



An investigation of the perceived barriers to undergraduate education for non-traditional students at Montana State University--Northern
by Carol Lynn Green

A thesis submitted in partial fulfillment of the requirements for the degree of Doctor of Education
Montana State University
© Copyright by Carol Lynn Green (1998)

Abstract:

Shifting population demographics, societal changes, and expanding technology have contributed to a major change in student enrollment and participation of the adult learner in postsecondary institutions. While the number of traditional age college students enrolling in post-secondary institutions has declined, the percentage of non-traditional age students enrolling in colleges and universities has steadily increased. The majority of these non-traditional students, though intellectually capable of succeeding and highly motivated, are also uniquely challenged.

The purpose of this study was to investigate the perceived barriers to educational participation held by non-traditional freshmen at Montana State University—Northern; and how the variables of age, gender, marital status, number of children, race, employment status, income, college enrollment status, and program of study affect the perception of categories of barriers. The study further investigated to see if there was a typology of adult learners who clearly identify certain items as barriers.

Using a portion of an earlier questionnaire used by Carp, Peterson, and Roelfs, respondents were asked to indicate the degree to which an item was perceived to be a barrier to their participation. Items were further categorized using Patricia Cross's conceptual framework of barriers as being institutional, dispositional or situational. A series of discriminant analyses were conducted to determine the affect of the descriptor variables of age, gender, marital status, number of children, race, employment status, income, college enrollment status, and program of study. With the exception of number of children, and race, categories of perceived barriers were not useful in distinguishing similar groups of non-traditional freshmen at Montana State University-Northern. Cluster analyses identified four distinct groups of non-traditional freshmen students. Focus groups and interviews were conducted to further clarify the results of the analyses. This investigation provided insight into the perceived barriers and recommendations for future recruitment and retention of non-traditional students in higher education.

AN INVESTIGATION OF THE PERCEIVED BARRIERS TO UNDERGRADUATE
EDUCATION FOR NON-TRADITIONAL STUDENTS AT
MONTANA STATE UNIVERSITY--NORTHERN

by

Carol Lynn Green

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

of

Doctor of Education

MONTANA STATE UNIVERSITY--BOZEMAN
Bozeman, Montana

April 1998

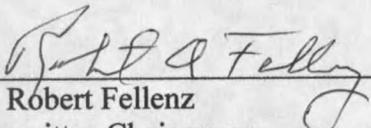
D378
G8199

APPROVAL

of a thesis submitted by

Carol Lynn Green

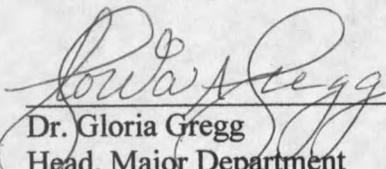
This thesis has been read by each member of the graduate committee and has been found to be satisfactory regarding content, English usage, format, citations, bibliographic style, and consistency, and is ready for submission to the College of Graduate Studies.



Dr. Robert Fellenz
Committee Chairperson

4-8-98
Date

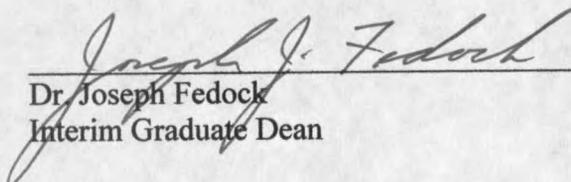
Approved for the Major Department



Dr. Gloria Gregg
Head, Major Department

4-9-98
Date

Approved for the College of Graduate Studies



Dr. Joseph Fedock
Interim Graduate Dean

4/16/98
Date

STATEMENT OF PERMISSION TO USE

In presenting this thesis in partial fulfillment of the requirements for a doctoral degree at Montana State University--Bozeman, I agree that the Library shall make it available to borrowers under rules of the Library. I further agree that copying of this thesis is allowable only for scholarly purposes, consistent with "fair use" as prescribed in the US Copyright Law. Requests for extensive copying or reproduction of this thesis should be referred to University Microfilms International, 300 North Zeeb Road, Ann Arbor, Michigan 48106, to whom I have granted "the exclusive right to reproduce and distribute my dissertation for sale in and from microform or electronic format, along with the right to reproduce and distribute my abstract in any format in whole or in part."

Signature Carol Lynn Green
Date April 8, 1998

ACKNOWLEDGMENTS

First, I would like to thank all of the non-traditional students who took the time to fill out the questionnaire, who provided further material during focus groups, and who continue to provide depth and breadth to my understanding of the adult learner.

Thank you to my committee, Dr. D. Herbster, Dr. W. Lieshoff, Dr. Audrey Thompson, Dr. Jana Noel and Dr. Rodney Knott. A sincere appreciation to Dr. Gary Conti who mentored me "from afar" through the maze of statistical analyses, and for believing in me as an adult learner. A very special thank you and gratitude to my chair, Dr. Robert Fellenz for his patience, his guidance, and most especially for his willingness to share himself in helping me become who I am.

Thank you to Mary for reminding me that all things are possible. You have challenged me when I needed challenging and consoled me when I needed comforting. Your friendship is one of my rich blessings.

Thank you to my husband Kenn and our children, you provide the foundation for all of my adventures. Without your support and love I would not have been able to fulfill my dreams.

TABLE OF CONTENTS

	Page
APPROVAL	ii
STATEMENT OF PERMISSION TO USE.....	iii
ACKNOWLEDGMENTS	iv
TABLE OF CONTENTS	v
ABSTRACT	viii
1. INTRODUCTION.....	1
Changing Enrollment Patterns.....	1
Changing Population Demographics	2
Postsecondary Institutional Enrollment Patterns	3
Montana State University—Northern.....	5
Problem Statement.....	6
Purpose and Significance of the Study	7
Research Questions.....	8
Limitation	9
Operational Definitions	9
2. LITERATURE REVIEW	12
Non-Traditional Student.....	12
Defining the Adult Learner.....	12
The Adult Learner in Postsecondary Institutions	13
Barriers	20
Adult Learning.....	37
3. METHOD	50
Research Design	50
Context.....	51
Sample	54

