



A study of demographic characteristics and postsecondary experiences of Montana Veterans Upward Bound participants
by Luke Louis Petriccione

A dissertation submitted in partial fulfillment of the requirements for the degree of Educational Doctorate in Adult And Higher Education
Montana State University
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Abstract:

This study addressed the twenty-nine year void of research and information about VUB. It examined selected demographic characteristics of 495 participants of the Montana Veterans Upward Bound Project who participated in the Project and were placed in postsecondary education. Descriptive statistical methods using demographic variables were used to obtain a participant profile and to determine the relationship of these selected variables to graduation or positive persistence. Two focus groups comprising twelve former VUB Billings site students were conducted to gain insight on their postsecondary experiences.

Findings of the study indicated that there were strong relationships between independent variables of age, prior educational levels, the type of institution attended, and the final grade point average to graduation. Prior educational levels and type of institution attended were found to have a relationship to positive persistence.

Experiences of the academically successful and unsuccessful participants revealed that academic integration variables were least important to their academic success or failure. Academically successful students experienced greater and more positive interactions on the organizational and social levels. They were better able to interact with younger students, the faculty, and the institution as a whole. They attributed greater maturity, acceptance of rules, and the diversity of their military experiences as positive factors to their academic success. Off campus demands were similar for both groups, however successful students were better able to build support networks, to establish stronger commitment to their educational goals, and to view the additional demands of non-traditional students as temporary and worthwhile. Health problems were revealed as a unique variable among those who left college without obtaining a degree.

Conclusions of the study indicated that the Montana VUB met or exceeded its federal mandates to serve Native American, female and low-income veterans, and that the majority of participants maintained satisfactory academic standards. Focus group participants indicated a need to better integrate into their institution's organizational and social environments. Finally, there were implications for changes in veterans' benefits and policy, changes in federal financial aid policies, and the urgent need for additional research of VUB tribal college veterans using veterans' benefits.

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Luke Louis Petriccione

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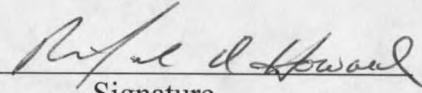
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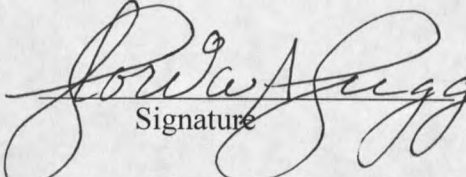
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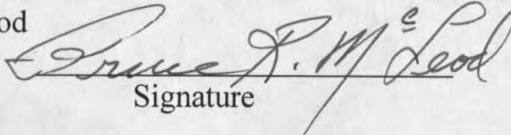
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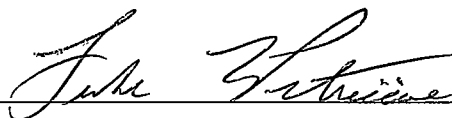

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IN DEDICATION TO:

My Mother, Leonetta Campochiaro Petriccione

And

Captain Robert Hitte III, USMC

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A journey this long is not a single effort, but is the result of support and help by many who have been down this trail with me. I would like to acknowledge the many who have contributed to this paper. First and foremost, to the heavenly Father who has guided me and been there during the my many times of need- this fulfills that promise made many years ago. To my grandparents who believed in the promise of America; to my parents who taught me the values of respect, hard work, and the love of life and learning; to my sister, Sylvia, who teaches the most needy of children with her heart; to my loving wife, Donna, and my children: Zachary, Gwendolyn, Randall, Catherine, Leonetta, and Joseph, for all the joy and reasons you gave me to persist. To my brother Marines past, present, future who acknowledged, undertook and stand ready to make those sacrifices from which we all benefit; To my committee members Drs' Ken Borland, John Borkowski, Marty Frick, Van Shelhammer and Nate St. Pierre; my past chairs Gary Conti and Bill Liesoff. I would especially like to acknowledge two exceptional mentors who have contributed both to my academic and professional development—my chair, Dr. Richard Howard, and my former supervisor, Dr. Linwood Wall. To my Billing's cohort group—Florence Garcia, Cindy Dell and Jay Young, to Melissa Johnson for the help on statistics and Marsha Ferraguti for the typing; to my professional colleagues Steve Gallant, Cai Williams, Glen Morris, John Donaldson, Robert Hernandez, and Oscar Valeriano Jr, Ron Atwell; to my office staff, both at Humboldt and Northern. Finally, to all the Indian people and communities who continue to honor veterans and the warrior spirit, and to all the veterans who have and continue to serve our country. Semper Fi!

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Abstract

This study addressed the twenty-nine year void of research and information about VUB. It examined selected demographic characteristics of 495 participants of the Montana Veterans Upward Bound Project who participated in the Project and were placed in postsecondary education. Descriptive statistical methods using demographic variables were used to obtain a participant profile and to determine the relationship of these selected variables to graduation or positive persistence. Two focus groups comprising twelve former VUB Billings site students were conducted to gain insight on their postsecondary experiences.

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Conclusions of the study indicated that the Montana VUB met or exceeded its federal mandates to serve Native American, female and low-income veterans, and that the majority of participants maintained satisfactory academic standards. Focus group participants indicated a need to better integrate into their institution's organizational and social environments. Finally, there were implications for changes in veterans' benefits and policy, changes in federal financial aid policies, and the urgent need for additional research of VUB tribal college veterans using veterans' benefits.

CHAPTER 1

INTRODUCTION TO THE STUDY

U.S. military veterans have had an enormous impact on the development of adult and higher education in America (Anderson & Kime, 1996). This was especially true of those veterans who entered college after World War II (Rose, 1994; Willenz, 1994; Wilson, 1994; Greenberg, 1994; Olson, 1994; Kerr, 1994; Bennett, 1994). It is estimated that 7.8 million W.W. II veterans received training under the GI Bill. Over two million of these veterans enrolled at colleges and universities at a cost of 14.5 billion dollars (Montgomery, 1994).

To a much lesser degree, veterans are still an important aspect in American Higher Education. Jensen (1999) reported that the GI Bill is still the single largest program of federal financial aid with over 500,000 veterans annually receiving approximately one billion dollars in benefits. Besides the large federal investment in the GI Bill, another federal initiative begun in 1972 was the Veterans Upward Bound program (Westby, 1988). The program provided for the outreach, preparation and placement of first-generation, low-income veterans into postsecondary education and training. The Veterans Upward Bound Project (VUB), a Department of Education TRIO program, provides these services to over 6,000 veterans annually at a cost exceeding 12 million dollars (Council for Opportunity, 1998).

Despite the lowest active military force since 1950 (U.S. Department of Defense Manpower Report, 1999), the federal investment in veteran benefits and services aimed at higher education is increasing. In 1999 the number of VUB projects increased

nationwide from 36 to 51 (Council for Opportunity in Education, 1998), and numerous pieces of federal legislation (HR 1071, HR 1182, S 1041) sought to increase the GI Bill, and double the current expenditure for veteran educational benefits.

These federal initiatives to increase educational support for veterans are occurring at a time when other federal initiatives are calling for greater accountability and assessment of outcomes by federal agencies (Government Performance and Results Act [GPRA] 1993). Veteran benefits and services are no longer viewed as an entitlement of military service, but as an approbation of Congress based upon projected outcomes. The pervasive question pertaining to both the GI Bill and the Veterans Upward Bound Project is then: To what extent are veterans, who are receiving these benefits and services, academically successful in completing their educational objective?

The answer to this question is elusive, since the study and research of veterans' academic success is sporadic, with most of the research occurring after major military conflicts (Fine, 1947, 1949; Frederickson, Norman, Schrader, 1951; Clements, 1973; Burns, 1974; Fligstein, 1976; Villemez, Wayne, Kasarda, 1976; Henderson, 1977; O'Neill, 1977; Fernandez, 1980; La Barre, 1985; Booze, Allen, Hamilton, 1989; Cohen, Jere, Segal, David, Temme, 1992; Goodrich, 1998; Atwell, 1999). There are a number of delimitations of these studies which restrict their use in examining academic success of veteran students including: The focus on the assessment of the GI Bill utilization rate and not the degree attainment among GI Bill users; the use of small samples of veterans over a short period of time at specific educational institutions; the sole emphasis on comparing veteran student demographics with non-veteran student demographics; and the

examination of occupational attainment of veterans who have only used the GI Bill. The only large-scale investigation of veterans as college students was conducted by Frederickson, Norman, and Schrade (1951), whose study surveyed 10, 000 veterans at 16 different colleges.

Beyond these noted delimitations of past research, a more urgent need presents itself. Veteran Upward Bound Projects, despite twenty-nine years of federal funding, have never been a subject for study. Increasing federal accountability, dramatic change in the demographics of the current all volunteer service (Anderson, Kime, 1996), and the lack of knowledge pertaining to the postsecondary, educational experiences of VUB participants necessitates an initial study describing participant characteristics, and an understanding of their post VUB experiences, as they relate to academic success or failure. The federal mandate for all Upward Bound projects is to “generate the skills and motivation to complete a program of postsecondary education and to enter and succeed in a program of postsecondary education” (34 CFR Part 645.1). The lack of research regarding the success of VUB programs makes it difficult to assess how well projects are meeting this federal mandate.

Statement of the Problem

The problem addressed in this study was the lack of information describing selected characteristics of Montana’s VUB participants who have entered postsecondary education, and the lack of understanding about those experiences, as they related to their academic success or failure.

The lack of studies related to VUB participants, and the 1999 expansion of funds to establish more Veteran Upward Bound projects to address the number of academically unprepared veterans being discharged from the current military increases the need for assessing outcomes for improving project performance to justify and continue federal investment in the projects. The primary outcome objective for Veterans Upward Bound has changed from the number of veterans placed into postsecondary education to the number of veterans graduating and persisting in postsecondary education (Code of Federal Regulations, 1995). The inability to describe the characteristics of participants and their post VUB experience in postsecondary education severely limits the Montana's VUB Director's knowledge for increasing project performance that could result in greater numbers of academically successful participants. This lack of research pertains to all currently funded VUB projects, and is of particular concern to the Montana State University Northern's Veterans Upward Bound Project as it seeks to improve the academic success of its participants.

The Purpose of the Study

The stated purpose of this descriptive study was to examine selected demographic characteristics and postsecondary experiences of Montana's VUB participants to gain an understanding of the factors that contributed to their academic success or failure. Specifically, the study sought to (i) to describe VUB participants based on selected demographic characteristics, (ii) to describe the relationship between these characteristics and academic success (graduation and positive persistence), (iii) to illustrate the postsecondary experiences of Billings area participants, as it too related to their academic

success or failure, and (iv) to obtain information for improving Project services and practices

Academic success is defined as any Montana VUB participant who had graduated with a college degree/certificate, or any Project participant who was enrolled with a grade point average of at least a 2.0 GPA as of June 1998. Academic failure was defined as any Project participant who was classified as dropout, stopout or maintaining less than a 2.0 GPA, as of June 1998.

Theoretical Framework

The researcher found no existing studies that describe VUB participants or factors related to their academic success or failure. Studies related to veterans as students are predominately quantitative in nature, and seek to identify differences in demographic characteristics between veteran and non-veteran college students (Chapman, 1983; Henderson, 1977; Weiss, 1976; Burns, 1974; Frederickson, Norman, Schrader, 1951; Fine, 1947, 1949).

During the past twenty years, there has been an abundance of research regarding persistence as a measure of academic success among various segments of college students (Tinto, 1975, 1993; Richardson & Skinner, 1993; Murguia, Padilla & Pavel, 1991; Williamson & Creamer, 1998; Pascarella & Terenzini, 1991). There remains little research, however, outside of the theoretical models presented by Bean (1985, 1990), and Metzner and Bean (1987) that postulates persistence among non-traditional students. The preponderance of veterans are considered nontraditional by having elected to enter the military prior to entering college and later enrolling as older nontraditional students.

