


1983

Effects of goals and expectations on participation in adult vocational supplemental education programs

Shirley Mae Kolner
Iowa State University

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**EFFECTS OF GOALS AND EXPECTATIONS ON PARTICIPATION IN ADULT
VOCATIONAL SUPPLEMENTAL EDUCATION PROGRAMS**

Iowa State University

PH.D. 1983

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Effects of goals and expectations on participation in adult
vocational supplemental education programs

by

Shirley Mae Kolner

A Dissertation Submitted to the
Graduate Faculty in Partial Fulfillment of the
Requirements for the Degree of
DOCTOR OF PHILOSOPHY

Department: Professional Studies in Education
Major: Education (Adult and Extension Education)

Approved:

Signature was redacted for privacy.

~~/~~In Charge of Major Work

Signature was redacted for privacy.

~~F~~ the Major Department

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For the Graduate College

Iowa State University
Ames, Iowa

1983

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CHAPTER I.

INTRODUCTION

Background for Study

Technological change has had a profound effect on the educational needs of the work force in the United States. No longer does the education one receives in elementary and secondary school or even in college sustain an individual throughout his/her career. Every year new technology replaces old, new products replace old products, and robots replace people. The economy's need for a particular skill can double or be reduced by half in twenty years — about half the length of an average career (Coates 1982, Mangum 1971).

Technological change will continue to make work physically easier, but mentally harder, contributing to a continuing shift in the occupational mix, with a steadily rising proportion of professionals, managers, and service workers and a steadily declining fraction of laborers, machine operators, and craftspersons (Guzzard 1979).

Governmental regulations also have a profound effect on education. Approximately 800 occupations in the United States are regulated by states, not to mention those subject to regulation by federal or local governments (Shimberg 1982).

Not only is there a shift in needed skills and increased governmental regulations, but there is also a shift in the make-up of the workforce that affects educational needs. Over the last two decades, the number of women in the workforce has increased by 74 percent (O'Keefe 1977); many of the women enter the workforce for the first time and need

entry level skills. However, the overall educational level of the workers is rising. By 1985, three out of four persons in the civilian labor force will be high school graduates and one out of five will have completed college (Guzzard 1979).

The work-life of the individual is also increasing as people are living longer. By the year 2000, the largest age group will be 30 to 44 years of age with a rising curve for 45 to 64 year olds (Cross 1981). This, coupled with the need for many people to continue working to age 65 and beyond for financial reasons, means that many people will be in the work force for 45 years. As a result, job mobility is becoming horizontal instead of vertical and the competition for higher level positions is growing (Charner 1980). The experienced workers who would move upward will need to keep themselves as well-trained as their younger competitors and for the younger worker competing for higher positions, the level of education and training will become increasingly critical as a criterion for promotion (O'Keefe 1977).

In addition to the increase in work life of adults, 40 million adults in the United States anticipate making a career change (Aslanian and Brickell 1980). A study by Sheppard and Herrich (1972) of blue collar workers 40 and older reveals that 40 percent had thought seriously about entering a different occupation. Further studies by a special Task Force to the Secretary of Health, Education, and Welfare (1973) show that both blue and white collar workers want to be able to grow with the job. A study by Arbeiter (1979) shows that a majority of people interested in upward mobility in the labor market think that education is the best way to achieve their goal.

"A worker's survival will hang on his ability to perform new functions or to underbid the cost of machine labor" (Mangum 1971, p. 85). Since the latter will be difficult to do, since many companies are moving towards automation to save costs, the worker will have to learn to perform new functions.

This constant shifting in new jobs, the development of new technology, in addition to increased government regulations assures a large target population for educational providers.

Since most workers cannot afford to quit work in order to return to school (Knoell and McIntyre 1974), many adults enroll in part-time vocational education programs of which a significant number are adult vocational supplemental programs.

The Vocational Education Act allows for the states to provide training for those adults already in the work force. P.L. 94-482, 1968, Vocational Education Amendments Act, Section 104.512 of the Rules and Regulations for Vocational Education, State Programs and Commissioners Discretionary Programs, grants Federal authority for adult vocational education.

In 1965, the Iowa legislature enacted a law establishing the merged area school system. One of the educational services to be provided under this law is adult vocational supplemental education programs.

The adult vocational supplemental education programs at the merged area schools in Iowa have been meeting many of the educational demands of our changing work force. However, if the merged area schools are going to continue to effectively meet the educational demands and increase enrollments, they will need to better understand:

1. Who the participants are they are serving;
2. What the participants' goals are for attending the programs;
3. Why students leave the program before the scheduled completion date; and
4. Why potential participants do not enroll.

Studies on participation show that 50 to 60 percent of the adults study for career-related reasons (National Center for Statistics 1982, Ill. Board of Higher Education 1980, Boaz 1978, Charner 1980, Hutchins 1975, Bronsjo 1974, Carp 1973, Froomkin 1972, Nicholson 1955). However, little research has been conducted specifically on the voluntary adult learner who enrolls in adult vocational supplemental education programs. A mail survey conducted in 1981 by this researcher of the state directors of vocational education revealed that most states do not collect data on adult vocational supplemental students beyond demographic data. Minimal data are available on 1) why adults enroll in vocational supplemental education programs, 2) why adults leave the program before its scheduled completion, or 3) why adults do not enroll.

If educators are going to be successful in recruiting adults and keeping the dropout rate at a minimum, they need to examine the sociodemographic data, goals, and barriers that affect participation. Without this information, program planners cannot effectively meet the educational demands of their community and the changing economy.

Theoretical Framework

There has been considerable research regarding reasons adults participate in education. Much of the research has described the participants by a variety of demographic categories. Some studies have categorized the participants according to the type of class enrolled in. Others have attempted to define certain motives, goals, or reasons for participation. However, few of those investigations have been based upon a theory of participation. If the practitioner is going to fully understand the implications of participation studies, it is important to base research upon existing theories or develop new ones that can be tested.

Cross (1981) has developed a theory for understanding participation in adult learning activities based upon the works of Rubenson in 1977 (Cross 1981), Miller (1967), Boshier (1971, 1973, 1976), and Tough (1971, 1978). Cross identified the following relevant variables as having an effect on participation - 1) internal barriers (attitudes about education, self-concept, importance of goals, and expectation that education will meet goals), 2) external barriers (access to information about programs, and location, time, and cost of programs), and 3) sociodemographic data.

For purposes of this study, the researcher only examined the effect of two variables on enrollment and participation in adult education classes. These variables were: 1) importance of goals and 2) expectation that participation will meet goals. These variables are point C of Cross's Chain of Response Model.

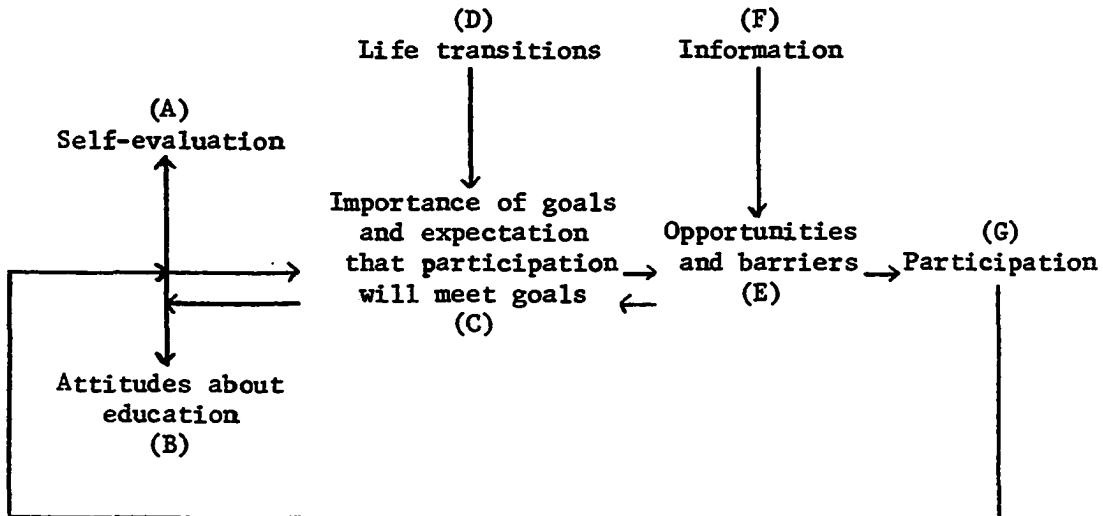


Figure 1. Chain of Response (COR) Model (Cross 1981, p. 124)

This framework was chosen as a foundation for this study as an attempt to establish a theoretical basis for adult participation. A more thorough explanation of this model is in the literature review chapter.

Statement of Problem

To date, there is not a fully developed and tested theory of participation in adult education to assist program planners. However, preliminary frameworks have been proposed by Rubenson in 1977 (Cross 1981), Boshier (1971), Cross (1981), and Tough (1971, 1978) for ordering on who participates and why.

This study investigated participation using the theoretical framework developed by Cross (1981) to explain participation. Specifically, the study addressed the effects of importance of goals and expectations on enrollment and persistence in adult vocational supplemental education programs.

Adult education must serve purposes that are not only based on the needs of the clientele, but these purposes must rank very high on the value scale of individuals if they are going to participate. Further, the benefits derived must be sufficiently important to compete with alternative programs and activities if they are going to persist in the program.

The study focused on adults preregistered for adult vocational supplemental education programs because little, if any, data beyond demographics has been collected on this group of participants. The assumption has been made by program planners that since the programs have vocational objectives, people enroll for vocationally related reasons. This assumption has not been substantiated by research. Further, studies show that people enroll in the same class for often different reasons (King 1981, Boaz 1978, Parrott 1976, and Houle 1961).

Assumptions

The following assumptions have been made for the purpose of this study:

1. Adults have a specific goal for enrolling in educational programs.
2. People choose among alternative acts the one that corresponds to the strongest positive or weakest negative force.
3. People do not differentiate between "reasons" and "goals" when asked why they participate in adult education courses.

Definitions of Terms

The terms defined for the purpose of this study are:

Adult: A person age sixteen or over not currently enrolled in a program of secondary education.

Adult education: Organized learning to meet the educational needs of persons beyond compulsory school age who have terminated their formal schooling.

Adult vocational education: Vocational education for those who have already entered the labor market; persons who are employed or persons who have completed or left high school and who are enrolled in organized study for which credit is not given toward an associate or other degree (P.L. 94.482, Section 104.314). It excludes courses and programs for persons who are in professions or jobs that require a four-year college education or above.

Expectancy: The action or state of looking forward to something as certain or probable.

Goal: Something toward which effort or movement is directed; an end or objectives. For purposes of this study, no difference was drawn between goals and reasons for participating.

Merged area schools: The legal name for the community colleges and vocational technical schools established in Iowa under S.F. 550 in 1965.

Nonparticipants: Persons who preregister but do not attend class.

Nonpersisters: Persons who drop out before the class is completed or before personal goals for enrolling are met.

Persistence: The act of continuing in some course or activity until one's goals are met or course is completed.

Persisters: Persons who complete the course or meet their personal goals for enrolling.

Preregistrant: A person who indicates a desire to attend class by signing up for the class prior to the first class meeting.

Reason: A motive, ground, or cause for doing something. For purpose of this study, no difference was drawn between goal and reason.

Vocational education: Education that is designed to prepare an individual for employment in a specific occupation or a cluster of closely related occupations (P.L. 94-482, Section 104.512).

Vocational goals: Goals outlined in the federal and state legislation. These goals are synonymous with the professional advancement goals on the EPS developed by Boshier.

Vocational supplemental education: Programs or courses designed to upgrade or update occupational skills of enrollees in order for the enrollees to achieve stability or advancement in employment. These programs are part-time, noncredit programs.

Design of Study

The study surveyed a random sample of adults who preregistered for adult vocational supplemental education courses at one merged area school during the fall 1982 session using Boshier's Education Participation Scale.(EPS) (Boshier 1971).

The sample was divided into three groups:

1. Group 1 - adults who preregistered and completed the course (persisters).
2. Group 2 - adults who preregistered, but did not complete the course (nonpersisters).
3. Group 3 - adults who preregistered, but did not attend the course (nonparticipants).

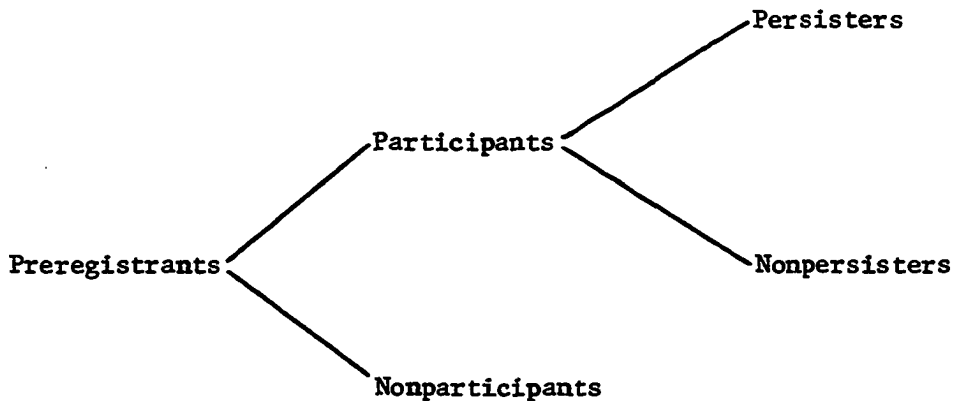


Figure 2. Design of sample

The study examined those who preregistered and then followed through by attending class as well as those who preregistered but did not attend class to see if enrollment is related to 1) type of goals or 2) strength of goals.

The study examined those who persisted in the course and those who dropped out (nonpersisters) to ascertain whether persistence is related to 1) type of goals or 2) strength of goals.

The reasons for enrolling were grouped into the six categories according to the EPS criteria:

1. Social contact,

2. Social stimulation,
3. Professional advancement,
4. Community service,
5. External expectations,
6. Cognitive interest.

A schematic of the design of the study follows:

REASONS FOR ENROLLING	GROUP 1 PERSISTERS	GROUP 2 NONPERSISTERS	GROUP 3 NONPARTICIPANTS
SOCIAL CONTACT			
SOCIAL STIMULATION			
PROFESSIONAL ADVANCEMENT			
COMMUNITY SERVICE			
EXTERNAL EXPECTATIONS			
COGNITIVE INTEREST			

Figure 3. Design of study

The items that comprise the professional advancement category parallel the goals of the vocational legislation for vocational supplemental programs. Those items are:

1. To secure professional advancement,
2. To give me higher status in my job,
3. To supplement a narrow previous education,
4. To acquire knowledge that will help with other educational courses,
5. To keep up with competition,
6. To increase my competence in my job,
7. To help me earn a degree, diploma or certificate,
8. To meet formal requirements.

Therefore, for purposes of this study, the professional advancement category will be referred to as vocationally related goals.

Hypotheses were developed concerning the three enrollment groups and six categories of reasons for participation. It was conjectured that, generally, goals and expectations have an effect on participation and persistence in adult education classes.

Hypotheses and Conjectures

This study provided demographic data on participants and nonparticipants and tested the following hypotheses. The hypotheses were based upon conjectures that the researcher drew from the literature and Cross' COR model.

Conjecture I

If people perceive that their goals are consistent with those of a program, then they will enroll in, participate in, and complete the program.

Hypothesis 1 Persisters will rate vocationally related goals (professional advancement goals) significantly higher ($p < .05$) than the other five goal categories for enrolling.

Hypothesis 2 Nonparticipants will rate vocationally related goals significantly lower ($p < .05$) than the other five goal categories for enrolling.

Hypothesis 3 Nonpersisters will rate vocational goals significantly lower ($p < .05$) than the other five goal categories for enrolling.

Hypothesis 4 Persisters will rate vocational goals for enrolling significantly higher ($p < .05$) than will nonpersisters.

Hypothesis 5 Participants will rate vocationally related goals significantly higher ($p < .05$) than will nonparticipants.

Conjecture II

If people have high expectations of goal achievement, they will persist in, and complete programs in which they enroll.

Hypothesis 6 Enrollees who do participate will show significantly higher ($p < .05$) goal expectations than will those who do not participate.

Hypothesis 7 Persisters will have significantly higher ($p < .05$) goal expectations than will nonpersisters.

Hypothesis 8 Persisters will have significantly higher ($p < .05$) goal expectations than nonparticipants.

Hypothesis 9 There is no significant ($p < .05$) predictive capability of demographic backgrounds on enrollment in, participation in, or completion of adult vocational supplemental programs.

Data Analysis

To test each of the hypotheses 1 through 3, a one-way analysis of variance (ANOVA) was used. Since the groups being compared did not contain an equal number of subjects, Bartlett's chi-square test (Hinkle et al. 1979) was used to test the assumption of equal variances.