TABLE OF CONTENTS--Continued

	Page
Instrument.....	55
Procedure.....	59
4. RESULTS.....	61
Survey Results.....	61
Discriminant Analysis: Three-Factor Solution.....	65
Number of children.....	67
Gender.....	72
Age.....	72
Race.....	74
Marital Status.....	76
Income.....	78
Employment Status.....	80
College Enrollment Status.....	80
Program.....	82
Discriminant Analysis: Four-Factor Solution.....	84
Race.....	84
Age.....	86
Gender.....	88
Marital Status.....	90
Number of Children.....	92
Income.....	94
Employment Status.....	95
College Enrollment Status.....	97
Program.....	99
Summary.....	101
Cluster Analysis.....	101
Seekers.....	105
Challengers.....	107
Explorers.....	109
Introspectors.....	109
5. CONCLUSIONS AND RECOMMENDATIONS.....	112

TABLE OF CONTENTS--Continued

	Page
Summary.....	112
Profiles of Non-Traditional Students.....	115
Discriminant Analysis	116
Cluster Analysis.....	117
Conclusions.....	118
Recommendations.....	122
REFERENCES	129
APPENDIXES	139
Appendix A—Letter of Invitation	140
Appendix B—Student Survey	142
Appendix C—Student Information.....	145
Appendix D—Barrier Categories	147
Appendix E—Item Means and Frequency of Responses	149

ABSTRACT

Shifting population demographics, societal changes, and expanding technology have contributed to a major change in student enrollment and participation of the adult learner in postsecondary institutions. While the number of traditional age college students enrolling in post-secondary institutions has declined, the percentage of non-traditional age students enrolling in colleges and universities has steadily increased. The majority of these non-traditional students, though intellectually capable of succeeding and highly motivated, are also uniquely challenged.

The purpose of this study was to investigate the perceived barriers to educational participation held by non-traditional freshmen at Montana State University--Northern; and how the variables of age, gender, marital status, number of children, race, employment status, income, college enrollment status, and program of study affect the perception of categories of barriers. The study further investigated to see if there was a typology of adult learners who clearly identify certain items as barriers.

Using a portion of an earlier questionnaire used by Carp, Peterson, and Roelfs, respondents were asked to indicate the degree to which an item was perceived to be a barrier to their participation. Items were further categorized using Patricia Cross's conceptual framework of barriers as being institutional, dispositional or situational. A series of discriminant analyses were conducted to determine the affect of the descriptor variables of age, gender, marital status, number of children, race, employment status, income, college enrollment status, and program of study. With the exception of number of children, and race, categories of perceived barriers were not useful in distinguishing similar groups of non-traditional freshmen at Montana State University--Northern. Cluster analyses identified four distinct groups of non-traditional freshmen students. Focus groups and interviews were conducted to further clarify the results of the analyses. This investigation provided insight into the perceived barriers and recommendations for future recruitment and retention of non-traditional students in higher education.

CHAPTER 1

INTRODUCTION

Changing Enrollment Patterns

A steadily aging population, societal changes and expanding technology are factors that have contributed to a major shift in student enrollment and participation of the adult learner in postsecondary institutions. The typical student of the future will not be the traditional 18-24 year old recent high school graduate. Instead, many of the students enrolling in postsecondary institutions are likely to be older, less traditional.

From 1970 to the present students over the age of 25 have been enrolling in colleges and universities as full-time or part-time students in record numbers. When counting both part-time and full-time enrolled adult students the proportion of college students over the age of 40 doubled from 1970 to 1993 (Gose, 1996).

In 1970 72% of the students enrolled full-time in postsecondary institutions were under the age of 25. Twenty eight percent of the students were 25 or older. In 1985 58% of the students enrolled were under 25, while 42% of the students were 25 or older (Snyder, 1987). While the number of traditional age college students enrolling in postsecondary institutions was declining, the percentage of nontraditional students enrolling in colleges and universities during the 1980's was steadily increasing (Hu, 1985). In the fall of 1995 only 54.5% of students enrolled full-time in postsecondary institutions were under the age of 25 while the remaining 46% of students were 25 or

older (Bureau of Census Report, 1990). This changing enrollment profile is predicted to continue into the next century (Brazziel, 1989; Cross, 1986). The increase in the number of students over the age of 25 enrolling in postsecondary institutions is reflective of changing population demographics in the United States.

Changing Population Demographics

An important trend in population demographics is the overall aging of the population. The median age of the population in the United States in 1996 was 34.5. This figure is expected to increase to 36.4 at the turn of the century and rise to 38.1 in the year 2050. By the year 2080 the median age in the United States is projected to be 43.9 (Bureau of Census Report, 1990).

Declining birthrate and increased longevity are two factors that contribute to an increase in a population's median age. In the United States the birthrate declined by 3 percent in the first quarter of 1995 and again in the months following. This downward trend in birthrate observed since 1991 is expected to continue through the turn of the century (Bureau of Census Report, 1990). Along with a declining birthrate, increased longevity has also raised the median age in the United States. Better health care, nutrition, and increased attention to physical fitness has resulted in a population of Americans that live longer.

It is predicted that by the year 2000 67% of the population will be over the age of 25. In the year 2030 21.8% of the population, or 66 million people, will be 65 and older with the number of people over the age of 85 tripling (Harper, 1990). By 2050 only 24% of the population will be under the age 18, a decrease from 26% in 1996. The majority

of the population, 56%, will be between the ages of 18 and 65. By 2080 this number increases to 74% (Bureau of Census Report, 1990).

Postsecondary Institutional Enrollment Patterns

At the same time that the median age of the population in the United States is increasing, the number of students enrolled in postsecondary institutions is expected to increase from a little over 14 millions students in 1997 to over 15 million at the turn of the century and over 16 million students by the year 2007 (Bureau of Census Report, 1990). With a declining pool of 18-24 year olds, as indicated by the 1990 Census Report, a large percentage of the increase in enrollment will come from students over the age of 25. Longer life-span, improved health, and increased time for leisure activities has provided the opportunity for many adults to seek fulfillment through college enrollment. Education is more often being seen as a factor for the improvement of life and many Americans are taking advantage of life-long learning (Byrd, 1990).

Demographic changes only partly explain the increased enrollment of students over the age of 25 in postsecondary institutions. Changes in society and advanced technology have had a large impact on enrollment profiles. Changes in family structure, single parent homes, divorce, death, and a myriad of personal circumstances have brought adult men and women to the doors of higher education.

Many women who have been lifetime homemakers are returning to the labor force following changes in their personal life. The death of a spouse, a divorce, and children growing and leaving home are among the many factors influencing a woman's decision to enroll in college. Economic demands and the need for two incomes have also

necessitated a return to the work force for many women. Many of these women seek education as a means of retraining for work outside the home.

