Participation and persistence in postsecondary vocational education : disadvantaged adults served through a Carl D. Perkins project
by Patricia Peressini Kercher

A thesis submitted in partial fulfillment of the requirements for the degree of Doctor of Education
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Abstract:
The rapid development of electronic technology in the final two decades of the 20th century and the subsequent integration of these technologies into the workplace have significantly impacted America's workforce. Today, jobs in the American workplace require multiskilled workers with the ability to think critically, to communicate proficiently, and to utilize electronic technology in the completion of job duties. A growing concern is how to train and integrate disadvantaged segments of the nation's population into the workforce, i.e., individuals who are economically or educationally disadvantaged or who have a disability.

In 1990, the United States Congress authorized the Carl D. Perkins Vocational and Applied Technology Act. The purpose of this Act was to encourage postsecondary vocational institutions to develop programs that would train disadvantaged individuals in the skills necessary for employment.

Montana State University College of Technology—Great Falls authored and received a grant for a five-year period of time, 1991-1995, for a project. Although the literature in adult education is rich with information regarding the general population of adults, administrators and faculty at the College have little information available to them to guide their efforts to provide effective education for disadvantaged adults.

The purpose of this study was to (a) develop a profile of the disadvantaged adults who attended Montana State University College of Technology—Great Falls under the Perkins project, (b) develop profiles of the disadvantaged adults who persisted or did not persist until graduation to identify the differences between the two groups, and (c) interview disadvantaged adults to identify the factors, institutional and personal, that enhanced or impeded persistence.

Findings revealed few significant differences between the two groups based on demographic characteristics. Conversely, the interviews provided notable information including the importance placed on positive interaction with faculty as a factor in persistence, the influence of personality factors such as determinism and opportunism, the importance of commitment to goals, and the tendency for disadvantage women to prioritize marriage and family over career ambitions.

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ABSTRACT

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CHAPTER 1

INTRODUCTION

Background for the Study

Work has taken on a number of meanings at various stages in the history of the United States. John Thompson (1973), vocational education professional, wrote regarding the evolving nature of work in the United States:

> At one point in which the nation faced a scarcity condition, a worker's status was determined by the amount of goods he or she was able to produce. Our emerging national condition is one of abundance. Machines and machines run by machines can produce and do much of work in its traditional sense. Nearly two-thirds of our workforce, compared to one-fourth in 1900, are in the white-collar and service classifications. (p. 23)

In the closing decade of the 20th century work in the United States has assumed yet another new meaning. The economy of the United States is rapidly being converted from a long-standing and relatively stable base of production, distribution, and service to a fast-changing base of highly technical work dependent on computerization and electronic communications. As the United States entered the 1990s, it became readily apparent that the impact of the technological revolution would continue to create a new relationship between the workforce, education, and work. Time has

verified the predictions made in 1963 by Dr. Grant Venn, a postsecondary vocational educator who conducted a study, under the aegis of the American Council on Education, regarding the evolving role of vocational education in the preparation of the nation's workforce. Venn stated, "The workforce's level of technical education and skill attainment will be placed squarely between them and their ability to obtain and maintain a personal and societally beneficial job in the increasingly technological work place of the future" (p. 1).

As this work transformation has evolved, indications are that postsecondary vocational education must assume greater responsibility for preparing all adults, and in particular those adults who are disadvantaged members of society, for entry into this highly technical workforce. Disadvantaged members of society are defined by the American Vocational Association (1990) as "those adults who are disadvantaged by reason of economics, educational functioning, disability, and/or limited English proficiency" (pp. 59-60). According to Astin (1975):

> As educational institutions assume greater responsibility for preparing disadvantaged adults for entry into the workforce there will be a growing need to know more about how to increase these students' chances of finishing, whether the concern is based on the loss of talent, the waste of limited educational resources, or the vocational and personal setbacks that result from the student's impeded career development and futile expenditure of time and effort. (p. 1)

Workforce Preparedness

In 1989, the United States Department of Labor established a strategic plan for the education of the nation's workforce. This plan, Workplace 2000, established workforce goals for the 1990s and into the 21st century. The plan stated, "Improving the educational preparedness of workers is a challenge that the United States must meet to be economically competitive in the emerging technological and global economy of the 21st century" (Federal Register, 1989, p. 49034). It further proposed the need to fully involve segments of the population, i.e., disadvantaged adults not now fully utilized in the nation's workforce (p. 49035).

To meet the challenge of improving the educational preparedness of disadvantaged members of the nation's workforce, the Congress of the United States initiated and passed the Carl D. Perkins Vocational and Applied Technology Education Act of 1990. This legislation provided postsecondary vocational education institutions in the United States with federal assistance for a five-year period of time from July 1, 1991 through June 30, 1996. The Act's statement of purpose reads:

> It is the purpose of this Act to make the United States more competitive in the world economy by developing more fully the academic and occupational skills of all segments of the population. This purpose will principally be achieved through concentrating resources on improving those educational programs which focus

> on training and re-training for the competencies needed to work in a technologically advanced society (American Vocational Association, 1990, p. 19).

Postsecondary Vocational Education

A primary focus of the Carl D. Perkins Vocational and Applied Technology Act of 1990 was to utilize postsecondary vocational programs nationwide to encourage full participation of disadvantaged segments of the nation's population in vocational education and to assure that these individuals be provided with the appropriate support services necessary for them to succeed in a vocational program of study (Federal Register, 1989, p. 51449). In designating postsecondary vocational education institutions as the vehicle for the delivery of education to prepare disadvantaged adults for entrance into the workforce, members of Congress demonstrated their recognition of the historical role of these institutions in the preparation of the American workforce. A powerful statement was made by Thompson (1973) regarding the legitimacy of vocational education as the structure for the preparation of the nation's workforce:

> Vocational education is the formalized vehicle in American society that facilitates the allocation of occupational roles. As such, it is an extension of those social mechanisms that differentiate persons within the community and prescribe the types of stations and roles that they are expected to assume. (p. 14)

Although there is currently no universally accepted definition of a postsecondary vocational technical institute, these educational entities generally describe themselves as institutions which exclusively or principally provide occupational education in one or more of the technologies at a level above the skilled trades and below the four-year and/or graduate professional level to individuals who have completed or left high school (Graney, 1967).

Participation in Postsecondary Vocational Education

In recent years, the question of who participates in adult educational activities has taken on new meaning from societal, economic, and legislative perspectives. There is growing recognition nationally, inside and outside educational circles, of the need for participation in lifelong learning, particularly vocational education, as a means to fully develop all segments of the nation's human capital as well as to enhance the quality of life for a greater number of citizens. A major goal outlined through the U.S. Department of Labor's Workforce 2000 project (1987) was that "all of the nation's workers will have the opportunity to acquire the knowledge and skills needed to adapt to emerging new technologies, work methods, and markets through public and private vocational education" (p. 5).

As a result of expanding legislative efforts, it can be anticipated that "there will be a significant increase in participation in two-year postsecondary vocational education by adults who are disadvantaged" (Stewart, 1993, p. 2). This anticipated increase is a continuation of the trend toward participation in vocational education reported by the National Center for Education Statistics in 1983, "Disabled, disadvantaged, and limited-English proficient populations comprised nearly twenty percent of all students enrolled in vocational education" (p. 23). Currently in postsecondary education, these disadvantaged students have come to be termed collectively as nontraditional students. Johnson (1991), vocational education professional at the University of Minnesota, provided a summary of the characteristics of these nontraditional students:

> For the most part, the term nontraditional is applied to students who, due to their unique situations, individual characteristics, and personal needs, experience additional barriers or difficulties in accessing and completing postsecondary education programs. Researchers have tended to view the nontraditional student as older than the typical student attending a postsecondary education program, academically and/or economically disadvantaged (e.g., high school dropout, welfare recipient, single head of household), racially or ethnically different, in possession of special learning needs (disabled), and/or non-English speaking. (p. 2)

According to a study completed by Gilli (1976), these disadvantaged adults indicated that "their main reason for going to college, rather than their interest in learning, is

to use education as a vehicle to acquire a better job and to lead a better life than their parents" (p. 137).

Persistence in Postsecondary Vocational Education

According to information from the U.S. Department of Education, Office of Postsecondary Education (1992):

> Recent years have seen a great widening of access to postsecondary education. A larger portion of the U.S. population than ever before and a larger proportion than in any other nation enjoys the advantages of education beyond high school. But the open door to postsecondary education too often proves to be a revolving door. Of the roughly 2.6 million students entering programs in postsecondary education each year, over a million never complete either a two- or a four-year program. (p. 5)

Research into the problem of attrition from postsecondary educational programs has primarily focused on the general population of students enrolled in two- and four-year college programs. A review of these studies indicated that attrition rates have remained constant and high, 50% or more, over the last four decades (Astin, 1975; Cope & Hannah, 1975; Long, 1983; Tinto, 1987). When considered independently from other postsecondary education programs, the rates of attrition from two-year postsecondary education programs, vocational education and/or community college, are significantly higher, approximately 70% (Astin, 1975; Cope & Hannah, 1975; Tinto, 1987).

Tinto (1987) focused a portion of his study on minority and disadvantaged students. He found that individuals of

different race, ability, and social status origins differed markedly in the rate at which they left higher education within 4 years of entry without earning a degree. Persons of lowest academic ability were more than twice as likely to depart as were individuals of highest ability, 72% as compared to 34%, while those of lowest social status were approximately 60% more likely to leave than were those persons of highest status (pp. 16-17).

The special learning needs of disadvantaged adults entering postsecondary vocational education were the compelling force that created the language of the Carl D. Perkins Vocational and Applied Technology Act of 1990. Under requirements of this Act, each postsecondary vocational institution receiving grant funds would be required to provide support services to assist disadvantaged adult learners to overcome barriers to access and success in vocational education. Support services under the Act could include curriculum modification, equipment modification, classroom modification, supportive personnel, and instructional aids and devices (National Center for Research and Vocational Education, 1992, Introduction).

According to educational researchers Brown, Fjeld-Joseph, and Wotruba (1992):

> Disadvantaged students hope their college experiences will enable them to engage in many activities, that their professors will help them understand their classwork, and that the campus will have a prevailing feeling of friendliness.

> Disadvantaged students frequently become discouraged when they encounter educational environments that they perceive as noncaring, as unwilling to respond to or understand their unique attributes, and/or as being unable to accommodate their special learning needs. (p. 1)

Statement of the Problem

The dual questions of who participates and who persists in adult education have been the focus of a great deal of research over several decades. The majority of these studies regarding participation and attrition have been applied to the general population of adult students. Recent federal legislation, the Carl D. Perkins Vocational and Applied Technology Act of 1990, mandated the implementation of expanded services by postsecondary vocational education institutions to integrate and/or serve greater numbers of adults who are disadvantaged in order to enhance their future employability. To date, limited research has been conducted regarding adult participation in and/or attrition from postsecondary vocational education, and little research has been conducted on the specific characteristics and needs of the disadvantaged adult in postsecondary vocational education. As a result, there is limited information regarding these adult students who, due to their socioeconomic situations, educational backgrounds, individual characteristics, and personal needs, may experience unique barriers in accessing and/or successfully

completing postsecondary vocational education programs. Johnson (1991) provided strong rationale for further research to understand the participation and attrition patterns and special needs of these disadvantaged adults.

> The enrollment data of the 1980s suggests there is a growing trend toward serving increased numbers of disadvantaged students in postsecondary vocational education. In most cases this will require more than a simple fine-tuning of existing institutional policies, programs and practices. A more in-depth understanding as to why students drop out, why they stay, and what appears to make a difference in enhancing their retention are critical questions for researchers and vocational education practitioners. (p. 5)

If legislative efforts to integrate disadvantaged adults into postsecondary vocational education are to be successful, there is a critical need to understand the circumstance these individuals experience in their efforts to complete a program of study. Vocational educators and program administrators must formulate a better understanding of these adults. Who participates, who drops out, who succeeds, and what factors contribute to persistence or nonpersistence?

Purpose of the Study

The purpose of this study was to investigate the institutional and/or personal factors that influenced one group of disadvantaged adults, persisters, to complete their vocational education program, and another group, nonpersisters, to leave their vocational education program

prior to graduation. To accomplish this purpose, three research objectives were undertaken: (a) to describe and analyze the sociodemographic and educational characteristics of the total group of disadvantaged adults who made the decision to participate in vocational education at Montana State University College of Technology--Great Falls; (b) to describe and analyze, based on demographic and academic characteristics, how the groups differed; and (c) to elicit through personal interviews, the perspectives of disadvantaged adults regarding the process of persistence or nonpersistence in postsecondary vocational education.

Research Questions

The following research questions directed this study:

1. What are the demographic and academic characteristics of disadvantaged adults who participated in postsecondary vocational education under the Carl D. Perkins project at Montana State University College of Technology--Great Falls from July 1, 1993, to June 30, 1995?

2. What factors influenced these disadvantaged adults to participate in postsecondary vocational education?

3. What are the demographic and academic characteristics of the disadvantaged adults who persisted in postsecondary vocational education as compared to the characteristics of the disadvantaged adults who were nonpersisters?

4. What influence did participation in campus support services have on persistence for disadvantaged adults?

5. What insights did disadvantaged adults have regarding factors that influenced them to persist until graduation?

6. What insights did disadvantaged adults have regarding factors that influenced them to drop out prior to graduation?

Significance of the Study

> What constitutes "significant" is value-laden and usually translates into what doctoral committees, journal reviewers, or conference selection committees consider to be interesting, worthwhile, and important. More long-term tests of significance would be the extent to which a particular piece of research affects practice, influences subsequent writing and thinking, and/or stimulates further research. (Merriam, 1989, p. 161)

Given the historic high rate of student attrition in postsecondary two-year education combined with increasing diversity in the composition of student populations, vocational educators are seeking information to improve strategies to maximize the holding power of their educational programs. Therefore, this study of disadvantaged adults enrolled in postsecondary vocational education and of the factors that contribute to their persistence or lack of persistence has several important implications for Montana State University College of Technology--Great Falls as well as for two-year postsecondary vocational college and community college constituencies who may be interested in developing programs to recruit and serve disadvantaged adults. First, the study identified the characteristics of adult learners who are disadvantaged and who have made the decision to participate

in a formal postsecondary vocational education program. Second, it compared the characteristics of disadvantaged adults who persisted until graduation with those of disadvantaged adults who dropped out prior to graduation. Third, it identified the impact of institutional practices on the persistence patterns of these disadvantaged adults. Fourth, it investigated participation and attrition from the disadvantaged adult learners' perspective by seeking their individual accounts of important factors, personal and institutional, which were related to participation, persistence, or nonpersistence in two-year vocational education. Finally, in contrast to the majority of studies regarding participation and persistence in postsecondary education that have focused on urban environments, this study focused on disadvantaged learners residing in a rural state.

This study tested the applicability of the existing models of adult participation in educational activities to the understanding of the participation and persistence patterns of a specific group of learners, disadvantaged adults. Information gained from this study may provide two-year vocational education administrators and faculty with insight into the motivations and needs of disadvantaged adults who participated in vocational education as well as an improved understanding of the interaction between individuals and the educational environment itself. It is

anticipated that from such insight and understanding, sound retention strategies may be derived to potentially reduce attrition for disadvantaged adult students.

Limitations of the Study

Generalizability is limited due to several aspects of the study. First, the sample was not randomly generated from the population nationwide of disadvantaged adults who enrolled, under Carl D. Perkins projects, in two-year postsecondary vocational education programs and/or who participated in institutional support services designed for project participants. Second, the sample was not reflective of all categories of disadvantaged adults as specified by the Carl D. Perkins Vocational and Applied Technology Act of 1990 but rather was reflective of the specified categories of disadvantaged adults who existed in significant enough numbers on the campus of Montana State University College of Technology--Great Falls. Finally, the nature of descriptive and interview research relied on data and self-reports rather than observation.

Delimitations

The research conducted to gather data for this study was limited to the disadvantaged adults who enrolled at Montana State University College of Technology--Great Falls in Academic Year 1993-94 through Academic Year 1994-95 as

well as to the supportive services available at the College of Technology.

Assumptions

Disadvantaged adults enrolled in programs of study and participated in supportive services at Montana State University College of Technology--Great Falls under the Carl D. Perkins project from July 1, 1992, through June 30, 1996. This study focused on only the disadvantaged adults who were enrolled in programs of study and who participated in support services at Montana State University College of Technology--Great Falls in the time period from July 1, 1993, to June 30, 1995. It was assumed that the adults who participated in the study were essentially similar to disadvantaged adults enrolled in all other years.

Demographic and academic data for the study were collected from written information provided by disadvantaged adults through their completion of admission applications, course enrollment, and withdrawal forms. It was assumed that these adults were honest and open in their written responses to these questionnaires.

Data were also gathered through personal interviews with disadvantaged adults. These individuals were assured that their identities would be shielded. Therefore, it was assumed that respondents were honest and open in their answers and recollections.

All data were entered by college personnel into the data base file for student record keeping and administrative reportorial requirements of the Carl D. Perkins Vocational and Applied Technology Act. It was assumed that these data were as accurately registered as humanly possible.

Definition of Terms

Attrition refers to students who drop out of postsecondary education prior to completion, i.e., graduation (Johnson, 1991, p. 8).

Carl D. Perkins Vocational and Applied Technology Act of 1990 means the passage of federal legislation in 1990 to provide secondary vocational education and postsecondary vocational education programs with federal assistance for five years, from July 1, 1991 through June 30, 1996, to expand job-related vocational education to members of special population groups (American Vocational Association, 1990, p. 11).

Disabled/disability is a term used interchangeably with handicapped and means any individual who has a physical or mental impairment that substantially limits one or more of the major life activities of that individual, has a record of impairment, is regarded as having an impairment, or any individual who is considered disabled under section 504 of the Rehabilitation Act of 1973 (Federal Register, Department of Education, October 11, 1991, p. 51462).

Disadvantaged means individuals who have economic or academic disadvantages and who require special services and assistance to enable such individuals to succeed in vocational education programs. Such term includes individuals who are members of economically disadvantaged families, migrants, individuals of limited English proficiency, and individuals who are dropouts from secondary school.

Dropout means a student who has dropped out of a postsecondary educational program before graduation and is not expected to return (Astin, 1975, p. 8).

Economically disadvantaged means any individual who is eligible for and receiving U.S. Department of Education Title IV Federal Financial Aid Assistance to attend postsecondary education (Federal Register, Department of Education, October 11, 1991, p. 51462).

Educationally disadvantaged means an individual whose academic assessment, Test of Adult Basic Education (TABE), total battery performance is less than 10.5 grade level (Montana State University College of Technology--Great Falls, 1991).

Formal educational activity/formal postsecondary program means a course or sequence of courses offered through a postsecondary institution for credit, certificate, or degree (Federal Register, Department of Education, October 11, 1991, p. 51462).

Graduation means completion, with a cumulative grade point average of 2.0 or better, of all the required courses in a Certificate or Associate of Applied Science Degree program of study (Montana State University College of Technology--Great Falls, 1994b, p. 21).

Job-shadowing means spending time on the job with an individual who is performing the job being considered.

Nontraditional age means students who are 23 years of age or older (Montana Commissioner of Higher Education Reporting Manual, 1991, p. 3).

Nonpersister is a term used interchangeably with dropout to describe a student who has dropped out of a postsecondary educational program before graduation and is not expected to return (Astin, 1975, p. 8).

Participation means an individual is enrolled in and expects to complete a Certificate or Degree program of study (Montana State University College of Technology--Great Falls, 1991).

Persister is defined as any student who graduates from a postsecondary educational program or who is still in attendance and expected to graduate (Astin, 1975, p. 9).

Postsecondary education means an institution of higher education in any state which (1) admits as regular students only persons having a certificate of graduation from a school providing secondary education or the recognized equivalent of such a certificate,

(2) is legally authorized with such state to provide a program of education beyond high school, (3) is accredited by a nationally recognized accrediting agency or association (Federal Register, Department of Education, October 11, 1991, p. 51462).

Postsecondary vocational education means organized educational programs offering a sequence of courses or instruction in a sequence or aggregation of occupational competencies that are directly related to the preparation of individuals for paid employment in current or emerging occupations requiring other than a baccalaureate or advanced degree (American Vocational Association, 1990, p. 163).

Retention generally refers to the institution's role in encouraging and/or enhancing student persistence (Johnson, 1991, p. 8).

Stopout is a student who interrupts his or her undergraduate education for a relatively brief period and returns to complete the program (Astin, 1975, p. 9).

Sociodemographic characteristics means factors such as age, gender, marital status, family composition, social level, economic status, and educational background (Webster's Unabridged Dictionary, 1989, 1351).

Special learning needs refers to the educational concerns inherent in serving those students who perform below their ability levels, who are unwilling or unable to invest sufficient effort to fulfill program requirements, or who display inappropriate behaviors and are likely to drop out before attaining educational and career outcomes commensurate with their ability levels (Brown, Fjeld-Joseph, & Wotruba, 1992, p. 1).

Special populations include individuals with handicaps, educationally and economically disadvantaged individuals, individuals of limited English proficiency, individuals who participate in programs designed to eliminate gender bias, and individuals in correctional institutions (American Vocational Association, 1990, p. 160).

Success means the completion of a one- or two-year Certificate or Associate of Applied Science Degree vocational education program (Montana State University College of Technology--Great Falls, 1991).

Support services/supplementary services means curriculum modifications, equipment modification, classroom modifications, supportive personnel, and instructional aids and devices (American Vocational Association, 1990, p. 163).

CHAPTER 2

REVIEW OF RELATED LITERATURE

Introduction

In 1987, William E. Brock, Secretary for the United States Department of Labor, addressed members of Congress regarding his predictions for the nation's workforce and its need for additional skill training in view of the emerging changes in the national economy.

> We already know a good deal about the future. We know that jobs will be available for anyone with the skills and the desire to work. But we also know that by the year 2000 technology and the shift to the service sector will reduce the need for unskilled workers, and increase the need for workers with higher skill levels. A shrinking labor pool means that employers will face increased competition for those workers. At the same time, 80 percent of the new entrants into the workforce will be women, minorities and immigrants--groups that have historically been disadvantaged. For them, the competition for workers can mean increased opportunity and advancement. It is obvious that the changes in the economy that will occur during the next decade will affect all of us. The fact is that a serious mismatch between work place needs and workforce skills threatens our nation--our standard of living, our opportunity for development, our ability to compete globally--if we don't act now. (U.S. Department of Labor, 1987, p. 1)

In the United States, periodic and dramatic changes in the national economy have been a historical reality. In its 200-year history, the nation has undergone three major

changes in its economic base--from the original agrarian based economy to a long-standing industrial based economy to the current rapidly emerging global and technology based economy. Each of these changes have been inescapable and have produced a critical impact on the nation's workforce. Each change has required the nation's workforce to develop new or additional skills in order to be employable.

The impact of each economic change on the nation's workforce has had an ensuing impact on the nation's educational system. Historically, primary responsibility for imparting new or additional skills to the workforce has been entrusted to the nation's educational system. The history of education revealed that the nation's educational system has had to undergo periodic change in order to respond to emerging work place needs. As can be perceived from Secretary Brock's address, an additional challenge for the educational system in preparing the nation's workforce for the economic changes of the 21st century will be the need to prepare greater numbers of individuals from disadvantaged sectors of the American society.

This chapter undertakes a review of literature to formulate the basis for a fuller understanding of disadvantaged adults, their motivation toward education, their participation in postsecondary vocational education, and the factors which enhance or impede their success in completing a vocational education program. This review

includes the broad areas of (a) current trends in the national economy which will impact the workforce of the future as well as the nation's educational system, (b) the historic and emerging role of postsecondary vocational education in preparation of the workforce, (c) the impact of the Carl D. Perkins Vocational and Applied Technology legislation on postsecondary vocational education, (d) participation and attrition studies related to adults in educational activities, (e) the condition of disadvantage in America and its impact on educational activities, and (f) the study of retention strategies to reduce attrition in postsecondary education.