Following each ANOVA where a significant F ratio was obtained, Scheffe's post hoc comparison procedure (Hinkle et al. 1979) was applied.

To test hypotheses 4 and 5, a t-test (Hinkle et al. 1979) was used to compare the means to see if there was a significant difference between Group 1 and Group 2 on vocationally related goals and between combined Groups 1 and 2 compared to Group 3.

To test hypotheses 6, 7, and 8, a Z test of proportions (Bruning and Kintz 1968) was used to analyze levels of expectancy on Groups 1, 2, and 3 on all six categories of reasons and on the total number of reasons.

To test hypothesis 9, both independent regression and multiple regression techniques (Hinkle et al. 1979) were applied to each of the three groups to analyze if there is a predictive relationship between demographic variables (independent variables) and group placement (dependent variables). Since some of the demographic data were not continuous, the chi-square technique (Hinkle et al. 1979) was used to see if they had an effect on enrollment, participation, and completion.

A detailed discussion of the analysis of data is included in Chapter III.

Delimitations

This study is limited to adults enrolled in adult, part-time, non-credit, vocational supplemental education programs at Iowa's merged area schools. This study is limited to adults enrolled in vocational supplemental adult education programs because 1) the program is voluntary and does not usually lead to a degree or college credit, 2) little research has been conducted on this group even though they comprise over 50 percent of the adult education enrollments, and 3) since they are enrolled in vocational programs, most of the research has assumed that they are enrolled for career-related reasons. It will not include adults enrolled in adult vocational preparatory programs or recertification or relicensure programs for which credit is given towards professional license renewal.

Data for this study were gathered from only one merged area school in Iowa. Analysis of enrollment and course offering data for all 15 merged area schools shows that the merged area schools are similar in program offerings and student enrollment patterns. Des Moines Area Community College was selected for the study because it has a computerized enrollment and record keeping process which allows for easier tracking of students. The easier tracking of students was necessary because of the design of the study. It was necessary for the researcher to be able to keep track of all students who preregistered even though they

did not attend class. The researcher recognizes that the generality of this study could be affected by selecting only one site.

The study only addresses the participants' goals for participating in adult vocational supplemental education and their relationship to the goals for adult vocational supplemental education stated in the Vocational Education Amendments of 1968. It will not address the goals of the program planners nor the goals business and industry would determine important for adult vocational supplemental programs. The researcher does not deem these unimportant, only not within the scope of this study.

The researcher is only looking at one segment of the COR model - "importance of goals and expectation that participation will meet goals" - and its effect on persistence and enrollment in adult vocational supplemental education programs. The researcher recognizes that the individual segments of Cross' model are a part of a continuum; however, due to the design of this study and time constraints, the researcher will not address the other segments of the model.

Significance of the Study

This study would appear to be of importance for the following reasons:

1. It will add to the growing body of knowledge and theory on the goals of adult learners who enroll in a formal learning activity.
2. It will add to the development of the COR model of participation.

3. It will focus on the goals of a specific population — those enrolled in adult vocational supplemental education programs, a subset of the total adult education population; therefore, research in this specific area may contribute to the field as a whole.

4. It will assist adult vocational supplemental education practitioners in recruiting and retaining students.

5. It will help program planners and instructors design programs to meet the participants' goals for program enrollment.

CHAPTER II.
LITERATURE REVIEW

Introduction

The purpose of this chapter is to present a review of the literature relevant to this research project. The first part of the chapter explains why adult vocational supplemental students were chosen as the sample. The second part of the chapter summarizes demographic and motivational orientation studies that help explain who participates in adult education activities and why. The final part of the chapter examines participation models and the theoretical framework for this study.

The literature review chapter is divided into five sections:

- 1) Introduction,
- 2) Legislation,
- 3) Participation studies,
- 4) Theoretical framework,
- 5) Summary and implications.

Considerable research in adult education has been devoted to the participation patterns and the motivational orientations of adult learners. However, little research has been conducted specifically on adult vocational supplemental education students or on Cross' Chain of Response model to see if it explains participation in adult education programs. Because of the lack of research in these areas, this study examined the applicability of Point C of Cross' model on adult vocational supplemental students.

The researcher selected adult vocational supplemental education students as the sample for this study because 1) 50 to 60 percent of the classes taken by adults are for vocationally related reasons and 2) little research has been conducted on the voluntary, non-degree seeking learner in part-time vocational education programs.

The literature cited in Chapter I indicates that due to the technological changes and the changes in the composition of the workforce, there is a constant need for upgrading workers' skills. Since many workers cannot afford to leave their jobs to attend school full time, the adult vocational supplemental education program can be an important vehicle for meeting these training needs.

Downes (1976) and Smith (1966) state that the real question is how to establish a system of needs analysis for fully employed workers with business and industry. Knoell and McIntyre (1974) believe that the basic nature of community college planning for the next several decades should switch from the facilities emphasis of the sixties to an emphasis on increasing access (1974).

Since enrollment in adult/vocational supplemental/ education programs is a voluntary activity, the decision to participate or not to participate rests with the individual adult and is influenced by factors that are components of both the personality and the social group life of the individual involved. Such personal independence in the matter of participation complicates the administrators' function and frustrates the adult educator... (Verner and Newberry 1958, p. 208).

A number of references, Cross (1981), Hunter (1975), Marien (1972), and the Organization for Economic Cooperation and Development (1971), all emphasize the need for higher education to gravitate toward a more egalitarian philosophy. Marien (1972) articulated for all when he

put it in a question framework:

Is education to be organized around institutions, credit, and credentials (any person and any study in acceptable situations), or is education to be organized around learners as an optimal system for distributing knowledge and encouraging its utilization (any person, any study, any time, any place, any method - and for the purpose of the learner)?
(p. 11)

If education is going to be organized around the learner, the more the adult educators know about their clientele, the better they can program for the client. "Adult education programs should be based on the intelligent application of information gained from studies investigating adult motivation and participation" (Conti 1974). Cross (1981), Peters and Gordon (1974), and Knox (1965) also state that it is important for each educational institution to do a clientele analysis in order to identify target groups, to provide effective teaching and counselling, to develop better programs, and to efficiently use community resources.

Other adult educators (Altman 1972, McLaughlin 1971, Knowles 1970, and Bergevin 1967) state that adult educators must go beyond needs assessment and involve adults in their own program planning in order to increase participation and persistence. Darkenwald (1977) combines the need for assessment and individual needs, stating there are two cardinal principles for adult education - 1) programs should be designed on the basis of needs assessment and 2) learning activities should be compatible with the needs and learning styles of adults.

In addition to ascertaining sociodemographic data and goal information on those who enroll in programs, it is important for the program planner to gather data on nonparticipants and nonpersisters (dropouts)

to examine whether they differ from the successful participants, and 2) to understand the legislative and/or institutional framework in which they operate.

Legislation

The Vocational Education Act allows for the states to provide training for those adults already in the work force. In Iowa, the adult vocational supplemental education programs are primarily conducted by the merged area schools. The federal legislation places certain requirements upon the programs being offered which may 1) influence the reasons why adults participate and/or leave the program and 2) cause the enrollees to be a rather homogeneous group. Therefore, it is important to understand the legislation and setting for the programs.

The Vocational Education Act, P.L. 94-482, 1968, Section 104.512 of the Rules and Regulations for Vocational Education, State Programs and Commissioners Discretionary Programs, grants federal authority for adult vocational education. It states:

1. Vocational instruction means instruction which is designed upon its completion to prepare individuals for employment in a specific occupation or a cluster of closely related occupations in an occupational field.
2. Vocational instruction may be provided to either those preparing to enter an occupation upon the completion of the instruction or those who have already entered an occupation but desire to upgrade their occupational skills and knowledge in order to achieve stability or advancement in employment.

In addition, Section 104.314 specifies that the State shall expend

at least 15 percent of Section 102.(b) allotment for vocational education for (a) post-secondary programs and (b) adult programs. It defines adult programs as programs for:

1. Persons who have already entered the labor market.
2. Persons who are employed.
3. Persons who have completed or left high school and who are enrolled in organized programs of study for which credit is not given toward an associate or other degree.

In 1965, the Iowa legislature enacted a law establishing the merged area school system. The law allowed the establishment of "not more than seventeen areas which shall include all of the areas of the state and which may operate either area vocational schools or area community colleges" (Iowa Department of Public Instruction 1976). As a result, fifteen merged area schools were formed.

The law (S.F. 550) establishing the merged area schools stated that the following educational opportunities and services should be offered by the merged area schools "when applicable":

1. The first two years of college work including preprofessional education
2. Vocational and technical education
3. Programs for in-service training and retraining of workers
4. Programs for high school completion for students of post high school age
5. Programs for all students of high school age who may best serve themselves by enrolling for vocational and technical training while also enrolled in a local high school, public or private
6. Student personnel services
7. Community services

8. Vocational education for persons who have academic, socio-economic, or other handicaps which prevent their succeeding in regular vocational education programs

9. Training, retraining, and all necessary preparation for productive employment of all citizens

10. Vocational and technical training for persons who are not enrolled in a high school and who have not completed school (Iowa Department of Public Instruction 1976).

Department of Public Instruction Departmental Rule 5.4(3) for the merged area schools states:

... adult education shall be offered and may include adult basic education, adult continuing education and general education, college parallel, high school completion, supplementary and preparatory career education programs, and such other programs and experiences as may be required to meet the needs of the people in the merged area.

As a result of this legislation, the Adult Education Section at the Department of Public Instruction and the adult education departments at the merged area schools have been given the responsibility of implementing (1) vocational and technical training (apprenticeship training, short-term preparatory, and new and expanding business and industry training), and (2) programs for inservice training and retraining of workers (vocational supplemental and recertification and relicensure).

The vocational education legislation and the legislation establishing the merged area schools provide the parameters for offering adult vocational supplemental education courses. However, the parameters do not guarantee that the goals of the students who enroll are compatible with the course goals. In order to address the issue of compatibility of goals, participation studies need to be conducted.

Participation Studies

Participation research and literature can serve as a background for adult educators in better understanding their potential audience. Previous participation and motivational studies 1) have served as a guide in the development of the COR model, and 2) provide demographic data for comparing current research and, therefore, are important for understanding this research project.

This subsection is divided into four segments:

1. Definitions,
2. Demographic participation studies,
3. Motivational orientation studies, and
4. Participation models.

Definitions

In order to interpret participation studies, it is important for the reader to understand the definitions being used in the literature. An analysis of participation studies reveals that definitions of adult and adult education differ and methods of determining reasons for participation vary. This subsection will explain some of these differences.

Johnstone and Rivera (1965) define adult "as anyone either twenty-one or over, or married, or the head of a household." The National Center for Educational Statistics (1982) defines an adult as age 17 or older. Other studies use the definition contained in the federal adult and vocational legislation - an adult is anyone over the age of 16 and not enrolled full time in secondary education.

An investigation of participation rates shows a wide discrepancy in percentages depending on the definition of learning. The participation studies conducted by Tough (1971) using the definition of learning as a sustained, highly deliberate effort to learn knowledge or skill, found that 98 percent of the adults in his sample were active learners. When this broad definition is used, most investigators agree that everyone can be classified as a participant (Tough 1971, 1978, Penland 1977, Coolican 1974). However, when the definition of learning is narrowed to mean "some type of organized adult education" (National Center for Educational Statistics 1982), the percentage of adults who participate in adult education is between 13 and 30 percent (National Center for Educational Statistics 1982, Carp, Peterson, and Roelfs 1974, Johnstone and Rivera 1965). Even within this narrower definition, adult education has been defined as classroom instruction or group meetings (U.S. Department of Health, Education, and Welfare 1971) to organized instruction offered by educational institutions, business and industry, churches, independent study, television courses, etc. (Johnstone and Rivera 1965).

For purposes of this study, the literature review will concentrate on participation studies that relate to formal adult education activities.

Demographic participation studies

More than 21 million adults, 17 years old and over, participated in adult education activities in 1981, according to the National Center for Educational Statistics (NCES 1982). This figure represents approximately

13 percent of the total adult population in the United States. The NCES survey results showed:

1. Nearly 54 percent of the adult education participants were under the age of 35; 12 percent were over 55 years old. The heaviest concentration (35 percent) of participants in adult education was in the 25 to 34 age group; approximately 20 percent of the total population in this age group took one or more adult education courses in 1981.

2. Approximately 56 percent of all adult education participants were women. Among women participants, over 70 percent were working at a job, 20 percent were keeping house, and the remainder were either looking for work, going to school, or retired. Almost 96 percent of men participants were working, at the time of the survey.

3. The largest group of participants in adult education were professional and technical workers, who comprised over 30 percent of those taking adult education courses. Clerical workers (18 percent) were the second most likely group to have taken an adult education course.

4. Over 42 percent of adult education participants had family incomes greater than \$25,000 compared to only 31 percent for the population. As the level of family income increased, the rate of participation in adult education also increased; from 6 percent for those with family incomes less than \$7,500 to nearly 19 percent for those with incomes greater than \$50,000.

5. Over 90 percent of adult education participants were at least high school graduates compared to 70 percent for the total population. Persons having five years of college or more were most likely to have taken a course in adult education; over 31 percent of the group participated in 1981. Conversely, only 2 percent of persons with less than a ninth grade education took an adult education course in 1981.

6. The majority (72 percent) of participants in adult education lived in metropolitan areas. The South had the most participants in 1981, over 6 million. Fewer than 4 million participants lived in the Northeast United States (pp. 1-15).

These data have been collected by NCES every three years since 1969 as part of the triennial survey of adult education conducted by the Bureau of Census. This allows for patterns of participation

to be traced. However, in 1975, NCES made substantial changes in the definition of "adult education" and "adult," which means the data since 1975 are not directly comparable to data from previous triennial surveys.

The NCES study in 1975 defined "adult education" as "organized learning to meet the unique needs of persons beyond compulsory school age who have terminated or interrupted their formal schooling" (Boaz 1978, p. 1). It did not include full-time students in high school or college who were taking courses as part of their regular curriculum. In 1975, all persons age 17 and over were asked if they participated in adult education courses. The demographic data were taken calculated on both the full-time students and those who were not full-time students. In 1969 and 1972, in contrast, those surveyed, who were between the ages of 17 and 34 and were full-time students in high school or college were eliminated from the survey results. Those age 35 and over were assumed not to be full-time students (Boaz 1978).

In the sociodemographic studies that have been conducted on participation, the amount of formal schooling is one of the most significant variables associated with participation. The more education people have, the more they are interested in additional education, the more they are aware of the opportunities, and the more they will participate. A high school graduate will participate more than a nonhigh school graduate in adult education and a college graduate will participate more than a high school graduate (King 1981, National Center for Educational Statistics 1982, Illinois Board of Higher Education 1980, Boaz 1978, Carp, Peterson, and Roelfs 1974, Froomkin, Wolfston, and McCully 1972, Johnstone and Rivera 1965).

Another important variable is age. Nearly 54 percent of all the adult education participants were under the age of 35. The largest percentage of participants (35 percent) was in the 25 to 34 age group (NCES 1982). This decline in participation by older adults is due to the generally lower level of educational attainment by those over 55, lack of interest in career success which dominates the participation of younger adults, and declining energy and mobility (Cross 1981, Aslanian and Brickell 1980, and Froomkin, Wolfston, and McCully 1972).

According to a study conducted by Anderson and Darkenwald (1979) and Froomkin, Wolfston, and McCully (1972), race and family income do not independently affect participation. The low participation rates of these groups in adult education are due mainly to other factors associated with poverty such as educational attainment. Neither white nor black dropouts participate to any great extent in adult education - about 4 percent. Yet both black and white college graduates participate about equally in adult education (Okes 1976).

Sex is not a significant predictor of participation in adult education, except from the standpoint that the percentage of participation by women is on the increase, while participation by men is on the decline. The number of women participating in 1981 (11,893,000) surpassed the number of men (9,358,000) for the second time since 1978. The number of women participating has been increasing substantially since 1969, rising from a little over 6 million to almost 12 million; the number of men has increased slowly from almost 7 million to a little over 9 million for the same time period (NCES 1982, Boaz 1978). This marked increase in participation by women may be due to the fact that more women are

entering the workforce and, therefore, are in need of occupational training and retraining, and that there are more courses being offered for women.

Geographical access is a minor indicator of participation in adult education. According to the 1982 NCES study, the South had the largest number of participants (6,133,000), the North Central had 5,741,000, the West had 5,630,000, and the Northeast had 3,740,000. However, when these figures are compared to total population 17 years and older, the West has the largest percentage of population participating (17.58 percent), followed by the North Central with 13.51 percent, the South with 11.17 percent, and the Northwest with 10.30 percent. These percentages have been fairly constant since 1969 (Boaz 1978). This regional difference can be attributed to the greater accessibility of free education and the greater interest in participating in adult education in the West (Cross 1981).