Women entering college are motivated by a variety of factors including (a) a desire for self-improvement and self-actualization, (b) vocational goals, (c) role status within their family and/or community, (d) family demands, (e) a need for increased social contact, (f) a pursuit of humanitarian interests and activities, and (g) a desire for improved self-knowledge (Clayton & Smith, 1987; Mohny & Anderson, 1988). A large number of adults return to college after having dropped out or stopped out of education at an earlier time (Aslanian, 1990). For many, as they move through their life cycle, learning becomes a function of adapting to or coping with milestones, developmental tasks, or changing events that confront and challenge (Havighurst, 1952; Kimmel, 1974; Knox, 1977; Neugarten, 1977). Frequently adults are faced with changing job requirements or are making career changes that force them to re-enter higher education in order to survive or advance in the job market. Adult education is often driven by corporate and national economic policies (Long, 1987).

The reduction of large corporate structures, a smaller military, the closing and/or combining of state and federal agencies, and the downsizing of factories and once stable industries have resulted in many displaced workers looking to higher education for retooling and retraining. In addition, many adults choose to seek new ways to earn a living. It is not uncommon for people to change jobs several times in their work life. Career changes often necessitate training or advanced education.

Perhaps the greatest change in American society has been in the area of technology. Changes in technology have come as a challenge to American workers as they strive to keep current and remain competitive in a global marketplace. Rapid

advancements in communication, transportation, engineering and health care have required the continual retraining and upgrading of workers' skills. Advanced technology has caused the shift to an information society, creating dramatic changes in the work force. In some instances workers have been replaced by new technology and in order to survive have had to seek new ways to earn a living. Education has become the key to this survival (Cross, 1986). The ever upward progression of an educated adult population and workforce, and increased educational requirements for high paying jobs might be the single most powerful factor in the continued influx of adult students on college campuses (Brazziel, 1989).

Changes in leisure patterns and the desire for self-fulfillment are additional reasons for adults returning to college. Higher education has become the bridge to reaching new personal and career goals (Puryear & McDaniels, 1990). Many adults are motivated to pursue higher education as a means to expand their social contacts. The simple desires for increased social contact cause many adults to enroll in courses at colleges and universities (Rogers, Gilleland & Dixon, 1987). For some adults an interest in increased intellectual stimulation and growth is a strong determinant in their pursuing a college course or degree. Higher education in the past twenty years has become not only the gatekeeper for many blue collar and white collar positions, but also the facilitator of lifelong learning and growth (Craig, 1997).

Montana State University--Northern

Montana State University--Northern serves a large, rural, and often isolated area of a large, rural, and mostly isolated state. The fall 1997 enrollment was 1449 students. The average age of the freshmen student in 1996 was 23.4. This number does not reflect

part-time or non-degree seeking students who are enrolled in classes. MSU/Northern serves a large part of the state from North Dakota to Idaho as well as three Canadian provinces. The main campus located on approximately 105 acres within the city of Havre functions as a regional, multi-purpose educational center. An extended campus in Great Falls and course offering through telecommunications and at remote sites throughout the state provide educational opportunities to place-bound students.

While the average age of the student at MSU/Northern is increasing, programs and support services for the non-traditional student are slow in development. The retention of all students is a major concern at MSU/Northern and the needs of this growing population are issues of immediate concern.

Problem

For a variety of reasons, postsecondary institutions have been slow in responding to the needs of non-traditional students (Steltenpohl & Shipton, 1986). Financial restraints, lack of knowledge about this group of learners, and overall business as usual has pre-empted many institutions from providing comprehensive services and programming aimed at serving the nontraditional student in higher education. However, a steadily aging population, societal changes, and expanding technology resulting in a major shift in student enrollment and the increased participation of the adult learner in higher education has gained the attention of colleges and universities. Most recently, administrators, faculty, and professional staff are beginning to acknowledge the need to focus on the adult learner as a viable member of the college campus community. As admission counselors and college registrars are continuing to encounter more and more students enrolling over the age of 25 it has become increasingly clear that meeting the

needs of this burgeoning population is, and will continue to be, a critical part of enrollment management and retention programs if institutions hope to attract and retain the non-traditional student until graduation (Noel, Levitz & Saluri, 1985).

The majority of non-traditional students enrolled in postsecondary institutions, though intellectually capable of succeeding and highly motivated, are also highly challenged. Research supports this subpopulation on college and university campuses as one confronted with unique barriers to their academic success. In his book, What Matters in College?, Alexander W. Astin states: "Anyone who has worked with adults and part-timers knows full well that the issues and problems confronting the adult and the part-time student are quite different from those confronting the traditional-age full-time student" (Astin, 1993, p. xviii).

Unfortunately there has not been enough attention given to identifying the specific barriers that non-traditional students face when pursuing an undergraduate education. Only a handful of studies have investigated the perceived barriers held by the adult learner in the collegiate setting. In many cases the non-traditional student is included in studies conducted on behalf of the traditional age college student. Astin notes in his book that it would be a serious mistake to lump non-traditional students together with traditional age students in a single study (Astin, 1993).

Purpose and Significance of the Study

This study investigated the perceived barriers to educational participation held by nontraditional freshmen students at Montana State University--Northern, a small four year public postsecondary institution; and how the variables of age, gender, marital

status, number of children, race, income, employment status, and college enrollment status affect the perception of situational, institutional and dispositional barriers.

A greater understanding of the effect of these variables on barrier perception will enable the enrollment management team, the retention coordinator, and administrators to plan more effectively for meeting the perceived needs of this growing segment of MSU-Northern's student population.

Research Questions

Data for the study was collected from non-traditional freshmen students enrolled at Montana State University--Northern. Students responded to thirty questions from the "Learning, Interests and Experiences of Adults" questionnaire used by Carp, Peterson & Roelfs in 1972. The investigation sought to answer the following research questions:

1. What are the perceived barriers to educational participation held by non-traditional freshman students at MSU-Northern?
2. Do variables of age, gender, marital status, number of children, income, employment status, and race affect non-traditional students' perception of barriers?
3. Does credits carried effect the number of institutional, situational or dispositional barriers reported by the student?
4. Does the type of program the student is enrolled in effect the number of situational, dispositional and institutional barriers reported by that student?
5. Is there a typology of adult learners who clearly identify certain items as barriers to participation?

Focus groups and interviews were conducted with non-traditional students to gather data to assist in naming and describing groups of non-traditional students. Students were asked to share their experiences as new freshmen and recommendations they had for improving the non-traditional freshmen experience.

