



Associations between participation and volunteerism in community education and selected socio-demographic variables in rural Alaska
by Melvern Eugene Graham

A thesis submitted in partial fulfillment of the requirements for the degree of Doctor of Education
Montana State University
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Abstract:

Community Education program planning should be preceded by collecting socio-demographic data about the community. These data can be used for evaluation as well as choice, design, and scheduling of activities.

The problem of this study was: 1. To determine if there were associations between selected socio-demographic data and the level of participation by adults in Community Education programs in rural Alaska; 2. To determine if there were associations between selected socio-demographic data and the level of participation by all community members in Community Education programs in rural Alaska; and 3. To determine if there were associations between selected socio-demographic data and the level of volunteerism in support of the Community Education programs in rural Alaska.

The study was conducted on a sample (N=40) drawn randomly from 114 rural communities with state supported Community Education programs. There were 19 independent variables and three dependent variables statistically tested for association. These data were generated from Census data, standard geographical classifications, and Department of Education annual reports.

The per capita hourly rate of adult participation was found to be associated with chief occupation, dominant land use, percent of adults 25 and older with fewer than 12 years of education, percent of population 25 to 44, and percent of population 45 to 64. The per capita hourly rate of overall participation was found to be associated with dominant land use, percent of adults 25 and older with eight years or less of education, percent of adults 25 and older with fewer than 12 years of education, percent of the population 18 to 24, and percent of the population 45 to 64. Volunteerism was not found to be significantly associated with any of the independent variables.

These findings were supported by the literature except for the negative associations found for the percent of adults 25 or older with fewer than 12 years of education and the level of adult/community participation in Community Education programs. This increased involvement in educational activities for a group of non-traditional learners is viewed as a positive occurrence in rural Alaskan Community Education programs.

**ASSOCIATIONS BETWEEN PARTICIPATION AND VOLUNTEERISM IN
COMMUNITY EDUCATION AND SELECTED SOCIO-DEMOGRAPHIC
VARIABLES IN RURAL ALASKA**

by

Melvern Eugene Graham

A thesis submitted in partial fulfillment
of the requirements for the degree

of

Doctor of Education

**MONTANA STATE UNIVERSITY
Bozeman, Montana**

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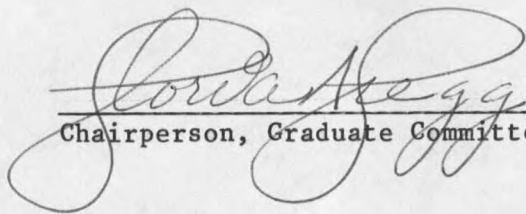
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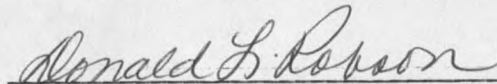
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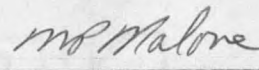
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VITA

Melvorn Eugene Graham was born on April 13, 1946 at Oroville, California. His parents were Melvin Edward and Laverne Virginia Hawks Graham. He was preceded in birth by a brother Edward Earl and followed by a sister Dawn Marie. The majority of his childhood was spent in North Sacramento, California; however, he lived for short periods of time in Salt Lake City, Utah; Tacoma and Seattle, Washington; Redwood City, Orinda, and Sacramento, California.

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Graham earned B.S. (1969) and M.S. (1971) degrees at Utah State University in Sociology, and an Ed. S. (1978) degree in General Educational Administration at Central Michigan University. He is a certified secondary teacher in the social sciences as a result of course work taken at Weber College during the 1972-1973 academic year.

Graham married Vern Ann Daniels in 1971 and they have two children; Kellie Jean and Zachary Edward. He and his family have made Juneau, Alaska their home since 1973. He is employed by the University of Alaska-Juneau as an Associate Professor of Sociology.

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ABSTRACT

Community Education program planning should be preceded by collecting socio-demographic data about the community. These data can be used for evaluation as well as choice, design, and scheduling of activities.

The problem of this study was:

1. To determine if there were associations between selected socio-demographic data and the level of participation by adults in Community Education programs in rural Alaska;
2. To determine if there were associations between selected socio-demographic data and the level of participation by all community members in Community Education programs in rural Alaska; and
3. To determine if there were associations between selected socio-demographic data and the level of volunteerism in support of the Community Education programs in rural Alaska.

The study was conducted on a sample (N=40) drawn randomly from 114 rural communities with state supported Community Education programs. There were 19 independent variables and three dependent variables statistically tested for association. These data were generated from Census data, standard geographical classifications, and Department of Education annual reports.

The per capita hourly rate of adult participation was found to be associated with chief occupation, dominant land use, percent of adults 25 and older with fewer than 12 years of education, percent of population 25 to 44, and percent of population 45 to 64. The per capita hourly rate of overall participation was found to be associated with dominant land use, percent of adults 25 and older with eight years or less of education, percent of adults 25 and older with fewer than 12 years of education, percent of the population 18 to 24, and percent of the population 45 to 64. Volunteerism was not found to be significantly associated with any of the independent variables.

These findings were supported by the literature except for the negative associations found for the percent of adults 25 or older with fewer than 12 years of education and the level of adult/community participation in Community Education programs. This increased involvement in educational activities for a group of non-traditional learners is viewed as a positive occurrence in rural Alaskan Community Education programs.

CHAPTER 1

INTRODUCTION

Within Community Education literature there is agreement that program planning should be preceded by the collecting of socio-demographic data about the people who comprise the community (Bowers et al., 1976; Hiemstra, 1972; Minzey and LeTarte, 1979). These data, once collected, are to be used to evaluate "the status of the community in terms of the quality of life" (Bowers et al., 1976, p. 1), in the choice and design of activities, in the scheduling of activities, and in the final evaluation process.

In Community Education an evaluation can be based on the success of the program component as measured by participation, and the success of the Community Education process component as measured by the formation and accomplishments of a Community Education council. An evaluation of participation would need to set criteria for measuring one activity against another activity or one program against another program to ensure for objectivity (Frank, 1975).

The Community Education concept is based on people working together toward a form of community self-actualization. Self-actualization can occur only after basic needs are met or problems are resolved concerning the biological, safety, belonging, or self-esteem areas of one's life. For a community to work toward self-actualization, the most practical procedures are grounded in the

democratic process. In our society the common features of a democracy at the federal level are individualism, constitutional government, consent of the governed, and loyal opposition (Smelser, 1981). At the community level the common features are open organizational structures which allow community members with common interests, and on a voluntary basis, to work toward solving community problems.

The participation of community members is an integral part of Community Education and is often stressed as an essential component. Manley simplified this component into "getting the people in, getting them informed, getting them interested, and they become involved" (Seay, 1978, p. 17). Hiemstra (1972) has further condensed this component to the four "ins" which are in, interested, informed, and involved and stressed that these elements are present when "the Community Education concept or philosophy is fully implemented" (p. 37).

The actual practice of Community Education is outlined by Minzey and LeTarte in their book Community Education: From Program to Process to Practice. These authors define program as "those overt activities which are designed to resolve the issues identified by the process" (Minzey and LeTarte, 1979, p. 15). The term process is defined as a means "by which members of a community learn to work together to identify problems and to seek out solutions to these problems" (Minzey and LeTarte, 1972, p. 4).

In a model introduced by Minzey and LeTarte (1972) the program and process aspects of Community Education are presented as six components:

1. An educational program for school age children
2. Use of community facilities
3. Additional programs for school children and youth
4. Programs for adults
5. Delivery of community services
6. Community involvement

The first four components are primarily program oriented and the fifth and sixth are primarily process oriented. Community Education, when implemented, generates activities and involvement that foster both the program and process elements.