Sociodemographic variables such as age, sex, income, and schooling play only a minor role in influencing the educational participation of adults. Anderson and Darkenwald (1979) found that such variables account for only 10 percent of the variance associated with adult participation in organized learning activities.

Verner and Davis (1964) found that the same sociodemographic characteristics that are related to participation are also related to persistence, but these characteristics do not fully explain persistence.

Dickinson and Verner (1967) discovered that marital status, age, dependents, occupation, and previous participation in adult education programs are statistically significant characteristics when comparing

persisters with nonpersisters. They described persisters as older, married with children, and working in the home, while nonpersisters were younger and usually single.

Boshier (1973) described the dropout as younger than the persisters, less educated, and married. However, these variables only accounted for 10.9 percent of the variance associated with participation.

Irish (1978) reviewed twenty-one studies that compared dropouts to persisters on sociological variables. The studies concluded that married adults dropped out more than nonmarried.

While these variables may be of interest to policymakers in identifying potential targets for educational programming, they are of little importance for explaining and predicting participation and persistence in adult education (Anderson and Darkenwald 1979). These demographic studies describe who is participating, but do not explain the reasons people are participating, why they drop out, or why adults preregister but do not attend. Although these variables do not explain reasons for participation or persistence, it is important to understand the demographic variables and how they can affect the results of participation studies.

Motivational orientation studies

Motivational orientation studies go beyond merely gathering demographic data. They attempt to find out why adults enroll in educational programs. Cross drew on motivational orientation studies in developing the COR model.

Policymakers and program planners need to examine personal and

situational variables (e.g., level of expectancy, attitudes toward education, life change events, self-concept, and awareness of adult education opportunities) which affect the nature and timing of engagement in further learning in order to better explain participation (Cross 1981, Anderson and Darkenwald 1979).

The research by Houle (1961) has served as the starting point for nearly all studies that have examined personal and situational variables that affect motivation for adult learning.

Houle conducted extensive interviews with twenty-two adult students enrolled in continuing education courses to determine why they were active learners. Houle's exploratory study yielded the following typology:

1. Goal oriented - use education as a means of accomplishing clear cut objectives
2. Activity oriented - find in learning a meaning which has no necessary connection with the content or purpose of the activity
3. Learning oriented - seek knowledge for its own sake (p. 15).

Houle cautioned that

...this classification doesn't necessarily hold true for those who participate less extensively than the people studied.... Nor can the grouping be extended to educational activities themselves; a particular course for example, may attract representatives of all three groups, each attending for his own reasons (p. 29).

Sheffield (1962) built upon Houle's typology. He hypothesized 1) the existence of at least Houle's goal oriented, activity oriented, and learning oriented typology, and 2) a direct relationship between extent of participation in adult education and the extent to which the

learner is characterized by one of the three or more orientations and a connection between the type of activity selected and the individual's primary orientation towards continuing learning.

Sheffield designed the Continuing Learning Orientation Index (CLOI) based on 1) Houle's study, 2) reasons cited by thirty-six adult educators and thirteen advanced adult education graduate students, and 3) a literature search. His fifty-eight item instrument was given to 453 participants in twenty conferences at eight different universities. Using factor analysis, five factors accounted for 53 percent of the variance among all items. Of the students surveyed, 81 percent fit into the five factors. Sheffield's five factors were:

1. Learning orientation - seeking knowledge for its own sake.
2. Desire-activity orientation - taking part because in the circumstances of the learning an interpersonal or social meaning is found which may have no necessary connection at all with the content of the announced purposes of the activity.
3. Personal-goal orientation - participating in education to accomplish fairly clear-cut personal objectives.
4. Societal-goal orientation - participating in education to accomplish clear-cut social or community objectives.
5. Need-activity orientation - taking part because in the circumstances of learning an introspective or intrapersonal meaning is found which may have no necessary connection, and often no connection at all, with the announced purpose of the activity (pp. 68-69).

Sheffield correlated his societal and personal orientations to Houle's goal orientation and his sociability and need fulfillment orientations to Houle's activity orientation.

Sheffield (1962, 1964) found that all five orientations were repre-

sented in each conference, but that one orientation dominated in each conference depending on the objectives of the conference.

Dickinson and Clark (1975) used Sheffield's Continuing Learning Orientation Index to explore the reasons nurses participate in continuing education. They surveyed 250 female nurses. They divided continuing education into two categories: 1) self-education and 2) continuing or adult education. The results of their study showed that the factors identified were quite similar to Sheffield's five factors. However, they found little connection between extent of participation and learner's scores for each orientation score as measured by Sheffield's instrument.

Sheffield's study, like Houle's, was exploratory. Burgess (1971) attempted to refine and improve Sheffield's study. He investigated the possibility that individuals who were influenced by two or more clusters of reasons (orientations) would be more likely to participate than those influenced by only one reason. After studying the reasons given by adult learners in other research, Burgess concluded that the reasons would factor into at least eight groups. He labeled and defined them as follows:

1. The desire to know for the sake of knowing - this is a desire to grow in qualities of intellect and appreciation, to derive pleasure from learning, to enjoy mental exercise, and to remain in command of one's learning skills.
2. The desire to gain knowledge in order to achieve a personal goal - this is a desire to gain certain knowledge or skills in order to improve the individual's ability to serve his needs of a personal nature which are for his own gain. The knowledge or skills gained may also provide the individual with a sense of advantage or distinction.
3. The desire to gain knowledge in order to achieve a

social goal - this is a desire to learn certain knowledge or skills in order to improve the individual's ability to serve the needs of society.

4. The desire to take part in a social activity because the activity with other people is enjoyed for its own sake regardless of what is intended to be learned at the activity.

5. The desire to escape from some other activity or situation.

6. The desire to comply with formal requirements - this may be a desire to earn a degree required by the employer, to meet certain conditions required by certain groups, or to meet requirements of a judge, of a social welfare worker, or of some other authority.

7. The desire to comply with general social pressures exerted by acquaintances, friends, relatives, or society as a whole.

8. The desire to study alone or just to be alone (pp. 9-10).

Burgess administered his Reasons for Education Participation (REP) instrument to 1046 adult education participants. The results showed that:

1. Group 8 was not significant.
2. Groups 1 through 6 accounted for 63 percent of variance.
3. A new factor surfaced - the desire to reach a religious goal.
4. More than one-half of the respondents were influenced by two or more factors.
5. Those who were influenced by two or more factors participated to a greater extent than those influenced by less than two factors.
6. Factor scores accounted for a larger percent of variance than did demographic data.

However, certain demographic data (previous education, occupation, income, employment status, age, and sex) when correlated with extent of

participation were significant.

Burgess' five factors paralleled Sheffield's learning orientations: the desire to know - learning orientation; the desire to take part in social activity - desire activity orientation; the desire to reach a personal goal - personal goal orientation; the desire to escape - need activity orientation; the desire to reach a social goal - societal goal orientation. The other two factors identified in Burgess' study - the desire to comply with formal requirements and the desire to reach a religious goal - were made up of reasons not included in Sheffield's study (p. 27).

Hertling and Greenberg (1975) used Burgess' REP to test the goal expectations and accomplishments of adult students in short-term, non-credit university programs. They redesigned Burgess' instrument into statements representing goals and administered the instrument as a pre- and posttest. They divided the goal statements into groups representing five categories based on a review of previous research:

1. Desire to know
2. Desire to reach a personal goal
3. Desire to reach a social goal
4. Desire to escape
5. Desire to take part in a social activity (p. 31).

Eighty-four percent of the response fell in the desire to know category on both the pre- and posttest (p. 34). To take part in a social activity and to escape were the only categories to be checked more often on the posttest than on pretest - nearly a 20 percent increase. The authors concluded that the results could indicate that

more persons enjoyed the social activity or the chance to escape responsibilities than had expected to do so.

Ordos (1980) offered an alternative explanation. He suggested that "having learned little in the adult education activity, the association with people came to be seen as an alternative to reporting no goal accomplishment" (p. 35).

Boshier (1971) used his previous research on participation, Houle's typology, and the highest loading items from Sheffield's instrument to develop a forty-eight item - nine-point scale instrument, the Education Participation Scale (EPS). His purpose was to formulate a model of adult education participation that had cross-cultural generalizability and to construct an instrument using stringent principles of instrument development.

Boshier's study yielded results similar to the three-factor typology of Houle.

We can thus conclude that the EPS is composed of fourteen first order factors - six socially oriented, two job or vocationally oriented, four specifically learning or education oriented, and two minor factors that emerge as a result of specificity.... The social factors (social welfare, social contact, social sharing, improvement and escape, and interpersonal satisfaction), the job related factors (other directed and inner directed and professional advancement) and the learning oriented factors (intellectual recreation, cognitive interest, educational compensation, and education supplementation) can all be regarded as major motivational orientations (p. 19).

The fourteen factors accounted for 69.15 percent of the total variance.

Morstain and Smart (1974) used Boshier's EPS to determine reasons for participation with adults registered for part-time degree credit courses. They used a principal factor analysis technique which

resulted in six factors which differed from Boshier's 1971 finding, but were similar to his 1978 and 1979 studies. The six factors for participation found by Morstain and Smart (1974) were:

1. Social welfare
2. Cognitive interest
3. External expectations
4. Social relationships
5. Professional advancement
6. Escape/stimulation.

A modified form of the EPS was administered by Boshier and Riddle (1978) to eighty-four adults who had retired from the workforce and were enrolled in adult education programs in Vancouver, B.C., to determine if the instrument was reliable when measuring reasons older adults participate in adult education programs. EPS items that were job related were deleted from the instrument. The results showed that the thirty-five items in the survey accounted for almost 50 percent of the variance and constituted at least three factors significantly related to psychological states directly associated with older adults. The three factor scores of the shorter form of the EPS were correlated with instruments designed to measure the psychological variables directly related to conditions experienced by older adults (Social Participation Scale, Adjustment to Later Life Scale, and Life Satisfaction Index). The results of this correlation "suggest that EPS items are significantly comprehensive for use with older participants" (p. 174) and that the "escape/stimulation factor shows the strongest and most consistent correlation with Adjustment to Later Life and Life Satisfaction Index scores" (p. 174).

In addition to the studies that emerged from Houle's typology, other surveys were conducted to determine motives for participation.

According to the National Center for Educational Statistics (1982):

1. Over 60 percent of adult education courses were taken for job related reasons. Of that 60 percent, 20 percent were taken to get a new job, 74 percent to improve or advance in current job, and 7 percent for other job related reasons.
2. Over 69 percent of the courses taken by male participants were taken for job related reasons and 53 percent of the courses taken by female participants were taken for job related reasons.
3. Only about 25 percent of the courses were taken for credit towards a diploma or degree and only 14 percent of the courses were taken to obtain or renew a license or certificate.
4. Over 39 percent of the courses were taken for non-job related reasons. Of that 39 percent, 24 percent were taken for general education, 69 percent for personal or social reasons, 3 percent to train for volunteer work, 3 percent for other non-job related reasons, and less than 1 percent for American citizenship (p. 11).

In addition to the triennial participation studies conducted by NCES, studies have been conducted by numerous individual researchers.

Nicholson (1955) surveyed 5211 adults to determine why adults attend school. The respondents could select more than one reason for participating; therefore, the total percent of reasons was more than 100 percent. His results showed that 1) 58.3 percent attend for economic/occupational reasons, 2) 62.2 percent for intellectual/cultural reasons, and 3) 30.0 percent for personal/social reasons.

A survey of 810 workers conducted by Charner (1980) on the importance of various outcomes of further education and training yielded the following statistics:

1. Complete a degree - 76.8 percent
2. Well-rounded person - 85.7 percent
3. Improve job performance - 82.2 percent
4. Improve basic skills - 73.8 percent
5. Promotion - 62.5 percent
6. Prepare for another job - 66.1 percent
7. Become a better citizen - 66.8 percent
8. Become a better worker - 71.5 percent
9. Prepare for retirement - 55.4 percent
10. Hobbies - 45.3 percent.

Charner further refined his study into four categories based on NCES categories. This refinement showed that 1) 53.3 percent participated for job or career-related reasons, 2) 41.4 percent for personal development or general information, 3) 7.8 percent for social or recreational, 4) and 2.6 percent for political or community betterment.

A study conducted of the adult vocational education program in Minnesota (1978) showed that 85 percent of the 855 respondents stated that they took classes for work-related reasons. Over half of the respondents stated that classes were taken to upgrade current job skills.

Hutchins (1975) investigated the reasons people participate in adult education in three counties in Kansas. His results were:

1. 48.6 percent were required by employer
2. 48.2 percent to help get a new job
3. 46.8 percent to advance on the job
4. 45.01 percent to work toward a certificate or diploma.

In addition to the survey studies and interview studies which have described types of learners and clusters of motives for learning, studies have examined life changes and developmental tasks to explain motivation.

Aslanian and Brickell (1980) hypothesized that transitions, such as job changes, getting married, the arrival of children and retirement, require adults to engage in new learning. They found that 83 percent of 744 adult learners interviewed named some past, present, or future transition in their lives as the motivation factor that caused them to start learning. Career transitions were named as the reason for deciding to learn by 56 percent of the persons. These career transitions fell into three categories: 1) moving into a new job, 2) adapting to a changing job, 3) advancing in a career (p. 66).

Family life was cited as the transition that required them to learn by 16 percent of the respondents; 13 percent cited a change in their leisure lives; and 7 percent pointed to a change in health, religion, citizenship, and leisure activities.

All the adults who named transitions in their lives as motivating them to learn could also identify specific events triggering their decisions to learn at the present time.

The triggering events most cited were:

1. Getting hired
2. Having an existing job change, as through the arrival of new equipment or the passage of new regulations
3. Being offered advancement
4. Being promoted

5. Stopping work (p. 66).

Aslanian and Brickell's research on life transitions tends to contradict the studies of Tough (1978). Aslanian and Brickell found that 83 percent of the adult learners surveyed could identify a transition that was responsible for them engaging in a learning project (self-directed or organized), while Tough found that approximately 33 percent of the adult learners he surveyed could cite a transition that caused them to begin a learning project. This discrepancy between the two figures could be due to the techniques used or to interview bias (Cross 1981).

Havighurst and Orr (1956) attempted to assess the degree of motivation or desire for achievement that the individual has in relation to developmental tasks. They defined developmental tasks as the "basic tasks of living which must be achieved if we are going to live successfully and to go on with a good promise of success to the later stages of life" (p. 7). Developmental tasks are established by three factors: 1) expectations of values of society, 2) the maturing and aging of one's body, and 3) personal values or aspirations.

Havighurst and Orr found that one's motive to learn is the most intense when certain developmental tasks come with great urgency. The developmental tasks of parent, work, and leisure were the areas of most importance and the areas of citizen, church member, and club and association members were the lowest.

Based on their findings, they concluded that there are three main functions of adult education: 1) education for personal competence, 2) education for civic competence, and 3) education for joy in living (p. 69).

Kuhlen (1968) investigated one variable, age, in relation to adult participation. He explored how motivations of adults change with age. He found in adults' lives two contrasting needs: 1) a need for achievement of positive goals and expansion and 2) with advancing age, a need to conserve and protect against loss.

Knox (1977) also used change events in adult development to explain why adults engage in learning activities.

When a change event occurs, the need for some adaptation produces, for some adults at least, a heightened readiness to engage in educative activity. The resulting educative activity may be directly or indirectly related to the change event, and the relation may or may not be recognized by the individual... increased educative activity related to change events occur in relation to the birth of the first child, purchase of a new car, or major job change (p. 539).

The studies of Knox (1977), Havighurst and Orr (1956), and Aslanian and Brickell (1980) are outgrowths of adult development and life stage research conducted by Levinson (1978), Erickson (1959), Havighurst (1961), and others.

Erickson (1959) developed a stage theory of ego identity development encompassing eight stages of man - four stages were concerned with adult years:

1. Identity versus role confusion,
2. Intimacy versus isolation,
3. Generativity versus stagnation, and
4. Integrity versus despair.

These stages were not connected to chronological age.

Havighurst (1961) added the concept of developmental tasks to the life stage theory. He defined developmental tasks as a task that

must be accomplished at or near a certain phase in life if a person is to be judged by himself and society as a competent person. These developmental tasks include such activities as selecting a mate, rearing children, and getting a job. Failure or success in one task is often followed by similar failure or success in later tasks. He also noted that the primary use of education to facilitate meeting the tasks is in the 20- to 30-year-old age brackets, while expressive concerns dominate the 40- and 50-year-old age brackets.

Levinson (1978) studied forty men age 35-46 for a three-year period to determine if a development pattern existed. He defined each period in terms of tasks - not concrete events such as marriage, but the adjustment to the events. He observed that stable periods of development alternate with developmental or transitional periods and these changes are linked to an age timetable.

Figure 4 outlines Levinson's four periods and transitions in the male life cycle.

Levinson discovered that man traverses the periods in a given order and must deal with the developmental tasks appropriate to each stage.