Limitation

The "Learning Interests and Experiences of Adults" questionnaire used by Carp, Peterson, & Roelfs was designed for use with adults between the ages of 16-60 who were not enrolled as full-time students. The questionnaire used in this investigation is taken from a portion of this original questionnaire. Any comparison of the results of this investigation with that of Carp, Peterson, & Roelfs must be undertaken with caution as the respondents in the current study were all enrolled at MSU/Northern and may already have overcome a certain number of barriers by virtue of their enrolled status.

In addition, although the entire population of non-traditional freshmen students was sent a questionnaire, this population may not be representative of the universe of non-traditional students. MSU/Northern is a small public institution located in a small rural community in North Central Montana. The perceived barriers of this population may or may not be the same as those in another setting.

Operational Definitions

Academic Advising: Information related to course selection and registration provided by a designated faculty member in the student's major department or program area.

Academic Support Center: The academic support center provides a comprehensive range

of career, academic, testing, placement, counseling, guidance, disabilities, and other programs to enhance student personal and professional preparation for a successful future.

Associate Degree Programs: Two-year programs requiring the completion a minimum of 64 credits with a cumulative GPA of 2.00 or higher with a minimum of 30 credits in an approved program. This includes the completion of all General Education requirements plus course requirements under specific programs. Certain restrictions apply to courses taken and GPA.

Bachelor Degree Programs: All bachelor degree programs require the completion of the General Education requirements, plus course requirements under specific programs. This involves a minimum of 120 credits with a cumulative GPA of 2.00 and a GPA in both the major and minor of at least 2.25 (some programs include additional grade requirements)

Certificate Programs: Certification awarded to students who complete specialized approved programs of study. These certifications may not be academic degrees. Students completing certificate programs receive a Certificate of Completion from the department but do not receive a diploma or participate in commencement ceremonies.

Degree-Seeking: A student who plans to pursue a degree at Montana State University-Northern.

Freshmen Status: 0-30 semester credits earned.

Full-time Student: Enrolled for 12 or more semester credits.

General Education Requirements: The general education core develops areas of appreciation not necessarily provided for in the specialized areas of the major, and provides a sense of the interrelationship between the various disciplines. The general education program makes available to the student the tools and awareness necessary for lifelong learning and for active, literate participation in today's technological society.

Half-time Student: Enrolled for six or more semester credits, but fewer than 12.

Learning Experience Assessment Program (LEAP): Students may earn credit for life and work experiences.

Non-Degree-Seeking: A student who does not plan to pursue a degree at Montana State University-Northern.

Non-Traditional Students: Students who have graduated from high school at least three years prior to enrollment.

Part-time Student: Enrolled for fewer than 12 semester credits.

Student Support Services: A federally funded support program for students from disadvantaged backgrounds who show an academic need (i.e. first-generation college student, low income, disabled) designed to provide basic skills instruction, individualized tutoring, personal and career counseling.

Transitional Studies Courses: College exploration courses designed to examine academic expectations and increase student success, promote better study skills and address life skills and career preparation.

CHAPTER 2

LITERATURE REVIEW

Non-Traditional StudentDefining the Adult Learner

In an early study of adult education Johnstone & Rivera define the adult learner as anyone either (1) 21 or over, (2) married, or (3) head of a household (Johnstone & Rivera, 1965). This description was an attempt to arrive at a single definition for the term adult learner. In a continuing investigation of adult learning theory this definition has been challenged and expanded. In their text, Adult Education Foundations of Practice, Darkenwald & Merriam (1982) stress that it is important to understand that "no universally acceptable definition is possible, for any definition must ultimately be based on certain assumptions and value judgments that will not be acceptable to everyone" (p. 8). Elias & Merriam, in their text Philosophical Foundations of Adult Education, note that the absence of one single definition for the adult learner is directly related to the major differences among various philosophical schools of thought on what constitutes a learning activity. This study attempts to examine the adult learner in postsecondary education.

Adulthood is a developmental period much like childhood and adolescence are developmental periods. Adult development includes periods of stability during which confidence and self-esteem are built. These periods are separated by times of tension as

new challenges are tried. Education serves as a key function in assisting the adult through these periods of challenge and in providing a sense of direction. For the adult seeking challenge, growth or direction in life the return to college encourages an optimistic approach to life accompanied by a feeling of assertiveness and a sense of direction (Knox, 1977). Transitions, movement from one status to another in job and life stages, often require new knowledge, skills or credentials. Transitions between stages are hardly smooth, instead they are often punctuated by stress and personal reassessment. Each transition marks a displacement from equilibrium. Transitions challenge adults and require them to grow. Individuals respond differently to change and challenge. Some adults respond with action while others withdraw and reflect. For many, action means acquiring more education (Levinson, 1978).'

Triggers, the events that precipitate the timing of a change in status quo are quite often significant events that precipitate a decision to make a life change. Events such as marriage, birth of a child, death of a loved one, or a divorce can become triggers for the adult (Aslanian & Brickell, 1980). An adult's decision to enroll in college often comes as the result of just such a trigger. In most cases adults participate in learning in response to a felt need or goal which motivates them to pursue education (Seaman & Fellenz, 1989).

The Adult Learner in Postsecondary Institutions

The adult learner is often defined by the learning activity and the setting in which the learning activity occurs. The adult learner enrolled in postsecondary institutions is referred to interchangeably in the literature as the non-traditional student, the adult learner, or the re-entry student. The non-traditional student has been described as any student 25 years of age or older (Brazziel, 1987). The age 25 seems to be the typical time

to be classified as a non-traditional student (Copland-Wood, 1986; Groves & Groves, 1980; Mishler, Fredrick, Hogan, & Moody, 1982).

Federal and state governments have provided postsecondary institutions with additional definitions of non-traditional students. The federal government defines a non-traditional student as one who has been out of high school one year or more prior to enrollment in a postsecondary institution. The state of Montana and the Board of Regents have expanded this definition to define a non-traditional student as any student with a lapse of three or more years between high school graduation and college enrollment. Both of these definitions apply only to freshmen degree seeking students who represent only a portion of the adult learners in higher education.

Non-traditional students enrolled in postsecondary institutions fall into two general categories: (1) students seeking the completion of a degree or certification program, or (2) students taking coursework not leading to the completion of a degree or certification program and/or students enrolled in non-credit courses. In each of these categories a student may be enrolled full-time or part-time. The student may be enrolled as a first time freshman or as a returning student who has stopped out of college for a period of time, but is still a freshman according to credits earned.