Postsecondary Vocational Education and the Workforce

Economic and Technological Change

In the final decade of the 20th century, the rapid emergence of the global marketplace as well as of electronic technology as the basis for the economy of the United States has raised a great deal of concern regarding the nation's economic future as related to the competitiveness of the workforce. Workforce 2000, a study completed by the United States Department of Labor (1987), specified challenging conclusions regarding emerging trends, economic and technological, that would impact jobs, and consequently the nation's workforce, during the 1990s and into the 21st century. Workplace 2000 projected that:

> (a) the pool of young workers entering the labor market would shrink; (b) women, minorities and immigrants, the nation's most disadvantaged groups, would account for 80 percent of the new additions to the workforce between 1987 and the year 2000; (c) less than 10 percent of jobs would be in manufacturing; and (d) the technology oriented jobs of the future would demand more highly skilled workers. (p. 2)

The study further pointed out that "increased productivity growth comes first from people--people who are better educated and better trained" (p. 2). According to the Workforce 2000 Project Office:

> Workforce 2000 symbolized the collective goal of business, labor, the educational system and all levels of government to ensure adequate jobs and a decent society for all Americans. Achievement of this collective goal would include determined efforts to identify ways to diminish the problem of illiteracy, to integrate women, minorities, the handicapped and older Americans more fully into the national economy, and to encourage working men and women to make training and retraining a lifelong priority. (U.S. Department of Labor, 1987, p. 4)

In Montana the Governor's Council on Economic Development (1987) authored a report in response to the economic forecasts outlined by the national Workplace 2000 document. Montana's report, The Next Century: Strategies for Advancing Montana's Economy predicted emerging changes in the Montana economy into the 21st century. Through this report the Council contended that "Montana's competitiveness in the global economy would require the highest quality of the most technologically advanced products and services imaginable" (p. 6) and that "the critical difference, the

competitive edge, must reside in the caliber of the work force" (p. 11). The report further supported the need for a high caliber workforce in its predictions for economic change.

> As the state's economy becomes more diversified it depends less on traditional extraction industries and more on services and entrepreneurship. The educational implications of these changes are apparent today. Montana's six largest services industries in descending order are local/state/private education, health care, retail eating/drinking establishments, general state/local government, federal government, and business. All are completely reliant on skilled people, so much so that the workforce has become the critical determinant of the rate of growth of the economy and the well-being of the population. (p. 14)

In its workforce investment strategy, the Montana economic planning report paralleled national recommendations regarding the need to train and retrain the workforce as well as to fully integrate disadvantaged segments of the population into the workforce. The report advised a workforce investment strategy that contained two basic tactics: (a) to raise the educational attainment and skills of tomorrow's workforce and (b) to strengthen the earning capacity of poor people and reduce welfare caseloads (p. 11).

Education and Workforce Preparedness

Electronic technology has introduced change into virtually every industry and every job in the nation, creating unparalleled demand for educated people. During

the last three decades of the 20th century, the educational implications of these emerging changes have been well recognized by economist and educators alike. According to Cross (1981), "Technological change and the knowledge explosion is so fast and powerful that it wipes out entire industries and creates new ones in a single decade (p. 3). Because of the rapid and continuous changes in technology and knowledge, Toffler (1970) warned that "most people are grotesquely unprepared to cope with the pace of change and mass disorientation in the society could result" (p. 14). Closely mirroring Toffler's warning was the concern recently stated by United States Department of Labor Secretary, William Bell, who predicted that "the incongruity between workforce skills and work place skill demands could destroy the nation's standard of living, its opportunity for development, and its ability to compete globally" (U.S. Department of Labor, 1987, p. 1).

Coinciding with the growing appreciation of the impact of technological change on the workforce has been the growing appreciation for the worthwhileness of education and lifelong education as a means to maintain the competitiveness of the nation's workforce. Cross (1981) discussed the changing work place and education's role in meeting the lifelong learning needs of adults.

> The learning society is growing because it must. It would be difficult to live in an environment changing as rapidly as ours is without constantly

> learning new things. Formerly one generation could pass on to the next what was necessary to know in order to survive. Change is now so great and so far reaching that no amount of education during youth can prepare adults to meet the demand that will be made upon them. Lifelong learning will be increasingly necessary for everyone and those who lack basic skills and motivation for lifelong learning will be severely handicapped in obtaining the necessities of life and in adding any measure of personal satisfaction to the quality of their lives. (p. 49)

Concurrent with the concern for the workforce in general has been a long-standing concern for integrating disadvantaged members of the nation's population into the workforce as a means to improve both social and economic conditions. The work of Best and Stern (1976) regarding the American workforce demonstrated the growing concern for disadvantaged members of the American workforce. This concern was evidenced as follows:

> There can be little doubt that many of our most serious and persistent social problems stem from the ways in which education and work are distributed throughout our society. The major social problem is unemployment. For the past fifty years, society has been unable to provide adequate jobs during peacetime for everyone willing and able to work. The major victims of chronic unemployment or underemployment have been minority groups, women, youth, and older people. (p. 24)

The Character of Vocational Education

It is important to understand the character of vocational education in order to understand the prominent role it has been assigned for preparation of the workforce of the future and, in particular, for the preparation of

individuals who are disadvantaged. There are several elements of vocational education that serve to distinguish it from other educational activities. The first element which is consequential to the understanding of the character of vocational education is an appreciation of its history in the United States. At the time of the American Revolution, vocational education as it is known today was only faintly visible under the time-honored method of the father-son relationship or apprenticeship. However, this was not to remain the case. From the nation's beginning, social and economic forces were converging that disclosed the need for the nation to become vocational education conscious regarding its workforce needs. Barlow (1976), historian for the American Vocational Association, chronicled the history of vocational education in America during the nation's bicentennial year. He summarized that history as follows:

> During the first 50 years of the nation's history, 1776-1826, there was a gradual awakening to the need for education. This was the period in which the nation embarked on the great American experiment of attempting to educate all the people. The second period of 50 years, 1826-1876, demonstrated much independent action by individuals and groups as they sought to react to the workforce needs which emerged as a result of the Industrial Revolution. During the third 50 years, 1876-1926, the vocational education age emerged and vocational education as we know it today had its beginning. Our educational heritage was to be found in these years. The fourth 50 years, 1926-1976, were marked by the great growth and development of vocational education. This growth was related to a fundamental objective of American life--how individuals are to earn their living. (pp. 3-4)

As important as history, to the appreciation of the character of vocational education, is the understanding of the term, vocational education. Thompson (1973) defined vocational education from the perspective of individuals and careers.

> The term, vocational education, has been used historically with a variety of meanings. In some instances it refers to a very narrow skill training; in others it relates to attitudes and values. More generally , the term has come to describe the educational programs that assist people as they develop toward occupations and careers. (p. 10)

In addition to the definition of vocational education from the perspective of the individual, the American Vocational Association (1989) defined the term from the perspective of the vocational education institution:

> The term vocational education describes educational programs offering a sequence of courses or instruction in a sequence or aggregation of occupational competencies that are directly related to the preparation of individuals for paid employment in current or emerging occupations requiring other than a baccalaureate or advanced degree. (p. 163)

Another important element in understanding the character of vocational education is to understand its potent influence in motivating adults toward educational activities. This can be seen from the report of initial research in the field of adult education regarding why adults participate in educational activities. Houle (1961) observed the importance of vocational education.

> Consider the widely noted fact that enrollment in formal courses of adult education is heavily vocational. We observe this phenomenon and we add to it the general idea that the United States is a commercial and industrial society with strongly materialistic values and we draw the conclusion that people enroll in vocational courses because they want to make more money. When we ask adults why they come to an educational institution we discover that the major reason they come is to get ahead on the job. Most ask for something that will help me in my work and may even try to find vocational reasons for non-vocational classes. (p. 33)

Finally, the study of the character of vocational education in America revealed its historical role of providing a direct connection between the nation's educational system and the labor market. Thompson (1973) described this linkage in terms of the social impact of vocational education in America.

> Vocational education is the formalized vehicle in American society that facilitates the allocation of occupational roles. As such, it is an extension of those social mechanisms that differentiate persons within the community and prescribe the types of stations and roles that they are expected to assume. Vocational education is usually the only link between educational institutions and the institutionalized labor market. (p. 14)

Vocational Education Legislation and Workforce Preparedness

According to the literature, initial federal legislation designed to stimulate the development and maintenance of vocational education programs was embodied in the Smith-Hughes Act of 1917. Thompson (1973) examined the

purpose of initial federal legislation in the following narrative:

> Beginning with the Smith-Hughes Act of 1917, the federal government indicated that it was interested in people being trained for occupations needed by society and vocational education was created for the allocation and transmittal of occupational roles from one generation to another. The Act also indicated that the public school had an important role to play in the institutionalized setting of allocating people to jobs. The Smith-Hughes Act and its policies which were based on a broad view of the role of occupational education as an allocating mechanism stood basically undisturbed until 1962. (p. 16)

A period of questioning and instability in federal funding for vocational education was to follow the long-standing Smith-Hughes legislation. In the early 1960s, vocational education began to receive a great deal of criticism for the perceived failure of its allocation policies under the Smith-Hughes Act to respond adequately to the nation's evolving workforce needs. Thompson (1973) related, "Unemployment was high, especially in the nation's large cities; jobs and people were not well matched; and there was a surfacing concern for people with special needs" (p. 17).

The literature revealed that these societal and economic factors were to lead to the first of many major revisions to the philosophy and role of vocational education in America. The revisions of the 1960s were contained in the newly authored and passed federal Vocational Education Act of 1963. Under this newly named federal legislation,

vocational education became a mechanism of the swiftly materializing national manpower development policies. This new dimension of manpower training placed less emphasis on matching the best person with an existing job but rather emphasized providing a suitable job for each person or equipping the person to fill a suitable job. The specific purpose of the Vocational Education Act of 1963 provided recommendations and incentives for vocational education to become available to a wider range of students. Mayor and Barlow (1965) wrote:

> It is the purpose of the Vocational Education Act of 1963 to maintain, extend, and improve existing programs of vocational education, to develop new programs of vocational education, to provide part-time employment for youth who need such employment in order to continue their vocational training on a full-time basis, to provide instruction so that persons of all ages in all communities will have ready access to vocational training or retraining which is of high quality, realistic in relation to employment and suited to the needs, interests and ability of the persons concerned. (p. 200)

The Vocational Education Act of 1963 was introduced in the House of Representatives by Carl D. Perkins, a representative from Kentucky who served as the chairman of the appropriations sub-committee for elementary, secondary, and postsecondary education.

The chronology of legislative funding efforts indicated that, after 1963, vocational education was reviewed and critically debated at each reauthorization juncture with these junctures occurring on a five-year cycle.

An area that was to receive increased attention, starting with the Vocational Education Act of 1963 and within each reauthorization thereafter, was the commitment to serve disadvantaged segments of the nation's population. Barlow (1976) recorded the growing awareness of the social inequities for disadvantaged segments of the nation's population as follows:

> During the late fifties and throughout the sixties a rash of legislation appeared in response to the growing social revolution. Great concern was beginning to develop around certain groups of disenfranchised persons who needed attention. In one way or another these people had fallen through the cracks of the social structure and their plight had become a national problem. They were described by various terms such as underemployed, unemployed and disadvantaged and were primarily black or poor white. On a parallel course, the general plight of women in American cultural and economic life gained attention. The civil rights of all persons, but particularly of these groups were the objects of deep social and economic concern. (p. 76)

A significant occurrence in the history of legislation for vocational education in the United States was to occur in 1983. Senator Carl D. Perkins, who was still chairman of the appropriations sub-committee for elementary, secondary and vocational education, was killed in an airplane crash. As a memorial to him, the reauthorization of the Vocational Education Act of 1984 was brought to rapid consensus and it was agreed that this legislation would be renamed in honor of Senator Perkins. The year, 1984, witnessed the renaming of vocational education legislation and the addition of the

term applied technology to the focus of legislation. This new legislation, the Carl D. Perkins Vocational and Applied Technology Act of 1984, had two major purposes. First, it directly addressed services to individuals who were members of special populations, i.e., the handicapped, the educationally and economically disadvantaged, single parents, foster children, those not properly served because of sex bias, and those with limited English proficiency. Second, this legislation focused on the term "applied technology" to emphasize the importance of integrating academic learning into the vocational setting.

The intent of the legislation set in motion in 1984 was continued when the United States Senate on April 5, 1990, approved Senate Bill 1990, the Carl D. Perkins Vocational Education Act reauthorization bill, by a vote of 96-0. Through the reauthorization bill, there was one major shift in responsibility for planning and implementing the intent of the legislation for the next five years. Meers and West (1992) described this major change.

> Previously, federal government and state educational agencies primarily guided federally mandated services. Now, under the newly reauthorized Act, local and state educational agencies have much more flexibility in designing and implementing vocational programs and services. Local educators who were mainly responsible for delivering programs and services are now charged with the responsibility of designing improved programs (p. 4).

Several key elements of the 1984 legislation that were maintained and/or strengthened in the 1990 reauthorization bill that have particular emphasis for this study included the following: (1) A state could spend up to 50% of state grant funds for postsecondary education to serve economically and/or educationally disadvantaged families or individuals, minorities, individuals with limited English proficiency, or individuals with disabilities; (2) the funds could be used to prepare such individuals to enter the job market; and (3) funds made available must be used in postsecondary institutions serving high concentrations of disadvantaged individuals. Finally, the reauthorization bill was persuasive in its new language that strengthened the goal of providing a range of vocational-technical education options for all students. According to Kochlar (1993):

> The new language of the reauthorization bill embraced the powerful principle of greater student self-determination and ability to participate in their own futures and in the economic and social mainstream of their communities. The language of the bill provided assurances that the educational system would make good on its nearly four decade old promise to provide equal access to education for all individuals, of all races, backgrounds, and abilities. (p. 46)

Participation of Adults in Formal Education

Motivation Toward Education

Critical to this study was the understanding of human motivation and the impact of motivation on the decision by adults to participate in formal educational activities. Early recognition of the need for relevant and quality educational opportunities to motivate adults toward participation was noted by Kempfer (1955).

> Adults demand education with intrinsic merit, education that serves their recognized needs. When an educational activity helps them solve their problems and make behavior changes that they want and need to make, they will participate in great numbers. Only when adults are forced by social or economic pressure to acquire a diploma will they pursue classroom activities that are unrelated to their real concerns. (p. 31)

Supporting and expanding this early insight into motivation, Peers (1966) reminded adult educators of their crucial role in motivating adults toward participation. "The adult education movement has a duty not merely to teach, but also to awaken and stimulate those adult interests which alone can provide the conditions under which teaching can be wider spread and more effective" (p. 203).

A more recent study by Tough (1978) supported the responsibility that educators have in stimulating adult interest in learning. His study pointed out the surprising fact regarding how much time adults spend each year in educational activities. He estimated the time as follows.

"Adults spend a remarkable amount of time each year at their major efforts to learn. In fact, a typical learning effort requires 100 hours and the typical adult conducts five of them a year" (p. 253).

In the field of adult education, the concept of motivation was frequently utilized to understand why individuals do what they do. Many researchers have attempted to answer the question of why adults participate in educational activities. Kidd (1973) attempted to simplify the complex question of motivation toward education through his research.

> The interest that has been aroused in all fields of education is a form of recognition that learning is performed by the learner. To simplify what is a complex field, it can be said that there are two main views of human motivation, need reduction and positive striving. In the first view, need reduction, it is asserted that the individual's motivation to perform a variety of activities arises from the necessity of fulfilling basic or survival needs. The second view, positive striving, has many formulations, most of which claim that a potent motivating force is self-fulfillment and the need for a human being to enhance his relationships within society. (pp. 102-103)

Foremost among the studies of adult motivation toward education was the work of Houle (1961). In his study, The Inquiring Mind, Houle analyzed the general concept of motivation. He established that:

> The desire to learn, like every other human characteristic, is not shared equally by everyone. To judge from casual observation, most people possess it only fitfully and in modest measure. But in a world which sometimes seems to stress the

> pleasures of ignorance, some men and women seek the rewards of knowledge--and do so to a marked degree. No sharp line divides such people from the rest of mankind. Everyone might be placed somewhere on a single scale ranging from the most avid to learn to the most incurious, if only we knew what kind of progression to set up and how to establish its stages. But even those at the lowest end of any such scale would still have some wish to learn. (pp. 3-4)

Following the work of Houle, researchers began to study the distinctive factors inherent in adult motivation toward education. Kidd (1973) speculated on the concept of intrinsic motivation as well as on self-imposed barriers to participation in educational activities.

> Adults can, and do, learn well all through life. But why does learning happen in some cases and not in others, if the physical and mental equipment is functioning? A typical answer is that the learner was not motivated. The interests, needs, and motivations of any learner are primarily a matter of emotions, not of the intellect. Any learner, in a classroom or elsewhere, brings to the learning transactions such feelings as self-esteem, fear, jealousies, respect for authority, need for status and prestige, and so on. (pp. 93-94)

Seaman and Fellenz (1989) studied the impact of individual learning needs on the adult's motivation to participate in education. Their study reported, "Regardless of what it may be, it is always the felt need or goal which motivates individuals to pursue their education in spite of the many obstacles that may loom in their way" (p. 9).

The Factor of Disadvantage in Motivation Toward Education

In reviewing the literature regarding the factors that motivate adults to participate in educational activities, Cross (1991) reported participation patterns which related to the life situations of adults.

> Research in the field of adult education regarding the participation patterns of adults in learning activities related consistently and logically to the life situations of the respondents. People who do not have good jobs are interested in further education to get better jobs. People who have good jobs would like to advance in them. Women, factory workers and the poorly educated are more likely to be pursuing education in order to prepare for new jobs, where as men, professionals and college graduates are more likely to be seeking advancement in present jobs. Men are more interested in job-related learning than women are, and young people are far more interested in it than older people are. (p. 91)

Webster's New Universal Unabridged Dictionary (1992) defined the human condition of being disadvantaged as "absence or deprivation of advantage or equality; lacking the normal or usual advantages; and the state of being in an unfavorable circumstance or condition" (p. 408). For the past 50 years, the conscience of the American nation has been tested by the paradox of the presence of disadvantaged segments of the population in a nation that prides itself in the premise of equal opportunity for all. Fueling the national conscience is the growing recognition of the negative economic and sociological impacts of the condition of being a disadvantaged adult in America. Analogous with

this growing consciousness and recognition has been increasing reliance on the capacity of postsecondary vocational education to alleviate disadvantage for segments of the national population through education leading to gainful employment. This reliance on vocational education has resulted in national legislation focused on providing postsecondary vocational education institutions with incentives to recruit and educate adults who are disadvantaged. As a result, research in the field of adult education has increasingly turned its attention to the general understanding of human motivation as it is related to participation in educational activity and to the specific study of the impact of disadvantage on motivation to participate in and succeed in educational activities.

Early studies regarding human motivation toward education were conducted by (Boshier, 1973; Maslow, 1970; Miller, 1967; Rubenson, 1977; Smith & Martin, 1972; Vroom, 1964). Each of these studies contained relevant information regarding motivation as applied to the condition of being a disadvantaged adult. Foremost among these early studies was the work of Maslow (1970). His work as a pioneer in the study of human motivation has stood the test of time and continues to provide a framework for the contemporary study of motivation toward education. Maslow developed a model expressing the hierarchy of human needs. He concluded that individuals strive to achieve complete self-identity through

the development of their full potentialities (p. 23). Of particular relevance to the attempt to understand the participation and retention patterns of disadvantaged individuals in educational activities was Maslow's conclusion regarding the operation of the human needs hierarchy. In summary, Maslow concluded that (a) gratification of need on each level of the hierarchy, beginning with the lowest level, frees the individual to pursue higher levels of gratification, (b) on the whole, an individual is not free to pursue a higher level need until lower level needs are fulfilled, and (c) generally, participants in formal educational activities are those persons whose basic needs have been met so they can be principally motivated by their needs to actualize their highest potentialities (pp. 89-93).

Vroom (1964) moved beyond Maslow's conclusions of basic survival or external needs as principal barriers to motivation to participate in formal learning activities. He concluded that the removal of external barriers alone would not result in a spontaneous motivation in the individual to seek out adult education as a means to moving closer to self-actualization and that there are internal factors of motivation to be considered (p. 7).

Miller (1967) utilized Maslow's hierarchal needs theory as the foundation to more specifically study the relationship between socioeconomic status and participation

in adult education. From his study, he concluded that there are large differences between the social classes in regard to the outcomes they hope to attain from participation in adult education. Explicitly, those adults with a high school education or less were interested in job-related education while those who were well-educated and not worried regarding basic survival needs were motivated to pursue education for personal and professional development (p. 22).

Particularly relevant to the study of factors that motivate disadvantaged adults toward educational activity was the work of Boshier (1973). Through his study, Boshier forwarded the theory of congruency of self. He proposed that congruency of self was related to congruency of the individual with their ideal self as well as with other students, teachers, and the institution as a condition necessary to successful participation in adult education (p. 259). Especially thought provoking, as related to the factors of motivation and disadvantage, were two of Boshier's conclusions which are summarized as follows: (a) The low participation rate in educational activities of adults from lower socioeconomic classes reflect the lack of congruency between the reality of their lives and the fundamental middle class environment of postsecondary education; and (b) that individuals who have a high level of dissatisfaction with self (low self-esteem) often project

the dissatisfaction with self to the educational environment and drop out (p. 260).

Rubenson (1977) utilized the previous work of Vroom (1964) and Miller (1967) to continue to develop a theoretical model of the forces at work in motivating adults to participate in adult education activities. In explaining his theory of adult education, Rubenson made a particularly powerful statement regarding the need to assimilate the nation's educationally disadvantaged groups into adult education activities.

> To correct the social bias of adult education recruitment, a system of recurrent education needs to include positive discrimination in favor of the nation's educationally weakest groups. In addition to socio-economic measures, greater interest will have to be devoted to the total living situation of these individuals. Participation in adult education is not an activity apart from the rest of the individual's life, it is closely bound to the various roles occupied by the adult, such as the family role, the vocational role, the social role and the leisure role. In order to be able to take the right measures to realize the idea of recurrent education, we must improve our understanding of the reasons why adults participate in education and the factors which influence their motivation. (p. 32)

Disadvantaged Adults as Learners

There has been a growing concern for the nation's disadvantaged adults based on the potentially negative impact that these individuals present to the current and future societal and economic welfare of the United States. In response to this growing concern, federal and state

legislative efforts have focused on postsecondary vocational education as a means to assimilate greater numbers of these disadvantaged adults into vocational education leading to gainful employment. As a result of these legislative efforts, a great deal of pressure has been placed on the field of adult education to fully understand the personal factors disadvantaged adults bring to the learning setting as well as to understand the difficulties disadvantaged adults encounter in attempting to successfully complete vocational training programs. This pressing need to reach and serve the disadvantaged adult learner has kindled an enlarging area of research in the field of adult education. Smith and Martin (1972) studied the personal characteristics of disadvantaged adults. The characteristics they defined continue to have relevance for understanding disadvantaged adult learners in the 1990s. This study defined that "the disadvantaged adult was most often a disadvantaged child who had a history of school failure due to inadequate parental guidance, isolation from the main stream of American culture, inadequate curriculum, and/or inadequate nutrition and housing" (p. 11). Their study also supported the hierarchial needs findings of Maslow (1970) when they stated, "Even though the educational program may be important to the disadvantaged adult, sheer survival needs will have priority over it" (p. 14). Smith and Martin (1972) carried their research beyond the identification of

personal factors related to being disadvantaged and studied the characteristics of disadvantaged adults as learners. They determined the following:

> (a) Disadvantaged adults tend to be pragmatic learners as do many middle class adults. Some of the most effective learning is related to the need to get a job, receive a promotion, or avoid being cheated; (b) they want to be treated with dignity. If in the learning laboratory, these students are treated like inferiors, they will leave the program; (c) they are like other adults in that they are interested in learning in a flexible situation where they are treated as independent learners where they can progress at their own rate and not some artificial time module rate; (d) like other adults, disadvantaged adults have their dream worlds. Some come to the learning setting with unrealistic or long-term objectives. These objectives may be modified through counseling and through an attainable short-term objectives. This permits early success and this success offers motivation toward the next goal. (pp. 11-13)

Wells and Ulmer (1972) conducted research to provide insight into the appropriate administration of educational programs which targeted disadvantaged adults. In the summary of their study they stated, "Enticing the disadvantaged adult to enroll and preventing him from dropping out requires infinite knowledge of the psychology of the disadvantaged and skill in meeting his needs" (p. 5). They further explained the difficulty inherent in administering programs for disadvantaged adults.

> Those disadvantaged adults for whom the programs are intended are difficult to reach, difficult to teach and difficult to keep. They have been losers in the game of life who are trying to recoup their losses, with deep misgivings over whether they will win or add another loss to the record. They come in doubt, learn with

> difficulty, and remain only because of the ingenuity of their instructors. They are not intimidated by tardy bells, compulsory laws which require slavish attendance, or by those who live and breathe by the rule book. Their answer to such establishmentarianism is to rejoin the growing army of drop-outs. (p. 7)

The personal characteristics of disadvantaged adults as learners which were identified by Wells and Ulmer in their 1972 study continue to have contemporary relevance.

