	13,740	32.9
Total	.245	100.0	41,675	100.0
Owner occupied	123	50.2	27,780	63.4
Tenant occupied	100	40.8	16,025	36.6
Not indicated	22	9.0	-	-
Total	245	100.0	43,805	100.0

Type of Dwelling

Chi-square values were found in six of the tracts. Since the values were below the level of significance the null hypothesis was rejected in these tracts as well as the remaining tracts where no significant values were found. In the total of the fifteen tracts the extension class participants showed the lowest percentage of persons renting their dwellings with 40.8 per cent.¹ The general populace had the highest per cent of owned dwellings with 63.4 per cent. The largest percentage of the extension class participants are owners which

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1 Table 19, p. 47.



Fig. 7 - Showing the relationship of dwelling type for extension participants and general population in a selected 15 tract area of Vancouver proper.

Extension Participants

General Population

TABLE 20.--15 tract portion of the Vancouver segment of the sample for the observed population, and the expected population, showing occupations of males.

Occupation	Male observed population		Male expected population	
	No.	К	No.	%
Proprietary and Managerial	12	14.3	8,205	19.6
Professional	38:	45.2	5,018	11.9
Clerical	7	8.3	3,728	8.9
Primary	3	3.6	880	2.1
Manufacturing and Mechanical	5	5.9	5,610	13.4
Construction	1	1.2	2,392	5.7
Transportation and Communication	4	4.8	3,797	9.1
Commercial and Financial	8	9.5	5,250	12.6
Service	1	1.2	3,284	7.9
Service Personal	· 1	1.2	1,814	4.3
Labourers	4	4.8	1,864	4.5
Total	84	100.0	41,842	100.0

is in line with the expected population. On the other hand 72.2 per cent of the extension participants live in single detached dwellings as compared with 67.1 per cent of the general population. Although there is a difference between the extension participants and the population in general, the difference is not significant for the total of the tracts.



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OCCUPATIONS - MALE

Fig. 8 - Showing the relationship of occupations for extension male participants and general male population in a selected 15 tract area of Vancouver proper.

Extension Participants (Male)

General Population (Male)

TABLE 21.-- Occupations in 15 tract portion of the Vancouver segment of the sample for the observed female population, and the expected female population.

Occupation	Female observed population		Female expected population	
	No.	%	No.	%
Proprietary and Managerial	1	1.5	744	3.1
Professional	33	47.8	3,690	15.2
Clerical	23	33.3	8,595	35.4
Primary	-		16	0
Manufacturing and Mechanical	-	-	1,084	4.5
Construction		-	10	.0
Transportation and Communication	2	2.9	859	3.5
Commercial and Financial	6	8.7	2,166	8.9
Service	3	4.3	3,345	13.7
Service Personal	-		3,684	15.2
Labourers	1	1.5	126	•5
Total	69	100.0	24,319	100.0

Occupations

No significant chi-square values were found for the stated occupations. The significant difference between observed and expected data for occupations was most pronounced for the female. Male participants reported occupations from all occupational categories. Only in two cate-





Extension Participants (Female)

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General Population (Female)

TABLE 22.-- Income in 15 tract portion of the Vancouver segment of the sample for the observed male population and the expected male population

Income per year	Male observed population		Male expected population	
	No.	%	No.	%
Under \$1,000	-	-	3,376	10.4
\$1,000 to \$1,999	1	1.2	5,468	16.9
\$2,000 to \$2,999	2	2.4	12,030	37.3
\$3,000 to \$3,999	10	11.8	6,455	20.0
\$4,000 and over	71	84.6	4,981	15.4
Total	84	100.0.:	32,310	100.0

gories did the percentage of participants exceed the percentage of the general population. For the fifteen tract total the proportion of professional persons attending extension courses was four times that of the general population. In the primary industries male extension class participants were three to two of the general population. In all other occupations for males, as shown in Table 20, the percentage of extension participants was less than the percentage for the total population.