Gould (1978), like Levinson, linked the problems and changes in adulthood to age. He saw the twenties as a time to secure one's place in the world, the thirties as a time for the desire for stability and continuity, and the forties as a period of feeling the pressures of time. He also saw the significance of specific events as milestones along the adult life course.

Certain key events - buying a first house... force us to see ourselves more as the creators of our lives and less as living out the lives we thought were our destiny (p. 13).

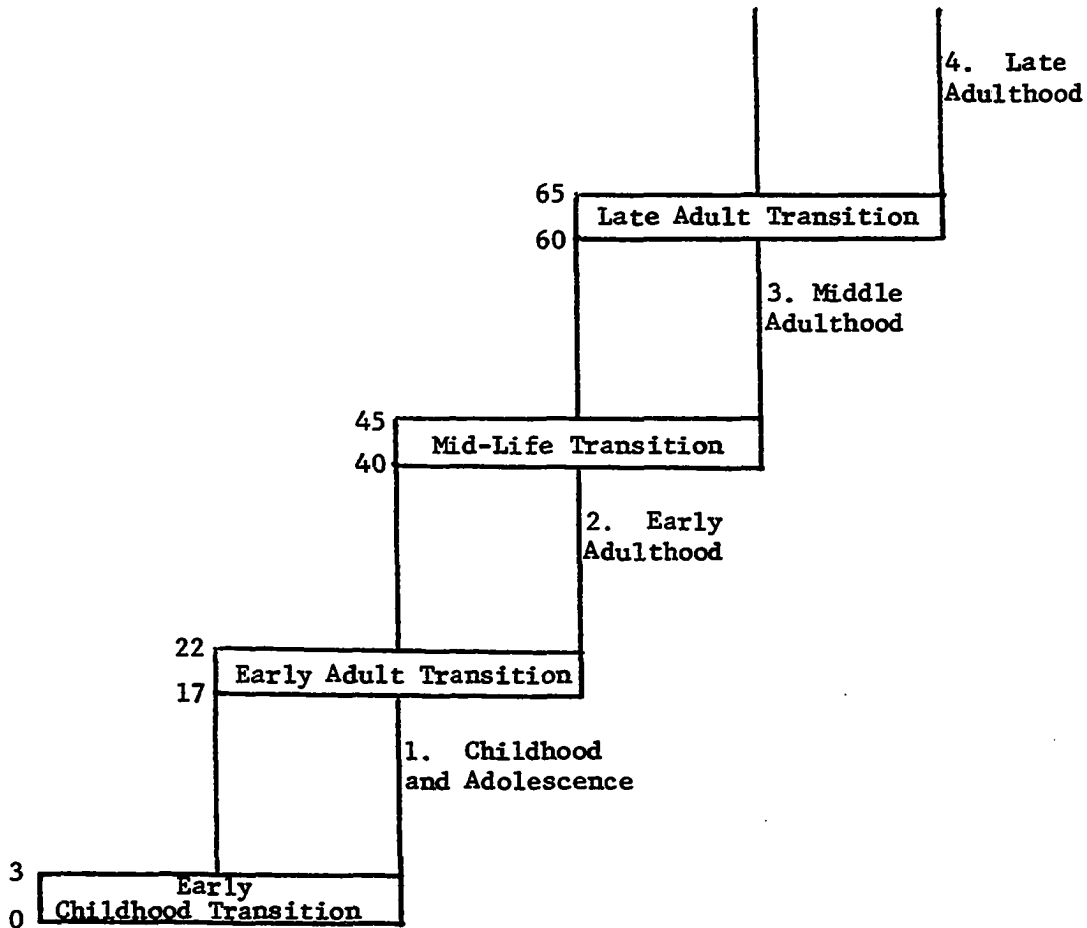


Figure 4. Levinson's four periods of transition (1978, p. 20)

The studies that have examined and developed the developmental or life stage theories contend that certain events in one's life cause some people to turn to organized education for help — but the studies have not been able to explain why others do not.

The studies cited on motivational orientation, like the demographic studies, do not concretely explain participation, but they add further explanation to who participates and why they participate and

they provide instruments that can be refined and built upon for further research.

Participation models

In addition to the demographic and motivation studies, models have been developed to explain participation. Adult educators have drawn concepts primarily from Maslow's (1954) hierarchy of needs theory and Lewin's (1951) force field analysis to help develop a theory of adult motivation for learning.

Miller's (1967) social class theory builds on the hierarchy of needs of Maslow and the force-field analysis of Lewin to explain why people participate and the differences between expectations for participation between social classes.

Maslow's (1954) hierarchy of need concept advocates that man's needs are organized in a hierarchal structure (Figure 5).

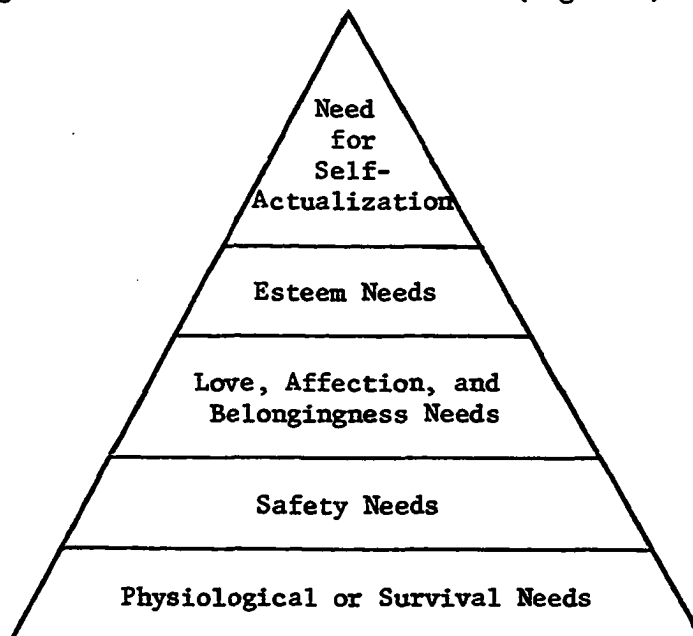


Figure 5. Maslow's hierarchy of human needs

According to Maslow, people cannot be concerned with higher order needs, such as self-actualization, until lower order needs (food, safety, shelter) are met. Adapted to adult education, the needs hierarchy would predict that members of the lower social class will be primarily interested in adult basic education, job training, and other survival skills while the upper social class will seek education that leads to self-realization (Cross 1981). This concept has been substantiated by studies on adult participation. Adults with a high school education or less are primarily interested in job-related education, while well-educated adults are mainly interested in personal development and recreation (Cross 1981, Carp, Peterson, and Roelfs 1974, and Johnstone and Rivera 1965).

Miller's theory combines Lewin's concept of positive and negative forces which results in a motivational force for learning. He built a general framework based on the interaction of personal need and the social structure within which the person operates. Figure 6 is used as an example. It illustrates Miller's analysis of the force present in the motivation of the lower-lower class for education for vocational competence.

The width of the arrow indicates the strength of the force and the position of the horizontal line indicates the resultant force - the line in this example is low, indicating little motivation for participation (Figure 6).

Figure 6 shows a very low level of motivation for education on the part of the lower-lower class. Because of this low level of motivation, the program planner would have to work towards modifying some of the

Positive Forces	Negative Forces
1. Survival needs	5. Action-excitement orientation of male culture
2. Changing technology	6. Hostility to education and to middle-class object orientation
3. Safety needs of female culture	7. Relative absence of specific, immediate job opportunities at end of training
4. Governmental attempts to change opportunity structure	8. Limited access through organizational ties
	9. Weak family structure

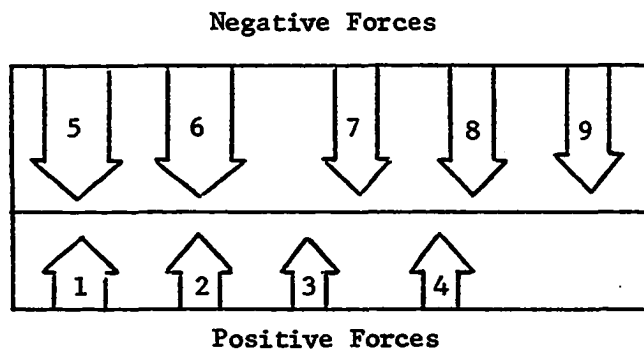


Figure 6. Education for vocational competence lower-lower class level (Miller 1967, p. 21)

existing forces before the lower-lower class would participate in educational programs.

Miller's model can also be used to help explain the high dropout rate among lower-lower class participants in vocational education and adult basic education programs.

Boshier, like Miller, built upon Maslow's hierarchy of needs. Boshier (1971) tied the results of his research on participation in adult education using the Education Participation Scale, after the fact, to the principle of homeostasis and Maslow's hierarchy of needs. He defined homeostasis as the

...basic idea that a person mobilizes his defenses to ward off disruptive forces which can cause tension or threat - in the adult education student, boredom, social isolation, an unhappy interpersonal relationship - and in so doing brings into play actions which will restore balance (p. 20).

Boshier developed the following model to account for a large number of so-called motivated behavior.

Deprivation (tension increase) → Action
(participation) → Satisfaction (tension decrease)

Figure 7. Model of motivated behavior (Boshier 1971, p. 21)

Boshier (1971) used Maslow's distinction between people whose behavior is organized by "being" (B) needs and between people whose behavior is organized by "deficiency" (D) needs (pp. 21-22). "D-type persons, the vast majority of the population, behave according to the homeostasis model while B-type persons welcome disequilibrium and use it to grow" (p. 22). He suggested that all participants are goal oriented, even though in some, the goal is subtle and difficult to detect and their goal is related to the extent they have satisfied the lower order needs on Maslow's hierarchy (Boshier 1971).

In Boshier's further research, he

...hypothesized that the presence of life space as measured by the EPS factor scores would be negatively associated with age and marital status and positively associated with education attainment levels, occupation, social participation, previous participation in adult education, and income (1977, p. 89).

He also measured participants' motives as related to nature of course content, motive, place of birth, and time resident in the community. He relabeled the factors as life chance or life space motivation based on description of deficiency and growth by Maslow and Haag

to attribute a psychological basis to reasons for participation.

In 1977, Boshier revisited his life space motive research. He described life-chance motivation as determining the behavior of the lower socioeconomic class (deficiency motivation) and life-space motivation as determining upper class participation in adult education. He also found that motives for participation change as a function of age and as developmental tasks are accomplished: younger participants enrolled because of external expectations whereas older participants enrolled for cognitive interest; participants with lowest formal education were significantly more inclined to respond to external expectations than were well-educated participants; high levels of social participation are associated with enrolling in adult education.

Boshier's theory suggests that 1) adults need to be properly matched to educational environments if they are going to be successful, and 2) adults who have a high degree of dissatisfaction with themselves are likely to drop out, not only out of education, but other environments.

Rubenson, a Swedish educator, incorporated the research and psychological theories of Vroom, Lewin, Tolman, McClelland, and Atkinson to explain the competing forces at work in motivating adults to participate in organized education (Cross 1981).

Vroom (1964) attempted to explain the motivation and incentives for work. His study was 1) to determine whether participation in decision-making varies with the personality structure of the follower and 2) to examine the relationship between ability and motivation in the determination of job performance (p. 4). The results indicated that participa-

tive leadership was associated with substantially higher motivation and more positive attitudes toward leaders.

Rubenson uses Vroom's expectancy valence theory - people who want to get ahead will work to get ahead - and applies it to education. The "expectancy" part of Rubenson's model consists of two components: 1) the expectation of personal success in the educational activity and 2) the expectation that being successful in the learning activity will have positive consequences. However, both components must be present in the individual for the individual to be motivated to participate. The other part of the model, "valence" is concerned with the effect of participation. It can be positive, negative, or neutral. Its strength depends on the anticipated results of participation. For example, the individual would have to weigh participating in class which could lead to job advancement against seeing less of the family. The valence is the mathematical sum of the values the individual puts on the different consequences of participation (Cross 1981).

Rubenson believes that motivation is based on the "perceived" situation of the potential learner, which may or may not be the "real" situation. If the potential learner feels time or money is a barrier to enrollment, the expectancy would be zero and, therefore, the person would not enroll. However, if the same person was highly motivated and time and money were no problems, the person would enroll because the expectancy for successful participation would be strong and the forces would add up to participation (Cross 1981).

Berry (1971) developed a multiphasic motivational paradigm for adult education. According to Berry,

...the strength of a person's basic drive determines basic motivation and becomes the limit for need motivation. The strength of the need motivation determines the limit for dynamic motivation. The dynamics of the situation determine the strength of dynamic motivation (pp. 54-55).

This paradigm suggests the possibility of extreme motivational variances ranging from level 2 (safety needs) to level 5 (self-actualization) on Maslow's hierarchy of needs.

These participation models form the foundation for understanding Cross' COR model.

Theoretical Framework

Cross (1981) developed a conceptual framework to explain participation. Her model "identifies the relevant variables and hypothesizes their interrelationships" (p. 124). Cross' model assumes "that participation in a learning activity is the result of a chain of responses, each based on an evaluation of the position of the individual in his or her environment" (p. 125). The continuum implied in the order of presentation in Figure 8 indicates that forces begin with the individual and move to external conditions.

Point C in the model has two components: "valence," the importance of the goal to the individual; and "expectancy," the individual's subjective judgment that pursuit of the goal will be successful and will lead to the desired reward. If a goal that is important to a person is likely to be achieved through further education, then the motivation at point C is strong. If the goal is not especially important likelihood of success is in doubt, motivation decreases accordingly (p. 126).

The COR model assumes that participation in a learning activity is not a single act but the result of a chain of responses, each based on an evaluation of the position of the individual in his or her environment. The continuum

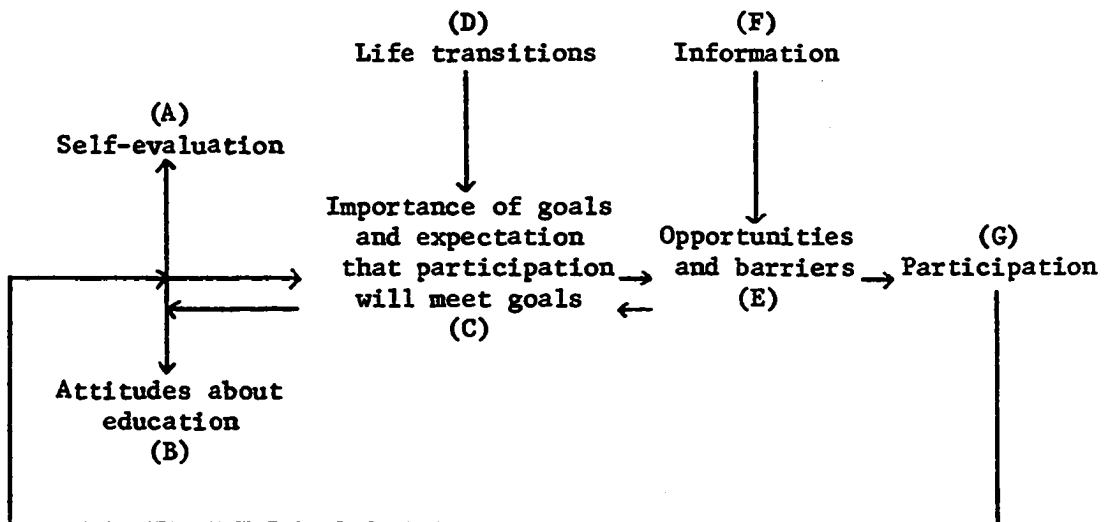


Figure 8. Chain of Response (COR) Model (Cross 1981, p. 124)

implied in the order of the presentation in the model indicates that forces for participation in adult learning activities begin with the individual and move to increasingly external conditions – although it must be generally understood that, in any interaction situation, forces flow in both directions (p. 125).

Point C of Cross' model adopts Lewin's field theory concept. Lewin (1951) distinguishes between driving forces and restraining forces. These forces arise from the needs and abilities of the individual, from the behavior of persons or from impersonal factors. A force is said to have a positive valence if it is attractive to the individual and a negative valence if it is not attractive. The strength of the force is a product of the individual's expectancy to reach the goal and value he/she attaches to the goal. This expectancy/valence theory has proven useful in the field of work motivation (Vroom 1964, Lawler 1973) and has also been applied to participation in adult education by Rubenson.

Cross' model incorporates the concepts of field theory, hierarchy

of needs, and life stages and can be applied to self-directed learning as well as organized instruction.

Summary and Implications

The literature review chapter has provided a background for understanding

1. The legislation effecting participation in adult vocational supplemental education programs,
2. The lack of consistent definitions for adult and adult education,
3. Demographic studies,
4. Motivational orientation studies,
5. Participation models, and
6. The theoretical framework for this research.