> The disadvantaged adult has often become apathetic as a result of numerous failures in previous efforts; they are likely to suffer from poor self-concept; they will often show hostility toward institutions which can help them the most because of previous real or imagined experiences in dealing with them; and, they are fearful of authority and often distrust those around them who are in a position to assist them. (p. 14)

Johnson (1991) utilized the term "nontraditional" (p. 1) to characterize disadvantaged adult learners who, "due to their unique situations, individual characteristics, and personal needs, experience additional barriers or difficulties in successfully completing postsecondary education programs" (pp. 1-2). He continued his description of these adult learners as follows:

> Researchers have tended to view the nontraditional student as older than the typical student attending a postsecondary education program, academically and/or economically disadvantaged (e.g., high school dropout, welfare recipient, single head of household), racially or ethnically different, in possession of special learning needs (disabled), or non-English speaking. (p. 2)

Brown, Fjeld-Joseph, and Wotruba (1992) utilized the term "at-risk learners" to describe disadvantaged adults in

postsecondary vocational education programs. The description of the personal characteristics of these adults, as related to their interaction with the educational environment, provided particularly relevant information regarding the efficacy of postsecondary vocational education programs in meeting the special needs of disadvantaged adults as learners.

> Students who perform below their ability levels, who are unwilling or unable to invest sufficient effort to fulfill program requirements, or who display inappropriate behaviors are likely to drop out before attaining educational and career outcomes commensurate with their ability levels. These at-risk adult learners frequently become discouraged when they encounter educational environments that they perceive as noncaring, as unwilling to respond or understand their unique attributes, and/or as being unable to accommodate their special learning needs. Such students often experience increased and ongoing feelings of stress. Because of this, increasing alienation emerges as a consequence of inability to effectively manage the stresses associated with their educational programs. Such circumstances diminish their abilities to attain their educational goals, thereby increasing their tendencies to drop out. (p. 1)

Disadvantaged Adult Participation in Postsecondary Education

The early studies of the participation patterns of adults in postsecondary education revealed low enrollment of disadvantaged segments of the population. Johnstone and Rivera (1965) reported that one of the most persistent findings emerging from their inquiry was that "a great disparity existed in involvement in continuing education of

segments of the population situated at different levels of the social hierarchy" (p. 231). According to Cross (1981):

> Enrollment statistics document the socioeconomic elitism of adult education. The following groups are seriously underrepresented in organized learning activities today: the elderly, blacks, those who failed to graduate from high school, and those with annual incomes under $10,000. Even those who are looking for work, who presumably have the time and the need for further education, are less likely to be participating in educational activities than those with jobs. (p. 53)

Contemporary participation studies have, on an increasingly frequent basis, considered the factor of being disadvantaged either by reason of educational background, socioeconomic status, or handicapping condition. A study that has particular relevance to the current problem of how to effectively assimilate disadvantaged adults into postsecondary vocational education was conducted by Anderson and Darkenwald in 1979 (as cited in Cross, 1981). Through their work they attempted to explain the low participation rates of the lower socioeconomic classes. Their complex statistical analysis revealed that:

> Educational attainment exerts its powerful impact on adult education participation relatively independently of other components of socioeconomic status, such as income and occupation. High school graduation seems to hold special significance. The adult learning participation rate for those completing two years of high school is 4.1%; for those with three years of high school, it is 6%; for high school graduates, it surges ahead to 11%. One possible explanation is that dropping out of high school is generally considered failure in our society, and high school dropouts, having experienced educational failure once, are not eager to try again. Therefore, if

> the poorly educated are to be attracted into learning activities as adults, the major problem may be to overcome their childhood experiences with school and their doubts about their ability to succeed there. (Cross, 1981, p. 55)

Further information provided from this study revealed that, after educational attainment, the most powerful predictor of participation in adult education is age. "Both interest and participation in education start to decline in the early 30s, and continue to decline gradually through the 40s with a precipitous drop for those 55 and older" (Cross, p. 57). The study also found that "race and family income, in and of themselves, have little direct effect on educational participation. Rather, the severe underrepresentation of these groups is due largely to other factors associated with poverty, especially low educational attainment" (Cross, p. 58).

Contrary to the findings of the early participation studies which identified low participation rates for disadvantaged adults, studies conducted in the 1980s revealed that "throughout the United States, disadvantaged students represent an increasing proportion of the undergraduate student population and this trend may continue as the number of traditional age college students decreases" (Johnson, 1991, p. 4). The National Institute of Education (1984) reported that of the 12 million college students enrolled in 1984, over half of the undergraduate students were women, two out of five were over 25 years old, and more

than 40% attended college part-time (p. 2). The study of student demographics completed by Astin (1975) revealed a "growing diversity among postsecondary education students in terms of racial and ethnic background and socioeconomic status" (p. 26).

Will (1984) focused his study of participation in postsecondary education on the enrollment trends for individuals with disabilities. He reported the following:

> A large number of the adolescents with disabilities who are now in high school are among the first age cohort of students receiving legislatively mandated public education services. Many of these students have had at least ten years of public education guaranteed by the Education for All Handicapped Children Act enacted by Congress in 1975. Nationally, about 251,000 to 300,000 youth who receive the benefits of special education programs will exit each year from their programs. These numbers are significantly up over recent years. Many of these young people will need to access postsecondary vocational training as a means of enhancing their future employability. (pp. 3-4)

Johnson (1991) summarized the impact of the two trends in enrollment, increasing diversity in student populations and increasing numbers of students with special needs, on postsecondary vocational educational institutions.

> The enrollment data of the 1980s suggests that there is a growing trend toward serving increased numbers of disadvantaged students in postsecondary vocational education. This should be viewed as positive evidence for the need to promote appropriate programs and services for these individuals. A fundamental shift in organizational philosophy and practice may, however, be required to meet this challenge. In most cases this will require more than a simple fine-tuning of existing institutional policies,

> programs, and practices. A more in-depth understanding as to why students drop out, why they stay, and what appears to make a difference in enhancing their retention are critical questions for researchers and vocational education practitioners. (p. 60)

Attrition and Persistence in Postsecondary Education

Tinto (1987) introduced his study of the dimensions and consequences of student attrition from postsecondary education with a disturbing statement that "more students leave their college or university prior to degree completion than stay" (p. 1). Tinto's statement regarding the high rate of attrition from higher education is well supported by the United States Department of Education (1993) which provided the following information:

> Recent years have seen a great widening of access to postsecondary education. A larger proportion of the U.S. population that ever before and a larger proportion than in any other nation enjoys the advantages of education beyond high school. But the open door to postsecondary education too often proves to be a revolving door. Of the roughly 2.6 million students entering degree programs in higher education each year, over a million never receive a degree. (p. 5)

The review of the literature in the field of adult education regarding attrition from postsecondary education revealed that the attrition rate of 50% as reported by the Department of Education in 1993 has remained constant since the first national study was completed in the 1930s. The literature also revealed that there are two differing positions, on the part of adult educators, regarding the

meaning of attrition from postsecondary education. Some educators view attrition as a two pronged failure, i.e., failure on the part of the individual to complete a plan of study and failure on the part of the institution to retain the individual until completion. Other educators view attrition, withdrawal from college, and dropping out or stopping out as having positive benefits for the individual as a learning or growth process.

Of particular relevance to the current study of disadvantaged adults in postsecondary vocational education were the conclusions of researchers regarding the attrition rate from two-year colleges. Cope and Hannah (1975) found that:

> The rate of dropping out among community college students is apparently considerably higher than rates at four year colleges. Nationally it appears that approximately one half of community college students do not return for their second year and only about half of the remaining students go on to complete requirements for an associate degree. (p. 2)

Iffert's 1957 study of attrition (as cited in Cope & Hannah, 1975) found "striking differences in attrition rates among the various types of colleges, with dropouts occurring more frequently in technological institutions, teachers colleges and publicly controlled institutions" (p. 28). Astin (1975) concluded that "students of comparable ability had somewhat better chances of returning for a second undergraduate year if attendance was at a four-year college" (p. 6).

Concern regarding the negative aspects of attrition on the individual and the institution was well summarized in the literature. Cope and Hannah (1975) reported the negativism which is frequently applied to dropping out of college. "The word 'dropout' is defined in terms of permanent failure to obtain a degree from any college" (p. 2). Tinto (1987) discussed "the departure of so many students who had apparently enrolled with the optimism of wanting to complete a program of study" (p. 1).

> The consequences of this massive and continuing exodus from higher education are not trivial, either for the individuals who leave or for their institutions. For individuals the occupational, monetary, and other societal rewards of higher education are in large part conditional on earning a college degree. (p. 2)

From the growing body of attrition research, a clearer understanding of the factors that influence students to leave or of how these factors might be influenced to encourage higher rates of completion has begun to emerge. Cope and Hannah (1975) identified factors that contribute to student attrition. They distinguished between two types of dropouts, those who may have never intended to complete a program of study and those who originally intended to complete a program of study.

> Leaving college before graduating is often considered a unitary act when in reality it includes a number of distinct phenomena. Some students may enter college with no intention of completing the degree program, perhaps merely to satisfy parental wishes, to marry, or to avoid

> employment. For some dropping out is an expression of an original plan. (p. 11)

The initial research regarding attrition from postsecondary education primarily concentrated on student characteristics as a means to predict who would persist and who would leave. Typical of this approach to the study of attrition was research conducted by Chambers (1965), Chickering and Hannah (1969), and Marks (1967). Student characteristics that were utilized to predict who would drop out or who would not drop out of college prior to graduation included the following: pre-college academic aptitude indicators, i.e., high school grade point average, rank in class, and aptitude scores; gender; financing for college; socioeconomic status including parents' educational background, occupation, and income; college major; commitment to goal; high school size/location; college size/location; personality factors; and psychological stress.

Cope and Hannah (1975) criticized the adequacy of these attrition studies which concentrated on student characteristics:

> Attrition studies attempt to ascertain the characteristics of dropouts versus nondropouts without considering the characteristics of the institution they are leaving. This approach is inadequate. Dropping out is an interaction between an individual and an institution. The student likely to drop out of a liberal arts college may be very different from the dropout from a traditional religious college. (p. 9)

Studies, such as those conducted by Astin (1975), Cope and Hannah (1975), Long (1983), and Tinto (1987), demonstrated a growing awareness of the combined impact of student and institutional characteristics on attrition and retention. The conclusion of these studies emphasized the strong influence of the student's connection with the institution as a factor in attrition or persistence. Typical of the conclusions of these studies was the conclusion of Tinto (1987):

> The social and intellectual integration of students in the institution's life are necessary conditions for retention. One would expect institutions with low rates of departures to be those which are able to more fully integrate their students into their social and intellectual life. Conversely, institutions with high rates of departure are more likely to be those which are unable to do so. (p. 104)

He pointed out that lack of integration arises from two sources, incongruence and isolation.

> These two concepts, though distinct from each other, are both linked to social interaction. Incongruence refers to that state where as a result of social interaction, individuals perceive themselves as being substantially at odds with the institution. Isolation on the other hand, refers to a state where no, or insufficient, social interaction occurs. (p. 53)

Personality studies have been frequently used to develop a psychological profile of the student who drops out as compared to the student who persists. Suczek and Alfert (1966) studied students who were dropouts. They concluded that dropout students valued sensations, were imaginative,

enjoyed fantasy, and were motivated by rebelliousness (p. 78). They also found that withdrawing students, especially those leaving in good academic standing, were on the average autonomous, mature, intellectually committed, and creative men and women who were seeking a less conventional, enriched education (p. 79). Astin (1964) studied personality as a factor in attrition. He found that "leavers were more aloof, self-centered, impulsive, and assertive than stayers" (p. 65).

The literature regarding the study of attrition and persistence in postsecondary education demonstrated some skepticism regarding the validity of utilizing personality characteristics to predict attrition or persistence patterns among students. Cope and Hannah (1975) contended, "Even with the results of several personality studies which utilized an instrument specifically prepared for the study of college students, it would be less than accurate to say there is an emerging personality profile of the student who is likely to complete college" (p. 26). Tinto (1987) reported his conclusion that the role of personality in attrition had not yet been well defined. He stated, "The role of personality in attrition is still unresolved. We have yet to discern anything resembling a personality of departure" (p. 89).

Conversely, these same researchers were prompt to support the need for further research regarding the

relationship between specific traits of personality and attrition. Cope and Hannah (1975) contended:

> The studies which have attempted to relate attrition to individual personality characteristics have tended to be concentrated at the level of very general personality functioning rather than at the level of specific attitudes toward values. The usual attempt has been to look for certain basic personality characteristics that would help to arrive at a generalized consent of "dropout personality" rather than for those types of individual orientations that might have differential relevance for attrition in different types of institutional settings. (p. 27)

Tinto (1987) stated his support for the need to further study personality as a factor in attrition as follows:

> There may be specific traits of personality which, on the average, tend to describe real differences between the patterns of response of persisters and leavers. Individual responses to situations are necessarily dependent upon their individual personalities. We sense that personality must play a part in student departure, we are thus far unable to say just how different elements of personality affect student leaving in different institutional settings. (p. 79)

An outcome of Tinto's (1987) work was the development of a new paradigm for comprehending the phenomena of dropping out of higher education. He stated, "Not all forms of dropping out of higher education can be categorized as an institutional, educational, or personal failure. Individuals may understand their departure as representing quite positive, rather than negative, steps toward goal attainment" (p. 132). According to Tinto (1987), "Understanding the educational intentions and commitments

with which individuals begin their collegiate careers" is of paramount importance for institutions.

> Many individuals enter college without a clear goal, others change their goals. A potentially large number of individuals will choose to depart from an institution of higher education because they no longer see that further participation in that institution serves their best interests. (pp. 132-133)

For the institution to categorize these student decisions as failure, he determined, was "a misapplication of the term dropout" (p. 134). He concluded, "It may be in the best interests of both students and the institution that the latter act to assist the leaving of some students to other settings which may be more suited to their needs and interests" (p. 134). He continued his assessment of the phenomena of dropping out with the following conclusion, "It is when individuals also view their leaving as failure that the term 'dropout' is best applied" (p. 133).

Tinto (1987) presented his profile of the true dropout as "those persons whose goals are compatible with the institution and whose commitments and capacities are sufficient to achieve those goals" (p. 134). He concluded that "their inability to complete a reasonable college program represents both a personal failure and an institutional failure, a failure of the institution to assist those who enter the institution able and desirous of completing their educational program" (p. 134).

Attrition and Persistence Applied to Disadvantaged Learners

Johnson (1991) provided an excellent introduction for the review of the scope of attrition from postsecondary education as it applies to the disadvantaged adult and of the challenges this problem presented for postsecondary institutions. He stated:

> Throughout the United States, nontraditional students represent an increasing proportion of the undergraduate collegiate student populations. Given high rates of student attrition in postsecondary education programs, coupled with increasing diversity in the composition of student populations, educators will need to improve strategies to maximize the holding power of postsecondary education programs in the decades ahead. (p. 4)

A review of the literature revealed very few systematic efforts to investigate disadvantaged student attrition in postsecondary education. Johnson (1991) contended, "Although dropout rates among disadvantaged students are notoriously high, research devoted exclusively to documenting dropout rates among these students is virtually nonexistent" (p. 11). Currently information regarding disadvantaged students must be gleaned from the information regarding the general population of postsecondary students. A contemporary study of attrition from postsecondary education was completed by Tinto (1987). Typical of the majority of attrition studies, he utilized comparative data on students by gender, race, social status, and academic

ability levels. By reason of the fact that he utilized personal characteristics to describe attrition behavior, his study provided a basic source of information regarding the attrition rates for some groups of disadvantaged adults.

> Individuals of different race, ability, and social status origins differed markedly in the rate at which they left higher education within four years of entry without earning a degree. Rates of system departure were highest for hispanics and blacks (65% and 55% respectively). Persons of lowest academic ability were more than twice as likely to depart as were individuals of highest academic ability (72% compared to 34%) while those of lowest social status were approximately 60% more likely to leave than were those persons of highest status (61% compared to 36%). Males and females left at nearly the same rate (46.9% and 46.1%). (p. 8)

Rural Residency and Attrition

The review of literature related to attrition and persistence in postsecondary education revealed that college students from rural communities appear to be at greater dropout risk than their counterparts who are from urban areas. Since Montana is a rural state, this factor had particular significance for the study of disadvantaged adults enrolled in postsecondary vocational education at Montana State University College of Technology in Great Falls, Montana. Indications from the literature were that rural residents encounter additional barriers to persistence in postsecondary education. Astin (1975) found that "growing up in a small town is consistently related to dropping out of college prior to completion" (p. 37). In

support of this contention he stated, "Presumably, students who were raised on farms or in small towns are less well-prepared to deal with the interpersonal stresses and bureaucratic procedures of large, complex institutions than students who have grown up in large cities" (p. 138).

Ackerson (1967) reported, "The incentive to go to or remain in college is not as great in rural America" (p. 1). Edington (1971) noted, "Rural young people do not see education as the answer to their problems. They have low self-esteem and feel helpless in conquering environmental handicaps" (p. 1). Brown (1985) studied the problem of college attrition as related to students from rural communities. He indicated that students from small high schools were more likely to drop out of postsecondary education than students from large schools. He reported that the social factors affecting the rural student dropout rate are "low economic status, low family expectations, and geographic isolation" (p. 3).

The literature also addressed gender as a factor in the high rate of attrition for rural residents. Cosby and Stevens (1979) stated, "The social environment of rural communities also influences the attitudes of high school students toward college. The impact is felt most by female students. Rural high school seniors tended to restrict their occupational preferences to traditional female pursuits" (p. 94). Chu (1980) expanded on the impact of

gender on career and educational decision making for rural women. "Rural women will conform to the traditional norms concerning women's proper place in the home, with the children and supportive of the spouse's endeavors" (p. 179).

Several references in the literature cited research which had studied the impact of non-academic factors on the rural student dropout rate. Aylesworth and Bloom (1976) found that "a lack of social and interpersonal interactions, as experienced in high school, could be a contributing factor" (p. 240). Anderson (1974) stated, "The rural student who faces difficulty in adjusting to college life, and who does not perceive the campus as a desirable setting may withdraw from college rather than face a situation which is emotionally untenable" (p. 192).

Dropout Intervention Strategies

Recent federal legislation, embodied in the Carl D. Perkins Vocational and Applied Technology Act of 1990, was drafted to encourage postsecondary vocational education institutions to develop support services to enhance the participation of disadvantaged adults in vocational education programs. Faced with a diverse array of disadvantaged students enrolling in postsecondary vocational education programs, educators are increasingly concerned with the dual challenge of how to provide quality educational experiences while also seeking to enhance these

students' chances of attaining their educational goals. Because of these concerns, postsecondary educators and institutions are exploring services, strategies, and programs for improving the retention of students who come to the learning environment with special learning needs. According to Brown, Fjeld-Joseph, and Wotruba (1992), "As professional and legislative efforts have evolved to assimilate greater numbers of disadvantaged adults with special learning needs into postsecondary vocational education, insufficient attention has been directed to the unique challenges that the natural diversity of these students' lives present to educators" (p. 1). Johnson (1991) stated, "Additional information is needed on the organizational, environmental, and personal factors that will increase the probability of disadvantaged students having success in completing their vocational programs" (p. 1).

The literature in the field of adult education which addressed the continuous problem of a high attrition rate from postsecondary education also addressed the practical question of what education institutions can do to increase student retention. Tinto (1987) contended:

> Institutions must devise student retention assessment systems that assess the character of student experiences within the institution in such a way as to lead to the determination of how those experiences are linked to different forms of student progression and departure. More importantly, institutions must be able to reliably

> discern how their own actions impact upon the forms of student departure they seek to remedy. (p. 138)

Researchers who focused on the problem of the continued high attrition rate from postsecondary education, also focused their attention on the retention of students. These studies provided recommendations for institutional strategies that could be adopted or adapted to encourage students to persist until graduation. Key research in the area of retention was conducted by Astin (1975), Bowker (1991), Cope and Hannah (1975), Long (1983), and Tinto (1987).

A contemporary study regarding strategies to successfully retain students in postsecondary education was completed by Tinto in 1987. This study provided educational administrators and faculty with an extensive summary of successful retention practices. He began the summary of his work in student retention practices with a pair of conclusions that provided interesting insight into the dimensions of institutional responsibility for the retention of students. Through his first conclusion, he identified that the first step in institutional action for retention must be the definition of institutional mission. Definition of the central mission of the institution would provide the framework from which retention practices could flow.

> If the institution deems that its central mission calls for retention of its most able students, then it should focus its actions on that segment

> of the student body. If, however, it sees itself as providing guidance for maturing adults to further their education, as is often the case among two-year colleges, then it may be concerned with that form of leaving which does not lead to further education. For a number of institutions, the answer to the critical question of educational mission may often lead to the recognition that in seeking to retain some students, they may have to act so as to encourage the leaving of others. (p. 135)

His second conclusion regarding the dimensions of institutional responsibility in student retention expressed his opinion regarding the "duty of higher education institutions to attempt to educate all those who enter, regardless of their goals, commitments, and capacities" (p. 135).

> Though it is in a very important sense true that institutions owe each admitted student an equal degree of attention, it does not follow that institutions should be held accountable for the equal education of all admitted students. To absolve individuals of at least partial responsibility for their own education is to make a serious error. To do so denies both the right of the individual to refuse education and the right of the institution to be selective in its judgements as to who should be further educated. (pp. 135-136)

Tinto (1987) prefaced his recommendations for institutional action to promote retention of students with the following insight:

> The point of retention efforts is not merely that individuals be kept in college but that they be retained so as to be further educated. At some point institutions will have to ascertain not only how likely different forms of action are to yield acceptable returns in student retention but also which students are likely to benefit most from those actions. (p. 136)

Research into the dimensions of institutional actions regarding student retention disclosed that all successful retention efforts shared a number of common elements. Though the design of successful programs differed as a reflection of the specific situation of each educational institution, the manner in which each institution approached the task of retention tended to be very similar. Tinto (1987) categorized the similarities among institutional retention services into six institutional principles that he stated were basic to the provision of successful retention services for students. These six principles were the following:

1. Institutions should ensure that new students enter with or have the opportunity to acquire the skills needed for academic success;
2. Institutions should reach out and make personal contact with students beyond the formal domains of academic life;
3. Institutional retention actions should be systematic in character;
4. Institutions should start as early as possible to retain students;
5. The primary commitment of institutions should be to their students;
6. Education, not retention, should be the goal of institutional programs. (pp. 138-140)

The literature which considered the problem of student retention in postsecondary education also addressed the need to consider timing in the provision of retention services. Indications are that there are several critical periods in the typical college student's career when action on the part of the institution may be particularly effective in

preventing student attrition. Astin (1975) identified when these critical periods occur:

> Prior to entry, during the period of application and preentry orientation programs, in the first semester of college when individuals are required to separate themselves from past forms of association and make the transition to the social and intellectual life of the college, and in the remaining years of college when the academic demands of the institution are or are not met by the individual and when incorporation, that is, membership is or is not established in the social and intellectual communities of the college. (p. 141)

Tinto (1987) developed a model for retention based on the impact of integration of the individual into the formal and informal academic and social communities of the college. He speculated regarding the importance of a positive relationship between members of the faculty and individual students as an effective retention strategy.

> Of particular importance for student persistence are those experiences which arise from the daily interactions between students and faculty outside the classroom. Other things being equal, the more frequent those interactions are, and the warmer and more rewarding they are seen to be by the student, the more likely is persistence--indeed, the more likely is social and intellectual development generally. (p. 87)

Retention Services in Two-Year Colleges

Of particular relevance was the discussion in the literature of the problem of retention as related to the two-year college sector. Typically, two-year colleges were profiled as being nonresidential in nature; as being located

in settings where the influence of external communities is great; as primarily serving nontraditional students who often have the multiple responsibilities of education, family, and job; as fundamentally providing terminal vocational degree programs with completion marking the end of formal education; and as often serving as the starting place for transfer to four-year colleges. In discussing the environment of two-year colleges and their consequent responsibilities in student retention efforts, Tinto (1987) concluded:

> There is no reason to suppose that two-year colleges can or should do any less to educate their students than do four-year colleges. There is nothing which argues that two-year colleges should have any less active a social and intellectual life than do residential four-year colleges. Rather, the practical avenue to the end may be somewhat different. Numbers of students, i.e., part-time, evening division, etc., enroll in two-year colleges with little time and sometimes little desire to participate in college activities. This points up the need for two-year colleges to use alternative techniques to draw students into the social and intellectual life of the college. (p. 169)

He suggested alternative techniques which included "establishment of a core program whose intent it is to help integrate individuals into the intellectual and social life of the institution and equip them with the skills needed to take advantage of the remaining college years" (p. 153); "organization of coming out ceremonies which celebrate the successful completion of the first semester" (pp. 169-170); and "establishment of greater articulation with four-year

colleges to ensure that students can, if they so desire, receive two years of coursework which serve as the practical equivalent to two years of study in most four-year institutions" (p. 170).