Frank (1975) defined Community Education in general "as a concept which promotes the development and utilization of all resources including, but not limited to, formal schools and other human service resources in order to bring about a self-actualizing and humanistic community" (p. 9). This definition provides a broad outline for Community Education.

Frank (1975) designed a diagram as shown in Figure 1 for use as a planning tool in Community Education. This diagram has three phases with nine distinct steps. Those socio-demographic data collected in Phase I are incorporated into the design of program activities in Phase II and these same data are also used in the evaluation in Phase III.

One could compare Frank's diagram with the model described by Minzey and LeTarte. For the most part, the first four program components of the Minzey and LeTarte model occur at step 6, Phase II.

The two process components would occur throughout all three phases.

Figure 1. Frank's Planning Process for Community Education.

Phase I	Phase II	Phase III
1 collate known data	5 goal statement	8 evaluation
2 community assumptions	6 design and implement new programs	9 go directly to step 1 (see Phase I, Round 2, 3, etc.)
3 task group formation	7 eliminate old programs	
4 collection of new data	8 (See Phase III)	
5 (See Phase II)		

At the program level, research has shown (Carp, Peterson, and Roelfs, 1972; Dickinson, 1971; Johnstone and Rivera, 1965) that there are different rates of participation by adults in educational activities based on individual socio-demographic characteristics. The three variables shown to be associated with individual participation are age, income, and education (Johnstone and Rivera, 1965). Those adults who are younger, better educated, and/or have higher incomes participate more often in organized learning activities than those

adults who are older, have lower incomes, and/or a lower level of formal education.

At the process level, the basic differences in socio-demographic characteristics of a community have also been shown to affect participation in community affairs. In Goldschmidt's (1978) case study of two rural communities, Arvin is surrounded by large farms while Dinuba was surrounded by smaller family operated farms. These communities were "as nearly as was possible . . . alike in basic economic factors except that they differed in farm size" (p. 203). In this situation, Dinuba is found to have greater public service, community services, and more democratic decision making. Dinuba would be expected to supply a higher number of volunteers on a per capita basis than Arvin. The results of this study constitute an example of the influence that the chief industry and chief occupation of a community has on the level of participation of volunteers in a community.

Frank (1978) uses measurability of participation as part of an evaluation that is linked to the degree of success a program or activity attained. One measure of success of an activity or program is the level of participation or the number of ins and the amount of time spent being in. Placed on a continuum, participation ranges from low to high and can be measured and evaluated to determine an aspect of "the degree of success or failure for each program" (Frank, 1978, p. 26).

Statement of Problem

The problem of this study was threefold in nature:

1. To determine if there were associations between selected socio-demographic data and the level of participation by adults in Community Education programs in rural Alaska;

2. To determine if there were associations between selected socio-demographic data and the level of participation by all community members in Community Education programs in rural Alaska; and

3. To determine if there were associations between selected socio-demographic data and the level of volunteerism in Community Education programs in rural Alaska.

Application and/or Contribution to Education Theory or Product

Santellanes (1978) has written that in general, Community Education has

. . . relied upon tabulations of programs offered and participants enrolled as the basis for determining the success or failure of their efforts, and subjective comments by community participants have occasionally been included in an attempt to give an evaluation report a community flavor (p. 145).

Such an evaluation technique is not comprehensive for Community Education, but is more appropriate for program evaluations that are centered on the success or failure of getting the residents of a community participating in the organized activities.

The number of hours on a per capita basis that people in a community participate or volunteer can be used to measure the success of getting the community involved in the activities of the Community

Education program. Examples of the use of hours to compare participation for individuals and categories of people are found in Tough (1979) and Okes (1971, 1974, and 1976). While participation in organized activities is an individual act, this behavior can also be regarded as an influence of the community's socio-demographic characteristics. Consequently, the level of participation as a learner or volunteer reflects the community as an entity or social unit.

The conceptualization of the community as an entity was supported by the definition of Community Education put forth in 1979 by Minzey and LeTarte:

Community Education is a philosophical concept which serves the entire community by providing for all the educational needs of all of its community members. It uses the local school to serve as the catalyst for bringing community resources to bear on community problems in an effort to develop a positive sense of community, improve community living, and develop the community process toward the end of self-actualization (pp. 26-27).

The term self-actualization was developed in humanistic psychology to describe the highest level of personal attainment that can be achieved by an individual. While self-actualization was originally applied to the individual by Maslow, in Community Education the community becomes the focal point for achieving self-actualization. To measure the level of participation of learners or volunteers in a Community Education program is to take into consideration the entire community. Part of this consideration should include an understanding of any predisposition for participation influenced by socio-demographic characteristics of the community.

Most research on participation in organized learning has been directed toward socio-demographic analysis of the individual (Cross, 1982). Variables such as race, gender, age, income, education, place of residence, and so on, are compared to individual participation in all organized adult education activities. Anderson and Darkenwald (1979) found that this type of socio-demographic analysis could account for approximately 10 percent of the difference associated in participation or support by adults of organized learning activities. Previous research reviewed by Anderson and Darkenwald (1979) has not evaluated the influence of small homogeneous communities on participation of community members but rather has produced general societal trends.

The contribution of this research is to establish whatever inherent patterns of participation are associated with various selected socio-demographic variables in rural Alaska. The knowledge of any existing patterns of influence could lead to adjustments in expected levels of participation in rural Community Education Programs. This type of research could also aid in the development of strategies to cope with any systematic patterns of underrepresentation of identifiable groups or individuals in Community Education programs.

General Questions

1. What are the associations between the chief industry in a community and participation and volunteerism in Community Education?
2. What are the associations between the chief occupation in a community and participation and volunteerism in Community Education?

3. What are the associations between the dominant land use around a community and participation and volunteerism in Community Education?

4. What are the associations between the ethnic background of a community and participation and volunteerism in Community Education?

5. What are the associations between the percentage of families whose incomes are below the poverty level in a community and participation and volunteerism in Community Education?

6. What are the associations between the geographic region of Alaska in which a community is located and participation and volunteerism in Community Education?

7. What are the associations between the mean age of adults in a community and participation and volunteerism in Community Education?

8. What are the associations between the median years of education completed by adults 18 to 24 in a community and participation and volunteerism in Community Education?

9. What are the associations between the median years of education completed by adults 25 or older in a community and participation and volunteerism in Community Education?

10. What are the associations between the median income per household in a community and participation and volunteerism in Community Education?

11. What are the associations between the percentage of out-of-school adults 25 or older who have eight years or less of education in a community and participation and volunteerism in Community Education.

12. What are the associations between the percentage of out-of-school adults 25 or older who have fewer than 12 years of education in a community and participation and volunteerism in Community Education?

13. What are the associations between the percentage of children 0 to 5 years old in a community and participation and volunteerism in Community Education?

14. What are the associations between the percentage of children 6 to 17 years old in a community and participation and volunteerism in Community Education?

15. What are the associations between the percentage of adults 18 to 24 years old in a community and participation and volunteerism in Community Education?

16. What are the associations between the percentage of adults 25 to 44 years old in a community and participation and volunteerism in Community Education?

17. What are the associations between the percentage of adults 45 to 64 years old in a community and participation and volunteerism in Community Education?

18. What are the associations between the percentage of adults 65 or older in a community and participation and volunteerism in Community Education?

19. What are the associations between the total population of a community and participation and volunteerism in Community Education?