These earlier models (Bean, 1985; Metzner & Bean, 1987) provided the theoretical framework for examining certain demographic background variables and their relationship to academic success. As stated earlier, the study of veteran student demographics has been the primary focus of the majority of research related to veterans in postsecondary education (Atwell, 1999, Chapman, 1983; Henderson, 1977; Weiss, 1976; Burns, 1974; Frederickson, Norman, Schrader, 1951; Fine, 1947, 1949). It is evident that certain demographic variables were important enough for inclusion in Bean's earlier studies focusing on non-traditional students. In addition, the use and importance of demographic characteristic along with other data continues to serve as a basis for current research on accountability and assessment of higher education outcomes (Ewell, 1991).

Bean's (1990) Longitudinal Model of the Types of Factors that Affect Retention Decisions represents a synthesis of earlier models and was appropriate for gaining an understanding of participants' postsecondary experiences. This latter model does have several limitations that prevented it from being used as a complete framework for the study. The 1990 model is based on traditional and non-traditional student populations, and the specific demographic background variables have been generalized to emphasis high school preparation rather than personal demographic variables. The advantages of this construct for the qualitative inquiry of this study, however, outweigh its limitations. As noted by Dell (2000) Bean's model "may be useful to understanding the American Indian experience in higher education" (p. 9). This was an important consideration since forty-six percent (46%) of the subjects in this study were American Indians. Dell's

rationale was based on numerous studies that suggested environmental pull factors, especially those related to family, were important factors in American Indian persistence.

The model presented four stages and variables leading to a student's decision to leave or remain at college. The four sets of interaction variables (organizational, academic, social, environmental pull) provided a structure for understanding the participants' postsecondary educational experiences. The theoretical models of Bean and Metzner are presented as figures in Chapter 2. Also contained in Chapter 2 is a review of the study's methodology that supports the selection and use of focus groups, as a qualitative method, for gaining information to illustrate participants' postsecondary experiences.

Research Questions

1. Based upon selected background and Project demographic characteristics, how are the Project participants, who entered postsecondary education best described?
2. What is the relationship of selected demographic variables of Montana's Veteran Upward participants who entered postsecondary education to academic success (degree obtainment and non-graduate positive persistence—retention)?
3. What are the important postsecondary experiences that contributed to the academic success or failure as illustrated by the Billings program participants?
4. What are the implications of these experiences for improving Project practices?

Significance of the Study

This descriptive study serves as an initial investigation of the Montana VUB Project. It described the characteristics of participants who entered postsecondary education, and gained an understanding of their postsecondary experiences that contributed to their academic success or failure in pursuing their educational objective. Gaining a demographic profile of participants, examining these characteristics, and understanding the postsecondary experiences of participants provided a foundation for evaluating the Montana Veterans Upward Project. The importance of “academic success” (retention, graduation) to program evaluation and worth is noted by Sara Steele (1970): “Program evaluation is the process of judging the worth or value of a program. This judgment is formed by comparing evidence as to what the program is with criteria as to what the program should be” (p.8). The descriptive design and specificity to the Montana Veterans Upward Bound Project prohibits generalization of results. Tangentially, however, the information gathered from this study may serve as a point to begin the discussion of outcome standards among VUB projects and provide a description of participants’ as a means of comparing and contrasting participant characteristics among the various VUB projects.

Definition of Terms

Veterans Upward Bound (VUB): A federally funded project of the US Department of Education Trio programs designed to provide outreach, prepare and place

low-income, first generation college students into post-secondary education and training (34 CFR Part 645.1).

Veteran: Any member of the US armed services who has served at least 181 days of active duty, and who is discharged under conditions other than dishonorable, or who is discharged under a medical condition (34 CFR Part 645.6).

Veteran Upward Bound Participant: Any veteran as defined above who meets the annual low income criteria set forth by the US Department of Education and whose parents have not completed a four-year degree (first generation college student). Two-thirds of project participants must be both low income and first generation college students and one-third of enrolled participants can be either (34 CFR Part 645.6).

VUB Eligibility Criteria: At the time of application veterans are determined to be eligible if they meet one of the following criteria: (i) Meets both low income and a first generation college student; (ii) Meets low income criteria only, (iii) Meets first generation criteria only (34 CFR Part 645.3). Income is taxable income earned one year prior to enrolling in the VUB project.

American Indian: Includes any person having origins in any of the original peoples of North America and maintaining cultural identification through tribal affiliation or community recognition (USDOE, National Center for Educational Statistics, 1995, p. 499)

GI Bill: An educational entitlement for military service to include benefits under chapters 30, 32, 31, and 34/30 (Title 38 of the U.S. Veterans Code).

Academic Success: Those participants who have enrolled in the Montana Veterans Upward Bound Project from Spring 1992 semester through the 1998 Spring semester and who were placed in college by the Project, and (i.) who have graduated or (ii.) have demonstrated positive persistence by their enrollment and achievement of a 2.0 or greater grade point average.

Academic Failure: Those participants who have enrolled in the Montana Veterans Upward Bound Project from Spring 1992 semester through the 1998 Spring semester and who were (i.) no longer attending or (ii.) were attending, but maintaining less than a 2.0 GPA. For Project tracking purposes, this group is further defined as dropouts, which pertains to those participants who have not taken any courses within a two-year period and stopout, which pertains to those participants who were not currently enrolled at the time of this study, but who had taken courses within a two-year period.

Assumptions, Limitations & Delimitations of the Study

It was assumed that the demographic data analyzed in the study was accurate and the information provided by participants on Project forms is true. While much of this data was supported by requested documentation such as discharge papers, prior year income levels, high school and college transcripts, there were no requirements for supporting ethnic background, marital status and in some cases prior educational level. It was assumed that submitted documents were true and verifiable and answers provided were honest. Likewise, it is assumed that responses provided by focus group participants were honest. This was referred to by Lincoln & Guba (1985) as the "truth value." They

contended that determination of this "isomorphism is in principle impossible." Methods to provide greater credibility to the focus group findings are described in Chapter 3.

There were several external limitations to the study. A limitation innate to the study may have been inaccurate or incomplete data contained in the archival database files. Attempts were made to review each participant file with twenty-two participant files being eliminated from the study because of incomplete or erroneous data. Another noted limitation included the independent variable for eligibility and receipt of the GI Benefits. While participants are eligible and receive the GI Bill during their VUB enrollment, and the semester following their VUB participation, the Project did not track the continuation of benefits beyond their first semester of enrollment assuming they continued receiving their benefits while enrolled. Lastly, students who may have been categorized as stopped out or dropped out during June 1998 may have resumed their education or raised their GPA, and by Project definition would be reclassified as academically successful.

There were several delimitations pertaining to both the quantitative and qualitative methodologies use in this study. While demographic data was collected on the total population of Montana's VUB participants for descriptive purposes, delimitations were made concerning the selection of demographic variables for this study. Only those variables that corresponded or related to the background variables identified in the Bean and Metzner conceptual models (1985, 1987) were selected, as well as, data that were most likely to be uniformly contained in the majority of student files. The primary delimitation established in the qualitative study was the exclusion of tribal

college participants who did not reside in or near Billings Montana. Project veterans who participated in the Billing VUB site, and those veterans who participated in the VUB sites at Little Big Horn College and Dull Knife Memorial College were invited to attend the focus group interviews. VUB participants from the five other more remote VUB tribal sites (Fort Peck, Fort Belknap, Stone Child, Salish Kootenai and Blackfeet) were not invited because of their remoteness from Billings. An additional delimitation was imposed by conducting only two focus group interviews as opposed to conducting interviews or groups of “prolonged engagement” (Lincoln & Guba, 1985). These groups were intended to “illustrate” the outcomes of results obtained from the descriptive study, and were not intended to reach “theoretical saturation” (Strass and Corbin, 1990) to support or establish theory or conceptual models This delimitation resulting from only two group interviews was offset by the researcher’s own twenty-nine year experience with VUB participants, the use of a pre-group questionnaire for triangulation, and the use of a collaborative process for obtaining and analyzing information.

Format of Study

Chapter 2 contains an introduction to the historical, political, social, and economic events that led to the creation of the GI Bill, and other services to veterans in higher education. This background provides the reader with the context for understanding the current issues and events confronting benefit programs for veterans. A brief overview of adult participation models provides insight on the development of current theoretical models related to student persistence and attrition. The review of methodology provides background information used to develop the research design and carry out the research

methodology. Finally, specific information pertaining to Veterans Upward Bound, the Montana Veterans Upward Bound, Native American veterans, and veterans' related research serves as a basis for getting better acquainted with the problem and purpose of this study.

Chapter 3 explains the quantitative and qualitative design of the study, with an emphasis on methodology and data analysis.

Chapter 4 presents the results and findings of both the statistical analysis and qualitative information obtained from the focus group discussions.

Finally, Chapter 5 provides discussion of the results, offers conclusions, and provides recommendations for further research or additional investigation.

Chapter Summary

There is a twenty-nine year void of research related to the Veterans Upward Bound. The enrollment of veterans in post secondary education has made an important contribution to the democratization of higher education, and provided the impetus for the development of theories and practices related to adult learning. However, the decreasing numbers of veterans, and the increase for accountability of the federal investment in higher education and benefits programs requires a better understanding of participants and their experiences in relationship to successful outcomes.

Conceptual Model of Nontraditional Undergraduate Student Retention and attrition (1985,1987) provide the basis for studying the background variables related to Project participant success. Bean's (1990) Longitudinal Model of the Type of Factors that Affect Retention Decisions served as a basis for understanding their postsecondary

experiences. These models provided the framework for the quantitative and qualitative investigation of academic success and failure of the Montana Veterans Upward Bound participants. The information and understanding gained from conducting this study can lead to improving VUB program services and practices resulting in greater academic success of VUB participants.

CHAPTER 2

REVIEW OF THE LITERATURE

Introduction

Despite the enormous impact that veterans and veteran's legislation have had on higher and adult education, there still remains little supporting evidence that the GI Bill and other federally funded programs are significant to degree attainment, or afford successful transition to the civilian sector. The purpose of this chapter is to provide a review of the literature and research focusing on veterans in higher education.

The first section of the review will provide a historical context of the GI Bill and legislation affecting veterans' educational benefits, including the influences on adult higher education. The second section provides for an understanding of the contemporary issues--including the lack of participation in veteran benefit programs, declining military enlistments, and the lack of data related to academic success among veterans.

Since the purpose of this research is to investigate degree attainment and positive persistence among a segment of veterans, the third and fourth parts of the literature review concerns itself with presenting a broad overview of adult learning participation models and student retention models. The final three sections specifically focus on (i) veteran related research with an emphasis on the veteran student, (ii) a review of the Veterans' Upward Bound Project, from which the sample population will be derived, and (iii) an overview of American Indian veterans, who comprise a large portion of

participants in the proposed study, and finally a (iv.) review of the research methodologies used for carrying out this study.

Criteria for the Inclusion and Exclusion of Literature Themes

A number of criteria guided the themes that were to be included or excluded from the study's literature review. The nature of population studied and the educational setting for the study, dictated a focus on literature that concerned itself with veterans in higher education. The purpose of the study provided a narrower focus since it concerned itself with participants of a particular federal education program (The Montana Veterans Upward Bound Project). Both veteran students and the Veterans Upward Bound (VUB) program have limited recognition in the higher education milieu; a specific effort to include the historic context of veteran's benefits and VUB services was especially addressed. Other themes and the rationale for their inclusion in this chapter are presented followed by the literature themes.