Research shows that adults participate in adult education for various and complex reasons. The largest percent participate for vocationally related reasons. Therefore, this study has concentrated on those enrolled in adult vocational supplemental education programs to see if they enroll for vocationally related reasons or if they enroll for a multitude of reasons, not necessarily vocationally related.

Previous studies have added greatly to the understanding of why adults participate, because many have built upon or replicated earlier studies. However, in the absence of a constant or common theoretical framework, there are problems with definitions, replication of studies, and correlation of data.

The instrument used in this study was built upon Houle's typology and has been refined, tested, and validated by Boshier and other researchers. It is now one of the most used and seemingly most reliable instrument to measure adult education participation.

There have been initial theoretical frameworks developed on why adults participate in adult education, but, to date, no one theory has been fully developed. Many adult educators and researchers believe that theory is important to the growth and development of adult education as a science of study.

The Chain of Response model developed by Cross (1981) is the beginning of such a theory. The COR model can encompass the concepts of Lewin (1951), Havighurst and Orr (1956), Miller (1976), Aslanian and Brickell (1980) and others. Cross (1981) states it is applicable to organized as well as self-directed learning. This study adds to the research on theoretical frameworks appropriate to adult education by testing whether Cross' model can be used to explain participation in adult vocational supplemental education.

CHAPTER III.

METHODOLOGY

This chapter explains the procedures used to examine effects of goals and expectations on enrollment and participation in adult vocational supplemental education classes. The study was based on Cross' Chain of Response (COR) model and utilized Boshier's Education Participation Scale (EPS) to gather data on reasons for participation. In addition, certain demographic data were collected to measure the effect of demographics on participation.

This chapter is organized into seven subsections:

1. Design of Study,
2. Sample,
3. Participants in the Study,
4. Instrumentation,
5. Data Gathering,
6. Data Analysis, and
7. Summary.

Design of Study

The study surveyed a random sample of adults who preregistered for adult vocational supplemental education courses at one merged area school during the 1982 fall session.

The sample was divided into three enrollment groups:

1. Group 1 - adults who preregistered and completed the course (persisters);

2. Group 2 – adults who preregistered but did not complete the course (nonpersisters); and

3. Group 3 – adults who preregistered but did not attend the course (nonparticipants).

A schematic of the design of the study is as follows:

Reasons for Enrolling	Group 1 Persisters	Group 2 Nonpersisters	Group 3 Nonparticipants
Social Contact			
Social Stimulation			
Professional Advancement			
Community Service			
External Expectations			
Cognitive Interest			

Figure 9. Design of study

Hypotheses were developed concerning the three enrollment groups and six categories for participation. It was hypothesized that, generally, goals and expectations have an effect on participation and persistence in adult education classes.

The study also examined those who preregistered and then followed through by attending class as well as those who preregistered but did not attend class to see if participation was due to type of goals, and/or strength of goals.

The study examined those who persisted in the course and those who dropped out (nonpersisters) to examine whether persistence was due to type of goals, and/or strength of goals.

The EPS was used to assess reasons for participation and strength of these reasons. A telephone survey was conducted with those who left the class before the scheduled completion dates to ascertain whether students left because their goals for attending the courses were met. (See Appendix A for items on the telephone survey.) If the students' goals were met, the students were classified as Group 1 - persisters. If the students' goals were not met, they were classified as Group 2 - nonpersisters. The study did not attempt to identify reasons for not completing the courses.

Sample

The participants for this study were a sampling of adults who preregistered for adult vocational supplemental education programs at Des Moines Area Community College (DMACC) during the 1982, fall quarter.

Combined year end enrollment data compiled by the Department of Public Instruction for the merged area schools in Iowa (fiscal year 1982) shows that demographics and course offerings are similar among the merged area schools. Therefore, it was concluded for purposes of this study

that one merged area school would be adequate since the data would be comparable if other schools were included. Des Moines Area Community College was selected as the research site because 1) it has a computerized registration process, and 2) it has a preregistration period. The computerized registration process allowed for easy tracking of students from the time they registered until the quarter was complete. It also allowed for obtaining names and addresses of those who preregistered but did not attend class.

A stratified sampling procedure was used to select the courses to be included in the study. (Appendix B contains a list of the courses.) This was done to ensure that the sample of courses was representative of the courses being offered. The sample was stratified according to type of course (i.e., business, health, home economics, trade and industry, agriculture, and other) and day of the week the course was offered.

The sampling process resulted in the selection of thirty-one courses out of the 147 offered. Of the thirty-one courses selected, seven courses were cancelled due to lack of enrollment. All students who preregistered for these courses were included in the study. They were assigned to either Group 1, 2, or 3 based on their enrollment and attendance. If a student registered for the course after the first night of class, he/she was not included in the study. The total number of people included in the study was 423. Three hundred fifty-seven people completed surveys that were usable.

The sample was divided into three groups according to individual enrollment data - Group 1 was comprised of adults who enrolled in adult

vocational supplemental education courses and completed the courses; Group 2 was made up of adults who enrolled in adult vocational supplemental education courses, but did not complete the courses; and Group 3 was comprised of adults who preregistered for adult vocational supplemental education courses, but did not attend.

Group 1 had 279 members; Group 2 had 31 members; and Group 3 had 47 members. The section on data gathering explicates group placement more specifically.

Participants in the Study

The participants in the study were preregistrants in adult vocational supplemental courses at one merged area school during the fall quarter.

About 45 percent of those preregistered were in the 25-34 age category. Another 23 percent were between the ages of 35-44. The largest percentage of the preregistrants were female (55.7%), married (61.9%), and white (94.9%). Most of the preregistrants had completed high school (96.6%). Of that group, 14.4 percent had a vocational certificate, 17.2 percent had a B.A. degree, 65 percent had an A.A. degree, and 5.9 percent had more than a B.A. degree.

The income level of the preregistrants was evenly distributed among the income categories. Of the people responding, 18.5 percent were in the \$10,000-\$14,999 income category, 19.6 percent had incomes of \$10,000-\$14,999, 18.2 percent had incomes of \$15,000-\$19,999, and 16 percent had incomes of \$25,000 or more. However, when income cate-

gories were examined by participant groups, Group 3 (nonparticipants) had a disproportionate number of people in the \$0-\$4,999 category. There were seventeen people (36.2%) as compared to five people (16.1%) in Group 2 (nonpersisters) and forty-four people (15.8%) in Group 1 (persisters).

Most of the preregistrants worked full time (75.6%). Only 7.3 percent were unemployed. However, when comparing percentages by groups, 12.8 percent of Group 3 (nonparticipants) were unemployed, while only 3.2 percent of Group 2 (nonpersisters) and 6.8 percent of Group 1 (persisters) were unemployed.

The largest percentage (18.5%) of the preregistrants classified their occupation as professional, 11.9 percent as technical, 11.2 percent as clerical, 9.1 percent as service, and 9.0 percent as managers. The remaining 40.3 percent of the preregistrants were scattered over the other eight categories of occupations.

Most of the respondents indicated they had resided the longest in a community with a population of 75,000 or more. This response was anticipated since the study was conducted at a merged area school near a large metropolitan area.

A summary of the demographic data by groups of participants compared to the total group can be found in Appendix C.

Instrumentation

The instrument used in this study, the Education Participation Scale (EPS), was developed in 1971 by Boshier. The EPS is based on

Houle's typology for participation (1961), the subsequent study by Sheffield (1962), and data gathered by Boshier (1971) on reasons for participation in university extension adult education programs.

The EPS was selected for use in this study because 1) it has been widely used and has undergone testing to insure its validity and reliability; 2) unlike an interview format, it allows for an objective analysis of responses; and 3) the professional advancement category is comparable to the intent of the vocational legislation.

In its development, the EPS was subjected to a six-week test/retest reliability and factoring study for all items. The test/retest correlation coefficients for each of the forty-eight items in the original instrument had a critical value significant at the .0001 level which indicated that all items were reliable (Boshier 1971).

In order to control for acquiescence, response, and positional bias in designing and testing the instrument, Boshier 1) rotated the placement of the rankings from 9 to 1 on each page - three items per page, 2) randomly scattered items that had loaded high on the pretest throughout the instrument, and 3) identified respondents by code number instead of names (Boshier 1971).

In its developmental stages, the instrument was administered to 233 randomly selected participants enrolled in continuing education courses.

Responses to the forty-eight items by the 233 respondents in the random sample were factor analyzed by the method of principal factors. Variables with associated eigenvalues greater than unity were clustered for analysis. Fourteen first-order factors, accounting for 69.15 percent of the total variance before rotation, were extracted.

Three items did not load sufficiently to be included in any one factor (less than .40). However, they loaded above .31 and assisted in the interpretation of other factors.

To assist in interpretation of the relationship between first-order factors, an analysis of first-order correlation was conducted utilizing the method of principal factors and rotated to achieve orthogonal and oblique structure according to the primax/varimax criterion of Hendrickson and White (Boshier 1971). This process yielded seven second-order factors with associated eigenvalues greater than 1.

The second-order factors demonstrated that the first-order factors were neither independent nor uncorrelated. The second-order factors were then factor analyzed and rotated to yield third-order factors which were independent and uncorrelated. This resulted in six factors. These six factors or categories for participation are:

1. Social contact,
2. Social stimulation,
3. Professional advancement,
4. Community service,
5. External expectations, and
6. Cognitive interest.

Since its development, the EPS has been administered over 48 times to over 12,190 individuals. The EPS has undergone minor revisions - a 9-point scale to a 4-point scale and 48 items to 40 items. A data bank correlating the different forms has been developed by Boshier using appropriate statistical techniques (Boshier and Collins 1982).

For this study, the 40-item EPS survey with a 9-point scale was

used. The researcher is aware that Boshier conducted statistical analyses of participant responses to the 9-point and 4-point scale used in the EPS survey and concluded that the 4-point scale was valid and reliable. However, for this study, the researcher elected to use the 9-point Likert scale because 1) it would provide a better distinction between responses since the group being surveyed is quite homogeneous, 2) it provides for an equal number of positive and negative responses as well as a neutral response, and 3) it is assumed by the researcher that by using a larger scale, it would magnify the difference between the scores on the categories of reasons (Likert 1932). Below is an example of an item from the instrument. (A copy of the complete instrument is in Appendix D.)

	<u>No or very little influence</u>	<u>Little influence</u>	<u>Moderate influence</u>	<u>Much influence</u>	<u>Very much influence</u>
To seek knowledge for its own sake	1	3	5	7	9

The EPS instrument contained the following instructions:

Think back to when you enrolled for your course and indicate the extent to which each of the reasons listed below influenced you to participate. Circle the category which best reflects the extent to which each reason influenced you to enroll. There are 40 reasons listed. Circle one category for each reason. Please be frank. There are no right or wrong answers.

In addition to completing the EPS, the students were asked to provide the following demographic data.

1. Age,
2. Sex,

3. Race/ethnic,
4. Marital status,
5. Yearly income,
6. Highest grade completed,
7. Diploma received,
8. Current employment status,
9. Occupation, and
10. Size of community.

The students were also asked to provide name, social security number, and phone number so the enrollment records could be verified and so the telephone survey could be completed when needed.

Data Gathering

The researcher was provided weekly preregistration lists (class lists included names, addresses, and phone numbers) by the merged area school throughout the four-week preregistration period. The researcher was also provided the names and addresses of the instructors.

A letter was sent to each of the instructors prior to the first night of classes explaining 1) the study, 2) that a person would be present during the first night of class to administer the instrument, and 3) the importance of the survey being done before class goals and objectives were discussed. (See Appendix E for a copy of the letter.)

The EPS and demographic data collection sheet were distributed to all the students in the selected courses on the first night of class by either the researcher or an associate. The instruments were administered

prior to the instructor explaining the goals and objectives of the course in order to avoid contamination caused by the instructor explaining the goals of the course. A statement was read to the class briefly explaining the purpose of the study, confidentiality of the responses, and giving them the choice of participating. (See Appendix F for a copy of the statement.)

After the third week of classes, the names and social security numbers on the completed surveys were compared against the final class lists and preregistration lists. The sample was then divided into Group 1 (preregistered and participated) and Group 3 (preregistered and did not participate). At this point, Group 2 could not be identified because the deciding factor, persistence, could not be determined until the courses were completed.

A personal letter and a copy of the instrument were sent to the persons in Group 3 requesting their participation in the study. (See Appendix G.)

A follow-up letter, including the instrument, was sent to those who did not return the instrument by the stated date to help ensure a better response. (See Appendix G.) A third letter was also sent to those who did not respond. The third letter did not produce any additional responses.

After the completion of the courses, attendance records were provided to the researcher by the merged area school. The researcher then called each student in Group 1 who left the class before its scheduled completion date to ascertain if the student left the class because his/her goals for enrolling were met. (See Appendix A for telephone inter-

view procedure.) If the student left because his/her goals were met, the student remained in Group 1. If the student left for other reasons, the student was placed in Group 2.

Tables 1 and 2 show the return rate on the questionnaires.

Data Analysis

Statistical analyses were applied to the demographic and goal data to examine their effect upon participation. The main statistical tests used were one-way analysis of variance (ANOVA), Z test of proportions on two independent samples, independent t-test, chi-square, regression, and multiple regression. The statistical package for the Social Sciences (SPSS) by Norman H. Nie et al. (1975) was used to analyze the data.

The reasons listed on the EPS were categorized for each individual according to the six categories. Frequency distributions and percentages were calculated for each factor. (For a breakdown of reasons by category, see Appendix H.)

Participant surveys were categorized into Group 1 (those who pre-registered and persisted), Group 2 (those who preregistered, but did not persist), and Group 3 (those who preregistered, but did not participate). Demographic data were also recorded for each individual.

To test each hypotheses 1 through 3, an analysis of variance (ANOVA), one-way classification was used. This allowed testing whether the mean of the vocationally related goal category was significantly higher than the means of each of the other five goal categories as projected in

Table 1. Return rate on Educational Participation Scale

Distr. in class	No. distr.	No. returned	No. not returned	Percent return	No. usable	No. Group 1	No. Group 2	No. Group 3
	313	313	—	100.0	310	279	31	
Mailed	110	54	—	49.0	47	—	—	47
	—	—	56 ^a	—	47	18 ^a	7 ^a	31

^aThese numbers were ascertained by comparing names to class attendance records. People in Group 1 and Group 2 were not in attendance when the EPS was distributed during the first class period and, therefore, were not included in the study.

Table 2. Results of telephone survey

No. called	No. responses	% responses	Group 1	Group 2
36	31	97.0	4	31

hypothesis 1 for Group 1 (persisters). It also allowed testing whether the mean of the vocationally related goal category was lower than the other five categories in hypotheses 2 and 3 for Group 2 (nonpersisters) and Group 3 (nonparticipants), respectively. The test statistic for ANOVA is the F-ratio. The following formula was used (Hinkle et al. 1979, p. 256):

$$F = \frac{MS_B}{MS_w}$$

Source of variation	Sum of squares	Degrees of freedom	Variance estimate or mean square	F-ratio
Between	$\sum_{j=1}^k n_j (\bar{X}_j - \bar{X})^2$	K-1	$MS_B = \frac{SS_B}{K-1}$	$\frac{MS_B}{MS_w}$
Within	$\sum_{j=1}^k \sum_{i=1}^{n_j} (X_{ij} - \bar{X})^2$	N-K	$MS_w = \frac{SS_w}{N-K}$	
Total	$\sum_{j=1}^k \sum_{i=1}^{n_j} (X_{ij} - \bar{X})^2$	N-1		

where: MS_B = mean squares between,

MS_w = mean squares within,

\bar{X}_j = sample mean,

\bar{X} = grand mean,

K = number of groups, and

N = number of observations in each sample.

In order to use the F-distribution as the underlying distribution for testing the hypotheses, the following assumptions needed to be met:

1. The observations are random and independent samples from the population.
2. Measurement of the dependent variable is on at least an interval scale.
3. The populations from which the sample is selected are normally distributed.
4. The variance of the populations is equal (Homogeneity of Variance) (Hinkle et al. 1979, pp. 260-261).

This study met each of the underlying assumptions:

1. The sample for the study was randomly and independently selected from the population. For a discussion of the sample selection procedure, refer to the section, Sample, in Chapter III.
2. Measurement of the reasons for participation is on at least an interval scale, a nine-point Likert scale. The section, Instrument, in Chapter III explains the rating of the items on the instrument.
3. The normality assumption was checked using the chi-square goodness of fit test (Hinkle et al. 1979, p. 338). The test showed that the population from which the sample was selected was normally distributed.
4. The assumption of equal variance was tested using Bartlett's Test for Homogeneity of Variance (Hinkle et al. 1979, p. 261). Bartlett's test showed that the variance of the populations was equal.