In the case of students who enroll in coursework not leading to the completion of a degree or program certification these students are often admitted to the college on a non-matriculated basis or are enrolled through a Continuing Education or Extended Studies Program (Seaman & Fellenz, 1989). They possess a variety of prior experiences and many of them have already graduated from college and successfully accomplished one or more career goals. A large number of them are still working and their reasons for enrolling in a course may range from purely social to academic. Many return to school in

order to meet continuing education requirements or for re-certification. This group is not looking for a four-year or even a two-year program, but instead, a choice of courses that combine to provide the means for career development or enhancement and job security. Many are seeking ways to complete the requirements for occupational credentials or to advance in their present careers. In this group is a large number of learners who view education as a way to enrich their personal lives and foster intellectual stimulation. Life-long learning is the emphasis for this group and this emphasis has brought thousands of non-traditional students to college campuses.

Many colleges also provide opportunities for the adult learner to enroll in courses for non-credit. Non-credit adult education dates back to the early 1800s. Most non-credit adult education programs are provided through a delivery system adjacent to or in conjunction with the regular courses offered at a college or university. The titles of such programs differ depending upon the institutions, but the content of the courses offered is usually related to continuing professional education (Darkenwald & Merriam, 1982).

Students enrolled as degree or certification seeking have a course of study that is prescribed by the university and their learning is evaluated by the institution in a formalized manner. Their success is measured by their forward progress towards the completion of their academic degree. These students enroll in required classes and are expected to complete all coursework leading to the awarding of a degree or certificate. Students in this category may be enrolled as either a full-time or part-time student. Many postsecondary institutions offer degree credit programs for part-time students through evening school, summer school or weekend programs (Darkenwald & Merriam, 1982).

Students in categories, degree seeking or non-degree seeking and full-time or part-time encompass a broad cross section of the population. These students have been

categorized as degree seekers, problem solvers, and enrichment seekers (Pappas & Loring, 1985). Included are growing numbers of women, displaced homemakers, career changers, immigrants, second career retirees, single parent families, and individuals seeking professional development (Cross, 1981).

Researchers have observed some characteristics common to non-traditional students. Many of these adult learners are highly motivated and achievement oriented, measuring success in terms of goals accomplished rather than credentials or diplomas attained (Cohen & Brawer, 1982). They are independent and self-directed in their learning (Knowles, 1980); and as independent and self directed learners expect the learning environment to provide opportunities for them to select learning activities that fit their backgrounds and are relevant to their life experience.

The cost of education is a hardship for many adult learners and they don't want to waste time or money. They expect value for their time and money and many possess a strong consumer orientation toward education (Adams, 1989; Benshoff, 1991). The adult learner is one whose learning activities are secondary to other social or economic roles many of them enrolling in school while having multiple out of school commitments (Loewenthal, 1980; Young, 1984). They are unwilling to continue to participate in a course or program of study if they perceive they are not making progress toward their goal or if the material is irrelevant to them (Ulmer, 1980). They expect meaningfulness of learning and activities and generally prefer more active approaches to learning new material (Knowles, 1980; Sakata, 1984).

Non-traditional students bring a great deal of prior experience with them to their new learning environment and seek to integrate new information with their prior experience. This emphasis on the integration of new information into their life and work experience

is a unique characteristic of adult learners (Benshoff, 1991). For many non-traditional students their prior experience is what helps them assimilate and accommodate new information (Kidd, 1973).

While most non-traditional students come to the learning environment with a variety of prior experiences some are unaware of the value of these experiences and/or discount their importance in the new setting. One paradox of non-traditional students is although they may be highly motivated to learn, as a group they often lack confidence in their ability to do so. Many doubt their ability to succeed and require continuing encouragement. For many the return to college at a later age creates feelings of embarrassment and insecurity. Age norms and associated expectations of developmentally appropriate tasks are directly related to socially defined timing (Nuergarten, 1979). Social recognition and acceptance of these norms further ingrains them and establishes an unquestionable time frame for the completion of certain developmental tasks. High school seniors are expected and encouraged to proceed to college. Many are not ready to do so and an equal number are unable to afford to do so. Many must postpone college entry, missing the developmentally appropriate window of opportunity for college attendance. The non-traditional degree seeking college freshman fits this category. These students understand that they are late in enrolling in college. Even though many of them have succeeded in careers, competed in the workplace, and have raised or are raising families they still arrive on campus with feelings of embarrassment and insecurity. They look around and see younger faces, not only faces of other students, but also the faces of younger faculty and advisors, a reminder to the older student that they are chronologically out of step.

The first days on campus can be overwhelming for any new freshmen, but especially so for the non-traditional student. Having no prior experience with college they are totally unfamiliar with the landscape of higher education. For many, the college campus is like entering a foreign country; there is a language and culture to be learned. Policies and procedures are new and confusing. Registration and course selection is confounded by a lack of institutionally savvy. Faculty and advisors are often younger than the student is and at the same time perceived as authority figures. Feelings of insecurity and inadequacy emerge as the non-traditional students attempt to move through the bureaucracy of higher education. Anxiety is a big problem and the fear of competing with younger students and losing self esteem are reoccurring themes in the literature on non-traditional students in postsecondary institutions (Knox, 1980; Krager, Wrenn & Hirt, 1990; Lowenthal, 1980).

Many non-traditional students are unable to relate their college experience to their old life. Some experience feelings of disassociation from their families as they seek admittance into the new culture of higher education. This is especially true for first generation college students and some minority students for whom a college education represents a breaking away from their peer group at home (Terenzini, 1991). A perceived feeling of diminished importance within the culture of higher education coupled with feelings of detachment from previous work and family, and confusion about the culture of education are significant problems for the non-traditional students.

Another problem of many non-traditional students is a lack of adequate study-skills. Study skills used in high school have gone unused and need brushing up. Some non-traditional students find themselves arriving late at the doors of higher education because their high-school work did not prepare them for college admission or they didn't

like school. While some non-traditional students need refresher courses or brushing up with note taking, college study reading strategies and test taking skills, others need more intensive instruction in basic skills. For some there is a period of learning readiness, time needed to activate and access prior knowledge. Others need placement in developmental courses. Any of these scenarios is seen as a delay to non-traditional students. Most of them are on a very tight time frame. They want to finish their college work as quickly as possible in order to get on with their lives. The realization that they must enroll in developmental courses or participate in remedial programs threatens this timetable. Their lack of study skills coupled with their need to finish course work as quickly as possible creates additional tension for these students.