General Procedures

The research was conducted in the following manner. A random sample of 40 communities was selected from the rural Alaska communities that had state-funded Community Education programs during the 1984 fiscal year.

Data comprising the independent variables were obtained from the Alaska Department of Labor, Alaska State Library, and from the State-wide Census Network on either the microfiche records supplied to them by the Bureau of the Census, U.S. Department of Commerce, or from the computer tapes of these and additional materials jointly linked in a statewide demographic data network. The 1980 census data were utilized for this study.

Data comprising the dependent variables for participation and volunteerism for each community were obtained from the Alaska State Department of Education 1984 annual report of program activities and participation in Community Education. Permission for access was requested and received from the Department of Education.

The statistical analysis of these data for association was accomplished using the Statistical Package for the Social Sciences (SPSS) on the University of Alaska's computer system. A program was written that utilized these existing capabilities.

Limitations

The limitations of this study were:

1. That only those rural communities involved in formal (state sponsored/funded) Community Education programs were involved;
2. That the independent variables were generated from data collected by the Bureau of the Census in 1980 and were subject to non-sampling errors contained in these data;
3. That the dependent variables were generated from data collected by the Alaska State Department of Education for the 1984 fiscal year and were subject to non-sampling errors contained in these data (Efforts to minimize these errors were made by the Alaska State Department of Education by pretesting the collection form, training, teleconferences, and assisting in the reporting of these data which are required to be in compliance with state law); and
4. That the dependent variables were a summary of the 1984 year's activity while the independent variables were measured in 1980.

Delimitations

The delimitations of this study were these:

1. The study was restricted to Alaska;
2. The study used these data for only one year for the dependent variables;
3. The validity and reliability of these data were set as a function of the governmental agency that collected and processed these data and not by the researcher; and

4. The study dealt only with activities that were considered to be part of the local Community Education program.

Definition of Terms

The independent variables were defined as follows:

1. The chief industry in a community was the most common industry listed for community members.

Operationally the chief industry was that industry reported most often on Summary Tape File 3A (STF 3A) question 65 (employed persons 16 years and over by industry). Examples of categories used were agriculture, construction, transportation, and trade.

2. The chief occupation in a community was the most common occupation listed for community members.

Operationally the chief occupation was that occupation reported most often on STF 3A question 66 (employed persons 16 years and over by occupation). Examples of categories used were technical, precision, production, or operators, etc.

3. The dominant land use around a community was the pattern of land utilization that occurs as a result of local topography.

Operationally the land use grouping was assigned by the use of the standard reference used by geographers in compiling an atlas. Examples of categories used were farming, forestry, or non-agricultural land.

4. The ethnic background of a community was the cultural background of a majority of the community members.

Operationally ethnic background was the ethnicity reported in STF 3A, question 12 (persons by race) reported on the census forms for all community members with the group with 51 percent being considered ethnically dominant. Examples of categories used were Aleut, Anglo, Athabascan, Eskimo, Tlingit-Haida, Tsimshian, or mixed.

5. The percentage of families whose incomes were below the poverty level were those families whose incomes were less than the poverty level set by the Social Security Administration divided by the total number of families.

Operationally this percentage was calculated by totaling the number of families reported with incomes below the poverty level and dividing that number by all families reported in STF 3A, question 86 (families by poverty status).

6. The geographic region of a community was the area of the state of Alaska where the community was located.

The continental United States has normally been divided into four geographical areas, north, east, south, and west. If the reader will consider that Alaska, between extremities, occupies just about as many degrees longitude and latitude as the continental United States with historically the same number of time zones, then the same division of Alaska into four geographical locations was plausible.

Another consideration was the inclusion of south coastal Alaska with the Pacific Northwest not only geographically but socially as well. The commonality of both fishing and timber within this area supports an interchange of individuals and ideas. This area is basically different in climate, agriculture and soil, fisheries,

minerals, manufacturing, transportation, and history from the far north of the Arctic and sub-Arctic parts of Alaska.

Operationally the geographic region of a community was identified by use of the standard reference used by geographers in compiling an Atlas. Examples of categories were Northern, Central, South-Central, or Southeastern.

7. The mean age of adults in the community was the average age of all adults in the community.

Operationally the mean age of adults in a community was calculated by adding all adult ages reported and dividing that number by the total number of adults in the community as reported in STF2: B8.

8. The median years of education completed by adults 18 to 24 was the mid-point in years of formal education completed for all residents 18 to 24 years old in a community.

Operationally this was the mid-point of grades completed for all respondents 18 to 24 years old on the census forms as reported in STF4: PB47.

9. The median years of education completed by adults 25 or older was the mid-point in years of formal education completed for all residents 25 or older in a community.

Operationally this was the mid-point of grades completed for all respondents 25 years old or older on the census forms as reported in STF4: PB47.

10. The median household income of a community was the mid-point for income of all households in a community.

Operationally this number was calculated by locating the mid-point listed for all households on the census forms as reported in STF3: 71/72.

11. The percentage of out-of-school adults 25 or older in a community who have eight years or less of education was the percentage of permanent residents over the age of 25 who have not completed more than the eighth grade.

Operationally this percentage was calculated from the number of respondents on the census forms 25 or older who had eight or less years of education as reported in STF3: 48/49.

12. The percentage of out-of-school adults 25 or older in a community who have fewer than 12 years of education was the percentage of permanent residents over the age 25 who have not completed the 12th grade.

Operationally this percentage was calculated from the number of respondents on the census forms 25 or older who had less than 12 years of education as reported in STF: 48/49.

13. The percentage of children 0 to 5 years old in a community was the percentage of permanent residents from 0 to 5 years old.

Operationally this was calculated from the ages listed on the census forms and totaled for children 0 to 5 years old and divided by the total number of residents as reported in STF3: 15 (persons by gender).

14. The percentage of children 6 to 17 years old in a community was the percentage of permanent residents from 6 to 17 years old.

Operationally this was calculated from the ages listed on the census forms and totaled from children 6 to 17 years old and divided by the total number of residents as reported on STF3: 15.

15. The percentage of adults 18 to 24 years old in a community was the percentage of permanent residents from 18 to 24 years old.

Operationally this was calculated from the ages listed on the census forms and totaled for the adults 18 to 24 years old and divided by the total number of residents as reported in STF3: 15.

16. The percentage of adults 25 to 44 years old in a community was the percentage of permanent residents from 25 to 44 years old.

Operationally this was calculated from the ages listed on the census forms and totaled for adults 25 to 44 years old and divided by the total number of residents reported in STF3: 15.

17. The percentage of adults 45 to 64 years old in a community was the percentage of permanent residents from 45 to 64 years old.

Operationally this was calculated from the ages listed on the census forms and totaled for adults 45 to 64 years old and divided by the total number of residents as reported in STF3: 15.

18. The percentage of adults 65 or older in a community was the percentage of permanent residents 65 or older.

Operationally this was calculated from the ages listed on the census forms and totaled for adults 65 or older and divided by the total number of residents as reported in STF3: 15.

19. The population of the community was the total number of permanent residents in a community.

Operationally this number was determined by the total number of persons listed on the census forms as reported in STF3: 3.

The dependent variables were defined as follows:

1. The level of participation for adults was the mean hours adults spent in a formalized Community Education activity.

Operationally this number was calculated using the hours of reported participation in activities for all adults in a Community Education program in the report for the Alaska State Department of Education divided by the total number of adults listed on the census as reported in STF3: 3.

2. The level of overall participation was the mean hours for all community members spent in a formalized Community Education program.