As previously noted in Chapter 1, despite the great contributions made to higher education by the large influx of W.W. II veterans, very little is known about veterans as students and their postsecondary experiences. The majority of literature pertaining to veterans in higher education is presented in a historical context. This literature review reflects this orientation by presenting themes related to the political, social, and economic origins of the GI Bill, and the impact of the GI Bill on higher education. The GI Bill serves as both the focal point for historical and contemporary issues related to the benefits and services of veterans attending college. A review of the current issues provides an understanding for the urgent need to review veteran entitlement benefits and

services in light of increased calls for federal accountability and assessment of outcomes. A review of six major theories related to adult participation is included to provide a historical perspective for understanding the origins and context of the development of more current theories related to student retention and attrition. These theories are particularly useful in understanding the relationship of demographic variables of interest to this study, as they relate to academic success. A specific focus is placed on the theoretical constructs of Bean and Metzner (1985,1987) as it pertains to non-traditional student retention in higher education. The majority of veterans are classified as non-traditional by virtue of their military service. Overall research and examination of veteran students is limited, all identified studies were presented with an emphasis on those related to veteran student demographics. The Veterans Upward Bound is introduced, and the political and social educational aspects are presented, since the Project participants are the focus of this study. Information about Native American veterans is presented because these veterans comprised a large portion of the participants in this study, and because they are often overlooked when discussing minority contributions to the U.S. military. Finally, a review of the methodologies used in the research is presented as an introduction to Chapter 3.

Literature related to veterans' war experiences, health care issues, delivery of non-educational benefits and services by the Veterans Administration or veterans' employment and benefits were excluded from this review, as they were outside the historical or educational focus of the study.

Historical Development of the GI Bill

The GI Bill of Rights stands out as perhaps the single most important piece of legislation affecting adult higher education. Clark Kerr (1994) has defined it as "one of three great federal policy initiatives" of the 20th century. The GI Bill, the Morrill Land Grant Act, and the reliance on the university for basic and applied research are visible reminders of the federal influences on American Higher Education. The GI Bill, short for the Servicemen's Readjustment Act of 1944, however, had the most visible and most immediate societal impact (Bennett, 1994). It transformed the historic role of higher education as a place for instructing the nation's elite, into institutions preparing the veterans of W.W. II for the emerging needs of science, industry and trades. The GI Bill was the impetus for opening the gates of higher education to America's lower and middle classes, the majority of whom were first generation college students (Greenberg, 1994). The GI Bill was only one of six titles of the Servicemen's Readjustment Act. The overriding purpose of the act was not democratization of education, but a plan to confront possible widespread societal revolt and economic depression (Olson, 1974).

Besides veteran student enrollment swelling from 1.5 million in 1940 to 2.7 million in 1950, Kerr (1994) noted more enduring changes in the infrastructure of universities and colleges caused by the large influx of veterans. Veterans of W.W. II represented the beginning of mass enrollment of non-traditional students to the college campus. Veterans accustomed to services available in the military began asking for housing, meals, health and counseling services. The federal government responded by making funds available for new facilities and staffing. The overwhelming number of

applications from veterans also introduced standardized admissions testing. By the time the World War II GI Bill ended, 7.8 million veterans had been subsidized for education and training, creating the world's largest middle class (Bennett, 1994). Peter Drucker's book *The Post Capitalist Society* (1993), further defined the GI Bill: "future historians may consider it the most important event of the 20th century" (p. 3).

The social impacts of the act were also far reaching. Over one-half of these new college students were the first of their families to attend college. A first generation student, while not a familiar term at the time, was well established on the American campus. The belief that higher education was right for all its citizens reinforced the notion of America as a melting pot. Michael Bennett (1994) sums up the social transformation as follows:

The GI Bill turned Irish-Americans, Italian-Americans, and Polish-Americans, as well as other ethnic Americans--all of whom were overwhelmingly poor and working class--into a single people more accurately described by other hyphenated words: college-educated, middle-class, home-owners (p. 10).

First-generation students would later become another prominent hyphenated word on the campuses of academia and within the U.S. Department of Education. The postsecondary education phenomenon was not limited, however to white America. In 1940, the State of Virginia with a 25% black population had only one public higher education institute for blacks--Virginia State University--compared to nine public institutions admitting whites only (Wilson, 1994). Unrealized at the time, the GI Bill was to be a major influence in challenging the segregation laws of the South. Politically, Wilson cited three legislative measures that stirred the halls of congress. First, there was the battle to decide who would control the funds for educating veterans. The American

Council on Education (ACE) and prominent educators such as Robert Hutchins, President at the University of Chicago, and James Conant of Harvard argued that the states' college presidents should receive funds directly for educating veterans, rather than direct payments to veterans. Their arguments and fears were based upon the concern for and prediction that academic standards would be eroded and the purpose of the university would be changed. President Hutchins (1944) voiced his objection, saying, "The GI Bill is unworkable. The person who drafted these absurd provisions did not think of them as educational provisions, but as a method of keeping veterans off the bread lines" (pp. 20-22).

Congressman John Rankin, a known racist from Mississippi, argued for direct payment to veterans to attend any institution of their choosing. This decision, unrealized by Rankin, created a foundation for affirmative action by removing the states as the approving agencies for educational institutions, which at least in the South, would have eliminated black institutions from qualifying. Wilson noted that this decision resulted in enrollment in black colleges increasing from 1.08% to 3.6% in 1950 (p. 36). This noted increase of black veterans was at black post-secondary institutions only, and did not represent the vast number of blacks who enrolled in white institutions in the North and West.

The second political issue, while not an educational concern, provided a subsidy of \$20 per week for 52 weeks for unemployed veterans. This title of the act provided for what was to be later enacted as unemployment benefits for all workers. On this side of the issue, the sides reversed themselves, and Congressman Rankin lead the opposition

fearing that passage would break the tradition of dual wages for blacks and whites in the South. Despite his opposition to the amendment, it was passed and the concept of equal rights was further strengthened (Wilson, 1994).

Lastly, as the federal influence became stronger, institutions looked towards Washington to access funds for expanding facilities and renovations brought forth with increasing student enrollments. Black institutions, which were historically under-funded, experienced a greater percentage of veteran enrollments proportionally than white institutions. In 1947, veterans comprised 29.4% of the enrollments at white institutions and 50% of the enrollments at black institutions (Akins, 1948). The Lanham Act of 1946 provided an advantage to black institutions that experienced increasing enrollments caused by veterans. The Act provided funding of 33.4 square feet per veterans at "Negro Colleges" compared to 17.4 square per veteran at white institutions. Despite the funding, black colleges were still forced to turn away 20,000 veterans, as noted by Wilson (p. 35).

In summary, the historical events of the GI Bill have three areas of relevance to this research. These events introduced college to a vast number of low-income first generation college students; they produced the notion of equalitarian and pluralistic education with the entrance of greater numbers of minority students; and they provided for the origins of federal policy and influence, not only in the affairs of veterans, but in the affairs of post-secondary institutions.

Current Issues Related to the GI Bill

The GI Bill was not a one time historical event. It continued to evolve as a legislated benefit to attract citizens for military service; to demonstrate and reward

service to the nation, and to provide a mechanism for veterans to gain economic parity with their non-veteran peers (Congressional Commission on Service members and Veterans Transition Assistance Report, 1999).

After W.W. II, research investigating how well the GI Bill had accomplished these goals attracted limited and sporadic study. O'Neill (1977) conducted a longitudinal, quantitative study of post-Korean veterans (1969-74). He found that GI Bill users realized a 10% increase in annual earnings over non-users. Angrist (1993) examined the effects of the GI Bill on veterans of the Vietnam Era, and the first year of the All-Volunteer Forces (AVF). Using data from the 1987 Department of Veterans Affairs National Survey of Veterans, he analyzed usage and characteristics of veterans before and after their entry into the military. One of his findings was that a greater number of Vietnam veterans (58%) used their GI Bill than early members of the AVF (46%). Further findings of Angrist revealed: 1.) That 14.4% of the population sampled reported that their level of schooling did not differ from their pre-military level; 2.) That Army recruits were less educated than Air Force and Navy veterans; 3.) That among benefit users, 77% went to college or graduate school; 4.) That the relationship among schooling, grades, and earnings differed little by race, period of service, or branch of service; 5.) that among college participants, a gain of 1.4 years of increased schooling was obtained compared to no increases in educational levels of participants entering other forms of training. Angrist concluded that the use of education benefits among veterans in his study was associated with post-service increment of approximately 1.4 years of schooling. This had a short-term effect of raising annual earnings by six percent;

however, it appears that the benefits of military service were not offset by educational compensation. He noted further that white Vietnam veterans appear to suffer a 15% earning loss, ten years after their discharge as compared to their civilian counterparts. Both the Angrist's and O'Neill's studies were limited by not exploring graduates among benefits users. In addition, Angrist restricted his study to all males and veterans who had completed at least nine years of schooling before enlistment. Despite an attainment of only 1.4 years of post-service schooling among Angrist's sample he concluded, "Over a 30 year working life, this premium (GI Bill) has a discounted 1986 dollar value of \$17,717. This simple calculation suggests that veterans benefits are not socially wasteful" (p. 651). Angrist was careful to control for prior educational levels and the difference in enlisted and officer ranks, and while his conclusion that the GI Bill was a socially valuable benefit, it does raise concerns about degree attainment in light of his findings that only 1.4 years of schooling was obtained among his sample. It also neglected to mention that Vietnam veterans had the highest utilization of the GI Bill (66%) compared to W.W. II veterans (50.5%) and Korean Era veterans (43%) (Montgomery, 1994).

Cohen, Segal, and Temme (1992) examined occupational attainment of Vietnam veterans as a measurement of how successful the GI Bill was among these veterans. Their findings supported aspects of Angrist's work, as they too found that occupations, and wages of sampled Vietnam veterans were lower in comparison to their non-veteran peers. In contrast to the socioeconomic gains made by W.W. II and Post Korean veterans, Mason (1970), Fligsten (1976), Rothbart, Sloane, Joyce (1981) and

Card (1983) reported that Vietnam-era veterans were lower than non-veterans in occupational prestige and wages. Rothbart, et al (1981) proposed three hypotheses for this lower achievement: 1.) Disruption of goals and lives caused by military services; 2.) Employer discrimination related to Vietnam service, and 3.) Lower education levels of sampled veterans. They concluded, "A major effect of Vietnam service appears to be the depression of the post-secondary education and through that mechanism, a reduction of the veteran's occupational achievement." (p. 259). A follow-up study of Vietnam era veterans by Marini, Shin, Raymond (1989) also concluded that: 1.) The effects of military service on occupations were indirect, and 2.) The discrimination of Vietnam veterans may have been a factor; but it was not significant to a veteran's occupational attainment. Cohen, et al (1992), Card (1983), Villemez, and Kasarda (1976) along with Angrist all concluded that education was directly related to veterans' occupational attainment.

An overlooked confound that was not considered by the researchers examining Vietnam veterans was the fact that there was an active and highly popular antiwar sentiment present on most campuses at the time. This campus climate could have very well been significant to the "depression of post-secondary education attainment of Vietnam veterans" as noted in the research. Cohen, Segal, and Timme (1992) identified another factor--"the insufficiencies of government educational benefits policies" (p. 148), which they concluded lead to the lack of education necessary to compete occupationally. The various merits of the GI Bill as reflected in the research of the above-cited studies would naturally lead to discussion of policy in further reviewing the social and economic impacts of the GI Bill.

The issue of policy to related benefit usage and benefit outcomes is increasingly getting attention. Steve Kime (1993), Director of the Service members Opportunity Colleges (SOC) posits the problem:

The transitioning service member is a very special adult student. He or she has been subject to discipline, been given valuable training, and often has received first-class military schooling that has been evaluated by the American Council on Education as worthy of academic credit. Many have taken college courses while on active duty through such testing instruments as the College Board's College Level Examination Program (CLEP), and more could do so. Most qualify for Montgomery GI Bill funds. Given all these incentives, it is reasonable to wonder why the educational aspect of the military draw down continues to be a problem. The facts are disturbing; of 300,000 new veterans who left active duty with the requisite length of service, type of separation, and character of discharge that allow full entitlement to GI Bill education benefits slightly over sixty percent (60.1%) have yet to take the first college course (p. 20).