Non-traditional students often have the added stress of trying to balance school, work and family, leaving no time for socialization at school. There is little if any time to develop on campus support groups or engage in extra-curricular campus activities. Students who participate in campus activities, join clubs, and take part in school projects are more likely to stay in school than students who do not (Tinto, 1987). Non-traditional students don't have the time for this type of institutional bonding. They often have no interest in activities planned for traditional age freshmen and in many instances no time. This lack of connectedness to the institution and to their peers is often a reason for dropping out of school (Upcraft & Gardner, 1989).

The number of students enrolled in postsecondary institutions is expected to increase to over 15 million by the turn of the century (Bureau of Census Report, 1990). With a declining pool of 18-24 year olds, as indicated by the 1990 Census Report, a large percentage of the increase in enrollment will come from students over the age of 25. The non-traditional student will no longer be the anomaly, but rather the norm in higher

education. The barriers, which prohibit their participation or impede their progress, are becoming important areas of discussion for college administrators and faculty. Feelings of inadequacy, incompetence, and marginality, coupled with an uncertainty about the policies, purposes, and culture of higher education and poor academic skills lead many non-traditional freshmen students to the revolving door.

Barriers

The aging of the population, coupled with a decline in college applicants between the ages of 18-24 presents a challenge for postsecondary institutions as they plan for the next decade in higher education. For many institutions survival will depend upon their ability to attract the older student to the doors of higher education. An awareness of the deterrents or barriers faced by the non-traditional student is an essential first step in recruiting these students. A careful analysis of the deterrents/barriers the adult learner encounters in the pursuit of formal learning provides direction for postsecondary institutions whose goal it is to attract and retain the non-traditional student in higher education.

One of the most widely researched questions in adult education is the examination of why adults do or do not participate in adult education. Several researchers have closely examined the reasons given for non-participation. Using factor analysis many of these barriers have been identified within categories.

John W.C. Johnstone and Ramon J. Rivera were the first of many researchers to provide a factor analysis of barriers. They found that barriers to participation fell naturally into two discrete categories, internal and external. Internal barriers included dispositional factors and external barriers were situational in nature (Johnstone & Rivera,

1965). In an attempt to link types of barriers to differences in gender, age, and socioeconomic status Johnstone and Rivera found that older adults cited more dispositional barriers while younger adults and women cited more situational barriers. Person with low socioeconomic status cited both situational and dispositional barriers as impacting their participation in educational activities (Johnstone & Rivera, 1965).

In 1972, Abraham Carp, Richard Peterson, and Pamela Roelfs of Educational Testing Service (ETS) conducted a survey of adult learning for the Commission on Non-Traditional Study. The purpose of this study was to describe in detail the potential market for adult learning and to analyze the learning activities of adults already engaged in learning (Carp, Peterson, & Roelfs, 1973).

Using a questionnaire containing multiple choice questions respondents were asked to indicate their interests in subject matter and learning modes, preferred place of study, time factors in learning, reasons for learning, willingness to pay, guidance needs, and perceived barriers to learning.

A portion of the questionnaire dealt with barriers to participation in learning activities. This section on barriers contained 24 statements of things that might prevent the respondents from participating in learning activities. Any of these statements which the respondent felt were important were to be circled. Data from this section were analyzed by finding a percentage of responses to each of the 24 items based on age, gender, race, marital status, age and gender, race and gender, geographic region, and type of community in which they lived.

This study did not classify the barriers into categories, but considered the effect of selected variables and combinations of these variables upon perception of each individual

barrier. As in the Johnstone and Rivera study, age and gender were shown to affect the results. Socioeconomic status was not a category in this study.

Patricia Cross, in a later study, grouped the 24 non-participation items from the Carp, Peterson, and Roelfs questionnaire and identified each statement as being situational, institutional or dispositional in nature (Cross, 1981).

Cross defined situational barriers as those barriers, which relate to an individual's life context at a particular time, including both the social and physical environment surrounding one's life. Issues revolving around cost and lack of time, lack of transportation, child care and geographic isolation is examples of situational barriers that include both one's social and physical environment (Cross, 1979).

Institutional barriers are those "erected by learning institutions that exclude or discourage certain groups of learners because of such things as inconvenient schedules, full-time fees for part-time students, restrictive locations and the like" (Cross, 1979, p. 98).

Other types of institutional barriers include the lack of attractive or appropriate courses being offered and institutional policies and practices that impose inconvenience confusion or frustration for adult learners. These barriers are most generally structural in nature and can be grouped into five areas: scheduling problems; problems with location or transportation; lack of courses that are interesting, practical or relevant; procedural problems and time requirements; and the lack of information about programs and procedures (Cross, 1981). Informational barriers are often grouped under the heading of institutional barriers. These barriers involve the failure in communicating information on learning opportunities to adults. Included in informational barriers is also the failure of

many adults, particularly the least educated and poorest, to seek out or use the information that is available (Cross, 1981).

Dispositional barriers, also referred to as attitudinal barriers, and in later work by Darkenwald as psychosocial barriers, are those individually held beliefs, values, attitudes or perceptions that inhibit participation in organized learning activities. Adults who say, "I am too old to learn," "I don't enjoy school," or "I'm too tired" are voicing dispositional barriers. Dispositional barriers can relate to the learner or to the learning activity. In the case of the learning activity dispositional barriers can be expressed by the learner in terms of negative evaluations of the usefulness, appropriateness and pleasurability of engaging in the learning. The process of learning may be perceived as difficult, unpleasant or even frightening. Lack of confidence in one's ability to learn is a commonly voiced reason for non-participation. Closely related to this perception are feelings that any effort to learn will only result in failure. Low self-efficacy and evidence of prior poor academic performance are further examples of dispositional barriers (Cross, 1981).

Social forces, within the environment can perpetuate dispositional barriers. In many cultures participation in organized education is viewed as inappropriate. Pressures from family and peer group members to conform to existing values and norms can be strong barriers to participation (Darkenwald & Merriam, 1982).

Cross's conceptualization of the 24 items from the Carp, Peterson and Roelfs questionnaire as being institutional, dispositional or situational is arbitrary. In addition, many of the statements were noted by Cross herself to fall within more than one of the three categories. However, Cross's placement of each of the 24 items into one of the three respective categories of barriers is supported by other authors and researchers

(Brookfield, 1986; Charner, 1980; Charner & Fraser, 1986; Cross & McCartan, 1984; Thiel, 1984).