Disadvantaged Student Retention Programs

The literature which addressed the general problem of student retention also provided limited information regarding specific programs designed for retention of disadvantaged adults. There was general agreement in the literature that the academic transition to postsecondary education is more difficult for disadvantaged adults than it is for their nondisadvantaged counterparts of similar academic ability and that persistence for disadvantaged adults depends to a large extent on the academic support provided by the institution. Valverde (1985) concluded, "Disadvantaged students sometimes require somewhat different forms of social support than do nondisadvantaged students. Successful retention programs for disadvantaged students commonly place great stress on the provision of academic support services" (p. 23).

Endorsement of academic support services as a means to retain disadvantaged adults in postsecondary education was well supported in the literature. Cross (1981) stated her conclusion of the importance of academic support in the way

of remedial programs to enhance the disadvantaged student's ability to succeed:

> It is especially important that remedial programs, or any program designed primarily for disadvantaged adults who have experienced past failure in learning situations, be noncompetitive and non-threatening. At the same time, the learning tasks should be clearly defined, and adequate feedback and instructions for improvement must be provided. Otherwise, the opportunity for new perceptions regarding learning ability is not present. The objective is to demonstrate to failure-threatened personalities that through their own efforts they can succeed. (p. 137)

An early study completed by Cohen and Nance (1982) addressing the need for services to assist adults participating in Comprehensive Employment and Training Administration (CETA) activities addressed the changing role of student services in the 1960s and 70s. They chronicled the origins of student services wherein educational institutions embraced the dominant philosophy, "in loco parentis, to house, feed, discipline, counsel and advise the maturing adolescent and to encourage performance of which a parent would be duly proud" (p. 1). They also chronicled the changes in institutional support services that were the result of changing student demographics in the '70s and early '80s wherein increased numbers of "re-entry women, minorities, and adult learners enrolled in colleges and universities" (p. 2). Student services evolved to assume a major role in facilitating these students' adjustment to college. According to Cohen and Nance (1982):

> These students have diverse circumstances and needs which have prompted changes in colleges and universities in general and student services in particular. Day care for children, programs to remediate academic deficiencies, job development, and evening hours are just a few of the services provided by colleges and universities. (p. 2)

Tinto (1987) concluded from his studies the importance of academic support services to establish the disadvantaged adult's level of congruence with the institution as a means to increase retention.

> Centrality and marginality is particularly evident in studies of the effect of special service programs upon the persistence of disadvantaged students in institutions of higher education. Research suggests that there is an important association between student success, i.e., having a high proportion of students persist, and the availability of integrated special service programs designed to help students complete their degree programs. (p. 60)

Of relevance to the study of disadvantaged rural adults in Montana was a study completed by Bowker (1991). She studied disadvantaging conditions particular to American Indian women and the impact of such disadvantages on their persistence in education. As a result of her study she was able to isolate specific retention factors that seemed to enhance persistence for these women. In general, disadvantaged American Indian women credited their success in education "to the encouragement provided by a caring, competent adult, often a teacher, who not only modeled appropriate behaviors but also encouraged the individual and served as an advocate when necessary" (p. 288).

Retention of Rural Students

Brown (1985) provided information from one of the few studies which focused on disadvantage in higher education for rural residents. He concluded from his study of the high rate of attrition in higher education for students from small rural communities that postsecondary education institutions "must undertake intervention approaches that would support a smooth transition from the rural environment to the college environment" (p. 13). Specifically he suggested "outreach programs that provide counseling and guidance services to rural students while they are still in high school, combined with on-campus support groups for rural students entering college" (p. 13).

CHAPTER 3

DESIGN OF THE STUDY

Introduction

The role that postsecondary vocational education is expected to play in the delivery of education to prepare the nation's workforce, particularly disadvantaged segments of the population, for entry into the rapidly evolving technological and global economy of the 21st century is considered to be significant. Currently, postsecondary vocational education administrators and faculty have very little information concerning the factors, institutional and/or personal, for disadvantaged adults that impact their success in or attrition from vocational education programs. Without a clear understanding of these factors, educators charged with providing effective programs to retain disadvantaged adults in postsecondary vocational education until graduation will be hindered.

Research Design

> Human behavior is complex. Since individuals differ so much in feelings, drives, and motivations, it is difficult to arrive at generalizations with the certainty that is possible in describing aspects of inanimate objects. Progress is being made, and there is

> little doubt that, in time, we will be able to describe the cause-effect relationships of human behavior in much more exact terms, perhaps approaching the exactness that characterizes the physical sciences. (Best, 1959, pp. 4-5)

Toward a fuller understanding of one aspect of human behavior, a descriptive case study was utilized to investigate the persistence patterns of disadvantaged adults in postsecondary vocational education programs.

> While some experimental studies of human behavior can be appropriately carried on both in the laboratory and in the field, the prevailing research method of the social sciences is descriptive. Descriptive research describes and interprets what is and also goes beyond gathering and tabulating data. It involves an element of interpretation of the meaning or significance of what is described and is combined with comparison and contrast to measure, classify, interpret, and evaluate. (Best, 1959, pp. 102-103).

> The descriptive case study approach to research allows for the systematic study of a phenomenon and is undertaken when description and explanation, rather than predication based on cause and effect, is sought; when it is not possible or feasible to manipulate the potential causes of behavior; and/or when variables are not easily identified or are too imbedded in the phenomenon to be extracted for study. (Merriam, 1988, p. 7)

To support the descriptive case approach for this study which examined the participation and persistence patterns of disadvantaged adults in postsecondary vocational education, both quantitative and qualitative data were gathered throughout the research process. Quantitative data were gathered from student information documents and student academic records. Qualitative data were gathered from the

direct testimony of disadvantaged adults who related their perspective of institutional and/or personal factors that contributed to their persistence in or their attrition from postsecondary vocational education. Strong support for seeking the personal perspective of students in an effort to understand their persistence behavior was included in the recommendations made by Bean and Metzner (1985) from their study of undergraduate nontraditional student attrition. "It is argued that organizational efforts designed to enhance the retention of students in postsecondary vocational education programs should be derived from an improved understanding of the interaction between individuals and the educational environment itself" (p. 486).

It was anticipated that the use of these various techniques, quantitative and qualitative, to gather data would facilitate a more holistic understanding of the phenomenon of participation and persistence in postsecondary vocational education by disadvantaged adults. "The case study's unique strength is its ability to deal with a full variety of evidence--documents, artifacts, interviews, and observations" (Merriam, 1988, pp. 19-20).

Setting for the Study

The setting for this study was the campus of Montana State University College of Technology--Great Falls.

Information regarding Montana State University College of Technology--Great Falls was taken from the 1994 Northwest Accreditation Self-Study (August, 1994).

Established in 1969 and located in Great Falls, Montana, the College of Technology is a two-year unit of Montana's Higher Education System. One of five vocational technical colleges in the state, the College of Technology serves a vast region of central Montana from the east slopes of the Rocky Mountains, north to Canada, and northeast to the North Dakota border. In educational programs unique to the College, its service area is all of Montana as well as neighboring states and southern Alberta, Canada. Three Indian reservations are within its direct service area with unique programs serving all seven reservations in Montana.

The mission of the College of Technology is to provide beneficial and accessible education and career training programs and upgrading opportunities designed to meet present and emerging employment needs. The College strives to operate under an educational philosophy that fosters a responsive learning environment to promote personal and intellectual growth through education (Montana State University College of Technology--Great Falls, 1994a, p. 6).

The College of Technology's educational programs are organized under three departments: Allied Health, Business and Office Technology, and Trades and Technology. There are 26 occupational programs--14 are offered at the Associate of

Applied Science Degree level, and 12 are offered at the Certificate level.

The College of Technology employs a well-qualified faculty who participate in continuous professional development and evaluation of their performance to ensure effectiveness of the educational program as well as of student advisement activities. Faculty members bring to the College the educational preparation and work experience relevant to their field of study. The College has provided numerous professional development opportunities for faculty to cultivate their awareness and expertise in applying teaching methodologies appropriate for adult learners.

Each faulty member, within each of the College's three departments, is responsible for student advisement activities. The advisement process at the College has given students the opportunity to interact one on one with faculty members. Faculty advisors demonstrate a strong commitment to individual students. Most students make contact with their assigned advisors at least once each academic term.

Approximately 1,000 students enroll at the College of Technology each semester. As a group, the majority of students at the College are non-traditional in age (75%); economically and/or educationally disadvantaged (70%); female (68%); single head of households (55%); students with disabilities (10%); and minority students (10%).

Montana State University College of Technology--Great Falls has a long history of service to students who are disadvantaged. Built physically barrier-free, the College offers adaptive equipment and specialized accommodations for students with disabilities. The College was a pioneer in the provision of learning labs at the postsecondary level. These learning labs are designed to allow students who are educationally underprepared to improve their skill in English, mathematics, reading, and science. The College also offers a college success course, Master Student. This course is designed to acquaint students with the demands of college, to help them determine their goals, establish priorities, and manage their time, and to teach them effective study skills and test-taking strategies.

In 1991, Montana State University College of Technology--Great Falls applied for and received a five-year grant from the United States Department of Education under the Carl D. Perkins Vocational and Applied Technology Act of 1990. The purpose of this project was to provide occupational education and specialized services to adults who were disadvantaged by reason of economics, educational background, and/or the presence of a disabling condition in order to enhance their ability to complete a postsecondary vocational education program. The monies from this project were used to (a) hire a counselor/coordinator to plan, oversee, and evaluate the implementation and delivery of

services, to provide counseling and coordination of services to students with disabilities, and to complete required reports; (b) hire a retention counselor to provide counseling, coordination of services, and referral services for disadvantaged students; (c) hire a tutor to assist disadvantaged students in all areas of the curriculum; (d) hire interpreters for deaf students and mobility assistants for blind students; and (e) to provide faculty to teach the college success course, Master Student.

Population

The general population for this study consisted of 549 disadvantaged adults who were enrolled in an Associate of Applied Science Degree or Certificate program at Montana State University College of Technology--Great Falls in academic year 1993-94. These disadvantaged adults were served and monitored under a Carl D. Perkins Vocational and Applied Technology grant project. Their demographic and academic characteristics as well as their persistence in completing their programs of study over a two-year period of time for academic years 1993-94 and 1994-95 constituted the first aspect of the study. It was this group of disadvantaged adults who represent the "bounded system" of the descriptive case study which formulated the basic research design of this study (Merriam, 1988, p. 9).

Two subgroups from the general population of disadvantaged adults constituted the population for the second aspect of the study which was to determine factors that contributed to persistence or nonpersistence. "Qualitative researchers are interested in meaning--how people make sense of their lives, what they experience, how they interpret these experiences, how they structure their world. A researcher cannot get 'outside' the phenomenon" (Merriam, 1988, p. 19). For the second aspect of the study, importance was placed on using typical cases from the general population of disadvantaged adults to gain a trustworthy perspective of the educational experience and factors crucial to persistence in and/or attrition from postsecondary vocational education from the individual viewpoint. "Sampling typical cases (is a methodology utilized in naturalistic inquiry) to avoid rejection of information on the grounds that it is known to arise from special or deviant cases" (Patton, 1980, p. 34).

One subgroup, persisters, was composed of 20 disadvantaged adults from the general population who graduated at the end of Spring Semester, 1994. To identify participants in this subgroup, each of the 47 disadvantaged adults who graduated at the end of Spring Semester of 1994 was asked, through a written request, to participate in an indepth interview to discuss the institutional and personal factors that they thought had contributed to their success.

The 20 who were interviewed were individuals who agreed to participate in an interview. Fourteen of these respondents were female, and 6 were male. They ranged in age from 22 to 57. They represented each of the categories of disadvantage, i.e., educational, economic, and/or disabling condition. Three were enrolled in a Certificate program, and 17 were enrolled in a Degree program.

The second subgroup, nonpersisters, was composed of 18 disadvantaged adults from the general population who dropped out of their vocational program of study during Fall Semester of 1994. To identify participants in this group, an attempt was made by telephone to reach each of the 34 disadvantaged adults who had completed the Withdrawal from College Form. Those interviewed were those who could be contacted and who agreed to be interviewed. Fourteen of these respondents were females, and 4 were males. They ranged in age from 19 to 58. They represented each of the categories of disadvantage, i.e., educational, economic, and/or disabling condition. Five were enrolled in a Certificate program, and 13 were enrolled in a Degree program.

Methods of Data Collection

This study focused on participation of disadvantaged adults, served and monitored under a Carl D. Perkins project, in certificate or degree level postsecondary

vocational education at Montana State University College of Technology--Great Falls. A retrospective design was used to examine the patterns of persistence and attrition, over a two-year period of time for the 549 disadvantaged adults who were enrolled or enrolled during Summer and Fall Semester 1993. The understanding of factors that impacted their patterns of persistence during Summer Semester of 1993 through Spring Semester of 1995 was the focus of data collection efforts.

Prior to initiation of the process to collect data regarding the population of disadvantaged adults enrolled in vocational programs at Montana State University College of Technology--Great Falls, the Dean, who is the College's Chief Executive Officer, was contacted for permission to conduct a study of the persistence patterns of these students. The investigator in this study was employed by the College of Technology--Great Falls as the Associate Dean for Academic Affairs and Student Services. In this capacity, the investigator had access to the College's administrative student record keeping system which included records of disadvantaged students served through the Carl D. Perkins project. However, since the study would provide the basis for a doctoral dissertation and would be published for dissemination outside the College of Technology--Great Falls, it was necessary for the investigator to provide the Dean assurance that the anonymity and confidentiality of

students would be protected in that their names or student numbers would not be used in the study or to report the results of the study and that data regarding the study population would be reported collectively and would not be identifiable with individual students. In addition, the investigator pledged assurance of the utmost in professionalism in utilizing information and in respecting confidentiality and ethics in dealing with student information and in reporting outcomes on-campus or externally.

Being thus assured, the Dean gave his verbal permission for the study, which included access to student records to examine demographic and academic information for disadvantaged students served under the College's Carl D. Perkins project in Academic Years 1993-94 and 1994-95, access to the names of graduates for Spring 1994, information which is public knowledge, and access to the Withdrawal Forms which had been completed by students dropping out of the College during Fall 1994 (Appendix A, Letter to Dean).

Following this initial work with the Dean, demographic and academic data for the general population of disadvantaged adults who constituted the inclusive population examined in this study were collected from two sources of information--the College's central student information files and the academic transcript files. These

files yielded data which included the following for each member of the study population: age, gender, ethnicity, financial assistance and disability status, results of academic skills assessment, vocational major, participation in special services, semesters completed, courses enrolled in, grade point average, grades received, and graduation and/or attrition status. These data were entered into a dBase IV program and were then analyzed using the SPSS/PC+ statistical and information analysis system.

In addition to data regarding the general population of disadvantaged adults served and monitored under the Carl D. Perkins project, data regarding two subgroups of the general population were gathered. Disadvantaged students graduating at the end of Spring Semester of 1994 formed the first subgroup of the general population. From the list of all students graduating at the end of Spring Semester, 47 disadvantaged adults were identified. Each of the 47 graduates was contacted by a letter personally delivered at the time of rehearsal for graduation. Of the 47, 27 signified by completing the lower portion of the letter and returning it to the main office that they would participate in an interview. Ultimately, 20 of these 27 individuals were available for an interview (Appendix B, Example of Student Letter).

The second subgroup for which data was gathered consisted of the disadvantaged adults who dropped out of

college prior to completion of their program of study and in Fall Semester of 1994. From the file of all students who had completed the formal withdrawal from college process during Fall Semester of 1994, 32 disadvantaged adults were identified. Since the Withdrawal from College Form included a telephone number for each student who had withdrawn, contacting the disadvantaged adults by telephone was deemed as the most time efficient method to determine their willingness to participate in an interview. An attempt was made to contact each of the 34 individuals. Nineteen of these 34 individuals were available and/or willing to participate in an interview.

Indepth interviews with each participant were conducted using an interview guide developed for each subgroup. The interview guides consisted of topical areas and general questions to initiate discussion in each area. The interview guides were developed as a "written guide" to indicate what questions were to be asked (Gay, 1992, p. 232). The interview guides provided a format conducive to "obtaining comparable data from each participant" and assured as much as possible that all "interviews were conducted in essentially the same manner" (p. 232). The interview guides also provided a semistructured approach to the interview involving the asking of structured questions followed by clarifying unstructured or open-ended questions. "The unstructured questions facilitate explanation and

understanding of the responses to the structured questions. Thus, a combination of objectivity and depth can be obtained, and results can be tabulated as well as explained" (p. 232). Space on the interview guides was provided after each topical area or general question for the investigator to record responses (p. 233). The interview guides were piloted with students from the general population of students at the College and revised prior to data collection with graduates or dropouts who had agreed to participate in the study (pp. 233-234). Interviews lasted from 30 minutes to 1 1/2 hours.

> The interview has a number of unique advantages--when well conducted it can produce in-depth data not possible with a questionnaire. The interview is most appropriate for asking questions which cannot effectively be structured into a multiple-choice format, such as questions of a personal nature. In contrast to the questionnaire, the interview is flexible; the interviewer can adapt the situation to each subject. By establishing rapport and a trust relationship, the interviewer can often obtain data that subjects would not give on a questionnaire. (Gay, 1992, p. 231)

The topical areas and general questions for the interviews with disadvantaged adults who had graduated from a vocational program of study in Spring of 1994 explored the factors that had motivated them to enroll in a vocational program of study, their confidence regarding ability to complete, their educational background and that of family members, encouragement toward higher education from their parents, sibling enrollment, factors that contributed to

their success, usefulness of campus services, institutional assistance that was most useful, advice to the College to enhance student success, and their advice to other students to encourage persistence (Appendix C, Interview Guide for Persisters).

The topical areas and general questions for the interviews with disadvantaged adults who had dropped out of college during Fall of 1994 prior to completing their vocational program of study were similar to those asked the disadvantaged adults who had graduated. These individuals who did not persist were asked to identify the factors that had motivated them to enroll in a vocational program of study, their confidence regarding ability to complete, their educational background and that of family members, encouragement toward higher education from their parents, sibling enrollment, usefulness of campus services, institutional assistance that was most useful, and their advice to other students to encourage persistence. In addition, general questions for disadvantaged adults who dropped out were directed toward factors that precipitated the decision to drop out, identification of the point in the program where dropout occurred, and their plans to complete their education (Appendix D, Interview Guide for Nonpersisters).

At the onset of each interview with respondents, rapport was established through a general exchange of

pleasantries and a discussion reaffirming the purpose of the interview, e.g., that the investigator was conducting a study of students in anticipation of identifying information that the College could utilize to enhance student success. Assurance was given that the respondent would remain anonymous. Initial questions were general in nature giving the respondent time to "warm up" (Lincoln & Guba, 1985, p. 270). Questions became more specific as the interview progressed. The investigator attempted throughout the interview to "keep an easy rhythm and, as much as possible, to maximize information given by the respondent by respecting the 'talk turn' with the respondent" (p. 270). Care was taken that if the respondent seemed threatened by a particular line of questioning to rephrase the question or "to move on to other questions and to return to the threatening question later, when perhaps the respondent was more relaxed" (Gay, 1992, p. 233). This was of particular importance when interviewing the individuals who had dropped out prior to completion. Care was taken not to give the impression that there was any implication that they had failed or that there was any sense of disappointment in their decision. Respondents who greatly expanded questions and/or moved away from the topical area or general question were "gently brought back on target" (p. 233) in order to move the interview in a timely manner and to maximize the productiveness of the interview. In closing the interview,

the investigator invited the respondent to add any additional information or to contact the investigator if any additional pertinent information was recalled. A few respondents added additional comments at the end of the interview and these were recorded. No respondents contacted the investigator following the interviews.

The investigator maintained awareness that data collection would continue until saturation, "the point of data collection where the information you get becomes redundant" (Bogdan & Biklen, 1982, p. 64), was reached. Corbin (1986) advised that the "researcher has sufficient data when no further categories emerge from the data, the categories are well developed, the same patterns are seen repeatedly, and the data exhibit variation" (p. 93). Among the graduates, a pattern of consistent answers began to emerge at approximately the tenth interview. Among the dropouts, two patterns of consistent answers emerged at approximately the eighth interview: one for persons who had dropped out to pursue other options, and one for individuals who dropped out because of personal problems that they related had interfered with their continuance.

Interview content was preserved in two ways. First, responses were recorded on the interview guide during the interview. Second, to assure that responses were recorded accurately an audiocassette recorder was used with the permission of the respondent. "A recorder may initially

make subjects nervous, but usually they tend to forget its presence as the interview progresses. In general, mechanical recording is more objective" (Gay, 1992, p. 233). Immediately following the interview, content of the field notes was reviewed while the investigator listened to the audio recording of the interview. This process was effective to complete words or sentences abbreviated during the interview and/or to clarify information in the field notes.

For each respondent in the interviews, demographic and academic data were collected from the College's student record files. The qualitative data gathered through the interviews were sorted and categorized using a word processing program, WordPerfect 5.1.

Analysis of Data

General Population

Demographic and educational data were gathered for each of the 549 disadvantaged adults who constituted the general population for this study. From these data, 20 factors were identified to be systematically summarized by use of descriptive statistics for ease in presentation and comprehension. The descriptive data for the aggregate group included the following factors: age, gender, ethnicity, disadvantage status, academic credential, participation in

support services, cumulative grade point average, and persistence and/or attrition status.

A frequency distribution was applied to the data to determine the number of times specific factors occurred. These frequency data were presented in a frequency and percentage table to describe the population of disadvantaged adults as an aggregate group. In addition, a frequency and percentage table was utilized to describe the differences existing in the demographic and educational variables between the disadvantaged adults who persisted until graduation and the disadvantaged adults who dropped out prior to graduation.

> Much of educational research involves descriptive statistics to provide valuable information about the nature of a particular group or class. Descriptive statistics concern numerical description of a particular group. No conclusions are extended beyond the group described, and any similarity to those outside the group could not be taken for granted. (Best, 1959, p. 203)

A *t* test for nonindependent samples was utilized to compare group means on each of the discriminating factors between the disadvantaged adults who persisted and the disadvantaged adults who dropped out. The *t*-test for nonindependent samples was utilized because, "Nonindependent samples are samples formed by some type of matching. When samples are not independent, the members of one group are systematically related to the members of the second group" (Gay, 1992, p. 437).

In order to test the relative power or strength of the variables or combinations of variables that served to distinguish persisters from nonpersisters, a discriminate analysis was used to identify significant differences between the two groups. Discriminate analysis is a powerful multivariate statistical technique that has been used successfully in several recent adult education studies. This technique allows the researcher to divide the sample into meaningful groups which reflect real-life situations and to simultaneously analyze multiple variables that have the potential of explaining group placement (Conti, 1993, p. 90).

In discriminant analysis, importance is placed on analyzing the variables together rather than individually. By considering the variables at the same time, it is possible to include valuable data about how the variables relate to one another. There are two purposes for using discriminate analysis: (a) prediction of group membership and (b) describing the way groups differ. In this study, discriminant analysis was used to describe the ways in which the groups of persisters and nonpersisters differed.

Interviews

The qualitative data gathered through the interviews with persisters and nonpersisters were analyzed using the constant comparative method described by Glaser and Strauss

(1967). Drawing from this method, the investigator began analysis of the interviews at the same time as data collection, proceeding with the two processes simultaneously. Several techniques were utilized in this process. Immediately following an interview, the investigator listened to each tape, clarifying the field notes and entering comments in the margins of the notes. Beginning with the second interview, the investigator made initial comparisons between participants. As the data collection process proceeded, initial categories and patterns of responses began to emerge. A list of categories was developed from analyses of the first seven interviews. These interviews were coded, sorted, and entered into a word processing program, WordPerfect 5.1, using the identified categories to explore the usefulness of the categories and to look for patterns in the data. Throughout the data collection, these steps were followed as interviews were added.

Glasser and Strauss (1967) stressed the development of "two kinds of categories: those that the investigator has constructed and those that have emerged as categories used by the respondents--their local language and cultural terms" (p. 106). Through the interview process two types of themes or categories emerged. One type reflected investigator identified categories representative of consistent interview

questions. The second type reflected words consistently provided by the participants.