From Table 21, it will be seen that the extent of female occupations was not as evenly represented as it was for the male. The percentage of extension class females reporting a professional occupation was approximately three times that of the general population. In all other occupational categories extension participants were proportionately less in number to the general population. This tends to give further evidence

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Income per year	Female observed population		Female expected population	
	No.	%	No.	%
U nder \$1,000	2	4.3	5,259	28.0
\$1,000 to \$1,999	4	5.7	9,303	49.2
\$2,000 to \$2,999	12	17.2	3,698	19.4
\$3,000 to \$3,999	24	34.2	529	2.8
\$4,000 and over	27	38.6	110	.6
Total	69	100.0	18,899	100.0

TABLE 23.-- Income in 15 tract portion of the Vancouver segment of the sample for the observed female population, and the expected female population.

the extension participants come from the upper or prestige occupational categories in a greater proportion than would be found in the general population.

Income

A significant difference between expected and observed data for income was found for both male and female. In the fifteen tract portion of the Vancouver segment only about one of twenty of the male sample, and six of twenty of the female sample reported an annual income of less than \$3,000.¹ This contrasts to thirteen of twenty of the general male population and 19-1/2 of twenty of the general female population who earn less than \$3,000 per year. The median

l Table 22, p. 53: Table 23, p. 55.



Fig. 11 - Showing the relationship of income for extension female participants and female members of the general population in a selected 15 tract area of Vancouver proper.

Extension Female Participants General Female Population

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annual income for male participants was in the over \$4,000 group; for female participants it was in the \$3,000 to \$3,999 group. The median male income for Vancouver proper was \$2,351 per year; for females it was \$1,359.¹ This places extension participants in a higher income bracket than most of the general population.

Summary

The expected and observed data used to test the hypothesis were chosen from the portion of the sample that resided in fifteen of the census tracts in the City of Vancouver, with a large enough number of extension participants to use statistical processes. Data collected for this portion of the sample were found to show no significant difference from the total segment of the Vancouver sample. Also no appreciable difference was found to exist between data from the total sample and data from the Vancouver segment of the sample. It would then be safe to assume that conclusions drawn for the fifteen tract area would be valid also for the total sample.

Results of the analysis of the data for the fifteen tract region represent evidence to support the conclusion that people now making use of extension facilities at the university level are significantly different in certain socio-economic characteristics from the general population. In most cases the observed data demonstrated that extension participants were above the average in socio-economic status. The outcome of

1 Dominion Bureau of Statistics, op. cit. p. 12

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this study demonstrates a significant difference in certain socio-economic characteristics of the total population in a given census tract and residents from that tract attending university non-credit evening classes. In fact the null hypothesis was rejected in 98.7 per cent of the cases tested by the chi-square. This would indicate that the methodology suggested whereby the socio-economic characteristics of university extension class participants could be determined from census tract data for the area in which the participant resided is invalid.

CHAPTER V

SUMMARY, INTERPRETATION AND CONCLUSIONS

Summary

Purposes and Approach

The present study described the procedures used to validate a methodology for determining the socio-economic characteristics of university extension non-credit participants by exploring the relationship of certain socio-economic characteristics between university extension participants and the general population through an analysis of certain socio-economic characteristics of a 245 member portion of the Vancouver segment of the sample.

This study has also explored certain socio-economic characteristics of university extension participants through an analysis of data of a 392 member sample from the participants in University of British Columbia Extension non-credit courses operating during the weeks of February 5, 1962, to February 15, 1962.

The Methodology

The method used in this study was the analytical survey method.

A fifty-seven class universe was stratified according to the type of class to form twelve groups. A random sample of classes in each of the twelve groups was selected, with

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participants of the classes comprising the sample. Socioeconomic data from the sample were obtained by questionnaire. This data, known as observed data, was scrutinized on three accounts: the total sample, the segment of the sample residing in Vancouver, and the segment of the sample residing in the area outside Vancouver, An analysis of the observed data was carried out to determine certain socio-economic characteristics of the sample and to determine whether the socio-economic characteristics of persons attending the evening classes from specific census tracts were representative of all evening class participants.