To test hypotheses 4 and 5, the t-test for independent samples was used (Hinkle et al. 1979). This allowed testing whether the mean score

ascertained on the vocationally related goal category was significantly higher for Group 1 (persisters) than Group 2 (nonpersisters) and for combined Group 1 and 2 than Group 3 (nonparticipants).

The formula for the t-test is (Hinkle et al. 1979, p. 207):

$$t = \frac{\text{Statistic} - \text{Parameter}}{\text{Standard Error of the Statistic}}$$

The t-test assumes that the scores in one group have about the same degree of variability as the scores in the second group. Since the groups being tested did not have an equal number, the assumption of equal variances was tested and met. The results did not yield a significant F value. Therefore, the assumption appears valid.

Since the sample of subjects was selected from a single population and then randomly assigned to the treatment groups, the variance of the population (σ^2) is estimated by s^2 , variance of the sample, and is computed using the sample data from both treatment groups. Therefore, the pooled estimate of σ^2 was used.

To test hypotheses 6, 7, and 8, a Z test for significance of difference between two proportions was applied to levels of expectancy on combined Groups 1 and 2 versus Group 3 (hypothesis 6), Group 1 versus Group 2 (hypothesis 7), and Group 1 versus Group 3 (hypothesis 8) on all six categories of reasons and on the total number of reasons.

The formula for the significance of the difference between two proportions is (Bruning and Kintz 1968, p. 199):

$$Z = \frac{P_1 - P_2}{\sqrt{\frac{P_1 - (1 - P_1) + P_2(1 - P_2)}{N_1 + N_2}}}$$

where: P_1 = proportion of Group 1,
 P_2 = proportion of Group 2,
 N_1 = number of people in Group 1, and
 N_2 = number of people in Group 2.

A significant Z means that the two proportions are significantly different.

Since the demographics contain both discrete and continuous variables, regression techniques and the chi-square distribution were used to test hypothesis 9.

The independent and multiple regression techniques were used to analyze whether there is a predictive relationship between continuous demographic variables and participation. The formula for the multiple regression technique is (Hinkle et al. 1979, p. 395):

$$Y' = A + B_1X_1 + B_2X_2 + \dots + B_kX_k$$

where: Y = predicted variable,
A = regression constant,
B = real numbers,
X = predictor variables, and
k = number of regression coefficients.

The chi-square distribution was applied to discrete demographic data to see if there is any relationship with enrollment in, participation in, or completion of adult vocational supplemental education courses.

The formula for the chi-square distribution is:

$$X^2 = \sum_{i=1}^k \frac{(O - E)^2}{E}$$

where: X = chi-square,
 O = obtained frequency,
 E = expected frequency, and
 k = total number of observations.

Summary

This chapter has outlined the methods and procedures followed in carrying out this research project and in collecting and analyzing the data.

Data collection was satisfactory because the return rate was high and all but a few of the instruments were usable. A one-hundred percent return rate was realized on the instruments handed out in class. A 64 percent return rate was achieved on those mailed to nonparticipants.

The data analyses involved the use of one-way analysis of variance, Z test of proportions on two independent samples, t-test, chi-square, and regression to examine the effects of demographic and goal data upon participation.

CHAPTER IV.

DATA ANALYSIS

Introduction

The purpose of this chapter is to present the findings of this research project. The research project examined the effects of goals and expectations on participation in adult vocational supplemental education classes.

Participants in this study were divided into three groups based on enrollment and attendance records:

Group 1 - adults who preregistered and completed the course (persisters).

Group 2 - adults who preregistered, but did not complete the course (nonpersisters).

Group 3 - adults who preregistered, but did not attend the course (nonparticipants).

Each participant completed a demographic data sheet and the forty-item Education Participation Scale (EPS) developed by Boshier (1971).

The forty items on the EPS were grouped into six categories of reasons for participating in adult education courses. The six categories are:

1. Social contact,
2. Social stimulation,
3. Professional advancement,
4. Community service,
5. External expectations, and

6. Cognitive interest.

For purposes of this study, the professional advancement category is referred to as vocationally related goals since they are synonymous with the intent of the vocational legislation at the state and federal level for vocational supplemental programs.

This chapter will discuss the findings of each of the statistical analyses applied to the nine hypotheses. The primary statistical analyses employed were one-way analysis of variance, multiple regression, chi-square, t-test, and Z-test of proportions.

Hypothesis 1

Persisters will rate vocationally related goals significantly higher ($p < .05$) than the other five goal categories for enrolling.

To test this hypothesis, a one-way analysis of variance was used. The analysis of variance procedure is a measure of differences in group means. The assumption of equal variances was tested using Bartlett's test for homogeneity of variance.

The mean scores were calculated for the responses (scores) made by Group 1 (persisters) on the six categories of reasons for enrolling. The responses range from 1 (no or very little influence) to 9 (very much influence).

In order to conduct the analysis of variance, the data had to be rearranged so that a mean score could be calculated for each of the six categories of reasons for participation for each person. This reordering of data yielded an N of 1674. The treatment of the missing data resulted in an N of 1665.

The results of the one-way analysis of variance are shown in Table 3.

Table 3. ANOVA scores by reasons for participation for persisters

Source	DF	Sum of squares	Mean squares	F-ratio	F-prob
Between scores	5	2507.6836	501.5366	167.424	0.0001**
Within scores	1659	4969.7085	2.9956		
Total	1664	7477.3906			

**p < .01.

The results show there is a significant difference between the mean scores for Group 1 (persisters) on the categories of reasons for participating in adult education activities. The Scheffé post hoc comparison test was used to analyze each possible pair of means to locate the means that are significantly different from one another.

An examination of Table 4 indicates that the vocationally related goal category and the cognitive interest category are significantly different from the social contact, social stimulation, community service, and external expectations categories. Closer examination of the means shows that the mean of the vocationally related goals category was higher than the means of all the categories except the cognitive interest category.

In summary, the hypothesis stating that participants will rate vocationally related goals higher than the other five categories of reasons for enrolling is only partially supported. Vocationally related

Table 4. Scheffé post hoc comparison for persisters

Mean	Category	External expectations	Social contact	Social stimulation	Community service	Vocationally related	Cognitive interest
2.458	External expectations						
2.569	Social contact						
2.660	Social stimulation						
2.832	Community service						
4.962	Vocationally related	* ^a	*	*	*		
5.401	Cognitive interest	*	*	*	*		

^a* indicates there is a significant difference.

reasons were rated significantly higher ($p < .05$) than the social contact, social stimulation, community service, and external expectations reasons. Lack of support for the hypothesis was found when no significant difference was shown between the mean of the vocationally related category and the mean of the cognitive interest category.

Hypothesis 2

Nonparticipants will rate vocationally related goals significantly lower ($p < .05$) than the other five goals for enrolling.

To test this hypothesis, a one-way analysis of variance was used. In order to conduct the analysis of variance, the data had to be rearranged so that a mean score could be calculated for each of the six categories. This reordering of data yielded an N of 282. The treatment of the missing data resulted in an N of 281. The mean scores were calculated for the responses (scores) made by Group 3 (nonparticipants) on the six categories of reasons for enrolling in adult education activities.

An examination of Table 5 shows that there is a significant difference between the mean scores for nonparticipants on the categories of reasons for participating in adult education activities. The Scheffé post hoc comparison was applied to pinpoint where the differences are.

An examination of Table 6 shows that the vocationally related goal category and the cognitive interest category are significantly different from the social contact, social stimulation, community service, and external expectations categories. The means of the vocationally

Table 5. ANOVA scores by reasons for participation for nonparticipants

Source	DF	Sum of squares	Mean squares	F-ratio	F-prob
Between groups	5	424.9754	84.9951	25.935	0.0001**
Within groups	275	901.2364	3.2772		
Total	280	1326.2117			

**p < .01.

related goals category and the cognitive interest category are higher than the means of the other four categories. However, the mean of the cognitive interest category is higher than the mean of the vocationally related category.

As a result, hypothesis 2 was only partially supported. Non-participants rated vocationally related goals higher than social contact, community service, and external expectation reasons. However, the means indicated that cognitive interest reasons were rated higher than the vocationally related reasons.

Hypothesis 3

Nonpersisters will rate vocationally related goals significantly lower ($p < .05$) than the other five goal categories for enrolling.

One-way analysis of variance was used to test this hypothesis. In order to conduct the analysis of variance, the data had to be rearranged so that a mean score could be calculated for each of the six categories of reasons per person. This reordering of data yielded an

Table 6. Scheffé post hoc comparison for nonparticipants

Mean	Category	Social contact	External expectations	Social stimulation	Community service	Vocationally related	Cognitive interest
2.657	Social contact						
2.660	External expectations						
2.881	Social stimulation						
2.915	Community service						
5.267	Vocationally related	* ^a	*	*	*		
5.495	Cognitive interest	*	*	*	*		

^a* indicates there is a significant difference.

N of 186. The treatment of the missing data resulted in an N of 185. The mean scores were calculated for the responses (scores) made by Group 2 (nonpersisters) on the six categories of reasons for enrolling. The results are shown in Table 7.

Table 7. ANOVA scores by reasons for participation for nonpersisters

Source	DF	Sum of squares	Mean squares	F-ratio	F-prob
Between groups	5	206.7789	41.3558	12.585	0.0001**
Within groups	179	588.2359	3.2862		
Total	184	795.0146			

**p < .01.

The results of the one-way analysis of variance indicate that there is a significant difference between the means of the six categories. The Scheffé post hoc comparison was used to locate the difference. Table 8 shows that there is a significant difference between the vocationally related goals category and the cognitive interest category and the social contact, social stimulation, community service, and external expectations categories.

Examination of the means shows that the mean of the vocationally related goals category is higher than all categories, except cognitive interest reasons. Therefore, hypothesis 3 is only minimally supported. Nonpersisters rated vocationally related goals lower than only one category.

Table 8. Scheffé post hoc comparison for nonpersisters

Mean	Category	Social stimulation	Social contact	External expectations	Community service	Vocationally related	Cognitive interest
2.380	Social stimulation						
2.577	Social contact						
2.897	External expectations						
2.923	Community service						
4.883	Vocationally related	* ^a	*	*	*		
4.933	Cognitive interest	*	*	*	*		

^a* indicates there is a significant difference.

Hypothesis 4

Persisters will rate vocational goals for enrolling significantly higher ($p < .05$) than will nonpersisters.

To test this hypothesis, the t-test was used to compare the mean score of Group 1 (persisters) on the vocationally related goals category against the mean score of Group 2 (nonpersisters) on the vocationally related goals category. Homogeneity of variance was tested. The resulting F-value (1.17) was not significant; therefore, the pooled estimate of variance was used. As Table 9 indicates, the mean of Group 1 was 4.962 compared to the mean of 4.883 for Group 2. The resulting t-value was .22 with 308 degrees of freedom. The findings show that there is no significant difference between the rating of vocational goals for enrolling by persisters and nonpersisters. Therefore, hypothesis 4 was not supported.

Table 9. T-test persisters versus nonpersisters on vocational related goals

Group	N	Mean	F-value	2-tail prob.	Pooled variance	
					T-value	DF
Group 1	279	4.962	1.17	.511	.22	308
Group 2	31	4.883				

Hypothesis 5

Participants will rate vocationally related goals significantly higher than will nonparticipants.

To test this hypothesis, the t-test was used to compare the mean score of combined Groups 1 and 2 on the vocationally related goals category with Group 3 (nonparticipants) on the vocationally related goals category. Homogeneity of variance was tested. The resulting F-value (1.33) was not significant; therefore, the pooled estimate of variance was used. As Table 10 shows, the mean score of the combined Groups 1 and 2 was 4.954 compared to the mean score of 5.267 for Group 3. The t-value was 1.06 with 355 degrees of freedom. This indicates that participants did not rate vocationally rated goals significantly higher than nonparticipants. Therefore, hypothesis 5 was not supported.

Table 10. T-test participants versus nonparticipants on vocationally related goals

Group	N	Mean	F-value	2-tail prob.	<u>Pooled variance</u> T-value	DF
Group 3	47	5.267	1.33	.243	1.06	355
Groups 1 & 2	310	4.954				

Hypothesis 6

Enrollees who do participate will show significantly higher ($p < .05$) goal expectations than those who do not participate.

To test this hypothesis, a Z-test of proportions was used. The proportion was calculated on the number of 8s and 9s (very much influence) assigned by people in the combined Group 1 (persisters) and Group 2 (nonpersisters) versus the 8s and 9s assigned by people in Group 3 on the 40 reasons for participating in adult education classes listed on the EPS.

Table 11 shows the results of the Z-tests of proportions.

Table 11. Comparisons of enrollees versus nonparticipants on strength of goals

Categories	Z-values
Social contact	-2.200*
Social stimulation	-1.697
Professional advancement	1.108
Community service	-1.506
External expectations	-2.200*
Cognitive interest	-1.541
All categories	-2.581*

*p < .05.

The overall Z score was -2.5808 which means that proportionately, there were more 8s and 9s assigned to the goal items by nonparticipants than by participants. When the proportion of 8 and 9 scores were compared by category, nonparticipants had a higher proportion than the combined group of persisters and nonpersisters in the categories of social contact, social stimulation, and external expectations. There was no significant difference between the responses of the enrollees and the nonpersisters on the vocationally related goals, community service, and cognitive interest categories. Therefore, hypothesis 6 was not supported.

Hypothesis 7

Persisters will have significantly higher ($p < .05$) goal expectations than will nonpersisters.

To test this hypothesis, a Z-test of proportions was used. The proportion was calculated on the number of 8s and 9s (very much influence) assigned by the people in Group 1 (persisters) to the 40 reasons for participating in adult education classes on the EPS instrument versus the number of 8 and 9 responses made by Group 2 (nonpersisters). A Z-score was calculated on each goal category and on the combined goal categories. Table 12 shows the findings.

Table 12. Comparisons of persisters versus nonpersisters

Categories	Z-values
Social contact	1.056
Social stimulation	-2.701**
Professional advancement	2.208*
Community service	-0.820
External expectations	1.056
Cognitive interest	3.581**
All categories	3.318**

* $p < .05$.

** $p < .01$.

The findings show that overall, more persisters than nonpersisters rated the items with either an 8 or 9. When each goal category was examined separately, the persisters had significantly higher goal expectations on the cognitive interest and vocationally related goals categories. The nonpersisters had significantly higher goal expectations than the

persisters on the social stimulation category. However, the overall Z-score was significant; therefore, hypothesis 7 cannot be rejected.

Hypothesis 8

Persisters will have significantly higher goal expectations than nonparticipants.

To test this hypothesis, a Z-test of proportions was used. The proportion was calculated on the number of 8s and 9s (very much influence) by the people in Group 1 (persisters) versus the number of 8s and 9s assigned by the people in Group 3 (nonparticipants) on each of the 40 reasons for participating in adult education classes. The Z-test was figured on the individual goal categories and on the combined goal categories. Table 13 shows the findings.

Table 13. Comparisons of persisters versus nonparticipants on strength of goals

Categories	Z-values
Social contact	-2.040*
Social stimulation	-2.040*
Professional advancement	1.276
Community service	-1.520
External expectations	-2.040*
Cognitive interest	-1.123
All categories	-2.108*

*p < .05.

Overall, the nonparticipants have higher goal expectations than the persisters. There was no significant difference on the categories of vocationally related goals, community service, and cognitive interest. However, nonparticipants had higher goal expectations on social contact, social stimulation, and external expectations. These results indicate that the persisters had more defined goals than the nonparticipants. The persisters tended to give fewer 8s and 9s, but when they did assign the value of 8 or 9 to the goal items, it was to the vocationally related or cognitive interest items. Therefore, hypothesis 8 was only partially supported.

Hypothesis 9

There is no significant ($p < .05$) predictive capability of demographic backgrounds on enrollment in, participation in, or completion of adult vocational supplemental education programs.

Since the demographics contained both discrete and continuous variables, regression techniques and the chi-square distribution were applied.

To test this hypothesis, regression analyses, using the default option for missing data, were applied on data that was continuous to test the independent effect of each variable as well as to see the multiple effect.

The results of the regression are summarized in Table 14.

The independent regression technique resulted in only one significant F-ratio. The only demographic variable that can independently serve as a predictor for enrollment in, participation in, or completion

Table 14. Predictability of demographics of participation

Demographic data	DF	SS	MS	R square	F
Age classification					
Regression	1	.0996	.0996	.0006	.1991
Residual	341	170.5069	.5000		
Annual income					
Regression	1	4.7650	4.7650	.0279	9.7978**
Residual	341	165.8413	.4863		
Highest grade level					
Regression	1	.0295	.0295	.0001	.0589
Residual	341	170.5769	.5002		
Academic award					
Regression	1	.0037	.0037	.0001	.0074
Residual	341	170.6027	.5003		
Community size					
Regression	1	1.6324	1.6324	.0096	3.2944
Residual	341	168.9740	.4955		

**p < .01.

of adult vocational supplemental education programs is income. However, it accounts for less than 3 percent of the variance.