CHAPTER 4

FINDINGS

Introduction

The primary purpose of this study was to explore persistence in postsecondary vocational education by disadvantaged adults as a holistic phenomena which is influenced by both personal and institutional factors. Toward this purpose, the study focused on increasing the understanding of institutional and personal factors that contributed to the decision to persist or not persist in educational activity from the participants' perspective and to seek their individual stories regarding the factors that influenced their persistence. The study identified the group characteristics of the disadvantaged adults who made the decision to participate in postsecondary vocational education at Montana State University College of Technology--Great Falls. It also identified the characteristics of the disadvantaged adults who persisted until graduation as compared to the characteristics of those disadvantaged adults who did not.

This chapter presents the findings of the study organized by the six research questions. In response to

Research Question 1, a profile of all participants in the study was presented. For Research Questions 3 and 4, a profile of the characteristics of persisters was utilized to compare to a profile of the characteristics of nonpersisters. The results of the interviews with respondents who persisted and with respondents who did not persist as well as a profile of the demographic and educational characteristics for these respondents were utilized to answer Research Questions 2, 5 and 6.

Data

Data for this study were collected from three sources. These sources were (a) student admission records, (b) student academic records, and (c) interviews with disadvantaged adults who had enrolled in vocational education programs at the College and had either persisted until graduation or had dropped out prior to graduation. Several statistical procedures were utilized to analyze these data. These included frequency and percentage counts and distributions, *t* tests, and a discriminant analysis.

Participants

Participants in this study were the 549 disadvantaged adults who were enrolled in a vocational education program at Montana State University College of Technology--Great Falls during Summer and Fall Semesters 1993. Their

persistence was monitored over two academic years which concluded with Spring Semester of 1995. Participants in the interview portion of this study were 20 disadvantaged adults who persisted until graduation and 19 disadvantaged adults who did not.

Female students at Montana State University College of Technology--Great Falls typically constitute 65% of the total student body. Mirroring the high enrollment of females at this College, 75% of the participants in this study were female. All participants were high school graduates or held a General Education Development Certificate. The ethnic background of participants was predominantly Caucasian with the second largest ethnic group representing Montana's primary minority population, the American Indian. Ages ranged from 18 to 61 years. The majority of participants were Montana residents living in Great Falls, Montana, or in small rural communities in north central Montana. Since all of Montana is considered rural, this study represents an examination of disadvantaged adults who are also rural residents.

Profile for All Participants

> **RESEARCH QUESTION 1.** What are the demographic and academic characteristics of disadvantaged adults who participated in postsecondary vocational education under the Carl D. Perkins project at Montana State University College of Technology--Great Falls?

Procedures. The demographic and academic characteristics for all participants in the study were organized by frequency and percentage counts and are contained in Tables 1 and 2. Table 1 displays participant data for the demographic variables of gender, age, race/ethnic group, and disadvantage group.

Table 1. Frequencies and Percentages for the Demographic Characteristics of Gender, Age, Race/Ethnic Group, and Disadvantage Group.

CHARACTERISTIC	N	%
Gender		
Males	135	25
Females	414	75
Total	549	100
Age		
17-21	119	22
22-30	186	34
31-45	203	37
46-60	40	7
Over 60	1	<1
Race/Ethnic Group		
American Indian	52	10
Asian	7	1
Black	7	1
Hispanic	10	1
White	473	87
Disadvantage Group		
Financially Disadvantaged	508	93
Educationally Disadvantaged	330	60
Disability	122	22

The mean age for all participants was 32, the mode was 24, the range was 18 to 61, and almost three-fourths, 71%, were ages 22 through 45. The mean cumulative grade point average for all participants was 2.7, the mode was 2.9, and the range was 0.0 to 4.0.

Table 2 displays participant data for the academic variables of credential, i.e., degree or certificate, persistence group, and support services utilized by participants while enrolled in their educational program.

Table 2. Frequencies and Percentages for the Academic Characteristics of Credential, Persistence Group, and Support Services Utilized.

CHARACTERISTIC	N	%
Academic Credential		
Certificate	242	45
Degree	307	55
Total	549	101
Persistence Group		
Graduated	245	45
Expected to Graduate	112	20
Total Persistence	357	65
Nonpersisters	192	35
Support Services Utilized		
Used Support Services	269	49
Academic Skill Labs	265	48
Learning Course	111	20
Retention Counseling	210	38
Tutor Services	27	5
Interpreter	3	<1

As identified in Table 2, 45% of the participants were enrolled in postsecondary vocational education to obtain a Certificate and 55% were enrolled to obtain an Associate of Applied Science Degree. Forty-five percent of the participants graduated and 20% were continuing their education and were expected to graduate for a total persistence group of 65% of the participants. Nonpersisters accounted for 35% of the participants.

A total of 49% of the participants took advantage of support services provided by the College, 48% enrolled in academic skill building labs available at the College to improve their English, math, or reading skills, 20% enrolled in the learning to learn course, 37% utilized the services of a retention counselor, 5% were provided with a tutor, and less than 1% of the participants utilized an interpreter for the deaf.

In an effort to fully understand the characteristics of the participants, the data displayed in Table 3 were arranged by participant gender to display frequencies and percentages for the demographic variables of age, race/ethnic group and disadvantage group. This organization of the data facilitated a comparison to determine the level of similarities or differences between male and female participants.

Table 3. Frequencies and Percentages Organized by Gender for the Demographic Characteristics of Age, Race/Ethnic Group, and Disadvantage Group

CHARACTERISTIC	MALES		FEMALES	
	N	%	N	%
Age				
17-21	27	20	93	23
22-30	46	34	144	35
31-45	52	38	146	35
46-60	9	7	31	7
Over 60	1	<1	0	0
Total				
Race/Ethnic Group				
American Indian	9	6	43	10
Asian	0	0	7	1
Black	4	3	3	<1
Hispanic	1	1	10	2
White	121	90	351	86
Disadvantage Group				
Financially Disadvantaged	126	92	382	93
Educationally Disadvantaged	93	69	237	57
Disability	54	39	68	16

The analysis of the demographic data of participants when organized by gender generally revealed no appreciable difference between participants who were males or females for the variables of age, race/ethnic group, and disadvantage group. However, one notable difference was identified in the area of disadvantage group. A higher percentage of males were in the disability group. This

difference was likely a reflection of the high number of males who were considered disabled by reason of a job injury that necessitated postsecondary vocational training for a new career compatible with their residual physical limitations.

Table 4 contains the frequencies and percentages for the academic variables of credential--Certificate or Degree program, persistence group, and utilization of support

Table 4. Frequencies and Percentages Organized by Gender for the Academic Characteristics of Credential, Persistence Group, and Support Services Utilized.

CHARACTERISTIC	MALES		FEMALES	
	N	%	N	%
Academic Credential				
Certificate	71	53	171	41
Degree	64	47	243	58
Persistence Group				
Graduated	52	39	197	47
Expected to Graduate	36	27	71	18
Total Persisters	89	66	268	65
Nonpersisters	47	34	145	35
Support Services Utilized				
Used Support Services	70	50	199	47
Academic Skill Labs	66	95	199	100
Learning Course	27	39	84	43
Retention Counseling	57	81	153	77
Tutor Services	8	12	19	9
Interpreter	2	3	1	<1

services. Table 4 was organized by the gender of the participants to allow analysis of variables for males as compared to the variables for females.

The analysis of the descriptive data for the academic variables of credential, persistence group and utilization of support services for all participants, organized by gender, did not identify any appreciable difference between males and females.

Profiles of the Persisters and Nonpersisters

RESEARCH QUESTION 3. What are the demographic and educational characteristics of the disadvantaged adults who persisted in postsecondary vocational education as compared to the characteristics of those who were nonpersisters?

Procedures. To address Research Question 3, the participants in this study were divided into two groups. The persisters were those participants who continued in postsecondary vocational education until completion or who were still enrolled in postsecondary education and expected to complete. The nonpersisters were those participants who dropped out of postsecondary vocational education prior to completion of their program of study.

A frequency distribution identified that the mean age for persisters was 32, the mode was 24, and the range was 18 to 59. In comparison, the mean age for the nonpersisters was 30, the mode was 21, the range was 20 to 61. These

descriptive data identified that the persisters were slightly older then the nonpersisters.

The cumulative grade point average for each group was calculated at the time participants left or completed their vocational program or at the end of Spring Semester of 1995 for those participants who were still in attendance. A frequency distribution identified that the mean cumulative grade point average for persisters was 3.3, the mode was 2.9, and the range was 1.9 to 4.0. In comparison, the mean cumulative grade point average for nonpersisters was 2.2, and the mode was 0.0, which indicated withdrawal from all classes in the first semester of study. The range was 0.0 to 4.0. These descriptive data regarding cumulative grade point average demonstrated a substantially higher terminal grade point average for persisters as compared to that of the nonpersisters. Contributing to the high level of disparity between the cumulative grade point average for persisters and nonpersisters was the calculation of the 0.0 cumulative grade point averages for those nonpersisters who left the College without formally withdrawing from their program of study.

The demographic and academic data for persisters and nonpersisters were organized for analysis by frequencies and percentages. Table 5 displays the demographic data for the two groups for the variables of gender, age group, race/ethnic group, and disadvantage group.

Table 5. Frequencies and Percentages for the Two Groups, Persisters and Nonpersisters, for the Demographic Characteristics of Gender, Age, Race/Ethnic Group, and Disadvantage Group.

CHARACTERISTIC	PERSISTERS		NONPERSISTERS	
	N	%	N	%
Gender				
Males	87	64	48	36
Females	269	65	145	35
Age				
17-21	61	51	59	49
22-30	120	63	69	37
31-45	147	74	53	26
46-60	27	69	12	31
Over 60	0	0	1	<1
Race/Ethnic Group				
American Indian	26	50	26	50
Asian	6	86	1	14
Black	1	14	6	86
Hispanic	10	91	1	9
White	310	66	165	34
Disadvantage Group				
Financially Disadvantaged	326	90	182	91
Educationally Disadvantaged	192	51	138	65
Disability	73	20	49	25

The descriptive data displayed in Table 5 identified that 64% of the males persisted and 36% did not. When these data were compared to the percent of persistence for females, little difference was noted in that 65% of the

females persisted and 35% did not. For the demographic factor of age, the most appreciable differences were noted for the youngest age group, 17-21 years old, and for the middle age group, 31-45 years of age. The youngest age group only represented 17% of persisters while it represented 30% of nonpersisters. In comparison, the middle age group represented 41% of the persister group and only 27% of the nonpersister group. For race/ethnic group, American Indian and Black students had a high percentage of nonpersistence, 50% and 86% while Hispanic, Asian and White students had persistence rates of 91%, 86%, and 66%. The persister group was comprised of 51% educationally disadvantaged, 90% financially disadvantaged, and 20% with a disability. The nonpersister group was comprised of 65% educationally disadvantaged, 91% financially disadvantaged, and 25% with a disability. The analysis of these data groups revealed one appreciable difference in that a significantly greater percentage of participants who were educationally disadvantaged were nonpersisters, 65% as compared to 51% for persisters.

The academic characteristics for persisters and nonpersisters were organized by frequencies and percentages for the variables of credential and utilization of support services. These data are displayed in Table 6.

Table 6. Frequencies and Percentages for the Two Groups, Persisters and Nonpersisters, for the Academic Characteristics of Credential, Support Services Utilized.

CHARACTERISTIC	PERSISTERS		NONPERSISTERS	
	N	%	N	%
Credential				
Certificate	158	45	84	43
Degree	195	55	112	57
Utilization of Support Services				
Used Support Services	164	45	105	53
Academic Skill Labs	151	42	114	57
Learning Course	71	20	40	20
Retention Counseling	127	35	83	42
Tutor Service	12	3	15	8
Interpreter	2	1	1	<1

The analysis of descriptive data for academic credential and utilization of support services identified only one notable difference between persisters and nonpersisters. Nonpersisters had a much higher percentage of utilization of academic skill labs, 57%, as compared to only 42% for persisters. The explanation for this difference may be attributed to the fact that participants who were the most severely educationally disadvantaged would be those most likely to participate in academic skill labs and would also be those participants who were at a high risk for dropping out because they lacked academic proficiency.

Statistical Findings

In response to Research Question 3, all participants were placed into one of two groups: persisters who graduated or were continuing their studies and expected to graduate or nonpersisters who dropped out of college prior to graduation. The characteristics of the persisters and nonpersisters were compared to determine what made one group different from the other group. Educational researchers and users of educational research information are keenly interested in the generalizations and conclusions arrived at on the basis of the data collected from the participants in a study. Hays (1973) provided a strong justification for the use of inferential statistics in educational research to provide generalizations or conclusions.

> More than any facet of the evaluation report, perhaps, the generalizations and conclusions have the greatest influence on decisions affecting educational policy and program improvement. Thus no effort should be spared in the methodology to enable the researcher to achieve defensible and clear generalizations about the evaluation study. Inferential statistics is the body of methods for arriving at conclusions extending beyond the immediate data. (p. 5)

The two statistical methodologies utilized for the comparison of the groups of persisters and nonpersisters were *t* tests and discriminate analysis.

t Tests

The t test was utilized to determine whether the means for the demographic and academic characteristics for the persisters and nonpersisters were significantly different at the criterion level of .05. The t test indicated how often a difference as large or larger would be found when there was no true population difference. The strategy of the t test was to compare the actual mean difference observed with the difference expected by chance (Gay, 1992, p. 436).

For this study, the t test for independent samples was utilized. Independent samples are samples that are randomly formed without any type of matching. The members of one group are not related to the members of the other group in any systematic way other than that they are from the same population. According to Gay (1992):

> If two groups are randomly formed, the expectation is that they are essentially the same at the beginning of a study with respect to performance on the dependent variable. Therefore, if they are essentially the same at the end of the study, the null hypothesis is probably true; if they are different at the end of the study, the null hypothesis is probably false. (p. 437)

The demographic variables analyzed for the participants in each group were gender and age group. The academic variables analyzed for the participants in each group were credential, admission assessment results, and utilization of support services.

The t test analysis did reveal a significant difference between the mean for the group persisters and the mean for the group nonpersisters for the demographic variable of age. Table 7 illustrates the t test for the variables in which a significant difference in the means for the groups was noted. The t test results for the variables for which no significant difference was found are displayed in Appendix E.

Table 7. t Test Comparison Indicating Significant Difference Between the Means for the Demographic Variables of Age and Disadvantage Group for Persisters with the Means for the Demographic Variables of Age and Disadvantage Group for Nonpersisters.

GROUP	Mean	SD	t-value	df	2-Tail Sig.
Variable: Age Group					
Persisters	2.41	.859	3.91	545	.000
Nonpersisters	2.11	.912	3.85	392	.000

Through analysis of t test results, it was identified that participants who persisted tended to be older than were the participants who did not persist. These findings were similar to the findings identified through the frequency and percentage analysis of descriptive data which is displayed in Table 5. This analysis revealed that participants who persisted were more predominant in age group two, ages 22-30, and in age group three, ages 31-45. Nonpersisters were more predominant in age group one, 17-21.

Following the analysis of the results of the t test for the demographic variables, a t test was performed to determine if the means for persisters and nonpersisters were different for the academic variables of credential, academic skill assessment, and utilization of support services. Utilization of support services for the t-test analysis included skill building labs, retention counseling, tutors, and the learning to learn course. The results of these t tests identified no significant difference for the academic variables between the means for the groups. The results of these t tests are displayed in Appendix F, t Test Comparison of Academic Variables Indicating No Significant Difference.

Discriminant Analysis and Demographic/Academic Data

Discriminant analysis was utilized as a statistical technique which allowed the investigation of the differences between the two groups in this study, persisters and nonpersisters, in relationship to several demographic and academic variables simultaneously. In performing this discriminant analysis, as with other multivariate techniques, the emphasis was upon analyzing the variables together rather than singly. In this way, the interaction of multiple variables could be considered.

Discriminant analysis can be used either to describe the way groups differ or to predict membership in a group. In this study, discriminant analysis was used to describe

the combination of variables that could be used to distinguish the nonpersisters in postsecondary vocational education from the persisters. Thus, for purposes of analysis, the 549 participants in this study were placed in two groups. One group of 195 participants included individuals who had dropped out of postsecondary vocational education prior to graduation, and the other group of 354 participants included those individuals who had graduated from postsecondary vocational education or were still enrolled and expected to graduate.

For purposes of the discriminant analysis, the participants were divided into the persister group and the nonpersister group. The set of discriminating variables used to predict placement in these groups consisted of Gender, Age Group, Academic Credential, Admission Assessment Results, Placement in the Three Categories of Disadvantage, Support Services Utilized, and Cumulative Grade Point Average. The area of Gender identified males and females. Age Group arranged participants into one of five age groups (a) 17-22--traditional, (b) 23-30--early career, (c) 31-45--mid-career, (d) 46-60--late career, and (e) over 60. Academic Credential included whether participants were enrolled in a Certificate or Associate of Applied Science Degree program. Admission Assessment Results documented whether participants had scored above or below the 10.5 grade level on the Test of Adult Basic Education.

Disadvantage Group was made up of data to identify if participants were educationally disadvantaged, economically disadvantaged, or handicapped. Support Services Utilized contained items to identify if participants had taken advantage of the support services available to them at the College, which included academic skill building labs, a learning to learn course, and retention counseling. It should be noted that too few participants utilized the support services of interpreter for the deaf or tutor to make it feasible to include these in the discriminant analysis. Cumulative Grade Point Average identified the cumulative grade point average for the participants at the time they dropped out, completed their program of study, or at the end of Spring Semester of 1995 for those participants who were still enrolled and expected to graduate.

The pooled within-groups correlations are the correlations for the variables with the respondents placed in their groups of either persisters or nonpersisters. The pooled within-groups correlation matrix of discriminating variables was examined because interdependencies among variables is important in most multivariate analysis. That is, in order for multiple variables to be included in an analysis, they should not be sharing variance; a high correlation indicates that variables are indeed accounting for the same variance. The within-groups matrix reveals how the discriminant function is related to the variables within

each group in the analysis. The examination of the 56 coefficients in this analysis showed that all were at a sufficiently weak level to retain the variables in the analysis. Only one coefficient, cumulative grade point average, was at the .90 level. Three were at the .30 level, one was at the .20 level, one was at the .10 level, and the remaining five were all below the .10 level. Thus, the variables in this discriminant analysis were not meaningfully related to each other and consequently were not sharing a common variance.

Stepwise selection was used to determine which variables added most to the discrimination between the persisters and the nonpersisters. Stepwise procedures produce an optimal set of discriminating variables. Although there are various methods of selecting variables for inclusion in the discriminant analysis, Wilks's lambda was chosen for this analysis because it takes into consideration both the differences between the groups and the cohesiveness within the groups. Because of its approach to variable selection, Wilk's lambda is commonly used in discriminant analysis studies in education. As a result of this stepwise procedure, 11 variables were included in the discriminant function. The following discriminating variables and their corresponding Wilk's lambda values were selected: gender--1.00; academic credential--1.00; having a disability--1.00; financially disadvantaged--1.00; completed

learning to learn course--1.00; utilized retention counseling--1.00; age group--.98; admission assessment results--.98; educationally disadvantaged--.98; used skill building labs--.97; and cumulative grade point average--.81.

Standardized discriminant function coefficients were used to determine which variables contribute most to the discrimination between the groups. By examining the standardized coefficients, the relative importance of each variable to the overall discriminant function can be determined. The standardized coefficients for this function which discriminated the persisters from the nonpersisters were as follows: age (.16); academic credential (-.24); used skill building labs (.16); completed the learning to learn course (.17); and cumulative grade point average (.95). Thus, cumulative grade point average contributed about four to five times as much as the other variables in discriminating between persisters and nonpersisters.

The structure matrix contains the coefficients which show the similarity between each individual variable and the total discriminate function. The variables with the highest coefficients have the strongest relationship to the discriminant function. These coefficients are used to name the discriminant function because they show how closely the variable and the overall discriminant function are related. In a study such as this in which the discriminant analysis is used for descriptive purposes, this is the most important

information related to discriminant functions which satisfy the acceptance criteria. This elevated importance stems from the fact that interpreting the structure matrix results in naming the process that distinguishes the groups from each other. Since the overall purpose of discriminant analysis is to describe the phenomenon that discriminates the groups from each other, this logical process of giving meaning to the discriminant function by interpreting the structure matrix is central and critical to the whole process. In this interpreting process, variables with coefficients of approximately .30 and above are generally considered adequate for consideration as close correlations and are included in the interpretation.

Three variables had sufficient coefficients to be included in the interpretation of the meaning of the discriminant function. They were as follows: Cumulative Grade Point Average (.95), Used Skill Building Labs (.31), and Age (.30). Since the coefficient for one variable, Cumulative Grade Point Average, was three times the value of the coefficients for the other two variables, it carried the most meaningful weight in naming the discriminant function.

Based on the strength of this variable, this discriminant function was named Academic Achievement Reality. For the group persisters, 344 of the participants in this study, their mean grade point average was 3.0, and the range was 1.9 to 4.0. Fifty-one percent of the

persister group earned cumulative grade point averages of 3.0 or above. For the group nonpersisters, 191 of the participants in this study, their mean grade point average was 2.2, and the range was 0 to 4.0. Notably, 70% of the nonpersister group earned cumulative grade point averages below 3.0.

The discriminant function which was used to classify the cases and which can serve as guide for predicting future placement of disadvantaged adults into the groups persisters and nonpersisters was as follows:

D = .94 (Cumulative Grade Point Average) - .31 (Used Skill Building Labs) + .30 (Age) - .26 (Educationally Disadvantaged) + .25 (Admission Assessment of Academic Skills) - .18 (Utilized Retention Counseling) + .06 (Disability) + .04 (Academic Credential) - .04 (Financially Disadvantaged) + .01 (Enrolled in Learning to Learn Course) + .004 (Gender).

The group centroid for the persister group was .39, and it was -.68 for the nonpersister group. The canonical correlation is a measure of the degree of association between the discriminant scores and the groups and was .46 for this study. When this is squared, it indicates that the groups explain 21% of the variation in the discriminant function.

Consequently, this discriminant analysis demonstrated that disadvantaged adults who participate in postsecondary education cannot reliably be placed into the groups of

persisters or nonpersisters on the basis of their demographic and academic characteristics.

Interviews With Participants

The interviews with 39 of the participants in this study, 20 disadvantaged adults who persisted until graduation and 19 disadvantaged adults who did not persist until graduation, were conducted on site at Montana State University College of Technology--Great Falls. Indepth interviews with each respondent were completed using an interview guide developed for each of the two groups (Appendices C and D, Interview Guides--Persisters/ Nonpersisters). The interview guide consisted of several predetermined topical areas and general questions to initiate discussion in each area. The interview guides provided a semistructured approach to the interview involving the asking of structured questions followed by clarifying unstructured or open-ended questions. The interview guides were piloted with students from the general population of students at the College and revised prior to data collection with respondents. Interviews lasted from 30 minutes to 1 1/2 hours.

The interview process provided relevant information regarding the respondents educational and familial background, their reasons for pursuing a vocational education, their career and educational goals, their

confidence in their ability to complete a program of study, their opinions regarding the usefulness of campus support services, and their perspective of the factors that influenced their persistence or nonpersistence. The interviews isolated patterns of responses within each group as well as positive and negative institutional and personal influences on persistence unique within each group or common between the groups.

For each respondent in the interviews, demographic and academic data were collected from the College's student records. The qualitative data gathered through the interviews with participants were sorted and categorized using a word processing program.

Profile of Respondents

Thirteen of the respondents in the persister group were female and 7 were male. The nonpersister group included 15 females and 4 males. The persister group ranged in age from 22 to 57 and the nonpersister group were ages 19 through 58. Three of the persisters were American Indian, one was Hispanic, and 16 were Caucasian. The nonpersister group included two American Indians, one Asian, one Black, and 13 Caucasians. Both groups included individuals from each of the categories of disadvantage. Three of the persisters were enrolled in a Certificate program and 17 were enrolled in an Associate of Applied Science Degree program. For the

nonpersisters, 4 were enrolled in a Certificate program and 15 were enrolled in an Associate of Applied Science Degree program.

Personal Interview Results

Data gathered through the personal interview process were analyzed using the constant comparative method described by Glazer and Strauss (1967). In this method, the researcher begins data analysis at the same time as data collection and proceeds with the two processes simultaneously. Several techniques were used in this process: developing classifications, writing field notes and memos, diagramming, and modifying interview guides.

The investigator reflected on the interview and entered her comments onto tape immediately after leaving each respondent. Beginning with the second interview, the investigator made initial comparisons between subjects. The interviews were then transcribed as soon as possible. Checking the transcripts for accuracy provided the next opportunity for ongoing analysis. While listening to each tape, the investigator noted ideas about initial categories and emerging patterns. When several tapes were checked in succession, comparisons were made.