In other investigations, Darkenwald and Merriam noted four general categories of barriers to participation: situational, institutional, psychosocial and informational (Darkenwald & Merriam, 1982). Darkenwald, borrowing from Cross's earlier work on categories of barriers, has renamed and further defined Cross's dispositional barriers as psychosocial barriers. Psychosocial barriers include beliefs, values, attitudes and perceptions about education or self as a learner. Darkenwald's fourth category, informational, relates to the awareness and availability of information about learning opportunities. This category may reflect the learner's lack of awareness as well as the institution's lack of effectively communicating information about programs.

Sharon Byrd, using the 24 items relating to perceived barriers from the Carp, Peterson and Roelfs study and Cross's placement of these barriers into institutional, dispositional and situational barriers, conducted a recent study on the perceptions of barriers to undergraduate education by non-traditional students at selected non-public, liberal arts institutions in the mid-south (Byrd, 1990). The purpose of Byrd's study was to learn what barriers are experienced by non-traditional students and how those variables of age, sex, marital status, number of children, employment status, income, and race affect the perception of situational, institutional, and dispositional barriers.

A small number of other studies have been conducted to determine barriers to adult participation in education in the collegiate setting (Claus, 1986; Gallay & Hunter, 1979; Hengstler, Haas & Iovacchini, 1984; Scanlan & Darkenwald, 1984). The results of these studies are consistent with Cross's conclusions identifying three general categories of barriers as situational, institutional and dispositional. These studies indicate that costs

associated with attending school are a major situational barrier, along with conflict between home and job responsibilities, child care, and transportation issues. Institutional barriers found to be of importance include a need for financial aid, access to administrative services, strict entrance requirements, restrictive policies, and perceptions of program benefits. Dispositional barriers reported were fear of rejection, low self-esteem, fear of school itself, lack of interest and commitment, unclear academic goals, and poor former academic achievement. It was further indicated by these studies that variables such as age, gender, race, and marital status affect perception of barriers to education by non-traditional students.

Darkenwald and colleagues have had the most consistent line of databased research in identifying the barriers to participation by adults in formal learning activities. This research includes the development of the Deterrents to Participation Scale (DPS) to assess barriers to learning in specific institutional settings (Scanlan & Darkenwald, 1984). Using the DPS with a sample of health professionals Scanlan and Darkenwald identified six factors that act as major deterrents to participation in formal adult learning activities (Scanlan & Darkenwald, 1984):

1. Lack of confidence
2. Lack of course relevance
3. Time constraints
4. Low personal priority for course
5. Cost
6. Personal problems

In additional studies using a revised version of the DPS with adult non-participants in the general public Valentine and Darkenwald generated a typology of non-participants. According to their analysis the adult non-participants in the general public cluster into five distinct groups or types. People who are deterred by:

1. Personal problems
2. Lack of confidence
3. Educational costs
4. Lack of interest in organized education
5. Lack of interest in available courses

An awareness of these typologies provides the postsecondary institution with information helpful in targeting resources for specific populations. Members of the first group listed above, type one learners, cite personal problems and family problems as deterrents to participation. The majority of the members of this group in Valentine and Darkenwald's study were young females with small children. When asked to further explain what was meant by personal and family deterrents the majority of this group cited issues relating to childcare and transportation.

Lack of confidence was cited by the second type of learners who have low self-confidence and are not sure they can succeed. These students need to be carefully transitioned into the institution. Orientation classes designed for this learner would include interaction with other non-traditional students and peer mentoring. Many of these students undergo a period of readiness to learn. They need a semester or two to brush up on their academic skills. Others need reinforcement and nurturing. Returning to school after a time away from academia can be frightening. Counselors and support staffs provide scaffolds for this group as they begin to grow in self-confidence and

independence. First semester classes should be chosen for this group with a high degree of attention given to maximizing opportunities for success.

The third type of learner cites cost as a barrier to participation in the learning. Improved access to financial aid opportunities, delayed payments, and money management seminars are ways of responding to this learner's perceived deterrent. In addition, many students have misinformation about college costs and overestimate the cost of attending. Accurate information, workshops, seminars, publications, help with filling out financial aid applications, and encouragement in seeking scholarship aid can provide needed assistance that can help to overcome this barrier.

The fourth type of learner is just not interested. They see no value in education and do not want to participate. This learner raises an ethical dilemma for the adult educator. Is it ethically correct to try and manipulate or change the opinion of this group? Darkenwald suggests no. His recommendation is to leave them alone. Once again, with limited resources and the increasing demand upon time and services attempting to change the mind of this learner appears to be a fruitless task.

The fifth type of learner cites relevance or interest as a deterrent. The courses being offered are of no interest to the learner. They value education and desire it for themselves but see nothing being offered of interest. The institution responds to this learner by providing accurate information about course offerings, asking questions, clarifying assumptions, and evaluating course offerings. In further attempts to identify a typology of learners Hayes and Darkenwald (1988) used the DPS with low literate adults.

One hundred and sixty adult basic education students responded to the questionnaire yielding five factors which best described the sample's reasons for nonparticipation:

1. Low self-confidence
2. Social disapproval
3. Situational barriers
4. Negative attitude to classes
5. Low personal priority given to education

Hayes used this information to build a typology of adult basic education students and concluded low-literate adults should not be treated as a homogeneous group in respect to their perception of barriers to participation. Further studies with adult basic education students yielded similar factors as barriers to participation (Beder & Valentine, 1990).

A number of studies on barriers to participation have examined barriers from a sociological perspective. Although psychological factors are important in an analysis of participation and barriers, participation is not merely a matter of motive or intent by participants. "It is something that is clearly related to both the individual's position in the social system and also to his/her position in the life cycle" (Jarvis, 1985, p.209). The learner may be constrained by social factors of which he/she is unaware generating from the social environment or from developmental demands of life cycle status. From a sociological perspective, place in the social system and place in life cycle have been found to be significant contributors to participation (Keddie, 1980; Westwood, 1980; Jarvis, 1985; Quigley, 1990; Courtney, 1991).

Socioeconomic status has been linked to participation rates in all cases.

Education is clearly a middle class construct, designed by the middle class using middle

class language and concepts of achievement motivation. In addition, middle class children and adults are socialized to participate in education, resulting in a self-selecting process of participation (Jarvis, 1985). The problem of attracting more participants from the lower socioeconomic strata is not one that lies with the nonparticipants, but within the system itself that has not provided adequately for access to this population (Keddie, 1980, p.65).