When the multiple regression technique was applied to the demographics, the combined factors of annual income, highest grade level completed, academic award, and community size accounted for only 4 percent of the variance. Table 15 shows the results of the multiple regression.

Chi-square analysis was used to investigate the relationships of the discrete demographic variables on enrollment. Table 16 contains the results.

The chi-square test shows that none of the discrete variables are significantly related to participation.

Based on the results of the regression techniques and chi-square analysis, hypothesis 9 is not supported. Annual income was the only sig-

Table 15. Multiple regression coefficients on demographic predictability of participation

Demographics	R square	F-value
Annual income	.0279	9.798**
Community size	.0387	3.804
Academic award	.0416	1.037
Highest grade level	.0432	.123

**p < .01.

Table 16. Chi-square of discrete demographic data to participation

Demographics	Chi-square	DF	Sig.
Ethnic group	11.9604	6	.0629
Marital status	8.6979	8	.3684
Employment status	14.3023	12	.2818
Occupation	20.1444	24	.6885
Sex	2.4986	2	.2867

nificant variable. It accounted for only 3 percent of the variance.

This seems hardly sufficient to place any importance on demographics being of consequential value in predicting participation.

Summary

This chapter has presented the findings of the statistical analyses used to test each of the nine hypotheses. The nine hypotheses were formulated to examine the effects of goals and expectations on participa-

tion in adult vocational supplemental education classes.

The findings did not support all of the hypotheses, but they did add to the research on participation and raised questions for further exploration. Chapter V will discuss the implications of the findings in greater detail.

Hypothesis 1 stated that persisters will rate vocationally related goals higher than the other five goal categories for enrolling. This hypothesis was only partially supported. Persisters rated all of the categories lower than the vocationally related category, except the cognitive interest category.

Nonparticipants did not rate vocationally related goals significantly lower than the other five categories as was hypothesized in hypothesis 2. The nonparticipants rated the vocationally related and cognitive interest categories higher than the categories of social contact, social stimulation, community service, and external expectations.

Nonpersisters did not rate vocationally related goals significantly lower than the other five categories as was hypothesized in hypothesis 3. The nonpersisters rated cognitive interest and vocationally related goals higher than the other categories. Examination of the means shows that the cognitive interest category was rated higher than the vocationally related goals category.

Persisters did not rate vocational goals for enrolling significantly higher than nonpersisters as stated in hypothesis 4. At the $p < .05$ level, there was no significant difference. Similarly, participants did not rate vocationally related goals significantly higher than nonparticipants as hypothesized in hypothesis 5.

Proportionately, persisters had higher goal expectations than non-persisters. However, nonparticipants had higher goal expectations than enrollees and persisters. Therefore, hypothesis 6 stating that enrollees will show significantly higher goal expectations than nonparticipants was not supported. Likewise, hypothesis 8 which stated that persisters will have significantly higher goal expectations than nonparticipants was not supported. However, hypothesis 7 which states that persisters will have significantly higher goal expectations than will nonpersisters was supported.

Demographics were found not to be good predictors of enrollment. Income was the only significant variable and it accounted for only 3 percent of the variance.

The next chapter concentrates on a discussion of the results, how the results relate to Cross' model of participation, and implications for further research.

CHAPTER V.

DISCUSSION, IMPLICATIONS, AND FUTURE RESEARCH

Introduction

The purpose of this chapter is to discuss the results and implications of this research project and implications for application and further research. The chapter is divided into the following sections:

1. Background on Research Project,
2. Summary and Discussion of Results,
3. Implications for Program Planners,
4. Implications for Cross' Model,
5. Future Research, and
6. Conclusion.

Background on the Research Project

The purpose of the study was to examine the effects of goals and expectations on participation in adult vocational supplemental education programs. The study used the Education Participation Scale developed by Boshier (1971) to test Cross' Chain of Response model for understanding participation in adult learning activities (1981).

The study was based on the following conjectures: 1. If people perceive that their goals are consistent with those of a program, then they will enroll in, participate in, and complete the program; and 2) if people have high expectations of goal achievement, they will persist in and complete programs in which they enroll.

The population selected for the study included adults who pre-

registered for adult vocational supplemental education programs at Des Moines Area Community College during the fall, 1982 quarter.

Adult vocational supplemental education students were selected for the study because little information has been gathered on them in regards to why they participate, why they drop out, and whether their goals for enrolling are the same as the program goals.

Thirty-one classes were selected to be included in the study. Of the thirty-one selected, twenty-four classes were held. All preregistrants for those classes (423 people) were asked to complete the EPS and demographic data sheet. Three hundred and fifty-seven people completed surveys that were usable. Based upon attendance in the classes, the preregistrants were divided into three groups for the study: Group 1 - persisters, Group 2 - nonpersisters, and Group 3 - nonparticipants.

Data gathered through the instrument were statistically analyzed to test nine hypotheses. The statistical procedures used were one-way analysis of variance, t-test, regression, chi-square, and Z-test of proportions.

Summary and Discussion of the Results

This researcher was interested in gaining further knowledge on participation in adult education activities. The study examined three aspects of participation as suggested by Cross' model for understanding participation - 1) enrollment, 2) participation, and 3) persistence, and whether goals and expectations and demographics have any bearing on these aspects.

Enrollment

This study is built upon the conjectures that if people perceive their goals as consistent with those of a program and that their goals will be met, then they will enroll. The results of this study show that the people who registered for the adult vocational supplemental education courses had goals consistent with the program goals; that goal being vocational. The preregistrants rated vocational goals higher than social contact, social stimulation, community service, and external expectations reasons. There was no significant difference between their rating of vocational and cognitive interest goals.

This finding lends support to Cross' contention that if goals are consistent and expectations are high, then enrollment is apt to occur, unless other variables interfere.

Participation

The registrants were divided into three groups based on their participation in the program - Group 1 (persisters), Group 2 (nonpersisters), and Group 3 (nonparticipants). All three groups rated vocational and cognitive interest goals higher than the other four goal categories. A comparison of the mean scores by group on the vocational goals and cognitive interest goals categories shows that the nonparticipants had rated these two goals higher than the persisters and the persisters had rated the goals higher than the nonpersisters. This suggests that even though program and participant goals are consistent, consistent goals alone do not ensure participation. This finding adds credence to Cross' model for understanding participation. Her model

depicts participation on a continuum with intervening variables. Any of the variables can hamper participation.

The intervening variables include such things as barriers, attitude toward self, attitude toward education, and awareness of opportunities. The demographic data collected on the people in this study suggest that unemployment and less income may have been two barriers to participation. The nonparticipant group contained the largest percentage of unemployed and the largest percentage with low incomes. Income, which is related to employment, and education covariate in earlier research. People with higher incomes tend to have a higher education level, and people with higher levels of education participate more in adult education than people with lower educational levels. The demographic data in this study support these earlier findings.

Persistence

This study was also based upon the conjecture that if people have high expectations of goal achievement, they will persist in, and complete programs in which they enroll. Expectancy was equated to the strength of the response assigned to the items on the instrument. To measure expectancy, the researcher compared the proportionate number of 8 and 9 responses (very much influence) assigned by each group of preregistrants on the EPS items.

Persistence was defined as completing the course or leaving the course after one's goals for enrolling were met.

Although all of the participants (persisters and nonpersisters) had strong vocational goals for enrolling, a number of students (nonpersisters) left the program before their goals were completed.

Examination of the data shows that the persisters had rated voca-

tional goals higher than the nonpersisters and that persisters had higher goal expectations than nonpersisters.

This supports the hypothesis that the higher one's goal expectations, the more apt they are to complete the course if they participate.

Role of demographics

The descriptive statistics applied to the demographic data for this study support the 1981 study on participants conducted by the National Center for Educational Statistics (1982). Most of the participants were between the ages of 25-34, female, white, employed, professional and technical workers, high school graduates, from a metropolitan area, and with an income of \$15,000 or more. Although the data from this study showed that over 50 percent of those preregistered were from a metropolitan area, this could be misleading since the study was conducted at a site near a metropolitan area. The statistics on income from this study cannot be correlated to the income statistics on the NCES study because this study asked for personal income, not family income. This researcher preferred to ask for individual income because family income could mean one, two, or more incomes, and it was assumed that since the people were preregistered for vocational supplemental education courses, they were gainfully employed.

The predictive studies on demographic data and participation have shown that demographics are of little importance in predicting participation. Anderson and Darkenwald (1979) found that age, sex, income, and schooling account for only 10 percent of the variance associated with adult participation in organized learning activities. This study con-

curred that demographics are not adequate predictors of participation in adult education programs. The variable of income accounted for only 3 percent of the variance associated with adult participation. This low percent of variance may be partially due to the homogeneous nature of the group studied.

Instrumentation

Since there were no significant differences in how the three groups of participants in the study rated vocational and cognitive interest goal items, the researcher examined the individual EPS items to see 1) if they are similar in context or 2) if they were scored similarly. That is, was this finding a result of nondiscrimination between two goal categories on the part of the instrument? The examination showed that there was no similarity of items across the two categories. However, the four items that comprise the cognitive interest category are more alike than the eight items that comprise the vocational goals category.

In addition, the frequency analysis of ratings of items shows that all items in the cognitive interest category were given more 9 ratings (very much influence) than 1 ratings (no or very little influence). This was not the case with the vocationally related items. Five of the eight items received more 1 ratings than 9 ratings. The items receiving the low ratings in the vocational goals category were:

1. To supplement a narrow previous education,
2. To keep up with the competition,

3. To earn a degree, diploma, or certificate,
4. To meet formal requirements, and
5. To acquire knowledge that will help with other educational courses.

The items receiving the higher ratings in the vocational goals category were:

1. To secure professional advancement,
2. To give me higher status in my job, and
3. To increase my competence in my job.

This division of responses on the vocational goals items may be partially explained by analyzing the demographic data. The first five items, with the exception of "to keep up with the competition" are basically school-related, whereas the other three items are more job-related. The school-related items may have been rated low because most of the preregistrants were high school graduates or above, and, therefore, deemed successful in education by our society. As a result, they probably do not view their previous education as narrow.

Also, because the majority of the people were already employed, the degree or diploma may have been less important than gaining job-related skills for professional advancement. People in the business world do not view degrees, diplomas, or certificates as important to career advancement as educators do; therefore, they may look upon knowledge gained as more important than the credential earned. The only group that assigned more 9 responses than 1 responses to the importance of earning a degree was the nonparticipants. The nonparticipants

had the largest percentage of unemployed, and as a result, may feel that a degree will help them to get a job.

Implications for Program Planners

This study demonstrates that program planners need to be aware of all the variables that bear upon participation. As this study found, consistent goals alone do not guarantee participation and/or persistence in adult education activities.

Program planners may want to follow-up on nonparticipants to find out why, after enrolling, they decided not to participate. Although it was not a part of this study, some of the nonparticipants indicated their reasons for not participating. Their reasons included - no transportation, the college did not confirm my registration so I did not know if the class was going to be held, my husband lost his job and I had to go back to work, my work schedule changed, and I did not have a babysitter. Some of these barriers the program planner may be able to resolve through flexible scheduling, arranging car pools, and offering child care services. Other barriers can only be handled by the individual and may be too difficult to overcome to allow for participation in adult education activities.

The nonpersisters were identified as such because they dropped out and their goals for enrolling were not met. This group was unique when compared to the other two groups because their goal expectations were lower, their goals were not as prevalent, and their overall response to the items on the instrument was lower. Program planners need to be

aware of this uniqueness and plan accordingly. Program planners may want to assess students' reasons or goals for enrolling and then plan the course accordingly or counsel the students to take advantage of other learning activities that more closely parallel their goals.

This study further substantiates previous participation studies that have shown that demographics are poor predictors of enrollment. Demographics merely describe the persisters, nonpersisters, and non-participants. Demographics do not tell us why people participate, why they drop out, or why they do not participate. As a result, program planners need to look beyond demographics when designing and marketing programs.

Implications for Cross' Model

The results of this study offer support for Cross' model for understanding participation. Cross' Chain of Response model asserts that participation in a learning activity is not a single act, but the result of a chain of responses, each based on an evaluation of the position of the individual in his/her environment. The COR model includes self-evaluation, attitudes about education, life transition, importance of goals and expectations that participation will meet goals, information, and opportunities and barriers that affect participation.

This study only examined one part of the model -- the importance of goals and the expectation that goals will be met to see what effect it has on participation. This part of the model is based upon the

expectancy-valence theory of motivation arising out of the work of Tolman, Lewin, Atkinson, Vroom, and Rubenson. It assumes that if a goal is important to the person and if the person believes that further education will help to achieve the goal, motivation will be strong to enroll in an educational program or to participate in a self-directed learning activity. Conversely, if the goal is not important or the likelihood of success of accomplishing the goal is in doubt, motivation decreases accordingly.

The results of this study support Cross' concept that participation is the result of a chain of responses. The results show that goals and expectancy alone are not sufficient indicators of participation. The persisters, nonpersisters, and nonparticipants did not differ on type of goal, and only the persisters and nonpersisters differed in expectancy.

The results of this study indicate further research needs to be conducted on other variables of the COR model to test if the variables singularly explain participation or if they are also interwoven.

Future Research

This study is a part of a continuing effort to develop a theoretical basis for explaining participation in adult education. As Cross (1981), Boshier (1971), and Mezirow (1971) have stated, theory is almost nonexistent in adult education. If adult education is going to grow as a profession, theory needs to be developed and tested.

As indicated in the section, Implications for Cross' Model, additional research needs to be done on the model to see if it can be used as a theoretical basis for understanding participation in adult learning activities.

The first specific research to follow this study should be a replication study to check the results of this study. If the results coincide, it would further substantiate that goals and expectations alone do not determine participation and persistence in adult vocational classes, and thus lend support to Cross' theory. If the results were contrary, it would indicate possible errors in the research which are not now apparent.

This study only tested one segment of the model and it was tested on a fairly homogeneous group (preregistrants in adult vocational supplemental education courses at one merged area school) and in a formal educational setting. Therefore, additional research should be conducted on a variety of adult learners and in a variety of learning situations, informal and formal, to see if Cross' model can be used to explain participation in all learning activities, whether formal or informal.

Conclusion

This study continues a movement in adult education to build research upon theory in order to provide a theoretical foundation for adult education. Specifically, this research project was designed to test Cross' Chain of Response model (1981) for explaining participation in adult education activities. The Education Participation Scale

developed by Boshier (1971) was the instrument used to gather the data.

The results of the study indicate that goals and expectations alone cannot be used to explain enrollment in, and participation in adult vocational supplemental education classes. The persisters, nonpersisters, and nonparticipants had similar goals and expectations for enrolling. This finding supports Cross' theory that one variable alone does not affect participation, but instead a number of variables interact to affect participation.

This study also supports previous findings that demographics are not adequate predictors of participation. They only serve to describe who the preregistrants are.

In addition to providing demographic data to describe the adult vocational enrollees, this study examined why they participate, why they drop out, and why they do not participate. It is assumed that since people enroll in vocational supplemental courses, they enroll for vocationally related reasons. This study supports that assumption. The vocationally related goals were either rated significantly more influential in affecting enrollment than the nonvocational reasons or there was no significant difference. However, examination of the means of the goal categories shows that the mean of the cognitive interest category was generally higher than the mean of the vocational goals category. This suggests that cognitive reasons are closely related to vocational reasons in influencing enrollment. It indicates that people tend to enroll in vocational supplemental courses with apparently two types of goals - vocational and cognitive.

Finally, this study indicates that additional research needs

to be conducted to further test Cross' model and to substantiate the results of this study.

This study continues a growing trend in adult education to build research upon theory and to explain participation.

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APPENDIX A.

TELEPHONE INTERVIEW PROCEDURE

Telephone Interview Procedure

Hello, this is

May I speak to

I am conducting the follow-up survey on reasons for participating in adult education activities. This is part of the study you participated in this fall at Des Moines Area Community College.

I have only a couple of questions to ask you. Did you complete the class you were enrolled in?

Did you leave the class before your goals or reasons for enrolling were met?

Thank you for taking the time to answer the questions.

APPENDIX B.

COURSES INCLUDED IN THE SAMPLE

Courses Included in the Sample

Cobol - Beginning
Fortran
P1/1
Programming in Basic
Programming in Basic
Systems Analysis
How to Start a Business
Rental Property Investment
How to Deal with Office Politics
Assertiveness: Maximizing Your Potential
Data Entry Operator
Typing - Beginning
Superwoman Syndrome
Emergency Care
Activity Director Workshop
Medication Aide
Nurse Aide
Ward Secretary
Food Preparation Techniques
Quantity Food Preparation
Child Care, Guidance and Behavior Control
Develop Skills in Money Management Counseling
Basic Electricity
Motor Control
Retail Floral Design
Basic Paste Up
Color Photography
Graphic Arts Overview
Residential Electric Wiring and Code
Pneumatics
Basic Math for Operators

APPENDIX C.