A list of categories was developed from the analysis of the first few tapes. There were nine major categories, each of which contained one to eight minor categories or

subdivisions. The first seven interviews were coded and sorted using these categories in order to explore the usefulness of the categories and to look for patterns in the data. Throughout data collection, these steps were followed as interviews were added. The investigator then examined the data for patterns within and across categories. Five themes were identified by this constant comparative process. They were the following: (a) motivation and goal identification, (b) personal and institutional factors affecting persistence, (c) utilization of campus support services, (d) suggestions for the institution, and (e) advice to other students.

Motivation and Goal Identification

The first interview theme, motivation and goal identification, focused on the initial decision by respondents to participate in postsecondary vocational education and culminated with their enrollment. Guiding the focus for this portion of the interview was the commitment to identify an answer for the second research question.

> **RESEARCH QUESTION 2.** What factors influenced disadvantaged adults to participate in postsecondary vocational education?

The initial question posed to all respondents from both groups asked them to share the factors or influences that motivated them to enroll in a postsecondary educational program. A prevalent factor in motivation which was

expressed by 19 of the 20 persisters and 13 of the 19 nonpersisters was their desire to improve their employability. For many, this desire arose as a result of an injury on the job that necessitated retraining for a new career. For some it was the result of a divorce that now necessitated their entry into work outside the home. For single parents it was the need to earn better wages to enable their children to have a good life. The desire for a career change or for self-employment motivated a few toward a decision to participate in formal education, and for some it was realization of a long-standing personal goal. The following are typical comments from respondents who are identified after each response by gender and persistence group.

Several of the respondents attributed their motivation to the need to retrain after an injury on the job that precluded them from going back to their previous employment.

> I injured my back and had to retrain for a new career. It took me a long time to accept that I could not go back to my former job. I did a vocational evaluation and realized I was interested in a health career, specifically Respiratory Therapy. I figured if I completed this program I could get a job anywhere. I did a "job shadow" with a respiratory therapist and I was convinced this was the job for me. (Male/Persister)

> I injured my back as a semi-truck driver and through my work with Vocational Rehabilitation I was encouraged to retrain for a new occupation. I thought if I completed the Business Management program I might be able to operate my own trucking company. (Female/Nonpersister)

> I had been injured on my job as a policeman and I was on disability. I was volunteering at a fitness center and I decided I needed more education so I could obtain a job that was compatible with my injury. Occupational therapy interested me since I had so much therapy after my injury. That is what I enrolled in. (Male/Persister)

> I was hurt on the job. I was on disability and that was not enough money to get by on. I found out there are no jobs you can get without the ability to use a computer. (Male/Nonpersister)

Several of the respondents spoke of the need for employment after they had encountered a major marital status change, separation or divorce.

> I married young. I have five kids. My husband is in the Air Force. He left me. I have to have a job to support my kids. I figured the only way to get a decent job was to get an education. (Female/Nonpersister)

> The main thing that motivated me to enroll was the breakup of my marriage. I had no skill to support myself and my daughter. A counselor suggested I develop business office skills. I went to college because I had no job skills. (Female/Nonpersister)

Particularly fervent were the motivations expressed by these single parents for pursuing an education to obtain a better job. These respondents expressed not only the desire to have a better job so they could provide sufficiently for their children but often spoke of the desire to provide their children with a role model to demonstrate the value and importance of education.

> My little son was my motivation. I wanted him to grow up and be something and I knew he could never do that unless I had an education. I was working as a bartender and I did not want that to be his role model. I believe that if he sees how

important education is to me, it will be important to him. (Female/Persister)

I hope my daughter learns from my experience. I feel she has a better understanding of what can happen to women and how you need to be able to support yourself and a family. (Female/Nonpersister)

I was in the position of being a single parent and needing to support five children. I had been a secretary but I needed a better wage and I wanted to do something more meaningful. I wanted a specific profession I could rely on. I wanted a degree. Most of all I wanted to do it for my kids. I did not want to continue on welfare--I'm philosophically opposed to welfare. I wanted to set higher expectations for my children. I didn't want for us to just survive. (Female/Persister)

I was working at minimum wage jobs. I had given up my son who was born when I was 15. I now have a 10-year-old daughter. I want to provide her a better life. She is proud of the fact that I go to college. (Female/Persister)

Several of the participants expressed the desire for personal benefits for themselves or their families that they believed would occur as a result of education.

My motivation for enrolling in the Practical Nurse program was that I had a son who was very sick. I thought I would like to be a nurse to understand more about his illness and how I might help him. (Female/Nonpersister)

I was motivated to go to college because I wanted to better my self-esteem and get a job. I don't feel very good about myself. I am on welfare and I want to get off. (Female/Nonpersister)

I wanted to do something that I could consider a career rather than a non-permanent job. I wanted something I could be happy in for the next 20 years. (Male/Persister)

My kids were getting older and able to be on their own more. I wanted to do something besides keep house. When I went job hunting they would ask me,

> "Can you operate a computer?" I was losing confidence in myself. With education I can go out and say, "I can do that!" (Female/Nonpersister)

> I was tired of working at low paying jobs. I can barely support my family. I hoped that having an education in Business Management would help me to move up in my present job or to get a better job. (Male/Nonpersister)

Within three of the interviews with participants, two new themes began to emerge from the discussion of motivational factors that led to the decision to participate in postsecondary vocational education. Both of these themes were related to the establishment of goals for life after high school. Following their natural emergence, these themes were added to the interview guide.

Generally, responses to the topic of career planning in high school focused on differing themes for men and women. The majority of men spoke of the lack of career guidance in high school.

The men interviewed tended not to have clear goals in high school which focused on a career path but rather oriented themselves toward a job that was readily available. Many of these men began to think seriously about a career after they were injured on the job and unable to continue or when they grew tired of the career they had initially entered.

> I didn't think of a career and was not encouraged in high school to think about careers. When I dropped out of high school I just wanted any job that would put money in my pocket. I worked as a landscaper and warehouseman until I hurt myself.

I was 27 and decided that if I had to change jobs I wanted to do something I could feel good about. I wanted to do something that contributed. (Male/Persister)

I didn't give much thought to any career after high school. I was living in Janesville, Wisconsin, where there was a great deal of industry. I knew I didn't want to be a "plant-rat" and so I joined the military to get away. I ended up at Malmstrom and I wanted to remain in Montana after getting out of the service. I worked at a club until my paychecks started to bounce. I was dating a respiratory therapist. I wanted to be a registered nurse but that was not available so I decided to be a therapist. (Male/Persister)

I never thought of a career when I was in high school. I just wanted to get out of high school and join the army. There really wasn't anyone around to point out options for life after high school. I left the army and worked in the steel mills long enough to know I didn't want to do that. I took the civil service test and went into law enforcement in Washington, D.C. I met my wife, who was from Montana. We moved back here after I was hurt on the job. I got tired of being on disability and went back to school for a second career. (Male/Persister)

I really didn't think much in high school about what I was going to do. I just wanted to get a job so I could take care of myself. No real plans. (Male/Nonpersister)

In high school my only goal was to drink as much as I could. I had a deaf friend and I was able to interpret. I knew I could always fall back on that. I never really had a career goal. Two weeks before high school graduation I dropped out. I finally got a GED and my mom convinced me to go to college. I went to University of Montana for one semester. I got tired of interpreting for the deaf and wanted a career change. I thought occupational therapy was closely related and I might enjoy it. (Male/Nonpersister)

The majority of women respondents spoke of having family related goals as their primary focus with career

goals being a secondary focus. Some thought of a career but saw it as supplemental to their spouse's work. This theme for women emerged in the first interview. This woman was in her mid-50s. The interviewer tended to relate her response to the traditions for women in the time in which she was raised. However, the replies continued along a similar course for other women who were ages 20 through 44. The tendency by the women interviewed to hold traditional goals for themselves as women was surprising in view of societal efforts for the past several decades to afford women options to pursue careers other than homemaker. Most of the women interviewed only began considering a career seriously when there was a major change in their lives.

> I just wanted to get married and raise children. I wanted to care for a garden and not work outside the home. Divorce changed all that. (Female/Persister, Age 57)

> In high school I primarily thought of marrying and I wanted to be a housewife. I wanted eight children. I wanted to finish high school so I could be a better help to my husband. (Female/Persister, Age 44)

> In high school, I wanted to marry and have a family right after graduation. I thought about a career but I really saw myself as a wife and mother. (Female/Nonpersister, Age 20)

> I had no career goals in high school. I saw myself as being taken care of by a man. I dropped out of high school in my senior year to get married. I had a bad home life and escaped through marriage. When we divorced, I was responsible for taking care of the kids. I worked a lot of low paying jobs. (Female/Persister, Age 36)

> In high school I never considered a career. I wanted to be a wife and mother. I had the traditional view that I would stay home and take care of the home and children while my husband worked to support the family. I had no exposure to careers in high school, or if I did I wasn't paying attention. I only wanted to graduate. No other long-term goals. (Female/Persister, Age 38)

> I wanted to get married as soon as I could. I loved children. I wanted to get away from home as soon as possible and I saw marriage as a way to do this. I always did want to be a teacher. When my husband left me I enrolled in school to develop job skills as quick as I could. I dropped out when we got back together. (Female/Nonpersister, Age 28)

> I had no career goals in high school. I was not sure of what I wanted to do. I thought of either a career or marriage. I was never encouraged by high school staff to think about what I could take in high school that would relate to what I did at a later point. I decided to go for a career when my kids grew up enough to be on their own. (Female/Nonpersister, Age 35)

A few of the women interviewed seemed to profit from the experiences of others and through this had developed goals for themselves other than starting a family.

> I was the second youngest of 14 children. I saw all the problems my older brothers and sisters had with marriage and children, and I was not eager to marry. I was interested in business. I decided I would join the army or air force until an older brother talked me out of it. I wanted a job. I wanted to own my own business. I was working for a woman business owner. She did not keep very good business records, and I knew some about bookkeeping. I asked her if I could do payroll records. I enjoyed this and my interest in accounting grew. (Female/Persister, Age 35)

> I had not perceived the need to work when I was in high school. I had marriage as a goal. I had only stereotypical jobs for women in my head. No one, teachers, counselors, or my parents, suggested anything else. I had many girlfriends

> who married before graduation. In my senior year I became more goal oriented. I want "A's." I wanted things. After high school I joined the army to move out of the family home and be on my own. (Female/Persister, Age 39)
>
> You bet I thought of what job I would do after high school. I had been taking care of myself since I was 16. I understood how hard it is to struggle to just get by. (Female/Nonpersister, Age 22)

Personal and Institutional Factors Affecting Persistence

The second phase of the interview process focused on the identification of the personal and institutional factors that the respondents perceived had affected their persistence or lack of persistence in postsecondary vocational education. This portion of the interviews also served to provide additional information in response to two of the research questions which were as follows.

> **RESEARCH QUESTION 5.** What insights do disadvantaged adults have regarding factors that influenced them to participate until graduation?
>
> **RESEARCH QUESTION 6.** What insights do disadvantaged adults have regarding factors that influenced them to drop out prior to graduation?

To initiate the portion of the interview that focused on the factors that respondents perceived had contributed to their persistence or lack of persistence, each respondent was asked to judge the level of confidence they had at the time of enrollment in their ability to complete an educational program. All but three of the persisters indicated that they were confident at the start of their

program that they would be able to complete. Again, in many cases the topic of providing an appropriate role model for their children emerged.

> Yes, I believed I would finish. When starting, I was motivated to have my own business. I promised myself I wouldn't be a quitter. I try to be a positive role model for my kids. My children have helped me be motivated. I've been encouraged with positive talk here at the College--I had been bombarded with negatives about myself in my marriage. (Female/Persister)

> Yes, I knew I would finish. I never start anything without finishing. Once I decide to do something, I'll do whatever it takes. I was petrified--afraid I wouldn't be able to do the work. I totally astounded myself. (Female/Persister)

> Yes, it was my belief when I first enrolled that I would finish but I also realized I had a lot of work to accomplish. Its a good thing I didn't realize how ignorant I really was! (Male/Persister)

> Yes, I knew I might have to work real hard to get through but I knew I was going to finish. (Male/Persister)

> Yes, I believed I would finish. The first week I wondered what I had gotten myself into. I had graduated in 1955, and it was a long time since I had done math and English. It was too late to back out! Once I made up my mind to do it I had no problems. I really had to study but I got mostly "A's" and I am now unsatisfied with less. I don't like to be called a quitter. My self-esteem when I was married was low--spouse verbally abused me. From my childhood home life I had learned never to give up. (Female/Persister)

> Yes, I believed I would finish. I don't know if I ever thought of not finishing. I'm irritated by people who quit over petty reasons. I would finish what I start. (Female/Persister)

The responses of the three persisters who were not confident when they enrolled regarding their ability to complete centered on two areas: their fear of not being able to learn and their concern that they would be unable to devote the time necessary to their education in view of family responsibilities.

> No, I was terrified. I really worried about my ability to make it academically. My family was really supportive. (Female/Persister)

> No. I wondered if I would ever be able to complete a college education. I have twins with cerebral palsy. I almost quit my last semester. Family stress piled up and a divorce occurred. (Female/Persister)

> No, the Anatomy and Physiology class terrified me. I was afraid I was not smart enough to complete. (Female/Persister)

All but one of the nonpersisters indicated that they were confident of their ability to complete their program of study when they first enrolled. Often emerging were family or financial problems as ultimate barriers to completion.

> Yes, I believed I could finish. I knew it would be hard for me because I never cared much for school. (Male/Nonpersister)

> I believed I could finish, but my family had a hard time adjusting to my going to school--especially my husband. (Female/Nonpersister)

> Yes, I believed I could finish. I was scared to death to go but I would not have dropped out if there was any financial way I could have stayed with it. (Female/Nonpersister)

> Yes, I believed I could finish and would have if I could have worked out the clinical portion of my study to conform with my son's medical condition needs. (Female/Nonpersister)

> I had no doubt I could finish. (Male/Nonpersister)

> Yes, I thought I could finish, but I also thought it would get easier after the first semester. (Female/Nonpersister)

The one respondent who did not reply in the affirmative to the question of their personal belief in their ability to finish spoke of not wanting to make a initial commitment to the endeavor. "I never make myself any kinds of promises. I always kind of wing it and see how things are going" (Male/Nonpersister).

It should be noted that although most of the respondents indicated their confidence in their ability to finish their program of study, they generally stated at some time in the interview that they were afraid when they enrolled that they might not be "smart-enough" to complete a college education.

Following the discussion of respondent self-confidence at the time of enrollment in their ability to complete, each respondent was asked to describe the factors that they perceived had contributed to their success or lack of success in completing their program of study. When asked regarding the factors that contributed to their success, persisters often spoke of their strong commitment to their goals, of their attitude toward education, and of the support they received from family members and friends.

> I believe what helped me to finish was how badly I wanted this education and how important finishing was to me. (Female/Persister)

I needed a job. I wanted to do it. I did not want to let myself down. I had to prove I could do it. (Male/Persister)

I had the desire to complete what I had started. I had good friends that kept me going--most of these were those I met on campus. (Female/Persister)

I really wanted to learn and to finish. (Male/Persister)

My family was very supportive. My husband and kids and my mom, brothers and sisters. My friends and classmates were also always there to cheer me on and to give me positive reenforcement. (Female/Persister)

First my general attitude--my determination to finish. My age, I don't believe that if I would have gone to college after high school I would have done as well. This college being smaller--everybody here is like a big team. This college wants to see each and every person make it. My attitude is that if I'm going to do it, I'm going to do it right. When we're young we don't always have our real priorities. I feel welcome at this college. (Female/Persister)

My own determination, when I start I don't quit. Then people at the college--lots of support from staff and friends. My work as a work study in the main office picked me up and showed me what I could do. (Female/Persister)

My kids and husband understood my educational goal and were supportive. It was the family's understanding that I was going to do my program, and they were willing to help. Mentality of the student counts. You must decide you are going to get through--homework comes before dishes. You must be comfortable with not being everything to everyone. You must realize school is work and it comes before pleasure. (Female/Persister)

Emerging in the first interview and mentioned by many of the respondents who had persisted was the positive

influence that faculty and staff of the college had been on their persistence.

> The instructors were terrific. Teachers at this college inspire you to strive to do your best. I think this college sets up a winning attitude--instructors are very oriented toward student success. (Female/Persister)

> Faculty members really helped me through some tough times. They encouraged me to persevere when I was upset by my personal life--divorce and custody of my children. (Female/Persister)

> I think that what really helped me was the strong support I received from the faculty--both the faculty in the program and the faculty who taught other courses outside the program. (Male/Persister)

> The teachers here are wonderful. Always ready to show you how. I can get really cranky when things don't go well. They never seemed to mind. (Female/Persister)

> Teachers--the whole staff--the way they treated me. Teachers here work hard. I never had a problem with teachers. (Male/Persister)

> What made me stick with it is wanting a new career and the fact that the instructor was always there discussing with students the pluses of finishing. He brings a person up. (Male/Persister)

> Encouragement from the teachers as well as from other students and my family really helped to keep me going. (Female/Persister)

A topic that quickly emerged in the interviews with persisters regarding factors that contributed to their success was the subject of personal determination. Sixteen of the 20 respondents spontaneously used the word "determined" to describe themselves. They frequently spoke of not wanting to let themselves or others down or of

needing to prove to themselves or others that they could do it. Also emerging again was the topic of being an appropriate role model for their children.

> When I choose a goal I don't stop till I get it. When I put importance on a goal I am very determined. I don't want to let myself down. I want to prove that I can do it. (Male/Persister)

> I am a very determined person. I am so determined that I sometimes get myself into trouble. I am determined to be my own boss. You have got to be determined to get anywhere. (Female/Persister)

> I was determined to finish the program. I wasn't always so determined. I didn't think I'd have to be. I wanted to do this for my kids. (Female/Persister)

> I am a determined person if I want something bad enough. I wanted to show myself I could do it. I wanted to give my little girl what I never had--do for her. I want her to know you can't get stuff for free. I promised that if I ever had children I would do differently for them then how I was raised. (Female/Persister)

> I am the determined type once my mind is set, and I am committed to a goal. My parents brought me up with the philosophy that when you start something you finish. They encouraged me not to do things halfway--to finish what I start. (Male/Persister)

A further topic that emerged when respondents spoke of their determination was the fact that many of them perceived that they had a "hard life" as children and young adults. They often attributed their personal determination to be an outgrowth of the problems they had faced or overcome.

> I had an extremely hard life as a kid. Alcoholic parents. I missed a great deal of school. I babysat the younger kids. I promised myself in high school that my own kids would not have the

> same kind of life I had. I wanted to better myself for my kids. (Female/Persister)
>
> My sister and I had a tough life as kids. We were very low income. We were on the move with my mother since the second half of seventh grade. She was keeping us away from my father for our protection. (Female/Persister)
>
> My family lived in a four-room shack on a farm. We had no bathroom, running water, electricity, phone, or television. I was eight years old when I had my first bath in a real bathtub. (Female/Persister)
>
> I was diagnosed with juvenile diabetes when I was 12. The restrictions diabetes placed on me caused other children to be wary and non-understanding of me. People tend to put blinders on when they realize I am blind. They think of what I can't do. It was real hard. (Male/Persister)
>
> We were a very poor family. I started working in eighth grade to purchase clothing and what I needed. I believe young people today are given too much and they don't appreciate it. (Male/Persister)
>
> My family lived just above the poverty line. I was abused as a child. (Female/Persister)
>
> My boyfriend committed suicide when I was a junior in high school. I had a hard time adjusting, and this contributed to my leaving high school before graduation. (Female/Persister)

Immediately following the discussion with persisters of the factors they perceived had contributed to their success, they were asked if there was ever a time in their program of study that they thought they would not make it. Nine of the 20 respondents reported that there was a point in their program of study in which they encountered difficulties severe enough that they feared they would not complete.

I thought I might not make it. During custody battles and another pregnancy. I left for a year. I stayed in touch with my faculty advisor. He let me sit in on classes prior to returning so I could get back in the swing of being in school. (Female/Persister)

Yes, I did come to the point where I thought I wouldn't finish. It was nearly too much--family, job, and school. It was hard for me to prioritize. I just couldn't let it go, though. (Female/Persister)

I felt I would not be able to make it when I failed chemistry in my first year. Then I got mad and said this isn't going to stop me. I took it again and continued on. (Male/Persister)

The first semester was very difficult. Not school as much as I had to give up my social life and keep my head in the books. I studied until 1:00 and 2:00 a.m. in the morning--reviewing and studying. (Male/Persister)

Yes, I stopped working and classes were getting harder. Then I got pregnant and thought of quitting. I decided, "No," I had to keep going. My husband was supportive. (Female/Persister)

In the last semester I worried I would not finish. Because of a scheduling problem I was unable to take a needed course. The faculty allowed me to substitute a psychology course and I was able to continue. (Female/Persister)

Yes, in the last semester familial problems really stacked up and I was failing a class. At first I decided it was because the faculty was making it hard on Indians. I wrestled with that one all weekend, and then I remembered that if he didn't like me he would have just passed me on. He expected me to succeed, and I decided to stick it out. (Female/Persister)

The responses of the nonpersisters to the question asking them to identify the factors that interfered with the completion of their program of study centered on three distinctive influences. These included personal problems,

dissatisfaction with the institution, and other interests or redirection of goals.

> I felt my family life was taking a back seat. I would always defer to my family needs. My kids were more important than school. (Female/Nonpersister)

> I got back together with my husband. I wanted to be home. I can't give a good reason now. I think it was very hard for me to be a single parent. (Female/Nonpersister)

> I was having trouble with my job and school. My wife didn't appreciate that I was always going to school, work, or trying to study. It all got to be too much. (Male/Nonpersister)

> I needed a break from school. I enrolled right after high school, and I just wasn't ready for more school. (Female/Nonpersister)

> I was in a great deal of pain and thought I would need to have knee surgery. As it turned out, they treated me with injections. In addition, I was going through some personal problems. I had to move my family twice and go to court over problems with a landlord. All this was pretty distracting. If I would have known I could be treated with shots, I would have tried to stay with it. (Male/Nonpersister)

> Nobody at the college knew anything. I would talk to someone and they would refer me to someone else. I got the run around. I completed my loan aps three months before classes were to start. I got paper work returned. When I called financial aid they told me they weren't accepting that type of paperwork. I got the run around. It was ridiculous. I was frustrated. They weren't able to tell you anything. (Female/Nonpersister)

> My faculty advisor wouldn't sign for my PELL grant because I was not attending class even though I had the best grade in the class. I was no longer able to attend because I didn't have finances. (Female/Nonpersister)

> I couldn't afford to not work. I ended up not passing some classes. I just couldn't keep up

> with working and trying to go to school. I got really discouraged. Teachers were more into their personal stuff. I am really shy. I hated to ask questions in class. When I went up to the teacher after class, they seemed not very open and too busy to talk. I couldn't stick around to see them. (Female/Nonpersister)
>
> The main problem was my health. I developed a medical condition that cannot be cured but there is a medicine for. (Male/Nonpersister)
>
> Financial. I needed more money for me and my little boy to live. I tried to work part-time and that wasn't enough money. When I went to full-time work I couldn't keep up with school. (Female/Nonpersister)
>
> I had non-satisfactory progress academically. I had to take too much too fast. My grade point average dropped to 1.0 and I was suspended from financial aid assistance. I could not afford to go on my own. (Female/Nonpersister)

A topic that emerged in the discussion of factors contributing to nonpersistence was that of taking advantage of a new-found opportunity. Several of the respondents mentioned an opportunity that they felt could not be bypassed for persistence in college. For these individuals, it would be difficult to equate their nonpersistence with failure.

> The opportunity to get a good job in the field for which I was preparing for good money came up. I wanted to finish, but I felt that such an opportunity such as this might not knock again. (Female/Nonpersister)
>
> I had the opportunity to go to work for my brother in California in his business. It was too good a chance to pass up and I thought I could probably continue my education while I was working. (Female/Nonpersister)

> I had the opportunity to relocate to Pennsylvania with my boyfriend. It did not turn out to be real worthwhile, but I learned a lot. I am glad to be back in Montana. (Female/Nonpersister)

> I couldn't afford school and was breaking up with my live-in boyfriend. I ended up having to move. I had to get a job and get out on my own. I took advantage of a good job that was available and afforded me good pay and benefits. I figured this opportunity might not be there twice. (Female/Nonpersister)

> When there was an opportunity to be married again, that is all I wanted. (Female/Nonpersister)

Respondents who were nonpersisters were asked at which point in their program of study they made the decision to drop out. Nine of the 19 dropped out in the first semester of study. Seven dropped out early in the second semester. Two dropped out in the fourth semester, and one dropped out in the last semester of study.