Kime (1993) identifies failures in current policy and the current delivery system of benefits as the chief cause contributing to the decline in usage of benefits and degree obtainment. He makes five bold recommendations seeking improvement: 1) The centralization of veteran programs, presumably under the cabinet level Department of Veterans Affairs, which would position it to serve as a strong policy advocate; 2) The development of a strong national policy to address, coordinate, and adjust current and new veteran programs; 3.) The involvement of higher education as a vital partner in the national policy on veteran's education. In fact, Kime points out that there already exists such a framework through the 1,000 colleges and universities participating in the Servicemembers Opportunity Colleges (SOC program); 4.) The development of a formal structure to meet the need for exchanging information among veterans, colleges, and communities. Ideally, this information exchange would occur while veterans were still on active duty and beginning the transition from military to civilian life. Again, he notes,

"It would require a serious national-level effort to integrate all the pieces into a coherent program." (p. 23). He reminds us that veterans' adult education is only one aspect of a "triad" needed for successfully transitioning a veteran into society, and 5.) There must be equal recognition for policy to address military education and civilian employment aspects as well.

In 1995, the U.S. Department of Veteran Affairs published the 1992 National Survey of Veterans (SOV). It provided further evidence to the declining numbers of veterans using their educational benefits. It indicated that the current GI Bill has the least number of participants at a time when education continues to play a vital role in the transformation of our nation as a technological and global society. Robert Reich, past Secretary of the Department of Labor, in his book *The Work of Nations* (1992) emphasized the importance of education especially in a technological society:

In practice, of course, the task of transforming a majority of the American workforce into symbolic analysts would be daunting...so other responses are needed. One is to increase the number of Americans who can apply analysis to production and in service areas. This means that a far greater number of Americans would need solid grounding in mathematics, basic science and communication skills. So once again, comfortably integrating the American workforce into the new world economy turns out to rest heavily on education and training, as well as nutrition and health care, sufficient to allow job training to occur (p. 249).

The fact that fewer veterans are using the GI Bill is not only problematic for the successful transition of veterans into the civilian labor force, but presents conflicting reasons for the decline. The Department of Veterans Affairs' 1992 SOV study indicated that the awareness of educational benefits had the greatest recognition among the various VA benefit programs. In all age groups, 95% of the veterans interviewed reported that

they were aware of their educational benefits. This survey sampled 17,472 veterans of which 11,645 (66.6%) completed the interview survey. Sampling errors are noted in that the not all questions on the survey were asked of all veterans, and all surveyed veterans did not answered all questions, hence the sample size varied from one question to another. Other non-sampling errors were also noted and included under counting of the total population, under-counting of specific groups of veterans (those without phones/poorer veterans), and recall or unwillingness to respond to questions and interpretation of questions. Since the SOV serves as a primary basis for veteran's research, other limitations of the study should be noted and included telephone interviews versus in-person interviews, various time of year for survey administration, interview experience of interviewers and estimation procedures. A national survey conducted by Chris Goodrich (1998) for the Department of Veterans Affairs reached a far different conclusion regarding educational benefit awareness. In a national survey of 600 randomly sampled veterans who were entitled to the Montgomery GI Bill, Goodrich received the highest number of responses to the statement "I do not know enough about the Montgomery GI bill benefits to use them" (p. 28).

The declining rate of participation in veteran educational benefits has raised a national concern coinciding with decreasing military enlistment. The 104th Congress, under Title VII of Public Law 104-275, established the Commission on Servicemembers and Veterans Transition Assistance. The purpose of the Commission was to review the adequacy and effectiveness of federal programs assisting members of the Armed Forces for making transition and adjustment to civilian life. The Commission established three

panels to include health, employment and veterans' benefits. The effects of the Commission's findings are far reaching, as they serve as the basis for making recommends to Congress for maintaining, discontinuing, modifying or creating new programs of benefits for the military and veterans of the 21st century. The Commission concluded their report (January, 1999) with final recommendations that suggested not only has the current benefits delivery system and amount of educational benefits deterred educational participation, but the GI Bill is no longer an incentive for enlistment (p. 19). In specific reference to the Montgomery GI Bill, it stated: "The DOD Youth Attitude Tracking Survey confirms that college attendance is a dominant goal for high school graduates and their parents, and that military service is increasingly viewed as a detour around college enrollment, not a way to achieve it." (p. 4). Numerous articles and reports (Army Times, November 16, 1998, p. E2), (Army Times, Jan 28, 1999, p. 22), (Army Times, May 3, 1999, p. 60), (Billings Gazette, June 11, 1999, p. 7A), continued to suggest that the GI Bill and the decline of military enlistments are a major concern related to the GI Bill and veterans' education.

In summary, the importance of the GI Bill in maintaining a strong, qualified military force, and its importance in transitioning and integrating the discharged veteran into the civilian workforce has been supported by historical events and research examining the GI Bill. This research also indicated that the full potential of the GI Bill has not been realized due to declining participation, and degree obtainment among participants. Theories of participation in post secondary education, while not the focus of this study, are certainly important to understanding the many factors that influence the

decision to attend college for veterans. A review of adult education participation models may provide further insight on why veterans elect or choose not to use their benefits to attend college. The models also suggest a structure for identifying personal characteristics and factors contributing to academic success and degree attainment.

Adult Theories of Participation

Beyond the issue of eroding benefits, perhaps there are other factors involved in the lack of participation in education by veterans. Merriam and Caffarella (1991) devoted a complete chapter to adult participation in their book, Learning in Adulthood. Their eclectic approach supports their belief that there is no single theory and method for prediction of involvement in adult learning programs. A number of prominent theoretical models have been proposed to explain adult participation on both the individual, physiological and socio-environmental dimensions. A discussion of six prominent models of participation of adults in formal education provides a background to this study of Veteran Upward Bound participants.

Miller (1967) derived a theory of participation based upon Maslow's concept of basic needs and Lewin's force field theory. It seeks to predict participation based upon negative and positive forces both within the individual (motivation) and society. His analysis of social classes led him to generalize that lower classes pursued education for job-related or basic skill development, while upper classes sought education for self-actualization or achievement. His conclusions, based upon the interaction of the positive and negative force fields were that: 1.) If personal needs and social forces were high, participation would be high; 2.) If there were strong personal needs and low or negative

social support, there would be low participation with individual exceptions. Such a situation accounts for an explanation of the "poor boy making good." 3.) If there were low personal needs and strong social support there would be high participation initially, followed by a high drop out; 4.) Lastly, if there were conflicting forces, it would likely depend on the positive or negative social force over the individual force. Criticism of Miller's model has been directed towards its simplistic approach, and its failure to recognize that personal motivation cannot be assigned to class structure. A great deal of criticism is focused on his belief that self-actualization is an attribute of the upper class only and that job security is a lower class attribute. Miller's theory was valuable, however, in developing a foundation for further theory.

Boshier (1973) further developed Miller's theory of personal and social factor interaction. According to Boshier, adults are either "growth motivated" or "deficiency motivated." Growth motivated individuals have satisfied basic needs as described by Maslow, are "inner directed", "autonomous", "open", "spontaneous", "creative", and "free from deterministic attitudes" (p. 256). Deficiency motivated individuals are directed at satisfying lower, basic needs and subject to greater social and environmental forces. The greater the congruency of the actual and ideal self and the greater the congruency of the self with others (teachers, students, learning environments), the greater the participation rate. These factors of congruencies are mediated by what Boshier terms social and psychological factors (age, sex, social class) and sub environmental variables such as class size, instructor, transportation etc. Unlike Miller's theory, Boshier's construct has been subject to further research. Boshier (1973) and later Garrison (1987) tested the

congruency model. Boshier reaffirmed his hypothesis that the greater number of incongruencies led to higher drop out rates; however, the congruencies within the participant is "projected" or "generalized on the adult education situation" (p. 274). Garrison's follow-up study proved less conclusive in identifying persistence and dropout variances. In contrast to Boshier's accounting of thirty percent of the dropout variables, Garrison could account for only 14.4 %. Garrison's research; however, was important in that he was able to predict ninety-three percent (93%) of those who persisted compared to a twenty-eight percent (28%) prediction of dropouts. Boshier's theory is important to this study and later retention theory, because it recognized personal factors (age, sex) and noted the important relationship between the learner and the learning environment (Bean's Interactive Variables).

Rubenson (1977) advanced participation theory by examining the participant's expectancy and value (valence). The individual's expectancy or perception of being successful led to increased participation. An individual's value towards learning was also seen as a positive force in determining participation in adult learning. Similar to previous researchers, Rubenson includes both psychological and environmental-social factors necessary for the structuring of values and perception leading to participation and non-participation.

Cross (1981) approached and extended the previous models of participation by attempting to identify relevant variables and examining their interactions. Despite her definite emphasis on individual psychological development of self and the examination of an individual's perception of education, her work is perhaps most important for

identifying and integrating the concept of adult life events and transitions. Additionally, she was the first to identify the importance of accurate and timely information as being an important variable to pursue learning. Such a concept supports Goodrich's (1998) concerns about the Montgomery GI Bill eligible veterans not using their benefits because they did not have sufficient information. Another important concept found in Cross's theory is her concept of the "chain of response model." The idea that adult participation is reciprocal rather than linear provides an explanation for the idea of "stop out participation."

Deviating from previous models, which emphasized the individual as the origin and focus of participation, Darkenwald and Merriam's Psycho-Social Interaction Model (1982) emphasized the social environment, especially the socio-economic status as predictors of educational participation. Their theory examines the "Pre-Adult Factors", such as individual and family characteristics regarding intelligence and socio-economic status, which determine the type and extent of education and socialization. These factors are important in preparing and setting the individual for entrance into adulthood and setting the stage for persistence in continuing education. An individual's participation is predicted on six characteristics, which are assigned a high, middle or low value.

Darkenwald and Merriam defined these six characteristics or influences as: 1.) SES or social economic status; 2.) "Learning Press" or the extent in which one's current environment supports further learning; 3.) Perceived value and utility of education; 4.) The readiness of the individual to participate in the learning, 5.) Participant stimulus or those life experiences likely to trigger continuation of learning, and; 6.) Barriers to

individual learning or participation. More current research of Cervero and Kirkpatrick (1990) confirm that pre-adulthood characteristics as defined by Darkenwald and Merriam play an important part in explaining participation in formal learning environments.

Finally, Cookson (1986) developed a participation model based on cognitive factors. He termed his model ISSTAL and defined it as Interdisciplinary, Sequential Specificity, Time Allocation, and Life Span. This rather complex model examined some seven variables of contextual factors and personal variables including intellect and personality. These variables were examined over a time and relevance continuum. Cookson's later studies (1987) expanded the number of predictor variables to fifty-eight, but it too proved insignificant in predicting participation. He concluded that models dealing with participation were complex and multidimensional and that there is a need "to mount more modest studies which touch on overlapping portions of the ISSTAL model variable categories (p. 213).

In total, the various adult education participation models offer important insight into the complexity of the personal and social-economic variables involved in post-secondary education. The veterans of today's military are similar to their peers of World War II. They are largely poor or lower middle class, and most likely to be first generation college students. (Kime, 1993). There are notable differences too, which may account for the decline in veteran enrollment at colleges. Today's military forces are increasingly married (60%), female (14%), minority (30%), and have a high school diploma (98%) (U.S. Department of Defense, Personnel Report, 1996).

The questions concerning veterans' participation and utilization of educational benefits are important, along with emerging questions of whether the utilization of these benefits has resulted in accomplishing the educational goal of obtaining degrees or certifications, for which the benefits were used.

In 1993, Public Law 103-62 was enacted by Congress to improve the confidence of the American public in federal government initiatives, to improve federal program effectiveness and accountability, to improve the delivery of federal services, and to improve congressional decision-making based upon achievement of statutory objectives. This law entitled "The Government Results and Performance Act of 1993" (GPRA) will guide all federal programs well into the next century. Hence, the study of a veteran's population, who had successfully used their educational benefits to achieve their educational goals, is becoming increasingly important in budgetary and policy-making decisions. By exploring individual demographic data of subgroups of veterans, especially females and minorities, who have achieved their educational objectives as compared to those who have not, might provide insight into formulating policy on educational benefits and characteristics of successful users of these benefits.