Operationally this number was calculated using the hours of reported participation in activities for all residents in a Community Education program in the annual Alaska State Department of Education report divided by the total number of residents listed on the census forms as reported in STF3: 3.

3. The level of volunteerism was the mean hours reported per resident as a volunteer in support of the Community Education program.

Operationally this number was calculated using the hours reported for all volunteers in the annual report for the Alaska State Department of Education divided by the total number of residents listed on the census forms as reported in STF3: 3.

Other appropriate definitions:

1. Community was defined as "a localized population that is interdependent on a daily basis and performs many activities that

satisfy a range of needs that ensure social and economic continuity" (Smelser, 1981, p. 166).

2. Rural as defined by Roger and Budge (1972) was those "persons who live in the country or towns of less than 2,500 population are said to be rural" (p. 18).

3. Non-sampling errors were failures "to enumerate every household or person in the population, not obtaining all required information from respondents, obtaining incorrect or inconsistent information, and recording information incorrectly" (U.S.G.O., 1981, p. C-1).

Summary

Various authorities recommend that program planning and evaluation in Community Education be preceded by the collection of socio-demographic data. These data are to be used in increasing the level of participation in the Community Education program, and in the evaluation of the participation in relationship with the community at large. The variation in participation from Community Education program to Community Education program could be associated in part to selected socio-demographic characteristics.

One method of determining the association would be to gather the commonly recommended socio-demographic data and to test these data for association with the reported level of participation and volunteerism in the community education program. The purpose of this research was to test for these associations in rural Alaska.

The contribution of this type of research is to establish inherent patterns of participation associated with various selected socio-demographic variables. Knowledge of these patterns could lead to adjustments in the expected levels of participation in rural Community Education programs. This research could also be an aid in the development of strategies to cope with any systematic pattern of underrepresentation of identifiable groups or individuals in Community Education programs.

CHAPTER 2

REVIEW OF THE LITERATURE

Introduction

This chapter presents a review of the literature on the use of socio-demographic data for planning in Community Education, and how these socio-demographic data relate to participation. These two sections are broken down into four subsections. These subsections are for personal, social, educational, and economic aspects of socio-demographic data.

Uses of Socio-Demographic Data in Planning

The Bureau of the Census published a pamphlet titled Census Data for Community Action (1975) which demonstrates how census data can be used in community action projects. A major use is as a source for background information. These data can serve the three uses of "detecting a problem, determining its seriousness, and planning ways to solve it" (p. 1).

In the field of Community Education, Frank (1975) wrote that "good planning procedures would dictate that one begins the whole process by learning as much about the existing situation as possible" (p. 13). Learning as much as possible involves gathering data to answer questions about the community.

The first area to be reviewed in learning about the community is personal characteristics. These characteristics include mean/median ages and the percentages of various age groups that may participate in Community Education.

Personal Characteristic

The request for, and the demonstration of support for the collection of demographic data concerning age groups can readily be found in the literature. Hiemstra (1972) recommends the collection of "population factors - the percentage of people in various age and other groupings" (p. 90) for program planning. Frank (1978) suggests asking the question, "What is the population breakdown by groups?" (p. 13). The use of age groups in planning is also presented in Census Data for Community Action where "the number of persons 65 years old and over is important in determining the need for daytime and evening courses oriented towards arts, crafts, and other leisure-time pursuits" (p. 10).

The literature recommends that these data on age and age groups be tabulated from the U.S. Census in several configurations. Hiemstra (1972) lists the percentages of population by groups, as does Frank (1975). Bowers et al. (1976) lists age groups specifically by the age ranges of 0 to 18, 18 to 64, and 65+ with additional breakdowns into groups of "preschool, school age, 18 to 21, 21 to 64, and 65+" (p. 10). Stark (1976) lists age groups by the divisions of 0 to 3, 4, 5 to 12, 13 to 15, 16 to 18, 18 to 25, 26 to 35, 36 to 45, 46 to 55, 56 to 60, and 61 and over (p. 27). A further example of population

statistics and the use of specific age groups can be found in the Community Education Needs Assessment and Evaluation Guidebook (Horyna and Hielsen, 1977).

Surveys for use in planning and evaluation mention age in a general context (Lacalle and others, 1981) and in different forms. Both the mean (Piatt and Seybert, 1981, p. 4) and the median (Johnstone and Rivera, 1965) are used as measures of age rather than specific age groups. These data on age are to be used "to develop a demographic description" (Krietlow and others, 1980, p. 13) for planning. Age has traditionally been a part of the wealth of information obtained via surveys for the purpose of planning and evaluating Community Education programs (Hyde, 1981).

Social Characteristics

There are three variables included in this section. These are ethnicity, the size of the community, and the geographical location of the community. Selected literature as it relates to planning and evaluation and these three variables are reviewed in this section.

Ethnicity. The members of an ethnic group share a common sense of togetherness (Coleman and Cressey, 1984). The concepts of ethnicity, race, and national background are all found in the literature. These three concepts relate to the social cohesiveness of a group and therefore, are interchangeable as a reference to ethnicity. Milton M. Gordon gave the following definition for ethnic group:

When I use the term 'ethnic group', I shall mean by it any group which is defined or set off by race, religion, or national origin, or some combination of these categories. I do not mean to imply that these three concepts mean the same thing. They do not However, all of these categories have a common social-psychological referent, in that all of them serve to create, through historical circumstances, a sense of peoplehood (1964, pp. 27-28).

Hiemstra (1972) supports this point when he writes about social class structure and includes race as an "identifiable structure of people" (p. 90). Young (1975) also suggested race as data useful in planning.

Bowers et al. (1976) suggests that in Community Education program planning and development the "percent of racial and national groups which make up the population of your service area" (p. 10) is useful. Horyna and Nielsen (1977) also suggest the collection of data on racial and national backgrounds by percentage for the planning of Community Education programs.

The use of race as a variable in surveys is suggested as a method "to develop a demographic description" (Kreitlow and others, 1980, p. 13). Race is also listed as part of the information to be collected in surveys in evaluating Community Education programs (Lacalle and others, 1982; Hyde, 1981).

Community Size. In planning and evaluation, questions of community size are asked in a number of ways. Frank (1975) asked "what is the current population?" (p. 13). Young (1975) succinctly defined this variable as all persons in an area. Bowers et al. (1976) directly related the community size to the number of services to be

rendered. This relationship is established by asking "How many people in your service area"? (p. 10). Horyna and Nielsen (1977) ask the same question and gave U.S. Census data as a relatively easy source for securing the actual number of community residents.

Geographical Location. Normally a question concerning geographic location is more appropriately asked at the national level. However, this information can also be gathered at the local level. Examples are data on local boundaries, topographical features, and local land use patterns (Frank, 1975). Another approach to this type of data is the actual number of square miles each community comprises (Horyna and Nielsen, 1977).

Educational Characteristic

The request for, and the use of data on the educational level of community members for use in educational planning is well documented in the literature. Some examples include Hiemstra's (1972) suggestion to use "the educational background of people" (p. 90), and Young's (1975) use of "years of school completed" (p. 13).

Bowers et al. (1976) writes that "educational levels of the population" (p. 10) are needed data for planning. These types of data are listed by Bowers et al. (1976) as the "percentage and number of out-of-school adults over 16 who have less than eight years of schooling" (p. 10) and "percentage and number of out-of-school adults over 16 who have less than 12 years of schooling" (p. 10). In addition, data on the grade completed from 0, 1-4, 5-7, 8, 9-12, high school graduates, 13+, and college graduates are used by Bowers et al.