All respondents who were nonpersisters were asked regarding their intentions to complete their program of study or other college education in the future. Fifteen of the respondents indicated a desire to finish either the program they had enrolled in or some other college program. For many, a satisfactory career goal remained an uncertainty. Indications were that for many respondents, their current work experience was contributing to redirection of goals.

> I want to finish. From my current work in a law firm I have learned I don't want to work in the field of law. I want to work in the medical field. I am still trying to decide if I want to

do medical reception or medical transcription. (Female/Nonpersister)

I do plan to finish a degree. Not in Legal Secretary. Working has taught me a lot. I've learned more on the job. Its now more important to move up the career ladder than to finish school. When I do finish it will be in a broader field--maybe business management or paralegal. (Female/Nonpersister)

Yeah, I want to go back and finish. I'm not sure if I will stick with the same program. It would depend on where I am work wise. (Female/Nonpersister)

Maybe. Oh yes, I'd stay with nursing. I really wanted to be a vet but that takes too long. (Female/Nonpersister)

Yes, I plan to finish college but I don't know what in or where. (Female/Nonpersister)

Well, I hope to, although I have not set a time. I regret not staying with it. I will probably pursue a degree in education. The principal at the school were I work has said if I get a degree he will hire me. (Female/Nonpersister)

I want to finish as soon as I possibly can. I will continue with Interior Design. (Female/Nonpersister)

Those respondents who indicated they would not return or were uncertain if they would ever return cited personal problems or a dislike for school in general.

Possibly--I'm not sure. My son has been ill for a long time. (Female/Nonpersister)

I don't know. I really don't like school. But yeah, I think I will have to finish someday. I'm not getting anywhere fast. (Male/Nonpersister)

Only if I had the finances. SSI does not give me enough money to attend school. (Female/Nonpersister)

> If I ever do, it would be at an art institute somewhere. (Male/Nonpersister)

Utilization of Campus Support Services

From the initial phase of the interviews that encouraged respondents to discuss the influences that motivated them to attend, persist in, or not persist in postsecondary vocational education, the next phase of the interviews was directed toward eliciting information regarding respondent opinion regarding the usefulness of campus support services. A major focus of the Carl D. Perkins legislation was to encourage postsecondary vocational education institutions to develop support services to enhance the ability of disadvantaged adults to succeed. At Montana State University College of Technology--Great Falls, these support services included academic skill assessment, academic skill building labs, counseling and advisement, Master Student--a learning to learn course, tutors, study groups, adaptive equipment, and interpreters for the deaf. Of all these services, those utilized and valued highly by the majority of respondents were the assessment of academic skills and the opportunity to improve their basic academic skills in the labs. The following are examples of the positive comments received regarding the assessment of academic skill which was conducted at the time of admissions for all participants.

> It was nice for me to know how strong my academic skills were. It helped my confidence. (Female/Nonpersister)
>
> It showed me where to get started. Helped me to understand what I was not aware of--a big help. (Male/Nonpersister)
>
> It put my mind at ease that I could go to college. The counselors were very positive when they went over my scores and made suggestions for where I needed to strengthen my skills. (Female/Persister)
>
> It was very useful. It helped me to see just where I was and it helped me to select the right level of math and English. (Female/Persister)
>
> It pointed out my weak academic points and I took some additional basic courses. I think that really helped me to get through. (Male/Persister)

The College also provided participants the opportunity to strengthen their academic skills through learning labs in English, math, reading, and science. Twelve of the respondents who were persisters and 10 of the respondents who were nonpersisters had utilized the labs. The majority of respondents who had utilized these labs were positive regarding the benefits they felt they had received.

> I had no idea how to do a fraction. The lab really helped me get up to speed for my classes. (Female/Persister)
>
> I couldn't believe the knowledge I had forgotten. It all came back pretty fast. The labs were a great way to get going again. (Male/Persister)
>
> Math lab was great. It helped me to refresh my skills. (Female/Nonpersister)
>
> The labs were very helpful. It was just generally hard for me to get back into the school subjects. I just don't like school. (Male/Nonpersister)

Participants were encouraged by College faculty and Student Services counselors to form study groups that would encourage collaborative learning activities. Almost 66% of the respondents in the persister group had participated in study group activities as compared to less than 25% of respondents who were in the nonpersister group. Respondents in either group who had participated in study groups were generally very positive regarding the benefits of this activity. However, the responses of those who had not participated in this activity served to draw attention to the difficulties inherent in participation in such activities for many respondents. Examples of positive comments were the following.

> Study groups were very useful for me. I worked with my group every night. (Male/Persister)
>
> Study groups were somewhat useful at different times and with different groups. I found some groups much more helpful than others. Depending on the group, it could be very helpful. (Female/Persister)
>
> Study groups were very useful to me. These groups generated lots of ideas. I floated problems by them. They were good unless we got to talking politics. (Male/Nonpersister)
>
> You bet, study groups are helpful. I would have failed biology without it. (Male/Nonpersister)
>
> We had a rather informal study group. People came and went. We would gather in Student Commons and quiz each other on terminologies and concepts. (Male/Persister)

Difficulties focused on by respondents who had not utilized study groups included time, distance, and job or

familial responsibilities. Their responses also indicated that some respondents found study groups to be a distraction rather than a help.

> I didn't use study groups. I lived so far away. I had to get up at 4:00 a.m. to drive in for my 8:00 a.m. class. I just couldn't hack any additional time for study groups. (Female/Nonpersister)

> I really didn't have time with my work and family to hang around the campus much to study. (Male/Nonpersister)

> I am unable to study in a group. I always get to B.S.ing too much. (Female/Nonpersister)

> I didn't use study groups. I was driving in from out of town, and I had to get home after classes. (Female/Nonpersister)

> I used study groups, but I did not find them very useful. Some of the students in the group didn't prepare as well as I had and most of my time was spent helping them. My style was if I didn't understand something, I worked on it until I did. (Male/Persister)

The College offered a learning to learn course, Master Student, for participants. Enrollment in this class was voluntary for the most part. However, the State Vocational Rehabilitation Office did require that students with a disability, who attended the College under their sponsorship, take the course.

The course focused on goal setting, value clarification, time management, study skills, and interpersonal communications. Only 9 of the 39 respondents had taken the Master Student Course. The primary reason indicated for the low enrollment was that the course was not

a requirement, and respondents viewed enrollment in this course as not essential to their progress toward graduation. Those who participated generally expressed enthusiasm for the perceived benefits of course.

> I thought the Master Student course was great! I wish I would have had this course 20 years ago. It helped me throughout college. (Male/Persister)
>
> Very useful! I was a great course! (Female/Persister)
>
> I loved it. Really a good class to get you started. (Female/Nonpersister)
>
> I didn't think I would like this class, but it turned out to be a lot of fun. My Voc-Rehab Counselor made me take it. (Female/Nonpersister)
>
> There were parts of it I liked and parts of it I didn't like. Very nice teachers, though. (Male/Nonpersister)
>
> Overall, I enjoyed it. There were parts I liked and parts I didn't like. (Male/Nonpersister)

Discussion with respondents continued regarding their utilization of support services and their perception of the usefulness of these services. Only three of the respondents had utilized the services of a tutor, one nonpersister and two persisters. Each of these individuals found the assistance very helpful. One respondent who was blind had utilized the adaptive equipment and contended that he would not have been able to enroll in and complete his program of study without the availability of this equipment.

The discussion with respondents regarding their utilization of support services continued with the focus

shifting to counseling services. The College offered participants services in the areas of admission and career counseling as well as retention counseling. Information was gathered from participants regarding their utilization of admission and career counseling. Information regarding their use of retention counseling was provided as part of the descriptive information section of this study.

Discussions with respondents revealed that 16 of the participants who were persisters had utilized admission counseling. Twelve of these had found it very useful and four remembered it as somewhat useful. A review of utilization of admission counseling by respondents who were nonpersisters revealed that 10 of 19 respondents had utilized admission counseling. Eight found it very useful, and two found it somewhat useful. Examples of positive comments regarding admission counseling were the following.

> It was helpful. I was so scared. It helped to put me at ease. (Female/Persister)
>
> It was very useful. Everyone was very nice and gave me the information I needed. (Male/Persister)
>
> It was real good. You have a real super staff at the College. (Male/Nonpersister)
>
> It was helpful. It helped me to know exactly what I had to do to get started. (Female/Nonpersister)

Career counseling had been utilized by only 3 of the 19 respondents in the nonpersister group and by only 5 of the 20 respondents in the persister group. Indications from the respondents from each group was that the low utilization

of this service was the result of the fact that the majority had made a decision regarding the program they would pursue prior to beginning the admission process with the College. However, each of the respondents who had utilized the career counseling service had found it very useful.

> It was very useful. I needed a lot of guidance in deciding what to do. I really liked my former work. I started in general studies and then with the aid of counseling decided on accounting. (Female/Nonpersister)
>
> I used the placement counselor on campus to really help me decide what to enroll in. He had good insight into jobs that had high employment and good wages. (Female/Nonpersister)
>
> I used the counselor to help me make all my decisions about my career. It was helpful. (Female/Nonpersister)
>
> It was very useful. I was not sure of what I wanted to go into and what I would be good at. This help led me to an education more focused on managerial skills. (Female/Persister)
>
> This service provided me wonderful help in knowing for sure what I wanted to do. (Female/Persister)

College faculty provide all students with academic advisement. Students are urged to see their advisors whenever necessary and at least once each semester. Seven of the 19 respondents who were nonpersisters had not utilized academic advisement. Five respondents from the nonpersister group had utilized academic advisement and had found it "somewhat useful." Seven respondents from the nonpersister group had utilized academic advisement and were positive regarding the benefits derived. Respondents who

were nonpersisters offered the following comments as well as their suggestions for improvement of this academic function.

> It was very useful. My faculty advisor tried every avenue to help me stay in school. I just didn't have the finances. (Female/Nonpersister)

> Academic advisement could be improved. It covered only a semester rather than developing a long-range educational plan. It did not make you aware of options you could add to your program. (Female/Nonpersister)

> Academic advisement was somewhat useful. No insight, though, just routine scheduling. (Female/Nonpersister)

> It wasn't very useful. Faculty gave me the impression they were not very willing to explore options with me. (Female/Nonpersister)

Thirteen of the 20 respondents who were persisters had utilized academic advisement and stated that it had been very useful. Three found it somewhat useful. Four had not utilized academic advisement because they felt the sequence of their course work was specific enough that they did not need additional guidance. Respondents who were persisters offered the following comments regarding this activity. Interestingly, the respondents offered no suggestion for improvement.

> Academic advisement was very useful. I would not have made it without my advisor. (Female/Persister)

> My instructor was a mentor and a friend. You could talk to him about any problem, academic or personal. (Male/Persister)

> Very, very good. My faculty advisor was wonderful. Encouraging and supportive. (Female/Persister)

> I didn't use academic advising. The teacher was not very available. (Male/Persister)

The discussion of respondent utilization of support services concluded with a question asking what they perceived to be the most useful service provided by the College. One respondent from the persister group and two from the nonpersister group could not identify a response. All other respondents were complimentary of one or more aspects of the College or its staff.

> The flexibility of the campus in understanding my needs--allowances were made for me when my child was hospitalized. I also enjoyed the hands-on approach to learning--not just out of books. Movies and seminars were wonderful to aid learning. (Female/Persister)

> The ability to defer tuition and fee payments. At one point I got into some financial difficulty and allowing me to charge let me continue my education. (Male/Persister)

> The fact that leaning is not just book work but actual hands-on experience. (Female/Persister)

> The counseling services are great. Having counselors to help mediate with teachers is helpful. (Female/Nonpersister)

> I think the learning labs really help give you confidence in areas like math--which I never liked until I was in college. Now I find it challenging. (Female/Nonpersister)

> There is pretty much an open door policy with faculty. They were available. The campus had good resources. (Male/Nonpersister)

> The variety of the courses on the schedule. I really made use of the media center and the computer labs. (Female/Nonpersister)

> Probably the advisement. Teachers laid out what was best to take--when. They helped you make

> plans. I also enjoyed the friendliness of people who work around campus. Enjoyable to go to school. I really enjoyed the smaller campus. (Male/Persister)
>
> I felt a part of a family. While I was gone, I really missed the campus atmosphere. Everyone in the office was so helpful. The woman in financial aid is a great lady. Financial aid is very important--only reason I was able to go to college. (Female/Nonpersister)
>
> For me, the most useful was the really comfortable and friendly environment. I felt the atmosphere of--we want to help you succeed. I have been at college where this is not really the feeling that you get. (Female/Nonpersister)
>
> The College has lots to offer. Good education in less time. Personal. At other colleges I felt like a nobody. (Female/Persister)
>
> The counselor helped me find ways to retake a chemistry class I had failed which allowed me to continue. (Male/Persister)

The great majority of the respondents who had persisted and a number of the respondents who had not persisted identified faculty members as the most useful assistance the campus had provided them.

> It's the teachers! If you don't have good teachers not much else matters. (Female/Persister)
>
> Getting to be close to a few teachers who would really help me because they enjoy what they do. All teachers recognized I was a good student. (Female/Persister)
>
> Wonderful teachers! Never a door that was closed. (Male/Persister)
>
> Faculty. They were helpful, understanding, and patient. I learned a lot from them. Most faculty at the College knew my name. (Female/Persister)
>
> Faculty. The respiratory therapist teacher--he set up and organized class time so well that time

was never wasted. He found out where students were and filled in the holes. (Male/Persister)

What stands out in my mind is the math lab teacher. She was so adamant about trying to find a way so I could stay in school. (Female/Nonpersister)

The encouragement given by faculty. Instructors listen to students. (Female/Persister)

The math teacher was wonderful. I am rotten at math, and she worked with me and I now understand math better than I ever did in my life. (Male/Nonpersister)

Student Suggestions to the College

Typically, student services have been developed from models that have traditionally been in place on college campuses nationwide. In anticipation of providing services to disadvantaged adults who would be served through the Carl D. Perkins federal grant project, faculty and staff of Montana State University College of Technology--Great Falls engaged in strategic planning. This planning was organized to identify the needs of the disadvantaged adults who would be attending and consequently the services that would provide them the necessary support to enhance their success. The expected characteristics of each special population group were utilized to plan services. As previously discussed, support services included counseling and advisement, academic skill building labs, study groups, tutors, adaptive equipment, interpreters, and the learning to learn course.

To validate or expand understanding of what services had been most useful to disadvantaged adults, the interviews asked them to focus on what recommendations they would make to the College to improve student retention and success in completing their programs of study. The suggestions from respondents focused on a wide variety of activities and services. The suggestions from the respondents who were persisters included the following.

> I think requiring students to do observations in their field of study prior to enrollment would be good. That way they can find out if they truly want to study and work in that field. (Female/Persister)

> Some students are just here. They don't have good attitudes. Facility here has everything you need. If you don't want to succeed, nothing will help you. It bothers me when students spend money for an education and don't enjoy what they are doing. (Female/Persister)

> Change the length of time it takes to get your PELL grants and student loans--delays are tough on students and families. (Male/Persister)

> Have counselors dedicated to guiding students in taking classes. Faculty don't have time. (Female/Persister)

> Move the television out of Student Commons. Too many students watch T.V. There is a need for more study areas. Have an isolated room where serious students can go for quiet study. (Male/Persister)

> Require completion of a prerequisite semester. This would help with heavy course load. (Female/Persister)

> More quiet places to study. There is no place to get really quiet time. There needs to be more computers in the Media Center. (Female/Persister)

The suggestions from the respondents who were nonpersisters were somewhat more critical of some of the services for students but otherwise closely mirrored those made by persisters.

> Have more sections of classes. Offer the same classes every term. Offer legal classes in the summer and evenings. (Female/Nonpersister)
>
> People who work with students need to be more informed of who to go to. Lots of confusion. I was not impressed with the evening teaching staff. I heard the daytime teachers were better. They wouldn't answer questions. (Female/Nonpersister)
>
> Don't make persons take so much so fast. Have a better supply of tutors. Have more computer labs available. (Male/Nonpersister)
>
> Make things enjoyable to students. I found it so refreshing to be back in classes. Morale has to be there. More clubs, some reasons for students to get together. More student participation so it feels like home. I gained so much self-esteem from going to school there. As a single parent the self-esteem really helped. (Female/Nonpersister)
>
> I think faculty advisors need to be more involved. The faculty was older--close to retirement--treated us like high school kids--this was degrading. I know my responsibility. It is my choice if I don't attend classes and, I have to take the consequence. (Female/Nonpersister)
>
> Have more work study money available to help finance students. (Female/Nonpersister)
>
> Maybe have counselors that know a little more and know exactly what is happening. I would ask one and they would tell me I had to see another. I felt I was on a merry-go-round. (Female/Nonpersister)
>
> I don't think there is anything more that the College can do. It is up to the individual. They have to make it a priority. If you're going to

> succeed, you have to do it for yourself. The College can't do it for you. (Male/Nonpersister)

Advise to Other Students

The interviews concluded by asking the respondents to identify a recommendation they would make to their fellow students to encourage them to persist in their educational program. All respondents, including the nonpersister group, were firm in their counsel to students, to persist and not drop out. Common to the nonpersister group was their disappointment in not finishing.

> Just hang on and do it even if it takes a little longer. Don't let pressures get to you. I let them get to me. (Female/Nonpersister)

> I think some students have a mind set that two-year college is not as rigorous as four-year programs. I would tell these students it is the same rigor and in some classes more demanding. They have to make up their minds to work. (Male/Nonpersister)

> First I'd tell them to take more advantage of high school when they have a chance. I wish I would have worked harder in high school--it would have been easier before I was married and working. (Male/Nonpersister)

> I would tell them it's worth the time you put in. The time goes so fast compared to what you can accomplish. I would tell them to stick with it. I now regret leaving. (Female/Nonpersister)

Respondents from the group who had persisted until graduation were generally elated by their success. They placed great value in what they had accomplished.

> It is such a wonderful thing to succeed--such a good feeling. No one can take this accomplishment

away from me. Once you are finished you can look back and say, "I did it." (Female/Persister)

You've got to make a decision as to what's important. Skipping classes won't work. You have to learn to balance your life--school, work and home life. It may require giving up some activities. (Female/Persister)

Students should stop and think what their life was before and what would happen if they could not go to school. Look at grocery clerks, hamburger flippers, day care. Try to remember your purpose. Don't party--it messes things up. (Female/Persister)

I'd give students pre-enrollment information regarding why students fail. I would help them understand the pressure they will be under and the stress that will occur on their families. I would let them know what the expectations of the curriculum are. (Male/Persister)

You have to set goals--long and short term. Short term--just passing your courses. Long term--what to do with your life. With a career like I developed in occupational therapy you can go anywhere to work. It allows me to earn a good living. Its worth it. (Male/Persister)

Keep your goals front and foremost. Keep them in front of your mind. Don't give up. You have to want to go to school to make it. (Female/Persister)

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study, the related theory and research, the methodology utilized, and the specific findings from the research have been presented and discussed in the previous chapters. This chapter will briefly summarize the preceding four chapters and will present conclusions and recommendations relative to the successful assimilation of disadvantaged adults into postsecondary vocational education as well as to future research in the areas of participation and persistence for this group of adult learners.

Overview

Over the past quarter century, there has been a growing awareness that despite the long-standing national commitment to equal opportunity and a quality life for all citizens, the condition of being disadvantaged is a growing phenomena that threatens the societal and economic well-being of the United States. Contributing to the growing phenomena of disadvantage in the United States is the advent of the age of electronic technology. Electronic technology as the

basis for the national economy has reduced the need for unskilled workers and has increased the need for workers with higher literacy and technological skill levels.

To confront the growing problem of disadvantage in the American society, national planning efforts such as those by the United States Department of Labor, Workforce 2000 (1987), were incorporated into federal legislation under the Carl D. Perkins Vocational and Applied Technology Act of 1990. This Act contained monetary incentives to encourage postsecondary vocational education institutions nationwide to design programs and support services to enhance the successful participation in postsecondary vocational education of members of the society who were disadvantaged economically, educationally, or by reason of a handicapping condition.

In 1991, Montana State University College of Technology--Great Falls, located in Great Falls, Montana, was the recipient of a Carl D. Perkins grant which was funded for a five-year period of time to provide support services to students who were disadvantaged to enhance their ability to complete a vocational education program. Currently, there is very little information available to the field of postsecondary vocational education regarding the problems and challenges that adults who are disadvantaged encounter when they enroll in a formal vocational education program. Research documenting participation and persistence

patterns in postsecondary vocational education for disadvantaged adults is very limited. To date, vocational educators know little about their disadvantaged student populations. Without a better understanding of these students, Montana State University College of Technology--Great Falls, like other two-year colleges nationwide, will be hampered in its efforts to provide them a positive educational experience as well as to improve their chances for success in postsecondary vocational education.

The findings of this study have been stated in the hope that they will lead to a better understanding of the:

1. Demographic and academic characteristics of disadvantaged adults who make the decision to participate in postsecondary vocational education;

2. Factors that motivated them to enroll in a formal postsecondary vocational education program;

3. Persistence patterns of these adult learners, who persisted until graduation and who dropped out prior to graduation;

4. Type of campus support services utilized by these disadvantaged adult learners and what impact these services had on their persistence;

5. Insights these adults have regarding the factors that influenced them to persist or to drop out;

6. Opinions of disadvantaged adults in regard to the most helpful assistance the College provided as well as

their suggestions for other services the College could have provided to enhance student success; and

7. Suggestions disadvantaged adults have for other students to encourage them to persist until graduation.

The participants in this study who agreed to be interviewed provided their perspective regarding these questions willingly and enthusiastically. All respondents were eager to provide information that might be utilized by the College to assist other students. In probing for the answers to these questions, other important information pertaining to the personal and institutional factors that impact persistence for disadvantaged adults was also gained.

Conclusions

A number of conclusions can be drawn based on the findings from this study of disadvantaged adults who made the decision to enroll in a formal postsecondary vocational education program.

> Conclusion 1. The demographic and educational characteristics of disadvantaged adults are not a useful predictor of their persistence in postsecondary vocational education.

In this study, little difference was found between the demographic and academic characteristics for the group persisters when compared to the demographic and academic characteristics for the group nonpersisters. The *t*-tests conducted to compare the means of the two groups identified

a weak pattern of significance between the demographic and academic characteristics for each group. In addition, the discriminant analysis failed to identify strong correlations between demographic and academic characteristics and group membership.

This study identified that participants who were educationally disadvantaged often persisted while those who had strong academic skills did not, that participants who had multiple life responsibilities persisted while those who could focus solely on their education did not, that those from lower socioeconomic groups persisted while those from higher socioeconomic groups did not, and that those with multiple disadvantages persisted while those impacted by a single disadvantage did not. No consistent reason for persistence or nonpersistence behavior could be found in the demographic and educational characteristics of disadvantaged adults enrolled in two-year postsecondary vocational education.

This conclusion which identified no significant difference in demographic and academic characteristics for disadvantaged adults who were either persisters or nonpersisters was significantly different from a conclusion drawn by Tinto (1987). Tinto's study focused on the total population of students enrolled in a four-year college setting. His study concluded that individuals of different race, ability, and social status origins differed markedly

in the rate at which they left higher education without graduating. Rates of system departure were highest for Hispanics and Blacks and for persons of lower ability and social status. Persons of lowest academic ability were more than twice as likely to depart as were individuals of highest academic ability (p. 18).

Tinto (1987) further addressed two-year students in his study. He accurately identified that these students are often more likely to have significant work or family responsibilities which constrain their involvement in the life of the college (p. 33). No clear relationship could be found in this current study of disadvantaged adults between their level of personal responsibilities and their involvement in campus life. Persons with multiple responsibilities were often well-involved in college activities while students with few responsibilities outside the classroom were not.

Even though the demographic and academic characteristics of disadvantaged adults were not useful in predicting who would persist in vocational education and who would not, these data offered significant information which will be very useful for institutional planning. These data identified factors that can be monitored in future studies to further develop understanding and expertise in serving disadvantaged adults.

Conclusion 2. Disadvantaged adults are motivated to enroll in formal postsecondary education not only by vocational goals but also by personal achievement and role model goals.

Previous research in the field of adult education identified that adults who enroll in formal educational activities are generally motivated by their vocational aspirations (Houle, 1961, p.33). Similar to this previous finding, the disadvantaged adults who participated in this study predominantly identified the strong desire to obtain a better job that would compensate them at a wage sufficient to support a quality life as their reason for enrollment in postsecondary vocational education.