The military, like the campus community, is undergoing complex and rapid change. Society is calling for a greater return on their tax investment, and participation is no longer defined as a measure of program success. The graduation and obtainment of a post-secondary degree followed by productive employment is now the new standard of successful outcomes of federal benefit programs. During the last two decades, a good portion of educational research has turned from participation to retention and

matriculation. Theories of participation have evolved into theories of student attrition and retention. A summary of which is presented in the following section.

Adult Retention Theories

Vincent Tinto's model of Institutional Departure (1975, 1993) has provided the groundwork for many researchers investigating student attrition (Nora, Attinasi and Matonak, 1990), (Pascarella and Terenzini, 1991), (Murguia, Padilla, Pavel, 1991). The strength of Tinto's theoretical model can be attributed to the fact that it is a longitudinal model that seeks to explain, not just describe processes that bring individuals to leave institutions of higher education (p.89). Tinto's primary thesis for persistence or withdrawal is based upon personal characteristics that the student brings to the institution. How well and to what degree these characteristics are integrated into the social fabric of the institution determines the commitment levels of the student, and ultimately the persistence and graduation of the student. Tinto's research, while useful for providing a foundation for understanding student attrition, had limitations, since his population of study was restricted to traditional age students. Differences between traditional and nontraditional students were noted by Bradley and Cleveland (1992). They found that nontraditional students experienced greater difficulty integrating into the social structure of the institution, but demonstrated a greater commitment to the goal of earning a degree. Martha Cleveland-Innes (1994) argues that the critical factors found in Tinto's model will systematically vary with age. She concluded, "Tinto's model is missing important variables associated with factors external to the institution". (p. 442). Her other findings indicated that commitment was the only significant predictor variable for nontraditional

students, and that academic integration remained a useful predictor for traditional age students only. It was not noted how commitment was measured, other than maintaining enrollment.

Peter Javis (1987) supported the idea of different external variables related to age. He contended that nontraditional students, because of their age and life stage, bring a different relationship between student and teacher. The nontraditional student's "experiential history" lessens the authority of teachers as often accorded to them by younger, traditional age students. He concluded that for traditional age students, being a student is central to their role, while nontraditional students are more likely to have additional roles and responsibilities beyond their student role. The research of Marienau and Chickering (1982) further acknowledged the difference in the student role of the non-traditional and traditional students.

Support for continued investigation of personal and educational demographics is found in Cleveland-Innes's (1994) conclusion that "chronological age is, in fact, a surrogate variable for what is really variation in life circumstances. It may be more appropriate to control for marital status, dependents, attitudes toward primary roles, responsibilities, and student-instructor relationships at post-secondary institutions" (p. 443).

The research of Murguia, Padilla, Pavel (1991), Mayo, Murguia, Padilla (1995), Cohen (1988), and others have investigated the role of ethnicity of minority students, as it relates to retention. The research of Richardson and Skinner (1992) pointed out the importance of two-year community colleges in attracting and transitioning first-

generation minority students advance to baccalaureate degrees. These researchers identified three dimensions that minority students face as first generation and minority students. These aspects included: 1.) "Opportunity orientation" a failure of minorities to perceive the opportunity and advantage of college as it relates to better career and job opportunities; 2.) "Preparation" included not only academic skills preparation, but expectation involving attendance, financial support and in some cases racial isolation, and 3) "Mode of college attendance" reflected nontraditional patterns for first generation minority students characterized by "shallow connection with the college and by extensive connections with the workplace or the home" (p. 35). The need for specific research and programming to attract and retain Native American college students is pointed out by Henderson (1991) who cited that Native American students have the highest dropout rates (35.5%) and represent 3.1 percent of all dropouts despite the fact they account for only 0.9 percent of all elementary and secondary students (p. 49). Wells (1990) found that nearly 3 out of 4 Native Americans attending college failed to earn degrees because of poor academic preparation, lack of adequate financial aid or personal problems.

Gender has also been a variable studied by research on retention. Brendan's (1985) research, while limited to female Weekend College participants, found common characteristics they share with all non-traditional students. The sample studied was less likely to develop strong social bonds within the institution, and they were often part-time students with outside institutional responsibilities. She concluded that there needs to be better data management in tracking non-traditional female students, better policies which allow for temporary leaves of absences, and better detection of academic difficulty. The

greatest retention rates in her study were among females aged 36-45 (61%, while attrition was greatest for females aged 25-36 (52%). She found a positive correlation between high school ranking and persistence (Her research supports the notion that GPA especially those above 2.5 is a good predictor of persistence). Reasons for leaving college varied among her sample: 11% of her sample cited financial reasons; job responsibilities accounted for 9.2%, medical reason; 3%, family responsibilities; 3%, maternity; 3%, moving; 2%; travel 2%, and 1% indicated attending another college. Other gender-based research found that women were more dependent on financial aid when compared to males (Gittell, 1986). Feiger (1991) found that a greater percentage of women cited that their family responsibilities posed a greater barrier to their persistence than male students. Women who were married, with younger children expressed that a lack of time to study, and a lack of financial resources presented the greatest barriers to their continuing college. Both of these researchers took their sample from two-year colleges and included race as well as gender as a variable of investigation. The research of Stein (1992) provided necessary information on Native American females and is of importance to this research since Native American females are represent 46% of the female population of this study. Stein found that Native American females attending tribal college were more likely to be single head of households with family obligations. Stein also noted that these female students expressed personal dissonance arising from their tribal culture that places greater emphasis on family interests over personal attainment.

The above mentioned research is important for it provided the theoretical foundation currently shaping retention and persistence theory, and it provided continuing support for the investigation of personal and education variables as predictors of retention and degree obtainment. Each is limited; however, to a certain degree by their inclusion and focus on traditional age college students.

The investigation of veterans as college students requires theory and models of retention focusing on non-traditional age students, since for the majority of them, entrance in college occurs after their military service (Department of Veterans Affairs, SOV, 1992). The most prominent researchers investigating non-traditional undergraduate student attrition are Bean and Metzner (1985, 1987). Based upon previous research, which found that non-traditional students are affected more by external environmental variables than by social integration variables, they constructed a complex model including these and other sets of variables. Bean's (1985) original conceptual model of non-traditional student attrition is presented as Figure 1. Metzner & Bean (1987) later model of non-traditional retention is of particular interest to this study, since both authors have identified specific demographic background variables as influencing nontraditional student attrition and retention. This latter model provided the framework for the examination of certain characteristics and background variables of the study. Their emphasis on demographic characteristics is consistent with many of the veteran student studies cited early in this chapter. An illustration of their modified model (1987).is presented as Figure 2.

The Bean and Metzner (1987) model as indicated presents four sets of distinct variables useful for predicting drop outs among non-traditional students. These sets of variables include 1.) Background, 2.) Academic, 3.) Environmental, and 4.) Social integration variable sets. The model illustrated direct relationships between variable sets, as well as, variables that offset ("compensatory interaction effects") the influences of other sets. Predicted outcomes for attrition as presented by the model are summarized as follows: 1.) When academic and environmental sets are "favorable" degree attainment is highly likely; 2.) When academic variables are good but environmental variables are poor, students are likely to leave school, with no positive effects resulting from the academic variable and 3.) When environmental set variables are good and academic set variables are poor, students are likely to remain in attendance. Compensatory relations between academic outcomes and psychological factors are thought to exist when students, who score high in both sets, should complete college, and conversely, low scores in both sets will result in dropping out. It is not the intent of this study to examine these relationships between variable sets to prove or disprove the model, rather these interactions will serve as a backdrop for illustrating patterns of interaction among participants in this study.

Figure 1: Bean (1985) Conceptual Model of Nontraditional Student Attrition

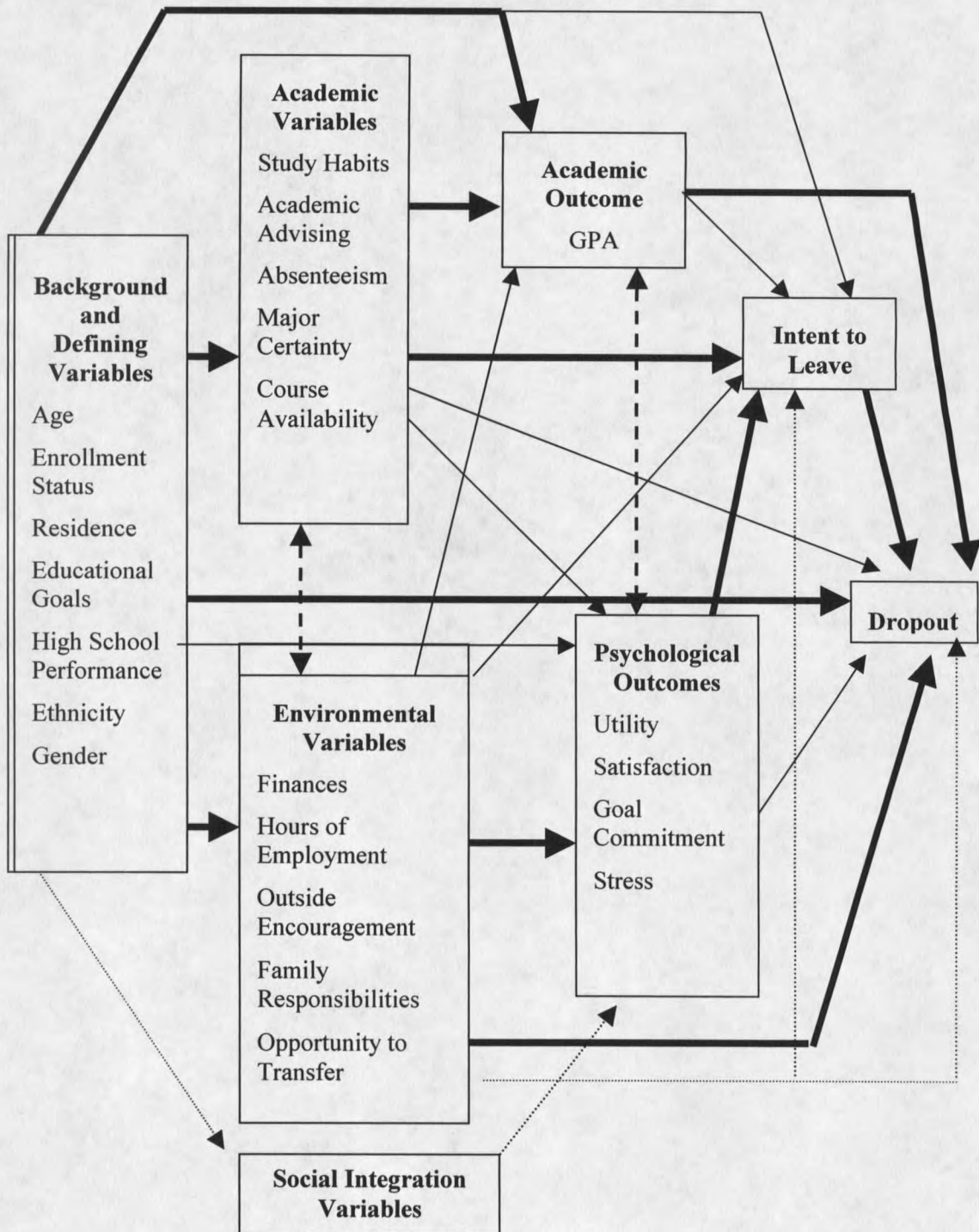
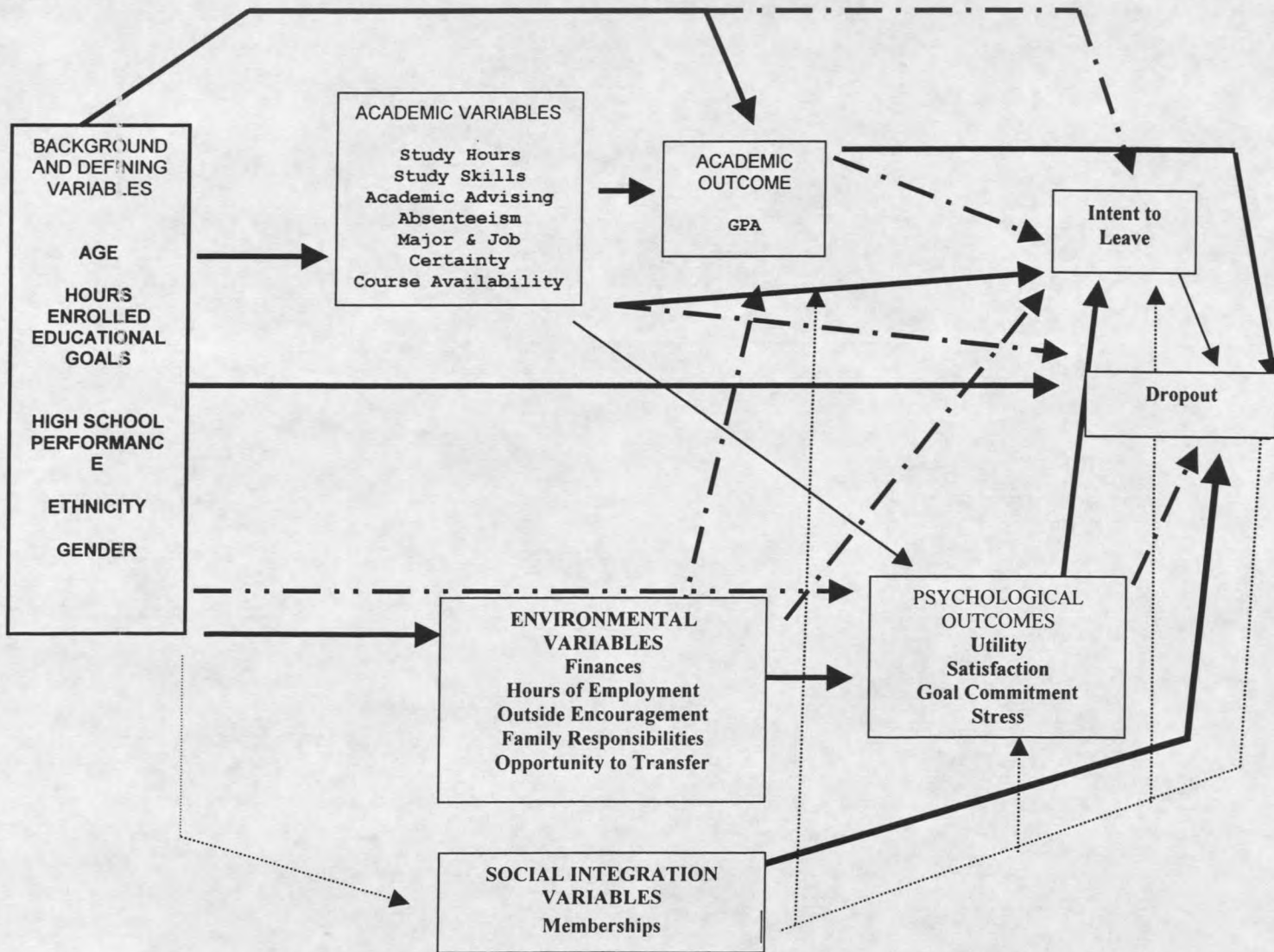