The second phase of this study was concentrated on the analysis of observed and expected data for a fifteen tract segment of the Vancouver portion of the sample to determine whether there was a significant difference with respect to certain socio-economic characteristics between the total population in a given census tract and residents from that tract attending non-credit evening classes. The chi-square was used to test the observed and expected data for each of the fifteen tracts as well as the total for these fifteen tracts.

Social status of the sample was analysed using data for the total labour force by application of the Blishen scale.

Characteristics of the Extension Members

In terms of age the extension services reached adults under twenty-five and over fifty-four years least effectively.

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The greatest number of participants were in the twenty-five to fifty-four year age group. This age group accounted for 79.4 per cent of the sample as compared with 53.8 per cent of the general population. The married faction in this study represented 71.3 per cent of the participants. This is slightly above the two-thirds number indicated by Morton.¹ The educational attainment of the extension participants in this study were considerably above the average for the area as a whole. This is in line with Brunner's statement that the amount of formal schooling is almost universally reported as being highly significant in patterns of participation.²

Higher than average incomes were reported by the extension participants. The median income was over the \$4,000 per year bracket. The 1951 census showed the median annual income in the Vancouver Metropolitan area to be \$2,358 for men and \$1,350 for women, both considerably lower than the figures given by extension participants.³ Only about one of four extension participants.had an annual income of less than \$3,000, and about thirty-eight per cent reported more than \$4,000.

Approximately forty per cent of the extension participants were reported as renting the dwelling in which they lived.

Over one-half of those reporting an occupation were rated in the top two ranks of the Blishen scale, with almost twenty per cent classified in the third rank. This would indicate

- 1 Morton, op. cit., p. 88.
 - 2 Brunner, op. cit., p. 103.
 - 3 Dominion Bureau of Statistics, op. cit., p. 12.

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that a major portion of the persons attending the extension classes came from the higher socio-economic levels as measured by Blishen.

Summary of Test of Hypothesis

The expected and observed data used to test the hypothesis were chosen from the portion of the sample that resided in Vancouver proper for three reasons: (1) 74.9 per cent of the sample were found to be residents of Vancouver proper; (2) the analysis of the participants indicated no statistically significant difference between the characteristics of the sample and the Vancouver segment of the sample; and (3) the Vancouver proper area had the smallest per cent increase in population in the Lower Mainland area of British Columbia since 1951.

The information to test the hypothesis was drawn from fifteen of the thirty-seven census tracts in the City of Vancouver, with a large enough number of extension participants to use statistical processes.

Data collected for the sample residing in the fifteen census tracts were found to show no significant difference from data assembled for the total segment of the Vancouver sample. Similarly, no significant difference was found to exist between data collected for the total sample and that portion of the sample living within Vancouver proper. Data, when tested for significance between the entire sample and the segment of the sample living outside Vancouver, showed a significant difference for female occupations and income. With

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the exception of these two characteristics there was no significant difference found in data for certain socio-economic characteristics between the sample and the portion of the sample living outside the City of Vancouver.

The observed and expected data for the fifteen Vancouver census tracts tested by the chi-square test showed a significant difference in one hundred and forty-one of the one hundred and forty-four values calculated. The null hypothesis that there is no significant difference with respect to certain socio-economic characteristics between the total population in a given census tract and residents from that tract attending university non-credit evening classes must therefore be rejected.

Interpretation

As it has been pointed out elsewhere, it was necessary to use data for the general population that was taken from the 1951 census.¹ In the ten year period between the 1951 census and this study, certain socio-economic characteristics, such as income and education have changed. Therefore, some discrepancy may exist in the relationship between observed and expected data. Retesting the hypothesis, using expected data from the 1961 census, when available, should clear up this point.

Preliminary census figures for 1961 show increases of population over the preceding ten years for Vancouver and

1 Supra, p. 35.

the fringe area. As has been indicated in Table 14, the increase, with the exception of Vancouver proper, was considerable. It was necessary, therefore, to test the null hypothesis using data from the geographical area showing the least change in number of persons; that is, the Vancouver proper area. In the choice of data from this one area it must be remembered that, with the exception of female occupation and income, data on socio-economic characteristics of extension participants showed no significant difference between the Vancouver area and the fringe areas.