In addition to the strong desire for a vocational benefit from education, disadvantaged adults identified two other primary reasons for enrollment in formal postsecondary education. Men and women who were either persisters or nonpersisters often expressed the desire to prove to themselves or to a significant other, most often a parent, that they "could do it." These participants identified that they had previously dropped out of high school or college and now wanted to prove they could complete what they had started.

A second motivating factor that emerged early in the interviews with respondents, particularly those who were women, was the strong desire to serve as an appropriate role model for their children. These parents often expressed the

belief that if their children saw how important education was to them, there would be a subsequent positive impact on the children's educational motivation and achievement. Many parents related the fact that they had no one when they were growing up to encourage them toward education and that they hoped to "do better for their children."

Conclusion 3. Women who were disadvantaged adults had a high tendency in high school to identify marriage and family goals rather than career goals for themselves.

Through the interviews with respondents who were women it was determined that they had been more focused during high school on the goal of marriage and having children than on identifying long-range career goals for themselves. These women reported they had thought of themselves as homemakers with the husband in the traditional role of family wage earner. In view of the 25-year emphasis on options and choices for women, this was an unexpected factor to emerge. This information first emerged in interviews with women who were older than 40. It was initially concluded this was related to the traditional mindset of the times in which these women had been raised. However, as the interviews continued it was determined that this same mindset continued to emerge for women who were in their early 20s and 30s.

This focus on the traditional goals of marriage and family corresponded with previous studies which focused on

women living in rural environments. These studies identified that isolation and the consequent lack of exposure to a multitude of career options as well as to women in nontraditional roles often leads rural women to embrace traditional goals for themselves. Brown (1985) reported, "The social environment of rural communities often influences the attitudes of high school students, particularly women, away from college and toward more traditional roles" (p. 4). Chu (1980) found that "the majority of rural women still conform to the traditional norms concerning woman's proper place in the home, with the children and supportive of the spouse's endeavors" (p. 179).

Conclusion 4. Assessment of academic skills prior to enrollment in a postsecondary vocational education program is an important support service to provide for disadvantaged adults.

Of the support services provided to disadvantaged adults the one mentioned most frequently as "very useful" by respondents, persisters and nonpersisters, was the assessment of their academic skill level at the time they applied for admission to the College. For those respondents for whom assessment indicated their academic levels were sufficient for college work, they stated the assessment had provided a boost to their confidence in confirming they had once been capable students and could now continue to be capable students. The respondents for whom assessment had indicated their academic skill levels were not sufficient

for college work reported the assessment had provided them a clear goal for which to strive.

This was an unanticipated finding in that adult educators often debate the value and benefits of assessment for the nontraditional age adult. These educators are concerned that assessment of academic skill prior to enrollment could be an additional threat to the fragile self-esteem of disadvantaged adults. A study completed by Smith and Martin (1972) of effective programs to serve disadvantage adults concluded that "educators must be able to help disadvantaged adults establish realistic goals and to develop strategies to accomplish them" (p. 19).

> Conclusion 5. Disadvantaged adults who participate in postsecondary vocational education tend to rely heavily on skill building opportunities to develop or refresh their basic academic skills.

The mean age of the participants in this study was 32. Given the high number of participants who were of nontraditional age, 23 years of age or older, and the consequent length of time that these nontraditional age students had been away from formal educational activities, it was not surprising to find that the participants in this study had a high rate of utilization of the College's academic skill building labs. Respondents, both persisters and nonpersisters, reported they had experienced a great deal of pre-enrollment anxiety in that they might not be

"smart enough" to complete a college education. All respondents indicated earnest appreciation for the availability of the opportunity to develop or brush-up their academic skills. Respondents were highly complimentary of the user-friendly and supportive nature of the instruction in the academic skill building labs. Their comments included statements describing how the labs had given them confidence in themselves as learners and how many of them had come to believe in themselves as competent learners for the first time. For colleges who have been providing developmental opportunities in reading, composition, math, and science, the comments of respondents provided positive reenforcement of the value disadvantaged adults place on the opportunity to improve their academic skills in conjunction with their postsecondary education.

Conclusion 6. Participation in a study group increases the likelihood that disadvantaged adults will persist in postsecondary vocational education until graduation.

From the data gathered through interviews with participants who had persisted it was identified that almost 66% of these individuals had participated in an organized study group with fellow students. In comparison, less than 25% of the respondents in the nonpersister group reported they had participated in a study group. Although nothing was found in the literature of adult education that specifically addressed the impact of study groups on

persistence for adult learners, Long (1983) observed that "while the act of learning may be a very personal and individual matter, learning for adults frequently occurs in social settings that involve two or more people" (p. 238). Tinto (1987) related his belief that disadvantaged students require a different form of social support than do majority students. Closely related to the concept of study groups, he recommended "the development on campus of mentor programs to provide disadvantaged students with role models, both student and faculty, to guide their progress through the institution" (p. 161). Phelps (1992) identified the positive impact on disadvantaged students of cooperative learning experiences. He reported on the need to provide these students with opportunities to participate in structured, small group learning situations (p. 26).

Conclusion 7. Participation in student support services by itself is not a reliable predictor of persistence in postsecondary vocational education for disadvantaged adults.

Nearly half, 49%, of the participants in this study took part in one or more of the support services available to them under the Carl D. Perkins Vocational and Applied Technology project at Montana State University College of Technology--Great Falls. Special support services included academic skill building labs, Master Student--a learning to learn course, retention counseling, tutor services, interpreters for hearing-impaired students, and adaptive

equipment for sight-impaired students. In addition to these special support services, participants were provided the regular cadre of student services that were available to all students. These included academic skill assessment, admission and career counseling, and academic advisement. The support services provided to participants in this study closely paralleled the support services which emerged on college campuses nationwide in the 1970s and '80s to serve changing student populations. These emerging student services as described by Cohen and Nance (1982) were designed to "enhance the overall development of the student academically, vocationally, and personally" (p. 2).

The outcome of this study identified that slightly greater numbers of nonpersisters, 53%, as compared to persisters, 45%, utilized support services at the College. The discriminant analysis conducted to determine the relationship between support services and student persistence in vocational education until graduation evidenced no significant difference in persistence as a result of the participation in campus support services.

Conclusion 8. The first year of study is the most likely time for disadvantaged adults to drop out of their vocational program of study.

From the student persistence data available through the College and from interviews with respondents who failed to persist until graduation, there emerged a strong pattern,

79%, of drop out during the first year of postsecondary education. Many of these nonpersisters failed to continue attending classes beyond the first eight weeks of the first semester. At the time they officially withdraw from the College, participants were asked to identify their reason for withdrawal. Reasons given were often related to personal conflicts outside the institution. Medical and financial problems, family responsibilities, and family job transfers were the predominant reasons identified.

This conclusion corresponded with the findings of Tinto (1987) in which he identified that drop out for non-academic reasons generally occurred very early in the individual's college experience, i.e., the end of the first year or during the second (p. 154). He also identified that this early departure may be because individuals find the institution ill-suited to their needs and interests, that higher education of any form may not be in their best interest, or they are unable to keep up and withdraw before they face eventual failure (pp. 154-155).

> Conclusion 9. Disadvantaged adults who are persisters are more strongly committed to an identified educational goal than are disadvantaged adults who do not persist.

Interviews with respondents who persisted revealed a high level of commitment to a specific vocational goal. These respondents spoke of having taken extraordinary means to define their vocational education goal such as job

shadowing, working in the field prior to enrollment, or understanding the field as a result of personal experience or interaction with someone working in the field. They also persevered toward their goal in spite of encountering difficulties that had the potential to deter them.

In contrast, the respondents who were nonpersisters spoke of having no well-defined vocational goal when they enrolled. Nonpersisters were less clear regarding their occupational choice and in some cases specifically spoke of the need to remain open to new opportunities that might arise. None of nonpersisters reported they had undertaken a similar process as that identified by persisters to clarify their vocational goal, i.e., job shadowing, acquiring experience in the field, or talking to someone in the field.

Tinto (1987) studied the factors influencing persistence in the general population of college students. He found that individual commitments, whether expressed as motivation, drive, or effort, proved to be centrally related to departure from institutions of higher education (p. 44). He concluded that college completion "calls for a willingness to commit oneself to the investment of time, energy, and often scarce resources to meet the academic and social demands which institutions impose upon their students" (p. 44).

Conclusion 10. Disadvantaged adults identified the support and encouragement they had received

from faculty and staff as the most useful assistance the College had provided.

When asked what the College had provided that was the most useful assistance for them, the majority of respondents, persisters and nonpersisters, reported the encouragement, friendliness, and caring of faculty and staff. This emerged immediately in the interviews and was consistently mentioned. Respondents reported faculty and staff knew their name, cared about them and their success, and encouraged them regarding their ability and potential. This response was unexpected in that it was anticipated that respondents would respond regarding the campus support services they had utilized.

This tendency to relate the usefulness of positive contact with faculty and staff was consistent with previous studies which focused on the persistence patterns of rural adult learners and American Indian women. Brown (1985) reported that rural college students are frequently lonely, feel misunderstood, and have difficulty negotiating the complex college administrative structure. A lack of social and interpersonal interactions as experienced in high school could be one factor contributing to early drop out from college by rural students (p. 7). Respondents frequently mentioned that they preferred the smaller campus of Montana State University College of Technology--Great Falls to larger campuses they had previously attended. They stated

appreciation for the smaller numbers of students in classes and for the opportunity for personal interaction with other students, faculty, and staff.

Bowker (1991) studied American Indian women and their success in formal education. Relevant to this study was the significance these women placed on the role rendered in their success by a caring, competent adult, often a teacher, who not only modeled appropriate behaviors but also encouraged them and served as an advocate for them when necessary (pp. 262-263).

> Conclusion 11. Disadvantaged adults who persisted in vocational education until graduation expressed a greater level of positive connectivity with the institution.

Generally, the interviews with respondents who were persisters disclosed they had positive feelings about their experience at the College. They spoke in approving terms of the assistance they had received and of their relationships with faculty, staff, and other students. The majority of these students had utilized admission counseling, academic advisement, and/or support services and generally appreciated their availability.

Conversely, those respondents who were nonpersisters were as a group much less positive regarding the institution, staff, faculty, and support services. Several of these individuals had not availed themselves of any support services. Several expressed dissatisfaction with

the institution, with information they had been provided, and/or with the support services they had utilized. They had fewer positive comments about the friendliness of the institution or the assistance given them by faculty and staff. Few of them identified friendships or interactions with their fellow students.

Tinto (1987) identified the influence of non-integration within the educational institution as a key factor in student attrition. He found that less than 15% of all institutional departures take the form of academic dismissal. Most departures are voluntary, and rather than mirroring academic difficulties, they reflected the character of the individual's social and intellectual experiences within the institution following enrollment (p. 53). He reported, "Generally, the more integrative these experiences are, the more likely are individuals to persist until degree completion. Conversely, the less integrative they are, the more likely are individuals to withdraw voluntarily prior to degree completion" (p. 53).

> Conclusion 12. Disadvantaged adults who persisted reported a high level of determination as a personal characteristic while disadvantaged adults who did not persist reported a high level of opportunism as a personal characteristic.

Early in the interview process a pattern with potential to be linked with the personality characteristics of persisters and nonpersisters emerged. The majority of

respondents who were persisters used the word "determined" to describe themselves while the respondents who were nonpersisters often utilized the word "opportunity" to describe the factors that had motivated them to drop out. It would seem reasonable to expect that personality factors could contribute to attrition for disadvantaged adults. The studies of the impact of personality on persistence completed to date are somewhat contradictory in their conclusions.

A study completed by Astin (1964) found dropouts to be more aloof, self-centered, impulsive, and assertive than nondropouts (pp. 249-250). Another by Spady (1970) suggested that withdrawing students, especially those in good academic standing, tended to be less responsible, more impulsive, anxious, rebellious, and unstable (p. 54). Contrasting with these studies were the conclusions of a study completed by Suczek and Alfert (1966) in which they stated, "Those students leaving in good academic standing are on the average autonomous, mature, intellectually committed, creative men and women who are seeking a less conventional, enriched environment" (pp. 89-91).

Generally, the studies of the impact of personality on persistence have concentrated on characteristics of personality that are regarded as deviant or not socially acceptable rather than on personality traits, such as determination or opportunism, that are different but common

and acceptable. These studies also concentrated on traditional age students who were enrolled in four-year colleges. An observation by Tinto (1987) established the basis for further study of personality as an issue in persistence. "What may lead one person to stick it out and another to depart without seeking assistance must somehow be associated with differences in their personalities" (p. 277).

Recommendations

The conclusions of this study contribute new knowledge regarding a specific group of learners, disadvantaged adults who live in a rural area, to the existing research in regard to participation and persistence in postsecondary education. The new knowledge centers on information collected from the demographic and academic data of 549 disadvantaged adults who enrolled in postsecondary education as well as from information collected from the stories related by 39 of these individuals who were asked to recount their motivation toward and experience in postsecondary vocational education. Although this study's findings cannot be generalized, the concepts and relationships gleaned from the data and from the interviews with participants can add to the understanding of participation and persistence in educational activities that may be applicable to other adult learners.

The following recommendations are divided into two areas: (a) general recommendations for practice and (b) recommendations for further research.

General Recommendations for Practice

1. Because the need to prepare disadvantaged adults to enter the technologically oriented workplace is likely to continue to increase, two-year colleges should adopt recruitment, admission, academic, and support service policies to ensure a campus climate that promotes a positive, humanistic approach to dealing with the unique educational needs and various life roles of these individuals.

2. Two-year colleges should develop outreach and orientation programs to offer career counseling and job shadowing opportunities to assist disadvantaged youth and adults to identify a definite and appropriate postsecondary vocational education goal with special emphasis given to assisting women to develop appropriate vocational plans directed toward long-term personal self-reliance.

3. Through personnel recruitment efforts and professional development opportunities, two-year colleges need to employ highly committed faculty and staff who are willing to mentor, counsel, and advocate for disadvantaged students.

4. The long-term retention efforts of two-year colleges should focus on prompt integration of disadvantaged adults into the social and academic life of the campus.

5. Campus support services should focus on the awareness disadvantaged adults have of their academic skill needs by offering pre-admission assessment and course scheduling advisement as well as post-enrollment developmental education options, especially in the areas of English, math, and science.

6. Retention efforts should address the characteristic fear that disadvantaged adults have that they will not be able to succeed in a college program by celebrating short-term academic success milestones.

7. Recognizing that disadvantaged adults who are parents strive to provide an educational role model for their children, two-year colleges should plan opportunities for children to visit the campus or classroom with their parents.

8. Support services for disadvantaged adults should include an orientation to the utilization of study groups including how to organize them, how to schedule for day and evening meetings, and how to develop guidelines for participants.

Recommendations for Further Research

1. The study should be replicated with other samples of disadvantaged adults who enroll in postsecondary vocational education so as to increase the body of knowledge in the field of adult education regarding the demographic and educational characteristics as well as the academic support needs of this group of adult learners.

2. To identify the impact of personality on college persistence, a study should be conducted to focus on personality characteristics such as determination versus opportunism or tendency toward or away from goal attainment.

3. In recognition of the complicated personal lives of disadvantaged adults and the consequent impact of being disadvantaged on college persistence, conduct a longitudinal study of five years or more to determine the underlying causes and true meaning of college drop out as well as the long-term reenrollment patterns of these individuals.

4. In order to recognize the national trend toward delayed entry into college by disadvantaged secondary students and to more accurately document the two- and four-year college participation and persistence patterns of these individuals as they mature into adulthood, conduct lengthier, at least ten year, longitudinal studies of high school senior cohort groups.

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APPENDICES

APPENDIX A

LETTER TO DEAN/
PERMISSION TO CONDUCT RESEARCH

April 4, 1994

Willard R. Weaver, Director
Great Falls Vocational-Technical Center
2100 16th Avenue South
Great Falls, Montana 59405

Dear Will,

As a part of my doctoral program through Montana State University College of Education, Health and Human Development, I am requesting permission to conduct case study research regarding the Carl D. Perkins basic grant currently in place at Montana State University College of Technology--Great Falls. Research would focus on students who are members of the special populations group as defined by the Carl D. Perkins Vocational and Applied Technology grant. Specifically for my research, this would be students who are educationally disadvantaged, economically disadvantaged, or disabled.

The intent of research would be to comprehensively define the characteristics of disadvantaged adults in attendance at the College of Technology including age, gender, ethnicity, family composition, educational background, and program of study; to identify why these students are participating in formal education; to identify barriers to participation for those students who drop out prior to graduation; and to identify factors that contributed to persistence for students who graduate. Research procedures would include the review of demographic data collected for yearly reports of grant activities, review of academic records, and personal interviews with graduates and nongraduates who are willing to participate in the research.

I would need names of students served under this project in order to contact them regarding their willingness to participate in this project. After initial contact, the participants' names will not be used in this study. They will be identified by number only for my follow-up during the research phase of my work. Interviews would not identify the student by name. The report of this research

in the form of a dissertation will not require that any student be identified by name. All reporting will be in terms of statistical data.

You have my assurance that I would, at all times, recognize and respect the College's policy regarding confidentiality of student records and information.

It is my belief that this completed study will assist the College of Technology to better understand this group of learners toward the goal of providing programs and services to enhance their participation and success.

Please let me know at your earliest convenience if you will be able to approve my request. I would be glad to answer any further questions or provide further information. If approved, I will provide a timetable of research activities so you are well apprised of my work and progress. Thank you for your consideration of this request.

Sincerely,

Patricia Kercher

C: Dr. Robert Fellenz
Dissertation Committee Chair

APPENDIX B

EXAMPLE OF STUDENT LETTER

May 10, 1994

TO: Spring Semester Graduates
FROM: Patricia Kercher, Academic/Student Services Officer

Congratulations! You have strived for and completed an educational goal! Not everyone does. Many individuals who start an educational program drop out before completing it.

Montana State University College of Technology--Great Falls would like to better understand circumstances and factors that lead students to be successful. Would you help us to learn about and better understand the educational characteristics of our successful students?

To accomplish this, I would like to ask you to participate in this study. Participation would require that you complete a personal interview. The time involved should not be more than thirty minutes. Questions asked will focus on your personal and educational background, educational goals, and identification of factors that you feel contributed to your success in education.

If you are willing to participate, please complete the lower portion of this memo and return it to me in the Main Office by end of day, May 11, 1994. You will not be identified by name in the study thereby guaranteeing the confidentiality of your responses.

I will contact graduates who are willing to participate to establish a time for the interview. Participants will be provided with a summary of information that has been gathered in Spring of 1996.

Thank you and I look forward to your participation in this study.

Please Print

Full Name:_____

Permanent Address:_____

Telephone: Home:_____ Work:_____ Message:_____

Best Time to Contact You:_____

I am willing to participate in the study of graduates to assist in defining factors that contribute to success in completing an educational program:

Signature:_____

APPENDIX C

INTERVIEW GUIDE FOR PERSISTERS

Interview Guide for Persisters

Name:_____ Program:_____

Graduation Date:_____

1. What motivated you to enroll in a program of study at the College of Technology?

2. When you started your program of study, was it your belief that you would be able to finish?

3. Please describe your educational background?

4. Is this your first time in postsecondary education? Provide history of postsecondary education experience.

5. What is the educational background of:
   Your Parents? Mother_____ Father_____
   Your Spouse?

6. Describe your economic status:
   As a child/teenager?
   Currently?

7. What examples can you give that indicate your parents valued or devalued education?

8. Describe your family status? Self?
   Parents?

9. Was grade school a pleasant, profitable experience?
   High School?

10. What was your employment status at the time you enrolled in your educational program? What is it now? How do you feel about the jobs you've held?

11. What factors do you feel strongly contributed to your success in completing your educational goal?

12. Was there ever a time that you thought you might not make it? Why?

13. Did you take advantage of and how useful were the following services provided by the Campus:

Assessment of Academic Skills: Utilized Not Utilized
Very useful Somewhat Useful Not Useful

Career Guidance: Utilized Not Utilized
Very useful Somewhat Useful Not Useful

Admission Counseling: Utilized Not Utilized
Very Useful Somewhat Useful Not Useful

Master Student: Utilized Not Utilized
Very Useful Somewhat Useful Not Useful

Labs: Utilized Not Utilized
Very Useful Somewhat Useful Not Useful

Tutors: Utilized Not Utilized
Very Useful Somewhat Useful Not Useful

Adaptive Equipment: Utilized Not Utilized
Very Useful Somewhat Useful Not Useful

Academic Advising: Utilized Not Utilized
Very Useful Somewhat Useful Not Useful

Study Groups: Utilized Not Utilized
Very Useful Somewhat Useful Not Useful

Other (Describe)

14. What was the most useful assistance the campus gave you in pursuing your studies?

15. What recommendations would you make to the campus to help other students?

16. What recommendation would you make to help other students persist until graduation?

Rural:

Hard Life:

Determination:

Other comments:

APPENDIX D

INTERVIEW GUIDE FOR NONPERSISTERS

Interview Guide for Nonpersisters

Name:_____ Program:_____

Exit Date:_____ Terms Completed:_____

Certificate/Degree

Carl Perkins Category

Age

TABE Total

1. What motivated you to enroll in a program of study at the College of Technology?
2. When you started your program of study, was it your belief that you would be able to finish?
3. Please describe your educational background?
4. What is the educational background of:
   Your Parents? Mother_____ Father_____
   Your Spouse?
5. Describe your economic status:
   As a child/teenager?
   Currently?
6. Describe your family status? Self? Parents?
7. What examples can you give that indicate your parents valued or devalued education?
8. Was grade school a pleasant, profitable experience? High School?
9. What was your employment status at the time you enrolled in your educational program? What is it now?

10. Did you take advantage of and how useful were the following services provided by the Campus:

Assessment of Academic Skills: Utilized Not Utilized
Very useful Somewhat Useful Not Useful

Career Guidance: Utilized Not Utilized
Very useful Somewhat Useful Not Useful

Admission Counseling: Utilized Not Utilized
Very Useful Somewhat Useful Not Useful

Master Student: Utilized Not Utilized
Very Useful Somewhat Useful Not Useful

Labs: Utilized Not Utilized
Very Useful Somewhat Useful Not Useful

Tutors: Utilized Not Utilized
Very Useful Somewhat Useful Not Useful

Adaptive Equipment: Utilized Not Utilized
Very Useful Somewhat Useful Not Useful

Academic Advising: Utilized Not Utilized
Very Useful Somewhat Useful Not Useful

Study Groups: Utilized Not Utilized
Very Useful Somewhat Useful Not Useful

11. Where were you in your program of study when you made the decision to drop out of College? Semester?

12. What factors precipitated your decision to drop out?

13. Do you plan to complete your education at a later date? Will you stay with the same program? Change programs?

14. What recommendation would you make to the College to help students persist until graduation?

15. What was the most useful assistance the campus gave you in pursuing your studies?

Rural?

Goals in High School?

Hard Life?

Determination?

APPENDIX E

t TEST COMPARISON OF DEMOGRAPHIC VARIABLES INDICATING NO SIGNIFICANT DIFFERENCES

Table 8. *t* Test Comparison of Demographic Variables Indicating No Significant Difference.

GROUP	Mean	SD	*t*-value	df	2-Tail Sig.
Variable: Gender					
Persisters	1.24	.430	-.20	546	.841
Nonpersisters	1.25	.435	-.20	408	.841

GROUP	Mean	SD	*t*-value	df	2-Tail Sig.
Variable: Financially Disadvantaged					
Persisters	1.10	.286	1.36	536	.174
Nonpersisters	1.06	.232	1.44	468	.149

GROUP	Mean	SD	*t*-value	df	2-Tail Sig.
Variable: Disability					
Persisters	1.80	.404	1.18	544	.239
Nonpersisters	1.75	.433	1.16	387	.248

APPENDIX F

t TEST COMPARISON OF ACADEMIC VARIABLES INDICATING NO SIGNIFICANT DIFFERENCES

Table 9. *t* Test Comparison of the Means for the Academic Variables of the Group Persisters with the Means for the Academic Variables of the Group Nonpersisters.

GROUP	Mean	SD	*t*-value	df	2-Tail Sig.
Variable: Academic Credential--Certificate or Degree					
Persisters	1.55	.498	-.39	541	.700
Nonpersisters	1.57	.496	-.39	412	.700

GROUP	Mean	SD	*t*-value	df	2-Tail Sig.
Variable: Admission Assessment of Academic Skill					
Persisters	1.50	.501	-3.02	525	.003
Nonpersisters	1.64	.481	-3.05	417	.002

GROUP	Mean	SD	*t*-value	df	2-Tail Sig.
Variable: Utilized Support Services					
Persisters	1.01	.112	1.16	261	.249
Nonpersisters	1.00	.000	1.42	157	.158