(1976). Horyna and Nielsen (1977) also suggest using these categories in their Community Education Needs Assessment and Evaluation Guidebook.

Stark (1978) uses educational attainment to mean the "highest grade reached in school" (p. 37) and recommends requesting this information on community surveys. Normally individual surveys try to establish the educational level of prospective or actual students (Piatt and Seybert, 1981; Lacalle and others, 1982; Hyde, 1981).

Economic Characteristics

The last socio-demographic characteristic reviewed for use in planning and evaluation is economic characteristics. This category is broken down into the sub-groups of income measures and income sources.

Income Measures. Income measures include median income, and the percentage of families with incomes below the poverty level. Issues of economic structure within a community are approached by Hiemstra (1972) to cover "the ranges of income, (and) the problems of inadequate incomes" (p. 90). Young (1975) lists the gathering of information on incomes in terms of family means and medians. An example of applying such information to planning would be "the number of families with income below the poverty level and with children under 18 or children under six may suggest the need for instruction in low-budget meal planning, health care, and similar family and home-oriented subjects" (Young, 1975, p. 10).

Bowers et al. (1976) lists measures to be used to determine the economic levels of the population as "percentage of families whose

income is below the poverty level . . . , median income per family . . . , and per capita income" (p. 10). Horyna and Nielsen (1977) use the same data base for planning and evaluation as Bowers et al., while other authors suggest different economic measures. These measures include annual salary rate (Goyen, 1981), income level (Piatt and Seybert, 1981), annual family income (Hyde, 1981), and income (Lacalle, 1982; Kreitlow and others, 1980).

Income Sources. The income source normally listed is occupation. Young (1975) lists the occupation while Stark (1978) suggests asking the question "What is your occupation?" (p. 27) on survey forms. While the choice of terms was different, another procedure identifies the income source of the members of the service area (Horyna and Nielsen, 1977). Selected variations included in the literature are current employment status (Goyen, 1981; Lacalle, 1982), employment (Piatt and Seybert, 1981), occupation (Hyde, 1981), and employment and work roles (Kreitlow and others, 1980).

Socio-Demographic Data and Participation

The purpose of this section is to identify how socio-demographic data relate to participation. The areas reviewed are personal characteristics, social characteristics, educational characteristics, and economic characteristics.

Personal Characteristic

Lewis and Lowenstein (1965) reviewed the literature prior to 1965 and found the research "established a negative relationship between

age and participation in adult education activities" (p. 1). These research findings suggest that "it would seem that an adult within the age bracket 35-44 . . . would have the highest learning interest and hence participation record in further adult education activities" (Lewis and Lowenstein, 1965, p. 2)

Almost 20 years ago in Volunteers for Learning, Johnstone and Rivera (1965) presented data which established age as a distinctive trait of participants in organized adult education. These data indicated that a participant in adult education is more likely to be younger than the average American adult. Johnstone and Rivera (1965) also compared the median age of the participant, which is 36 1/2 to the entire sample of the study, and found this age to be six years younger than the total sample.

Johnstone and Rivera found age a distinctive characteristic in the participation paradigm with the

. . . majority of participants (57 percent) . . . under the age of forty, and over three quarters (79 percent) . . . under the age of fifty, and on the average more than six years younger than the 'average' American adult (1965, p. 72).

A study by Goard and Dickinson in 1968 under the ARDA-Canada Land Inventory project found that participants in continuing education programs are younger than non-participants in their sample. Using the ARDA-Canada Land Inventory project data base, Dickinson and Verner (1969) found these data provided "a significant negative correlation ($r = -.24$) between age and participation which further

emphasizes the trend noted elsewhere on participation in adult education to decrease as age advances" (p. 10).

Johnstone and Rivera (1965) found a median age of 36 1/2 for participants and 42 4/5 for non-participants while Okes (1971) found that the gap in age between participants and non-participants increased so that the median age for participants in adult education is 34 years, and for non-participants is 46 years. In a national survey conducted in the early 1970's, Carp, Peterson, and Rolfs (1973) found "in terms of age, the sub-group of learners tends to be somewhat younger than the general adult population" (p. 13).

Blunt and Thornton (1974) studying Indian participation in adult education programs on a reserve in British Columbia found no association between age and participation. This finding is not consistent with earlier American and Canadian studies. A later study in Wisconsin on the uses of vocational, technical, and adult education supports the conventional position that age is a factor in enrollment and participation with user rates of 65% for 18-39 year olds, 24% for 40 to 61 year olds, and four percent for those 62 and over (Young, 1978).

The negative association between age of adults and participation is established for North America. Of equal importance is that this association is not completely static and the following changes have been reported where the participation:

. . . in adult education by persons 55 years of age and over who were not full-time students in high school or college increased 55.2 percent between 1969 and 1975 or at an average annual rate of 7.6 percent. The total population of persons 55 years of age and over increased 11.5 percent during the six-year period, or at an average annual rate of 1.8 percent. Among those 17 to 34 years of age who were not full-time students in high school or college, participation in adult education increased 38.1 percent between 1969 and 1975, or at an average annual rate of 5.5 percent. the total population of 17 to 34 year olds increased 24.4 percent during this period, or at an average annual rate of 3.7 percent (Boaz 1975, p. 11).

From the research cited by Boaz (1975), the negative association between age and participation weakened as the mass of baby boom adults entered into middle age. Research by Anderson and Darkenwald (1979) in the area of lifelong learning found "the following populations are significantly under represented . . . people aged 45 or older" (p. 7).

The findings are summed up by Lindsay (1980) when he states that "participation in adult education activities is a complex phenomena . . . research has shown that . . . age (negative) . . . is an influential demographic variable in predicting participation" (p. 31).

Social Characteristics

Ethnicity, the size of the community, and geographical location are variables which fall into social characteristics because they influence the social milieu of a community. The literature as related to these three variables is reviewed in this section.

Ethnicity. The influence of ethnicity on participation is not as clean-cut as age. The research reviewed blended the studies using

race and those using culture into this category. This section covered research conducted in the last two decades.

Beginning with Johnstone and Rivera's research (1965), there was an indication of a lower level of representation and participation by Blacks in America, a difference that disappeared when educational levels were controlled. An elaboration of this association was that "ninety percent of the participants being White, just two percent more than the total adult population. Negroes are underrepresented by a factor of three to four" (Johnstone and Rivera, 1965, p. 72).

Cross (1979) takes exception to the Johnstone and Rivera (1965) position. First, she finds there is a lack of data on participation "despite the concern in recent years about educational opportunities for ethnic minorities, information on educational participation and preferences" (p. 86). Cross (1979) further states these differences in participation are dramatic and the Black position has been deteriorating in past years. Finally, Cross (1979) concluded "the desire for credit or certification on the part of ethnic minorities is consistent with their striving for upward mobility through education" (p. 88).

Another study of the comparison of Black to White participation is that Blacks comprised 9.7 percent of the total population 17 years or older but only 7.5 percent of the total number of participants in educational activities. Whites comprised 89.3 percent of the total population but represented 91.5 percent of the total participants (Okes, 1971).

Another dimension of ethnicity is that of a second language, one often spoken at home. A study in Ontario, Canada, found that learners are more often individuals where the language most often spoken at home is English while non-learners are individuals speaking languages other than English at home (Waniewicz, 1975). Consequently, a second language might impede participation or represent a cultural barrier to a learner in Community Education.