Conclusion

Perhaps the most significant outcome of the study of certain socio-economic characteristics of the total population in a given census tract and residents from that tract attending university non-credit evening classes is the demonstration of the significant difference in the characteristics of these two categories of persons. Results of the analysis of data for this study represent further evidence in line with conclusions from the literature that people who participate in university extension classes are above average in socioeconomic status.

The methodology for determining the socio-economic characteristics of participants in university non-credit classes through use of census tract data for the area of residence would be invalid.

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APPENDIX I

QUE STIONNA IRE

The questionnaire appearing on the following pages has been rearranged to meet the margin requirements of the dissertation form. The questionnaire as used in this study was mimeographed on $8-1/2 \times 14$ inch sheets of 324 weight Gestetner impression paper.

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APPENDIX I

THE UNIVERSITY OF BRITISH COLUMBIA

DEPARTMENT OF EXTENSION



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1. LOCATION If you live in Van- couver then on the above map mark an "X" in the area in which you live. Consider the boundary line as going along the middle of the roadway.	2. <u>SEX</u> 25 () Male 26 () Female
If you do not live in Van- couver then check below, the area in which you live.	3. <u>AGE</u> Check your age group. 27 () 15 - 19 years
14 () University Endowment Area	28 () 20 - 24 years 29 () 25 - 34 years
15 () New Westminster 16 () Burnaby	30 () 35 - 44 years
17 () Coquitlam	31() 45 - 54 years
18 () Fraser Mills	33 () 65 - 69 years
19 () North Vancouver 20 () Port Moody	31 () 70 and over
21 () Surrey	4. MARITAL STATUS Check one.
22 () West Vancouver	2 () Married
23 () Richmond) () Married
24 () Other	4 () Separated 5 () Widowed
	6 () Divorced
- Page 2 -	
5. SCHOOLING What is the highest grade of school you complet- ed?	9. Are you the OWNER of, or buying the dwelling in which you live?
7 () None	14 () Yes
8 () Grade l - 4 inclusive	15 () No
9 () Grade 5 - 8 inclusive	-
10 () Grade 9 to 12 inclusive	Do you pay RENT on your dwelling?
11 () Grade 13 and over	16 () Yes
What was the name of the <u>last</u> school you attended <u>full</u> time?	17 () No

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- 6. HOUSEHOLD Check the total number of persons living in your house or suite.
- 12 () 1 person
- 1 () 2 to 3 persons
- 2 () 4 to 5 persons
- 3 () 6 to 9 persons
- 4 () 10 or more persons
- 7. <u>FAMILY</u> Mark the <u>number</u> of unmarried persons in your immediate familŷ for <u>each</u> age group.
- 5 () Number under 6 years of age 6 () Number from 6 to 13 years
- 7 () Number from 14 to 17 years 8 () Number from 18 to 24 years
- 8. <u>TYPE OF DWELLING</u> Check the type of dwelling in which you live.
- 9 () Single house
- 10 () Single duplex
- 11 () Self contained suite
- 12 () Single room
- 13 () Other

10. EMPLOYMENT

What kind of business or industry are you <u>usually</u> employed in? (e.g. Rubber shoes manufacturing, drugs retail, grain farming etc.)

Industry _____

What is your usual occupation, or what kind of work do you <u>usually</u> do in this industry? (e.g. office clerk, sales clerk, auto mechanic, iron moulder, graduate nurse, etc.)

Occupation_____

- 29 If a housewife, check here _____
- 30 If permanently retired, check here____
- 11. WAGE AND SALARY EARNINGS What were your total wage and salary earnings during the year 1961?
- 31 () Under \$1000 a year
- 32 () \$1000 \$1999 a year
- 33 (--) \$2000 \$2999 a year
- 1 () \$3000 \$3999 a year
- 2 () \$4000 and over a year

Thank you for your co-operation.