Those who would focus attention on the sociological deterrents suggest that by looking at only psychological explanations for participation the investigator focus primarily on the individual to the exclusion of the culture or society. If one looks at social structure rather than individual needs and interests one discovers very different explanations for nonparticipation. By analyzing participation from both a psychological and sociological perspective the researcher is better able to identify comprehensive strategies for increasing participation. By focusing on individual needs and motivation to the exclusion of social structure recruitment efforts center on the likes or dislikes of individual groups of students and their perceived needs. On the other hand, if participation and nonparticipation is seen as a function of social structure then recruitment efforts would focus on changing institutions and society in ways that facilitates participation of all groups. A combination of both practices would appear to yield the most desirable results.

The field of adult education has several models for explaining and predicting participation in learning activities. Some of these models emphasize the psychological and some link the individual with socioenvironmental forces.

Miller's social class theory (Miller, 1967) attempts to link the motivational needs hierarchy of Maslow (Maslow, 1954) with Lewin's force field theory (Lewin, 1947) to

explain not only why people participate, but also why there are large differences between social classes in what they hope to attain from participation. According to Maslow's hierarchy, fundamental needs of survival, safety, and belonging have to be met before status, achievement, and self-realization needs can be addressed. In terms of adult participation in higher education, Maslow's hierarchy of needs would predict that members of the lower socioeconomic class would be interested primarily in education that meets survival needs, mostly job training and adult basic education. The middle and upper socioeconomic classes will seek opportunities that lead to achievement and self-actualization. Enrollment data supports this assertion. Adults with a high school education or less are primarily interested in job-related training as opposed to adults with twelve years plus education who are more apt to enroll in college courses and programs designed toward self-awareness and personal development (Carp, Peterson, & Roelfs, 1974; Cross, 1979; Johnstone & Rivera, 1965).

Miller explains the usefulness of Maslow's needs hierarchy in understanding research showing a relationship between educational interests, age and life stage. Early stages of adulthood are concerned with satisfaction of needs low in the hierarchy. Younger people are more interested than older people in achieving economic security and establishing a social network for belonging needs (Miller, 1967, p. 7). Older people, having met those needs, are free to devote energy to achieving status, enhancing achievement, and working toward self-realization (Cross, 1981).

From Lewin, Miller drew the idea that both negative and positive forces act upon the individual. The direction and sum total of these forces determine an adult's motivation to participate in adult learning activities. Miller predicted that strong personal needs and strong social forces would yield high participation; strong personal

needs and low social forces would result in low participation (with individual exceptions); weak personal needs and strong social forces will lead to high initial participation followed by high drop out; and finally, if personal and social forces conflict "the participation level will depend on the strength of the social force in the given situation" (Miller, 1967, p.4).

Using Lewin's concept of positive and negative forces forming a motivational force field, Miller presents a model of motivation relating to socioeconomic status. "The lower-middle class value system, with its emphasis on mobility and status and a concentration on satisfying belonging needs within the nuclear family rather than in the adult peer groups, makes it a prime consumer of continuing education" (Miller, 1967, p.7).

Boshier, like Miller, believes that motivation for learning is a function of the interaction between internal psychological factors and external environmental factors. It is the individual's perception and interpretation of environmental factors that is most salient. "Both adult education participation and dropout can be understood to occur as a function of the magnitude of the discrepancy between the participant's self-concept and key aspects (largely people) in the educational environment. Non-participants manifest self-institution incongruence and do not enroll" (Boshier, 1973, p.256). Incongruencies between self and ideal self, self and other students, self and teacher, self and institutional environment are additive, the greater the sum, the greater the likelihood of participation or dropout (Boshier, 1973). Students with high incongruence scores are significantly more likely to drop out than others with low incongruence scores. Low participation rate of adults from lower socioeconomic classes in higher education programs of continuing education is due to the lack of congruence between their lives and the essentially middle-

class environment of higher education. This is very similar to earlier findings wherein socioeconomic class was found to effect the participation rate of adult learners in higher education (Miller, 1967; Carp, Peterson, & Roelfs, 1974; Cross, 1979; Johnstone & Rivera, 1965).

Boshier's model is based on the assumption that participation and persistence are determined by how people feel about themselves and the match between the self and the educational environment. Learners who have low congruence between perceived self and ideal self tend to project this incongruity onto their environment. Vincent Tinto's model of institutional fit (Tinto, 1987) often used to explain participation and persistence in higher education does not completely explain the reasons for a lack of fit. Many adult learners enroll in institutions with internal incongruencies that they project onto the institution. Boshier suggests that the proper matching of adults to educational environments is important, however, people with a high degree of dissatisfaction with themselves are likely to project this dissatisfaction onto the environment and drop out of almost any kind of environment; they are drop-out prone (Boshier, 1973). Self-esteem, therefore, is seen as a critical factor in educational participation and persistence. The non-traditional student quite often lacks self-esteem in the unfamiliar setting of higher education. Encouragement, counseling and close mentoring is necessary to help the non-traditional student identify and overcome issues relating to low self-esteem.

Rubenson's Expectancy-Valence Model (1977) draws from psychological motivation theories, incorporating both individual and environmental aspects in explaining participation. Rubenson adapted a work paradigm to education, asserting that education, like work is an achievement-oriented activity. The individual is the center of this model and the decision to participate is a combination of positive and negative forces

within the individual and the environment. The expectancy-valence model is based on the belief that human behavior is the result of an interaction between the individual and the environment. This interaction is a determinant of the strength of the individual's motivation. Levels of participation in Rubenson's model are related to the degree to which the learner expects to be successful (expectancy), and the value (valence) the learner puts upon this success. The expectancy part of Rubenson's formula consists of (1) the individual's expectation of personal success in the educational activity and (2) the expectation that being successful will have positive consequences. Valence, the other part of the formula, is concerned with affect and can be positive, indifferent, or negative. Its strength depends upon the anticipated consequences of participation (Rubenson, 1977).

The individual is the center of this model, major attention being given to how the learner perceives the environment and what the expected gain is. It is important to note that the environment or external circumstances are of importance only in so far as how the individual perceives them. The perception of a barrier is the salient element and may or may not be reality. Any research into barriers therefore, should include the qualifying term, perceived barriers. In addition, the role of reference group is also very strong. Perceptions are developed through socialization. "As a consequence of socialization, . . . adult education has become a part of the value system of some groups but not of others" (Long, 1983, p.209).

Allen Tough, the leader in research and writing on self-directed learning, has attempted to measure multiple components of motivation. In his investigation of adult learning projects Tough and associates found that 75% of adults were motivated to participate in a learning project based upon the anticipated use of the learned skill or