In the United States, Blacks represent only 6.4 percent of the total participation in adult education, but 9.8 percent of the eligible population (Okes, 1976). Perhaps one of the strongest statements of Black under representation is by Anderson and Darkenwald (1979) when they state that Blacks are "significantly underrepresented in organized learning activities for adults" (p. 7). The F score for the research was 37.35 which was significant at the .01 level.

Aslanian and Brickell (1980) reiterate the Black position "in an analysis of the 1969, 1972, and 1975 studies (that) found Blacks have not joined the ranks of adult learners in equal proportions to their rise in population" (p. 8). These results are based on data from the National Center for Educational Statistics and the Bureau of the Census.

Darkenwald and Merriam (1982) contradict Cross (1979) on whether there is a difference in Black participation in adult education and are in support of Johnstone's and Rivera's (1965) earlier stated position. Darkenwald and Merriam (1982) state that "other things being equal (such as educational attainment), Black adults are

slightly more likely than Whites to participate in adult education" (p. 121).

While the literature on the influence of ethnicity on participation is not totally consistent, there is more evidence of less involvement in educational activities for minority adult learners. However, while this pattern of participation may be linked to other factors such as levels of educational attainment among various ethnic groups (Darkenwald and Merriam, 1982) or income (Smelser, 1981) lower levels of participation would be expected from minority members.

Community Size. The second social characteristic, size of the community, deals directly with the Gemeinschaft-Gesellschaft continuum of community size and social relationships. This continuum was developed by a German sociologist named Ferdinand Toennies and has been used extensively by Minzey and LeTarte (1979).

The NORC data noted that "the adult participant . . . lives in an urbanized area but more likely in a suburb than a large city, and is found in all parts of the country" (Miller, 1967, p. 12). A second association was noted by Dickinson and Verner (1969) for rural areas where "those respondents with more Kinship links . . . were more likely to participate in adult education" (p. 13).

Waniewicz (1975) divided learners from non-learners on the basis of residential population where a learner was more likely to reside in a community of over 500,000 while a non-learner was more likely to be from rural areas or from communities of 10,000 to 30,000. Interestingly, the rural residents most likely to be non-learners are farmers (Waniewicz, 1975). Anderson and Darkenwald (1979) in writing

about participation, state that "the following populations are significantly under represented in organized learning activities for adults . . . people living in central cities or on farms" (p. 7).

While no change is noted for the rural non-learner being most likely a farm resident, there is a differentiation for the urban learner not being a central city resident. The central city is often the area of residence for minorities and the economically disadvantaged citizen.

Geographic Location. Johnstone and Rivera (1975) reported that only the Western region is over represented in participation. Okes (1976) also found the highest rate of adult education in the West at 17.9 percent. The Southern region has more participants in number, and is the second highest in participation, but as a region the South is still underrepresented. Rates for the other regions were 13.2 percent for the North Central, 10.8 for the Northeast, and 9.9 percent for the South (Okes, 1976).

Cross (1979) states further that the

. . . national and statewide studies of participation and interest in adult learning show considerable variation by geographic region. For example, educational opportunity is widely conceded to be greater in the western states than anywhere else in the country (pp. 98-99).

Darkenwald and Merriam (1982) also found the typical participants are more likely to reside in the western states.

Educational Characteristics

The third major section of this portion of the review is on the research that compares education level to participation in education.

Lewis and Lowenstein (1965) state "studies have reported . . . that, in general, participants in adult educational activities . . . have a high level of education" (p. 2). A conclusion from the foregoing research is that an adult who has graduated from a secondary school would have a higher level of learning interest and as a result, a higher level of participation in future adult education activities than a non-graduate from secondary school (Lewis and Lowenstein, 1965).

Johnstone and Rivera (1965) found that on the average adult education participants have attended 12.2 years of school as compared to 11.5 years of school for all adults in their sample. For those with no formal schooling, the rate of participation is four percent while those with 16 years of formal education have a 47 percent participation rate. Miller (1967) similarly reports that the adult education participant has typically completed high school.

That participants in education activities have a greater educational background than non-participants is an accepted hypothesis in education literature (Goard and Dickinson, 1968). A year later, a report by Dickinson and Verner (1969) in the ARDA-Canada Land Inventory project contradicts this positive association between educational attainment and participation in adult education. In contrast to previous research neither the

education nor the job training of the husband or of the wife was related to participation in adult education although the education of the father was a significant characteristic. Some 16.8 percent of the respondents whose father has eight or less years of school completed were participants whereas 31.6 percent of those reporting a father's education of more

than eight years participated and this difference was statistically significant (p. 14).

In 1971, Dickinson returned to his first position that "of all the characteristics that have been studied, educational background may be the most important" (p. 37).

Carp et al. (1973) also found education to be one of the two socio-demographic characteristics which could be used to differentiate the learners from the general population. The positive association between education and participation in organized learning is also found by Okes (1974) in a national study on adult participation in lifelong learning.

Waniewicz (1975) states learners are those with at least some postsecondary education and non-learners are those people with an educational attainment not higher than grade school. In special types of offerings in lifelong learning the influence of past education becomes more pronounced. An example of this is that in one study approximately 73 percent of first-time enrollments in extension classes were found to have attended college and 36 percent of the enrollment had either an undergraduate or graduate degree (Kanum, 1976).

At the national level the association between participation in adult education and educational level remains positive. For those who did not finish high school, only 4.1 percent participated in adult education in 1972. While 12.4 percent of the high school graduates participated in adult education, 22.9 percent of those with some college participated in adult education, and 30.5 percent of the

college graduates participated in adult education (Okes, 1976). Waniewicz's (1975) earlier description of learners as most likely having attended college has been a trend that reflects the increasing level of education for the nation as a whole. Young (1978) presents similar data for users of adult vocational education in that "half the users had some education beyond high school, and 16 percent of the users had not attained a high school education" (p. 196).

Statistically, Anderson and Darkenwald (1979) found people with less than a high school education to be underrepresented in adult education. Cross (1979) also supports a positive association between educational attainment and adult education participation with the statement "that 89 percent of the adults who are currently participating in organized learning activities are high school graduates" (p. 80). Cross (1979) also points out "the consistent research findings that the more education people have, the more they want" (p. 100).

Lindsay (1980) writes that educational attainment has a positive association with participation in adult education. An example of the strong relationship is that college educated adults comprised 25 percent of the population but comprised 50 percent of the adult learners in 1975.

Economic Characteristics

The economic measures of income and income source that are recommended to be gathered in the literature will be reviewed in this section. Income measures are the median income and percentage of

families with incomes below the poverty level. Income sources are chief industry, chief occupation, and dominant land use.

Income Measures. Johnstone and Rivera (1965) write that white collar workers and those with high incomes participate in adult education more than blue collar workers and those with lower incomes. They found that 62 percent of the participants are employed full-time and 75 percent are in the labor force. Verner (1965) is a bit more succinct when he writes that the "socio-economic status variables indicate that the higher levels are more apt to participate in adult education" (p. 28).

Miller (1967), citing the NORC data, simply notes that "the adult education participant . . . enjoys an above average income" (p. 12). Other research during the same time frame found similar findings. These findings indicate that participants have a higher standard of living and have higher job earnings than non-participants (Goard and Dickinson, 1968).