Figure 2: Metzner & Bean (1987) Estimation of Conceptual Model of Nontraditional Undergraduate Student Retention



Students with high scores in psychological sets are more likely to remain in school despite low academic achievement. Bean & Metzner's (1985, 1987) research created a conceptual model, which exclusively examined the non-traditional student population. The authors' extensive literature review of several hundred retention and attrition studies revealed only nine studies related to commuter, part-time or older students (non-tradition). In addition to examining previous research on retention, Bean and Metzner (1985) presented the first conceptual model of non-traditional student attrition, and provided a literature review of over several hundred references related to background variables. In presenting their model, they concluded: "Finally, researchers may wish to concentrate their efforts on parts of the model. It can be used as a guide to study GPA, satisfaction, stress, goal commitment, or other intervening variables, each of which can be treated as a dependent variable" (p. 530).

With their theory formulated, Metzner and Bean (1987) conducted a study to test the validity of their model. Data was obtained from 624 nontraditional freshman students from a midwestern urban university. Descriptive data of the sample revealed that for a one year period (Fall 1982-Fall 1983): 61% of the participants persisted or reenrolled; that 61% were female; that 14% were minority (90% black); that 83% were employed (50% full-time), that 27% were married and that the mean age was 23.8. Data were collected from registration and a student questionnaire previously validated by Metzner and Bean (1987). Employing regression analysis, the authors found that 26 variables of the 61 accounted for 29% of the variance in dropout. The study found that GPA, intent to leave, followed by background variables, and hours enrolled were the strongest predictors of dropout (p. 22). The participant's sense of utility and satisfaction proved significant in

influencing the decision to leave. Older students and those aspiring to higher degree attainment showed a negative effect on intent to leave. Three of the environmental factors-finance, outside encouragement, and the opportunity to transfer had a significant effect on intent to leave. Outside of class, faculty contact was the only positively related variable affecting intent to leave. Among background factors, high school performance, age, and ethnicity were significantly related to GPA. Perhaps most important was the finding that background variables were relatively important in affecting psychological outcomes. Beyond outside of classroom faculty contacts, social integration had no significant effects on dropout. This is in sharp contrast to attrition theory based on Tinto for traditional age students, yet supports current retention theory of non-traditional students. The four single variables most strongly related to dropout included GPA, intent to leave, hours enrolled, and study skills. The authors' practical recommendations support current practices of the Veterans' Upward Bound Project and included assessment of basic academic skills upon entrance, better academic preparation, and improved efforts to assess and monitor student absenteeism. The authors acknowledged the limitations imposed by one study, at one institution, with one population, and recommended further research into the 1.) Aspects of age, 2.) The relationship between GPA, and psychological factors, 3.) The examination of institutional dropouts in relationship to "higher education" dropouts, and 4.) The need for longitudinal research that investigates changes in student attitudes and performance. A factor analysis study conducted by Villeda and Hu (1991) concluded that: "In general, the factor analysis results support the conceptual model proposed by Bean and Metzner (1985). This study presented here reveals that for non-traditional students; the reality of time constraints and academic rigor

when compared with the expectations of college can lead to students' stress and dissatisfaction. This displeasure has the distinct potential of causing students to leave college." (p. 338).

The importance of attrition and retention research studies, especially the work of Bean and Metzner, provided a guide for investigating retention and degree attainment of veterans in this study. It provided further validation for the examination of various demographic factors of the research participants and suggested factors contributing to the retention and attrition of this study's population of interest.

The next section provides a comprehensive overview of research on veterans in higher education. While dated, it provides a basis for examining personal and educational factors related to academic success among veterans. Outside of the Atwell study (1999), there are no recent investigations of the current veteran population in higher education.

Veterans as Students

Research focusing on the educational experiences and successful outcomes of veterans as adult learners was very limited. Atwell (1999) cites three reasons that have resulted in limited research: " (1) The focus of the Department of Veterans Affairs has been, and will continue to be the timely and accurate delivery of benefits; (2) Previous accountability issues have centered on the number of veterans utilizing the benefits and ensuring that educational institutions and students are following VA rules and guidelines, and (3) Previous research has been of limited benefit and demonstrated the problems and complexities of conducting students' outcome studies" (p. 55).

Studies linking personal factors to academic success among veterans began shortly after World War II. Frederickson and Schrader (1951) conducted a study of 10,000 veterans at 16 colleges across the nation. A comparison of veteran and non-veteran characteristics was examined in relation to academic success. Major findings of this study revealed that the veterans' fathers had less formal education than non-veterans (and perhaps less financial resources?) and that the veterans themselves were more concerned about monetary issues and working full time. Similarly, Cohen, Segal, Temme (1992) found that a mother's education influenced grade point average and IQ. The father's occupation influenced the veterans' educational aspirations.

Both Burns (1974) and Henderson (1977) studied age as an important variable for a veteran's academic success. Burns found that the greater age of veterans resulted in higher grade point averages compared to the younger non-veteran student body. Chapman (1983) concluded that the greater age reflected a student's maturity and this factor should be considered as an important factor for college admissions. Weiss (1976) studied age as a factor in the academic performance of veterans attending North Hennepin Community College from 1972-1975. He found that veterans age 30 years or older had a slightly higher GPA than those veterans of age 23 or less or those 24-29 years of age. Burns (1974) found that veterans were at least four years older than non-veteran students and that married veterans earned higher grades than single veterans.

Burns found that the majority of veterans attending college were white and the majority of minority students were veterans. Johnson (1975) concluded that racial composition of veterans attending college was dependent upon proximity to urban

centers, with a greater number of black veterans attending community colleges in urban centers, and a greater number of white veterans attending college in rural areas.

Burns (1974), Clements (1973), and Joanning (1975) also studied the academic readiness of veterans entering college. Using the ACT college entrance exam as a measure of academic preparedness, they found that veterans (18.94 composite score) scored slightly lower than non-veteran student taking the same exam (19.81 composite score). Chapman (1983) determined that veterans did as well as non-veterans in their college work, despite lower high school aptitude scores, class percentile rankings and grade point averages. It should be cautioned that the veterans' population is changing demographically and the research cited can be questioned because it is dated.

There are many similarities between the veterans of today and those of World War II. The majorities from both groups entered the service from the lower and middle classes of America, they represented first-generation college students, and many were married with family obligations (Bennett, 1994), (Montgomery, 1994). Further, both groups returned to civilian life while America was transforming itself. World War II veterans were discharged into the age of industrialism and today's veterans are returning to the age of technology. The notable differences between the two groups are that today's military force is an all-volunteer force (a force made up of a greater number of ethnic minorities and women). The issue of "intelligence" and academic capabilities between the two groups is not easily addressed, since standardized testing for mental screening has changed significantly since the Second World War. All branches of the service for screening enlistments currently use the Armed Services Vocational Aptitude Battery (ASVAB). The Armed Forces Qualification Test is a subtest of the ASVAB,

which measure reading comprehension, word identification, numerical, and arithmetic reasoning skills. Scores on the AFQT classify recruits into five mental categories: Categories I and II are “above average” ability and are considered college proficient, Category IIIA is “average”, and an acceptable risk for college, Category IIIB is also “average”, but is an at risk for college study, Category IV is considered “below average”, and is a considerable risk for college level study, Category V is not eligible for enlistment. Anderson and Kime (October, 1996), in a paper presented at the American Association of Adult and Continuing Education’s Adult Education Conference, cited statistics from the 1990 Population Representation in the Military Services (Fiscal Year 1990, p. B8) which noted: “among White recruits 24.7 percent were Mental Categories IIIB and IV; that among African American recruits, 52.5 percent were Mental category IIIB and IV; and among other minority groups 39.4 percent were Mental Categories IIIB and IV.” Further, both authors pointed out that in the reserve components that are 81 percent white, 51.6 percent fall into categories IIIB and IV. These findings indicate a strong need for programs such as the Veterans' Upward Bound to assess and prepare veterans who desire to further their education, but are in need of stronger basic academic skills.

This study initiates an examination of VUB student demographic characteristics and postsecondary experiences not only in response to the call for greater federal accountability, but to better understand the barriers confronting veterans as they enter higher education. A historic and current overview of Veterans' Upward Bound is presented in the next section.