DEMOGRAPHIC DATA BY GROUPS OF PARTICIPANTS

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Table A. Frequency of age by group

Age	Group 1 Persisters		Group 2 Nonpersisters		Group 3 Non- participants		Total	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
17-24	59	16.1	6	1.7	7	2.0	72	20.2
25-34	119	33.3	15	4.2	25	7.0	159	44.5
35-44	63	17.6	7	2.0	12	3.4	82	23.0
45-54	32	9.0	2	0.6	2	0.6	36	10.1
55-64	5	1.4	1	0.3	1	0.3	7	2.0
65+	1	0.3	0	0	0	0	1	0.3
Total	279	78.2	31	8.7	47	13.2	357	100.0

Table B. Frequency of sex by group

Sex	Group 1 Persisters		Group 2 Nonpersisters		Group 3 Non- participants		Total	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Female	150	42.0	18	5.0	31	8.7	199	55.7
Male	129	36.1	13	3.6	16	4.5	158	44.3
Total	279	78.2	31	8.7	47	13.2	357	100.0

Table C. Frequency of race by group

Race	Group 1 Persisters		Group 2 Nonpersisters		Group 3 Non- participants		Total	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
White	267	75.2	27	7.6	43	12.1	337	94.9
Black	5	1.4	3	0.8	4	1.2	12	3.4
Hispanic	2	0.6	0	0	0	0	2	0.6
Other	3	0.8	1	0.3	0	0	4	1.1
Total	277	78.0	31	8.7	47	13.3	355	100.0

Table D. Frequency of marital status by group

Marital status	Group 1		Group 2		Group 3 Non-		Total	
	<u>Persisters</u>		<u>Nonpersisters</u>		<u>participants</u>		No.	Percent
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Married	179	50.1	15	4.2	27	7.6	221	61.9
Widowed	5	1.4	1	0.3	0	0	6	1.7
Divorced	27	7.6	7	2.0	7	2.0	41	11.5
Separated	7	2.0	0	0	2	0.6	9	2.5
Never married	61	17.1	8	2.2	11	3.1	80	22.4
Total	279	78.2	31	8.7	47	13.2	357	100.0

Table E. Frequency of income by group

Annual income	Group 1		Group 2		Group 3 Non-		Total	
	<u>Persisters</u>		<u>Nonpersisters</u>		<u>participants</u>		No.	Percent
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
00000-								
4,999	44	12.6	5	1.4	17	4.9	66	18.9
5,000-								
9,9999	33	9.5	5	1.4	6	1.7	44	12.6
10,000-								
14,999	56	16.0	5	1.4	9	2.7	70	20.1
15,000-								
19,9999	53	15.2	7	2.0	5	1.4	65	18.6
20,000-								
24,999	37	10.6	4	1.2	5	1.4	46	13.2
25,000+	50	14.3	4	1.2	4	1.2	58	16.6
Total	273	78.2	30	8.6	46	13.2	349	100.0

Table F. Frequency of grade level completed by group

Highest grade	Group 1		Group 2		Group 3 Non-		Total	
	<u>Persisters</u>		<u>Nonpersisters</u>		<u>participants</u>		No.	Percent
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
9-12	143	40.1	15	4.2	28	7.8	186	52.1
13	37	10.4	5	1.4	3	0.8	45	12.6
14	24	6.7	2	0.6	3	0.8	29	8.1
15	6	1.7	1	0.3	1	0.3	8	2.2
16	46	12.9	6	1.7	7	2.0	59	16.5
17+	23	6.4	2	0.6	5	1.4	30	8.4
Total	279	78.2	31	8.7	47	13.2	357	100.0

Table G. Frequency of diploma or certificate received by group

Diploma received	Group 1		Group 2		Group 3 Non-		Total	
	<u>Persisters</u>		<u>Nonpersisters</u>		<u>participants</u>		No.	Percent
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
8th grade	7	2.0	3	0.8	0	0	10	2.8
High school	147	41.4	16	4.5	26	7.3	189	53.2
Voc. cert.	41	11.6	2	0.6	8	2.2	51	14.4
AA	18	5.1	2	0.6	3	0.8	23	6.5
BA	49	13.8	6	1.7	6	1.7	61	17.2
Post BA	15	4.2	2	0.6	4	1.1	21	5.9
Total	277	78.1	31	8.7	47	13.2	355	100.0

Table H. Frequency of type of employment by group

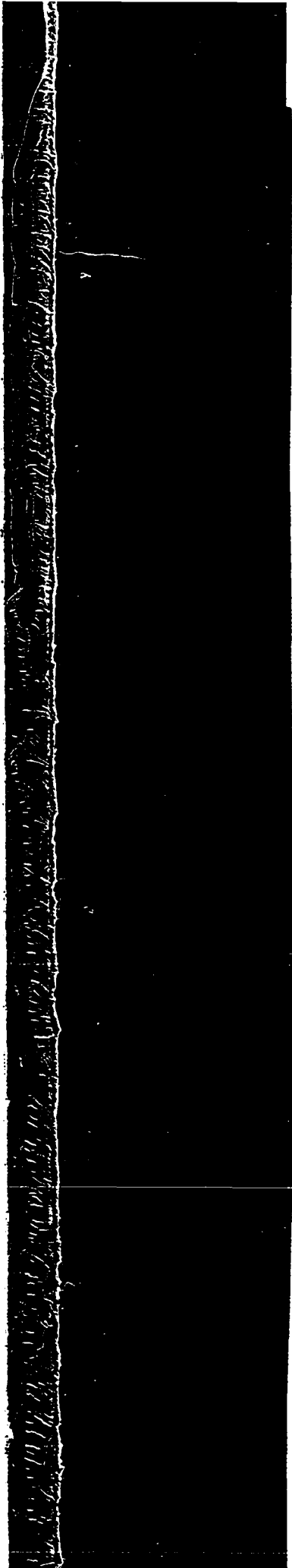
Employment	Group 1		Group 2		Group 3		Total	
	<u>Persisters</u>		<u>Nonpersisters</u>		<u>Non-participants</u>			
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Full-time	216	60.5	26	7.3	28	7.8	270	75.6
Part-time	22	6.2	4	1.1	8	2.2	34	9.5
Retired	2	0.6	0	0	0	0	2	0.6
Unemployed	19	5.3	1	0.3	6	1.7	26	7.3
Homemaker	18	5.0	0	0	4	1.1	22	6.2
Student	1	0.3	0	0	0	0	1	0.3
Other	1	0.3	0	0	1	0.3	2	0.6
Total	279	78.2	31	8.7	47	13.2	357	100.0

Table I. Frequency of type of occupation by group

Occupation	Group 1		Group 2		Group 3		Total	
	<u>Persisters</u>		<u>Nonpersisters</u>		<u>Non-participants</u>			
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Profes- sional	50	14.2	7	2.0	8	2.3	65	18.5
Technical	31	8.8	4	1.1	7	2.0	42	11.9
Manager	26	7.4	3	0.8	3	0.8	32	9.0
Self- employed	14	4.0	0	0	1	0.3	15	4.3
Sales	10	2.8	1	0.3	4	1.2	15	4.3
Clerical	29	8.2	5	1.4	6	1.6	40	11.2
Homemaker	20	5.7	0	0	5	1.4	25	7.1
Skilled	18	5.1	1	0.3	2	0.6	21	6.0
Supervisor	21	6.0	2	0.6	0	0	23	6.6
Service	25	7.1	3	0.9	4	1.1	32	9.1
Laborer	13	3.7	4	1.1	3	0.9	20	5.7
Operative	12	3.4	0	0	1	0.3	13	3.7
Other	6	1.7	1	0.3	2	0.6	9	2.6
Total	275	78.1	31	8.8	46	13.1	352	100.0

Table J. Frequency of community size by group

Com- munity size	Group 1 <u>Persisters</u>		Group 2 <u>Nonpersisters</u>		Group 3 <u>Non- participants</u>		<u>Total</u>	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
00000- 1,000	35	10.0	4	1.1	3	0.9	42	12.0
1,100- 10,000	58	16.5	4	1.1	6	1.7	68	19.4
10,100- 30,000	33	9.4	3	0.9	8	2.2	44	12.5
30,100- 50,000	16	4.5	1	0.3	2	0.6	19	5.4
50,100- 75,000	9	2.5	2	0.6	3	0.9	14	4.0
75,000+ Total	122	34.7	17	4.9	25	7.1	164	46.7
	273	77.7	31	8.9	47	13.4	351	100.0



Name: _____ 123 _____
Last First Middle

Soc. Sec. No.: _____ Phone No.: _____

D E M O G R A P H I C D A T A

Please check the appropriate response to each question.

- 1. AGE
 - _____ 17-24
 - _____ 25-34
 - _____ 35-44
 - _____ 45-54
 - _____ 55-64
 - _____ 65 years & over
- 2. SEX
 - _____ female
 - _____ male
- 3. RACE/ETHNIC
 - _____ white
 - _____ black
 - _____ hispanic
 - _____ other
- 4. MARITAL STATUS
 - _____ now married
 - _____ widowed
 - _____ divorced
 - _____ separated
 - _____ never married
- 5. YEARLY INCOME (your's only)
 - _____ 0 to 4,999
 - _____ 5,000 to 9,999
 - _____ 10,000 to 14,999
 - _____ 15,000 to 19,999
 - _____ 20,000 to 24,999
 - _____ 25,000 or more
- 6. HIGHEST GRADE LEVEL COMPLETED
 - _____ 0-8
 - _____ 9-12
 - _____ 13
 - _____ 14
 - _____ 15
 - _____ 16
 - _____ 17 or more
- 7. DIPLOMA RECEIVED
 - _____ eighth grade certificate
 - _____ high school diploma
 - _____ vocational certificate/diploma
 - _____ 2 year college degree
 - _____ 4 year college degree
 - _____ post graduate degree
- 8. CURRENT EMPLOYMENT STATUS (Check all that apply to you.)
 - _____ Employed full-time
 - _____ Employed part-time
 - _____ Retired
 - _____ Currently unemployed
 - _____ Full-time student
 - _____ Part-time student
 - _____ Homemaker
 - _____ Other _____
- 9. OCCUPATION
 - _____ Professional
 - _____ Technical
 - _____ Manager, administrator
 - _____ Self-employed
 - _____ Sales
 - _____ Clerical
 - _____ Homemaker
 - _____ Craftsman, skilled worker
 - _____ Supervisor
 - _____ Service Worker
 - _____ Laborer
 - _____ Operative, semi-skilled
 - _____ Other _____
- 10. SIZE OF COMMUNITY YOU HAVE RESIDED THE LONGEST IN
 - _____ 1,000 or below
 - _____ 1,100-10,000
 - _____ 10,100-30,000
 - _____ 30,100-50,000
 - _____ 51,000-75,000
 - _____ 75,000 +

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124-125, EDUCATION PARTICIPATION SCALE

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APPENDIX E.

LETTER TO INSTRUCTORS REGARDING STUDY

(date)

Dear

On the first day or night of the adult education class you are teaching this fall, there will be a person coming around to administer a research survey to your students.

The research is part of a Ph.D. dissertation on reasons adults participate in educational activities. It is being conducted in cooperation with the Department of Public Instruction and Des Moines Area Community College. The classes being surveyed have been selected at random.

It will take approximately 15 minutes for the students to complete the survey. It is important that the survey be administered at the beginning of the class period before you explain the goals and objectives of the course.

Thank you in advance for your cooperation. If you have any questions or concerns regarding the survey, please call me at 281-3640 or Ron McClurg at Des Moines Area Community College.

Sincerely,

Shirley M. Kolner

P.S. The persons administering the survey are: Shirley Kolner, Jim Kolner, Tom Grimm, and Don Wederquist.

APPENDIX F.

STATEMENT TO PARTICIPANTS EXPLAINING STUDY

The study you have been handed is part of a study being conducted in cooperation with Des Moines Area Community College and the Department of Public Instruction on reasons adults participate in adult education programs. The results of this study will help to provide information for improving program planning at the college and provide information to the Department of Public Instruction that will be helpful in future planning with the area colleges.

The demographic data requested will be used to compare Iowa's adult education student characteristics with a national sample of adult education students.

Certain kinds of information can be obtained only after the course is over. Therefore, some people will be included in a telephone survey.

All responses will be held confidential. Cross references between individuals and information will be destroyed after the study is completed.

We are asking for your name, social security number, and telephone number so we can compare those completing the survey with the class list and so we can complete the telephone follow-up survey.

Please take the next 10 to 15 minutes to complete the survey. If you do not want to participate in the study, please sign your name and return the form to me.

Thank you for your assistance.

APPENDIX G.

LETTER SENT TO NONPARTICIPANTS EXPLAINING STUDY

[DATE]

[ADR]

Dear [NAME]:

The enclosed survey is part of a study being conducted in cooperation with the Department of Public Instruction and Des Moines Area Community College on reasons adults participate in adult education programs. The results of this study will help to provide information for improving program planning at the college and provide information to the Department of Public Instruction that will be helpful in future planning with the area colleges.

We are particularly interested in your responses because we are seeking input from those who preregistered for an adult education class this fall. We would like you to complete the survey even though you decided not to follow through by attending class. (If you did attend class and were not surveyed, please complete the form.)

The enclosed survey has been used nationally and internationally to gather data on adult education participants. The demographic data requested will be used to compare Iowa's adult education student characteristics with a national sample of adult education students.

All responses will be handled confidentially. Cross reference between individuals and information will be destroyed after the study is completed.

We hope to complete this study during the fall term. Your cooperation will help us to meet our deadline. We will be pleased to send you a summary of the survey results if you enclose a stamped, return addressed envelope.

Please complete the enclosed survey prior to November 15, 1982, and return it in the stamped envelope enclosed.

Thank you for your cooperation.

Sincerely,

Shirley M. Kolner
Consultant, Adult Education
Area Schools Division
Department of Public Instruction

Encl: 2

[DATE]

[ADR]

Dear [NAME]:

A few weeks ago you received a questionnaire regarding participation in adult education courses. We know it is a busy time for you with the holiday season rapidly approaching, but we would appreciate it if you would take ten minutes of your time to complete the enclosed questionnaire. The data we are gathering will be extremely helpful to us in planning future courses for adults such as yourself.

As we explained in the first letter to you, this questionnaire is being conducted in cooperation with the Department of Public Instruction and Des Moines Area Community College.

All responses will be handled confidentially. Cross reference between individuals and information will be destroyed after the study is completed.

In order to help us meet our deadline for this study and to have a meaningful data base, would you please complete the questionnaire and return it in the enclosed, stamped envelope by December 10.

Thank you for your cooperation.

Sincerely,

Shirley M. Kolner
Consultant, Adult Education
Area Schools Division
Department of Public Instruction

Encl: 2

(date)

(inside address)

Dear (name)

We are finishing our study on adult participation. This letter is to remind you that we have not received your completed form.

We are particularly interested in your responses because we are seeking input from those who preregistered for an adult education class during the fall term, but did not attend the class.

All responses will be handled confidentially.

Our deadline is drawing near. Please complete the enclosed survey and return it in the stamped, enclosed envelope by (date).

Thank you for participating in the study.

Sincerely,

Shirley M. Kolner

APPENDIX H.

REASONS FOR PARTICIPATION BY EPS CATEGORIES

EPS REASONS BY CATEGORY**SOCIAL CONTACT**

- To share a common interest with my spouse
- To be accepted by others
- To fulfill a need for personal associations and friendships
- To participate in group activity
- To gain insight into myself and my personal problems
- To become acquainted with congenial people
- To improve my social relationships
- To maintain or improve my social position
- To make new friends

SOCIAL STIMULATION

- To get relief from boredom
- To overcome the frustration of day-to-day living
- To stop my becoming a "vegetable"
- To escape the intellectual narrowness of my occupation
- To escape television
- To have a few hours away from responsibilities
- To provide a contrast to the rest of my life
- To get a break in the routine of home or work
- To provide a contrast to my previous education

PROFESSIONAL ADVANCEMENT

- To secure professional advancement
- To give me higher status in my job
- To supplement a narrow previous education
- To acquire knowledge that will help with other educational courses
- To keep up with competition
- To increase my competence in my job
- To help me earn a degree, diploma or certificate
- To meet formal requirements

COMMUNITY SERVICE

- To become more effective as a citizen
- To prepare for community service
- To gain insight into human relations
- To improve my ability to serve mankind
- To improve my ability to participate in community work

EXTERNAL EXPECTATIONS

- To carry out the recommendations of some authority
- To keep up with others
- To escape an unhappy relationship
- To comply with the suggestions of someone else
- To comply with instructions from someone else

COGNITIVE INTEREST

To seek knowledge for its own sake

To satisfy an inquiring mind

To learn just for the joy of learning

To learn just for the sake of learning