An example of the difference in income in actual dollars is presented by Okes. The \$2,203 difference in median family income between participants and non-participants is from \$10,485 to \$8,282. Beyond the actual dollar difference, there appears to be a positive association between income and participation. In 1969, the \$15,000 to \$24,999 income bracket had a participation rate of 18.7 percent and non-participants peak in the \$6,000 to \$6,999 income bracket (Okes, 1974). Another method of dividing learners from non-learners on family income is to set \$20,000+ annually for learners and \$10,000 or less annually for non-learners (Waniewicz, 1975). As inflation

influences the dollar income, the actual dollar amounts change but the pattern of a positive association between participation and income remain the same.

An illustration of the increases in income and the rate of participation between 1969 and 1975 is provided by Boaz (1978):

The intensity of participation in adult education varies directly with family income: as family income increases, the rate of participation increases. The fact that between 1969 and 1975 there was a marked decline in the number of adults in families with annual income under \$10,000 and a large increase of adults in families with annual incomes of \$10,000 and over is mirrored in the participation in adult education statistics. For example, the number of adults in families with annual incomes of \$5,000 to \$9,999 decreased 30.9 percent, at an average annual rate of -6.0 percent between 1969 and 1975. Correspondingly, the participation in adult education for those adults decreased -24.8 percent, or at an annual rate of 04.6 percent. During the same period, the number of adults in families with annual incomes of \$25,000 and over increased 260.0 percent, or at an average annual rate of 22.8 percent. Participants in adult education in this bracket increased 359.7 percent, or at an average annual rate of 28.9 percent (p. 14).

The bottom or lower income for those families who are significantly underrepresented was previously set at \$10,000 annually. Anderson and Darkenwald (1979) use a lower figure of under \$8,000 which denotes those families who are significantly underrepresented in adult education. Statistically this resulted in an F value of 17.76 which is significant at the .01 level.

While Lindsey (1980) describes participation in adult education activities as a complex phenomena, one influence is income. Simply stated, learning is more common among the rich (Aslanian and Brickell, 1980).

Income Sources. When income sources are compared to the total adult population, there is an over representation of persons who work, a slight underrepresentation of home persons, and retired persons are considerably underrepresented (Johnstone and Rivera, 1965). While only 43 percent of all adults hold jobs as white collar workers, 58 percent of the participants in adult education are so employed (Johnstone and Rivera, 1965). Miller (1967) states that the NORC data found that the adult education participant is more likely to be a full-time worker in a white collar occupation. This trend is demonstrated in that "over 3/4 (76.2 percent) of the participants in adult education in 1969 are working compared to 56.2 percent of all non-participants" (Okes, 1974, p. 19). The working learners are most often employed as full-time professional and white collar workers, while the working non-learners are unskilled laborers and farmers (Waniewicz, 1975). Learners in extension classes are identified as working full-time in professional, managerial, or white collar jobs (Kanum, 1976). In another study of participation in lifelong learning, full-time employment is associated to participation at the .05 level of significance (Anderson and Darkenwald, 1979).

Summary

Community Educators (Bowers et al., 1974; Horyna and Nielsen, 1977; Stark, 1976) recognized the use of socio-demographic data in the planning and evaluation of Community Education programs. These recommended socio-demographic data are the population, educational levels, economic levels, ethnic background, and geographic region.

The findings of the literature reviewed indicate the four factors most strongly associated with participation are educational levels, age, income, and geographic region of residence. The contrast between participant and non-participant can be stereotyped as follows: A high rate of participation could be expected from a person who has attended college, is a white collar worker, earns more than \$20,000 annually, is white, under the age of 40, and lives in a suburb of a large western city. A low rate of participation can be expected from a person who has fewer than eight years of formal education, is unemployed or a blue collar worker, earns less than \$8,000 annually, is not white, is over 60, and lives in a rural area in the South.

CHAPTER 3

PROCEDURES

Introduction

The problem of this study was threefold in nature:

1. To determine if there were associations between selected socio-demographic data and the level of participation by adults in Community Education programs in rural Alaska;
2. To determine if there were associations between selected socio-demographic data and the level of participation by all community members in Community Education programs in rural Alaska; and
3. To determine if there were associations between selected socio-demographic data and the level of volunteerism in support of the Community Education programs in rural Alaska.

The purpose of this chapter is to present the research procedures that were employed in this study. The topics presented in this chapter are as follows:

1. Population and Sample
2. Categories of Investigation
3. Methods of Data Collection
4. Methods of Organizing These Data
5. Statistical Hypotheses
6. Methods of Data Analysis

7. Precautions Taken for Accuracy
8. Summary

Population and Sample

Population

The population of this study was comprised of those rural communities (with a population of less than 2500) in Alaska that had a state-funded Community Education program for the 1984 fiscal year, and whose annual reports were submitted by July 31, 1984 to the Alaskan Department of Education as required by state regulation. There was potentially a population of 137 rural communities in the 45 funded school districts. Of these 137, there were 127 communities that conducted Community Education programs during the 1984 fiscal year.

As of August 1, 1984, annual Community Education reports had been received at the Alaskan State Department of Education office from 115 of these rural communities. One report was incomplete and not included in the population. Thus, the population of this study was 114 communities or 89.8 percent of the rural Alaskan communities conducting Community Education programs during the 1984 fiscal year.

Sample

A sample of 40 rural communities was drawn using a table of random numbers obtained from a statistics book. The sample included one rural community where there was missing data for several of the independent variables. The sample also drew five rural communities that failed to report participation by an age breakdown for the

Community Education programs. The data for these communities were complete, however, for both volunteerism and overall participation.

Categories for Investigation

The following 19 categories were the independent variables for this research: chief industry, chief occupation, dominant land use, ethnic background, families with income below the poverty level, geographic region, mean age of adults, median years of education for adults 18 to 24 years of age, median years of education for adults 25 or older, median household income, percentage of out-of-school adults 25 or older who have eight years or less of education, percentage of out-of-school adults 25 or older who have fewer than 12 years of education, percentage of children 0 to 5 years old, percentage of children 6 to 17 years old, percentage of adults 18 to 24 years old, percentage of adults 25 to 44 years old, percentage of adults 45 to 64 years old, percentage of adults 65 or older, and the population of the community.

The following three measures of involvement were the dependent variables for this research problem: the mean hours of adult participation, the mean hours of overall participation, and the level of volunteerism in support of the local Community Education program.

Methods of Collecting the Data

Using Conducting Community Surveys, Planning for Community Education, and A Guide to Needs Assessment in Community, a list of socio-demographic variables commonly used in the planning process for Community Education was compiled. These independent variables and their data sources are listed in Figure 2 located on the next page.

While previous census data were estimated as not counting 2.5 percent of the population, the 1980 census was more accurate (Bureau of the Census, 1981). In addition, these data were recollected on a smaller randomly selected sample to check for validity and to adjust for error. These data for the independent variables were consistent and any error or bias should be minimal. Those two independent variables from sources other than census data were geographical classifications and dominant land use and were subject to error if transcribed from the geographical source incorrectly.

The data for the dependent variables were generated from data collected by the Alaska Department of Education, Office of Adult and Continuing Education, Juneau, Alaska. These data were prepared in a standard manner by the local school districts, in order to be in compliance with state regulations and were received by the State Department of Education by July 31, 1984. These data were subject to peer, Department of Education, legislative, and ombudsman audit and

Figure 2. Independent Variables and Sources.