Veterans Upward Bound

Veterans' Upward Bound (VUB) was authorized as a one year \$5.8 million appropriation in 1972. The goal was to establish 50 Veterans Upward Bound projects and Talent Search projects to provide outreach, academic counseling and student support services. A total of 67 Veterans' Talent Search/Upward Bound projects were funded in 41 states, Puerto Rico and the District of Columbia. The remedial educational model for these projects was a federally funded demonstration project at the University of California-Los Angeles. The core of this program provided intensive instruction in math, writing and reading with a focus on preparing veterans to take and pass the GED. It was Congress's initial intent for Veterans' Upward Bound projects to serve only unemployed veterans without a high school diploma, or needing a GED to increase their marketability. At a national conference sponsored by the U.S. Office of Education and the American Association of Community and Junior Colleges in October 1972 (Wesby, 1988), the participant eligibility criterion was expanded to include all veterans in need of remedial academic assistance, regardless if they possessed a high school diploma or GED. For the next fourteen years, the Veterans' Upward Bound projects continued to struggle for funding and regulatory changes, which would allow them to serve all veterans and become a permanent project under the Office of Education's TRIO programs. These changes were realized through intense lobbying and were codified in the 1986 Higher Education Act. Since that time, and as recent of the Higher Education Act of 1998, Veterans Upward Bound projects have continued to propose modify legislative changes affecting instruction and program services to the changing population and needs of

veterans. As mentioned earlier, younger veterans are virtually all high school graduates, are increasingly married, are more culturally diverse, and have elected to contribute to a GI Bill education program in greater numbers.

Despite Veterans' Upward Bound grant requirements to demonstrate a need for program services indicating a sufficient number of needy veterans in their target area, there are large concentrations of veterans in states without funded projects.

The first funded VUB project in Montana began in 1992. A grant proposal to the U.S. Department of Education by Northern Montana College, the previous year, was successful in obtaining project funds to establish outreach, instruction and placement of veterans in post-secondary education and training throughout the State. Northern decided to locate the Project on the Montana State University Billings campus, since Yellowstone County has the largest concentration of veterans in the state (1990 Census). Unique to this grant was stated objectives to serve American Indian veterans. Outcome objectives for the Project included: 1) An annual enrollment of 120 low-income or first generation veterans; 2) At least 40% of the enrollment be American Indian veterans; 3) A demonstrated increase of at least 1.0 grade level in the subjects of math, writing and reading; 4) A total of 75% of participants must complete their VUB training.); 5) At least 75% of those completing the Project must be placed in college, and 6) Of those veterans enrolling in college, 15% will graduate in five years. For program years, 1992-1998 a total of 675 veterans have enrolled in Veterans Upward Bound, with 289 (43%) being American Indian veterans. The Montana Project has met or exceeded all outcome objects, most notably placing 76% of it graduates in post-secondary education, with 20%

of them graduating and 33% of them still actively enroll as reflected in the June 98 tracking report.

Montana's VUB has the highest enrollment of American Indian veterans in the nation. The Montana VUB Project design to serve American Indian veterans was developed and proposed to the US Department of Education after an extensive survey of American Indian veterans in 1992. The Tribal College Academic Bridge (TCAB) program is distinctly different from the Billings site, which is referred to as the College Transition Assistance Program (CTAP). TCAB was developed in response to Project survey conducted in 1992, which revealed four things: 1.) American Indian veterans were not well informed about their veteran's benefits or federal financial aid, 2.) That the majority of veterans surveyed were unemployed and had incomes of less than \$5,000, 3.) That the lack of money for tuition and books served as the greatest deterrent to entering postsecondary education or training, and 4.) The majority of veterans did not want to relocate off the reservation to attend college. The Project and the US Department of Education responded to these needs by supporting a Project component designed to include: 1.) An active outreach program to the reservations, 2.) Provide tuition assistance of up to \$360 per initial enrollment at their tribal college, and 3.) A plan to assist veterans assessing their academic skills, selecting credit courses, and applying for veterans and federal financial aid. This program design resulted in Project enrollment increasing from six-percent to forty-three-percent (43%) for American Indian veterans. The Billings site, unlike the TCAB program, does not provide tuition assistance, but provides for all course instruction, counseling, social-cultural activities, college placement and assistance with veterans and federal financial aid. These services are provided on a semester basis

consisting of day and evening classes have 14 and 10-week duration. All instruction is non-credit and non-graded and is offered separate from the MSU Billings curriculum.

American Indian Veterans

American Indian veterans have played a significant role in the US military, long before they were allowed to vote. Of the 1,627,447 enlisted and officer personnel, Native Americans comprise .58 percent of the total active duty force. This compares with a thirty percent (30%) total minority population within the military (U.S. Department of Defense Personnel Report, 1996). However, according to the 1990 Census, seventy-five percent (75%) or 134.7 thousand American Indian and Alaska Native veterans were wartime veterans; forty percent (40%) were Vietnam war era veterans, sixteen percent (16%) served in the Korean conflict, and nineteen percent (19%) served during World War II. Of the fifty five thousand American Indian and Alaskan Native veterans who served during peacetime, only 33.8 thousand (18%) served after the Vietnam era, and 20.2 thousand (11%) served between the Korean and Vietnam Era. The implications of wartime service supports the cultural emphasis of the warrior among many existing tribes, and reflects the honor they continue to bestow upon all tribal veterans who have served this role.

A study involving Montana's American Indian population is important in that three of the state's tribes--the Blackfeet Tribe and Cheyenne Tribe, and the Sioux Tribe are among the eight nations comprising sixty percent or more of the veterans of the Vietnam and Post Vietnam- Eras. These three tribes also comprise a large proportion of the Montana's VUB Project enrollment.

According to the U.S. Department of Veterans Affairs, Center for Minority Veterans (October, 1998), among American Indian veterans who specified a tribal affiliation, sixty percent (60%) or more of the veterans serving during these eras came from the following tribes: Blackfeet-68%; the Navajo-65%; the Lumbee, the Apache, and the Tohono Oldham-63%; the Sioux, the Cheyenne and Kiowa-60%.

There are numerous socioeconomic characteristics that also distinguish American Indians veterans from the national and Montana veteran's population. According to the 1990 census, twenty-five percent of all American Indian veterans do not have a high school diploma, and only twelve percent have graduated from a two or four year college. In Montana, twenty-seven percent of the state's Indian veterans do not have a high school diploma and only five percent have a post-secondary degree. This compares to a nineteen-percent high school dropout rate and an eight-percent degree attainment rate for non-Indian veterans within the state. However, a significant difference should be noted for the current military personnel and the currently discharged veterans, of whom ninety-eight percent are high school graduates, including Indian veterans. (U.S. Department of Defense, Personnel Report, 1996).

Nationally, forty-seven percent of American Indians and Alaskan Native veterans are under forty-five years of age compared to twenty percent for all veterans (U.S. Census, 1990). Significantly, the Blackfoot tribe in Montana has the youngest veterans' population in the nation, with fifty-seven percent of its veterans under the age of forty-five (U.S. Department of Veterans Affairs, Center for Minority Veterans, October, 1998).

Further 1990 census data reveals that sixty-eight percent of American Indian veterans were married; four percent were widowed, seventeen percent divorced, and

eleven percent were single. According to the Montana State University Northern's Veterans Upward Bound Demographic Reports for 1995-1998 (previous to these years data was not maintained for this area), forty-eight percent of the American Indian veterans were married, twenty-five percent were single and twenty-four percent were divorced. Hence, American Indian veterans in VUB were over twice as likely to be single and have higher divorce rates than the national averages for Indian veterans. Assumptions related to marital status might suggest that single veterans including the Indian veteran would matriculate in greater numbers since they would have less financial obligations and family responsibilities. On the other hand, given the extended kinship that exists on the reservations, many single Indian veterans may assume financial responsibilities for their immediate and extended families.

Beyond census data, the best and perhaps the only study of American Indian veterans is authored by Tom Holm in his book Strong Hearts: Wounded Souls. Written in 1996, and limited to the study of veterans of the Vietnam War, he notes often-overlooked contributions of Indian veterans to the United States military in past and current conflicts. Holm also examines the various tribal rituals and customs associated with these veterans in the context of being warriors. His survey on the reasons why Indian veterans enter the service provided insight on how strongly culture influences their decision to serve. In response to his questionnaire, fifty-one percent indicated that the service was a family tradition; forty-four percent indicated that it was a duty to serve the country; forty-three percent noted it was a tribal tradition and thirty five percent felt it demonstrated respect for Indian people. Unlike non-Indian veterans, who until recently favored military service as a mechanism to obtain job skills and resources to attend

college, Indian veterans were most likely to enlist for reasons attributed to their tribal traditions and culture.

It is important to examine the outcomes of American Indian veterans as part of this study, not only because a large number of them attended the Project, but as Tom Holm concluded: "the problem that still plagues many Native American veterans is that virtually no one except their own people knows of their sacrifices in war, much less that they fought in numbers exceeding their proportional population" (p. 11).

Review of Methodologies Used

This study utilized both the quantitative and qualitative approaches to answer the research questions. Descriptive methods were used in this study to describe the demographic characteristics of the population of interest and to examine the relationship (Chi Square and Fisher Exact tests) between these variables and academic success of participants obtaining a degree or demonstrating positive persistence (GPA of at least 2.0). The compatibility of this method of inquiry is confirmed by Gay (1992) who stated, "descriptive research involves collecting data in order to test hypotheses or to answer questions concerning the current status of the subjects of the study" (p. 249). This study compiled the demographic data of 517 veteran participants in the Montana Veterans Upward Bound Project with the purposes described by Welowitz, Ewen and Cohen (1990) that "the primary goal of descriptive statistics is to bring order out of chaos...descriptive statistics help resolve problems by making it possible to summarize and describe large quantities of data." (p. 18). Descriptive statistics were also appropriate for the type of data collected by this study. Glass & Hopkins (1996) described the

study's sets of data as "categorical characteristics" or "qualitative features" such as gender, age, and race (p. 3).

In determining the strength of the relationship between the demographic characteristics of participants to graduation and positive persistence, the Chi-square and Fisher exact test were used. Dretzke & Heilman (1998) confirmed the appropriateness of applying this method by stating: "When the researcher is interested in investigating the relationship between qualitative variables, the appropriate test is often the chi-square test of independence" (p. 151). Further Gay (1992) stated that the "Chi-Square test is appropriate when the data represented is nominal and the categories are true categories." (p. 243). The Pearson Chi-Square referenced in this study refers to the chi-square test that has been applied to frequencies, proportions or percentages (Huck & Cormier, 1996).

A qualitative approach was used to address the study's second research question, to illustrate the quantitative data, and to examine implications for Project improvement. Focus group interviews were selected as the qualitative method of inquiry. Despite focus groups having originated out of private sector marketing research, the use of focus groups has gained merit among educational and social researchers in recent years. Krueger (1994) noted:

Educational and nonprofit organizations have traditionally used fact to face interviews and questionnaires to get information...the focus group is unique from these other procedures, it allows for group interaction and greater insight into why certain opinions are held. Focus groups can improve planning and design of new programs and provide for means for evaluating existing programs. (p. 3).

Combining quantitative and qualitative research methods is becoming more frequent and has been acknowledged as having several advantages over a single research

paradigm (Krueger, 1994; Lincoln and Guba, 1999; Merriam, 1998). There are also several ways for using focus groups and qualitative research, as noted by Krueger (1994):

1.) Focus groups can precede quantitative methods, 2.) Focus groups can be used at the same time of quantitative methods, 3.) Focus groups can follow quantitative methods or 4.) Focus groups can be used alone. This study selected to use the groups following quantitative methods. This method is noted by Krueger (1994) as appropriate especially if the quantitative method yields a sizable amount of data that adds meaning and interpretation to the focus group.

The face validity of focus groups is relatively high (Krueger, 1994, Merriam, 1998), and caution should be exercised to control for the tendency of researchers to rush out and to immediately implement recommendations without adequate skepticism. Krueger (1994) noted both the advantages and disadvantages for employing focus groups. Their advantages included: 1.) They are a socially orientated research which occurs in a natural setting; 2.) They allow for a format that profiles and explores multiple and unanticipated issues; 3.) They have a high face validity; 4.) They are relatively low-cost; 5.) They provide speedy results, and 6.) They enable the researcher to increase sample size. The disadvantages mentioned by the author included: 1.) There is less control in groups versus individual interviews; 2.) The data obtained may be more complex to analyze, since comments are made and influenced in a social environment and therefore need to be interpreted in that context; 3.) Trained and skilled facilitators are needed to keep the group focused and to probe side issues; 4.) Groups tend to vary from one to another; 5.) Groups are more difficult to assemble than individual interviews, and 6.)