Independent Variables	Type of Characteristics			Source
	Per-sonal	Social	Eco-nomic Educa-tional	
Chief Industry			x	Census
Chief Occupation			x	Census
Dominant Land Use			x	Atlas
Ethnic Background		x		Census
% of Families with Incomes Below the Poverty Level			x	Census
Geographic Region		x		Atlas
Mean Age of Adults	x			Census
Median Years of Education 18 to 24			x	Census
Median Years of Education 25 or Older			x	Census
Median Household Income			x	Census
% of Adults 25+ with 8 Years or Less of Education			x	Census
% of Adults 25+ with Fewer than 12 Years of Education			x	Census
% of Population 0 to 5	x			Census
% of Population 6 to 17	x			Census
% of Population 18 to 24	x			Census
% of Population 25 to 44	x			Census
% of Population 45 to 64	x			Census
% of Population 65+	x			Census
Population	x			Census

review. Reliability and validity were a function of the care taken at the local school district in compiling the annual reports.

Methods of Organizing the Data

The data for this study are presented using various tables which present the frequency and percentages of the nominal independent variables and selected descriptive statistics for the interval independent and dependent variables. In addition, the levels of association found in this study are presented using tables with the values for association and proportional reduction in error.

Statistical Hypotheses

The probability level of a Type I error (alpha) was in control of the researcher. Champion (1981) stated that "usually what is reasonable is whatever is conventional . . . conventional significant levels (and Type I errors) are .05 and .01" (p. 142). Further, Ferguson (1981) reiterates that the common convention is "to adopt levels of significance of either .05 or .01" (p. 175). Best (1977) elaborated that the five percent (.05) level was often used in educational research. This study tested the null hypotheses listed on the following pages at the .05 level of significance.

With the value of alpha at the .05 level, the value or chance of a Type II error (beta) was "a function of sample size N and the actual difference between u_1 and u_2 " (Ferguson, 1981, p. 175).

The power of the statistical tests chosen was maximized by using a sample size that was large enough to reduce any extortion in the

resulting values for r , F , or t . Finally, the random selection of the sample reduced the opportunity for the sample values to be influenced by extraneous variables.

In this research the following alternative and null hypotheses were tested:

H_1 : There was an association between the chief industry in a community and the level of adult participation in the Community Education program.

H_{01} : There was no association between the chief industry in a community and the level of adult participation in the Community Education program.

H_2 : There was an association between the chief industry in a community and the level of overall participation in the Community Education program.

H_{02} : There was no association between the chief industry in a community and the level of overall participation in the Community Education program.

H_3 : There was an association between the chief industry in a community and the level of volunteerism in support of the Community Education program.

H_{03} : There was no association between the chief industry in a community and the level of volunteerism in support of the Community Education program.

H_4 : There was an association between the chief occupation in a community and the level of adult participation in the Community Education program.

H₀₄: There was no association between the chief occupation in a community and the level of adult participation in the Community Education program.

H₅: There was an association between the chief occupation in a community and the level of overall participation in the Community Education program.

H₅: There was no association between the chief occupation in a community and the level of overall participation in the Community Education program.

H₆: There was an an association between the chief occupation in a community and the level of volunteerism in support of the Community Education program.

H₆: There was no association between the chief occupation in a community and the level of volunteerism in support of the Community Education program.

H₇: There was an association between the dominant land use pattern for a community and the level of adult participation in the Community Education program.

H₀₇: There was no association between the dominant land use pattern for a community and the level of adult participation in the Community Education program.

H₈: There was an association between the dominant land use pattern for a community and the level of overall participation in the Community Education program.

H₀₈: There was no association between the dominant land use pattern for a community and the level of overall participation in the Community Education program.

H₉: There was an association between the dominant land use pattern for a community and the level of volunteerism in support of the Community Education program.

H₀₉: There was no association between the dominant land use pattern for a community and the level of volunteerism in support of the Community Education program.

H₁₀: There was an association between the dominant ethnic group of a community and the level of adult participation in the Community Education program.

H₀₁₀: There was no association between the dominant ethnic group of a community and the level of adult participation in the Community Education program.

H₁₁: There was an association between the dominant ethnic group of a community and the level of overall participation Community Education program.

H₀₁₁: There was no association between the dominant ethnic group of a community and the level of overall participation in the Community Education program.

H₁₂: There was an association between the dominant ethnic group of a community and the level of volunteerism in support of the Community Education program.

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H₀₁₂: There was no association between the dominant ethnic group of a community and the level of volunteerism in support of the Community Education program.

H₁₃: There was a negative association between the percentage of families with incomes below the poverty level in a community and the level of adult participation in the Community Education program.

H₀₁₃: There was no association between the percentage of families with incomes below the poverty level in a community and the level of adult participation in the Community Education program.

H₁₄: There was negative association between the percentage of families with incomes below the poverty level in a community and the level of overall participation in the Community Education program.

H₀₁₄: There was no association between the percentage of families with incomes below the poverty level in a community and the level of overall participation in the Community Education program.

H₁₅: There was a negative association between the percentage of families with incomes below the poverty level in a community and the level of volunteerism in support of the Community Education program.

H₀₁₅: There was no association between the percentage of families with incomes below the poverty level in a community and the level of volunteerism in support of the Community Education program.

H₁₆: There was an association between the geographic region of a community and the level of adult participation in the Community Education program.

H₀₁₆: There was no association between the geographic region of a community and the level of adult participation in the Community Education program.

H₁₇: There was an association between the geographic region of a community and the level of overall participation in the Community Education program.

H₀₁₇: There was no association between the geographical region of a community and the level of overall participation in the Community Education program.

H₁₈: There was an association between the geographic region of a community and the level of volunteerism in support of the Community Education program.

H₀₁₈: There was no association between the geographic region of a community and the level of volunteerism in support of the Community Education program.

H₁₉: There was a negative association between the mean age of adults in a community and the level of adult participation in the Community Education program.

H₀₁₉: There was no association between the mean age of adults in a community and the level of adult participation in the Community Education program.

H₂₀: There was a negative association between the mean age of adults in a community and the level of overall participation in the Community Education program.

H₀20: There was no association between the mean age of adults in a community and the level of overall participation in the Community Education program.

H₂1: There was a negative association between the mean age of adults in a community and the level of volunteerism in support of the Community Education program.

H₀21: There was no association between the mean age of adults in a community and the level of volunteerism in support of the Community Education program.

H₂2: There was a positive association between the median years of education completed by adults 18 to 24 in a community and the level of adult participation in the Community Education program.

H₀22: There was no association between the median years of education completed by adults 18 to 24 in a community and the level of adult participation in the Community Education program.

H₂3: There was a positive association between the median years of education completed by adults 18 to 24 in a community and the level of overall participation in the Community Education program.

H₀23: There was no association between the median years of education completed by adults 18 to 24 in a community and the level of overall participation in the Community Education program.

H₂4: There was a positive association between the median years of education completed by adults 18 to 24 in a community and the level of volunteerism in support of the Community Education program.

H₀24: There was no association between the median years of education completed by adults 18 to 24 in a community and the level of volunteerism in support of the Community Education program.

H₂5: There was a positive association between the median years of education completed by adults 25 or older in a community and the level of adult participation in the Community Education program.

H₀25: There was no association between the median years of education completed by adults 25 or older in a community and the level of adult participation in the Community Education program.

H₂6: There was a positive association between the median education completed by adults 25 or older in a community and the level of overall participation in the Community Education program.

H₀26: There was no association between the median years of education completed by adults 25 or older in a community and the level of overall participation in the Community Education program.

H₂7: There was a positive association between the median years of education completed by adults 25 or older in a community and the level of volunteerism in support of the Community Education program.

H₀27: There was no association between the median years of education completed by adults 25 or older in a community and the level of volunteerism in support of the Community Education program.

H₂8: There was a positive association between the median household income of a community and the level of adult participation in the Community Education program.