Groups must be conducted in an environment conducive to talking and may require incentives to participate.

Krueger's (1994,1998) Focus Groups: A Practical Guide for Applied Research and his Analyzing & Reporting Focus Group Results provided the foundation and the synthesis of focus group theory that guided the qualitative design of this study.

Krueger's expertise comes from over thirty years of experience in classes, workshops, seminars, research of the literature and observations of practitioners. This section of the literature review describes the three primary activities of planning, conducting, and analyzing focus groups based on Kruger's methodology.

Characteristics of Focus Groups

Focus groups have five characteristics that make them unique to the qualitative method of inquiry. These are: 1) They involve groups of people; 2.) They consist of a series of groups; 3.) The groups possess unique characteristics; 4.) They provide data in a natural, social environment, and 5.) They are focused discussions. While traditional focus group practices consisted of 10-12 people per group, Krueger (1994) has found that groups of 5-7 persons are more easily managed and yielded greater information (p. 11). People involved in focus groups are now more diverse culturally and economically and require a greater sensitivity to these differences. It is also recommended that focus groups be conducted as a series to detect patterns or trends across groups. This study conducted two groups of participants, one comprised of academically successful veterans and one comprised of those who had left school, or failed to make satisfactory progress. Focus groups should also possess a homogeneity that is related to its purpose. In this

study, the commonality shared by the participants was their status as veterans, their enrollment in the Montana Veterans Upward Bound Project, and their subsequent enrollment in postsecondary education. Focus group interviews are a method of collecting qualitative data, which are unique from Delphic processes or brainstorming processes that are intended to develop consensus, or to problem solve. Focus groups are intended to gather participants' perceptions, feelings and experiences that are related to a particular service or opportunity. Focus groups are also unique in that they take place in a natural environment where participants influence or are influenced by other participants in the group. Finally, "focus group discussions are predetermined, sequenced and based on an analysis of the situation."(Krueger, 1994, p. 20).

Planning Focus Groups

As in all research, the planning of focus groups should reflect the purpose of the study-why it is conducted, what kind of information is being sought, how is the information to be used and who wants the information? The answers to these questions have been introduced in Chapter 1 and are answered in-depth in Chapter 3. Krueger (1994) suggested several circumstances that are conducive to using focus groups as an appropriate research method. These are: 1.) To gather insights needed to explore or conduct preliminary studies; 2.) If there exists a lack of understanding between groups of people, such as program administrators and program students; 3.) If there is a purpose to uncover factors related to complex behaviors or motivations; 4.) If there is a desire for synergetic ideas to emerge; and 5.) If there is a high value on capturing comments for a target audience (p. 45). Conversely, focus groups should not be considered: 1.) If the

environment is emotionally charged; 2.) If the researcher has lost control of critical aspects of the study such as participant selection, group questions or analysis; 3.) If other methods can produce better quality information; 4.) If statistical projections are needed, and 5.) If confidentiality of sensitive information cannot be ensured. , In addition, the planning process for focus groups should be systematic and account for who facilitates the group, what information is predetermined to be essential, who should participate, how to contact participants, selecting an appropriate location, estimating the available resources and developing a written chronological and fiscal plan.

Conducting Focus Group Interviews

The development and method of questioning is the very foundation of focus groups. Krueger (1994) makes it clear that "Quality answers are directly related to quality questions." (p. 53). Focus groups usually include a dozen questions and each new question should focus on the intended purpose or "spark" new ideas. Krueger identifies five types of key questions and their intended purpose. These are: 1.) Opening Questions are intended to get participants acquainted and comfortable with the other group participants; 2.) Introductory Questions introduce the theme of the group, gives participants time to reflect on the theme and increases interaction; 3.) Transition Questions provide the transition from the opening conversation to the group's purpose, the process of questioning and the focus of questioning; 4.) Key Questions are the series of questions that directly obtain and gather information related to the research purpose. They are questions requiring the greatest attention for the analysis; 5.) Ending Questions bring closure to the group and provide for final reflection and input from the group. They

provide for a summary of key points made and provide for an opportunity to address any significant points not made. The process for developing questions can follow two routes for construction. The “topic” or “guide” questions are developed and listed under specified topic of interests or issues. This study used the interaction variables listed in Bean’s (1990) longitudinal model as the structure for developing topical questions. A second approach to question development is constructing whole or complete sentences that lead or guide participants to the topics of interest. Krueger (1994) also provided some guidance on what types of questions to avoid including dichotomous type questions (those that can be answered by a yes or no), questions that ask “why”, and questions that first “cue” answers. A better strategy is using uncued, open-ended questions followed by cued or structured questions if necessary.

Participants in Focus Groups

While randomization of the sample is fundamental to experimental and quantifiable studies to remove biases, the “driving force” in participant selection is the purpose of the study (Krueger, p.87). As often the case, a list of potential participants is drawn up and participants are either systematically selected or selected based upon features related to the purpose (stratified). While three focus groups are suggested, Krueger (1994) confirms that there is no magical number or requirement, but rather a series of groups be conducted until there is a “theoretical saturation” or no new or relevant information is obtained (p. 89). Fewer groups are needed as in this study, when the group focus is narrow or when participants have similar backgrounds and exposure to the event. Participants in this study are all veterans, who have participated in the

Montana Veterans Upward Project, and who experienced postsecondary education.

Veterans who participated in this study were initially contacted by phone; mailed consent of information forms; were provide a pre-group questionnaire; provided a casual meal; and received a financial incentive for participating.

Analysis and Reporting of Focus Group Results

Krueger (1998) noted that the development and origin of focus group analysis is based on traditional qualitative research methodology and marketing research (p. 127). Several advantages as mentioned earlier have contributed to the focus group process becoming more popular in social and educational research, and it is gaining a greater acceptance as a qualitative research methodology. As such, there is a number of guiding principles and practices that contribute to the rigor and verifiability of focus group analysis. The analysis of information, as in other research methods must be systematic both in its analysis and in the collection of data. Krueger (1994) outlined six steps in establishing a systematic protocol for gather focus group information. These six steps include: 1.) The sequencing of questions to allow for maximum insight; 2.) The capturing and handling of data through unobtrusive electronic methods such as tape recording; 3.) The coding of data, ideas, topics such as axial coding methods; 4.) Verification of participant intent and meaning of participant narrative achieved by moderator's summary questions or verification by an external auditor; 5.) Arranging a debriefing immediately after the groups with the moderator and assistant moderator to capture key narrative descriptions, and 6.) The sharing of preliminary reports with other researchers to examine or challenge assumptions (p. 128-129). Krueger (1994) remarked that the importance of

establishing a systematic protocol ensures that: 1.) Useful information for a specific purpose is communicated; 2.) That a logical description of the total investigation is provided, and 3.) Historical records of the findings are provided (p. 164). Specific protocol for gathering, recording and analyzing information obtained through the focus groups is described more fully in Chapter 3 on Research Design and Methodology.

This section of the literature review provided a summary of focus group methodology. As a qualitative method it has both advantages and disadvantages to the researcher. As a qualitative method of inquiry, it too must conform to a systematic and rigorous protocol for gathering and analyzing information. Despite its commercial origin in marketing research, the use of focus groups is gaining acceptance as a tool for program assessment and wider acceptance as a research tool. It was an appropriate tool for addressing this study's second research question. The next chapter provides an in-depth review of this study's research design and methodology.

Implications and Conclusion of Literature Review

The literature reviewed for this study was predominately historic in nature. The development of the GI Bill, the role of veterans in higher education, the summary of adult participation, and retention studies tended to reflect past events and their importance at the time. The literature review found that specific research and studies of veterans, as students were more abundant for the Vietnam era or earlier war periods veterans. The one exception was Atwell (1999), whose study pertained to development of a veterans tracking model. However, the historic nature of the literature does not lessen its importance to this study. This perspective provided a rich context for understanding the

role of veterans in higher education, the politics and policies influencing educational benefits and services to veterans, the mission of Veterans Upward Bound as a unique educational service to veterans, and insight into the role of American Indian veterans in America's military. The lack of current research including the void of information pertaining to the Veterans Upward Programs underscores the importance and need for this study. The next chapter provides detail for carrying out the quantitative and qualitative research design of this study.

CHAPTER 3

METHODOLOGY

Introduction

This research addressed the problem concerning the lack of information pertaining to Montana's Veteran Upward Bound participants who enrolled in the Project from 1992-1998. The purpose of this descriptive study is to examine selected demographic characteristics and postsecondary experiences of Montana's VUB participants to gain an understanding of the factors that contributed to their academic success or failure. Specifically the study seeks to: (i) to describe VUB participants based on selected demographic characteristics, (ii) describe the relationship between these characteristics and academic success (graduation and positive persistence), (iii) to illustrate the postsecondary experiences of Billings area participants, as it too related to their academic success or failure, and (iv) obtain information for improving Project services and practices. Four research questions guided the study in relationship to the stated purposes. Quantitative methods using the Pierson Chi square and Fisher Exact tests were used to examine the demographic characteristics of the total population of VUB participants who attended postsecondary education from 1992-1998. Focus group interviews were used to illustrate the findings relative to the postsecondary experiences of Project participants who enrolled in the Billings VUB program. These focus groups also provided information for improving Project services and practices. The four research questions addressed by this study were:

1. Based upon selected background and Project demographic characteristics, how are the Project participants, who entered postsecondary education best described?
2. What is the relationship of selected demographic variables of Montana's Veteran Upward participants who entered postsecondary education to academic success (degree obtainment and non-graduate positive persistence—retention)?
3. What are the important postsecondary experiences that contributed to the academic success or failure as illustrated by the Billings program participants?
4. What are the implications of these experiences for improving the Billings VUB program?

Descriptive Design and Methodology

Subjects

Among the total population of 683 veterans who participated in the Montana Veterans Upward Bound Project from Spring semester 1992 to Spring semester 1998, 517 veterans (76%) completed the program and subsequently enrolled in postsecondary education. However, twenty-two (22) of these veterans' files (4%) were excluded from the study because of incomplete information.

Subcategories of the 495 veterans were established to note participants who were academically successful and those unsuccessful. The academically successful group consisted of: (i) 100 participants who had graduated with a certificate, associate or bachelor degrees, (ii) 131 participants who were enrolled as of June 1998 with a grade point average of at least a 2.0. The academically unsuccessful group consisted of (i) 79

stop-out participants, (ii) 150 participants who dropped out, and (iii) 35 participants who were enrolled but failed to maintain a 2.0 grade point average.

Excluded from this study were 166 participants who elected not to enroll in postsecondary education or training after their VUB experience. They represent a sizable portion (24%) of the total Project enrollment. Documentation was maintained for reasons of non-entry into postsecondary education and training, and the most frequent reasons cited for decisions to postpone or not continue further education were related to finding employment (MSUNVUB Student Demographic Report 1992-1998). A breakout of the student population for quantitative analysis is presented in Figure 3. Descriptive statistics of all independent variables were used to obtain a profile for all VUB participants entering postsecondary education. The quantitative design for analyzing the relationship of independent variables and the dependent variables of graduation and positive persistence is summarized in Figures 4 and 4.1.

Null Hypotheses

In each of the Chi Square analyses described below, the Null Hypothesis tested was that no relationship exists between graduation or positive persistence and each the ten demographic variables examined in this study.

Variables

Two dependent variables defining academic success were of interest to the researcher and were selected for study, these were: (a) Graduation: attainment of a college degree or certificate and (b) Positive Persistence: currently enrolled with a GPA of 2.0 or better

Figure 3: Montana Veterans Upward Bound Population Spring Semester 1998

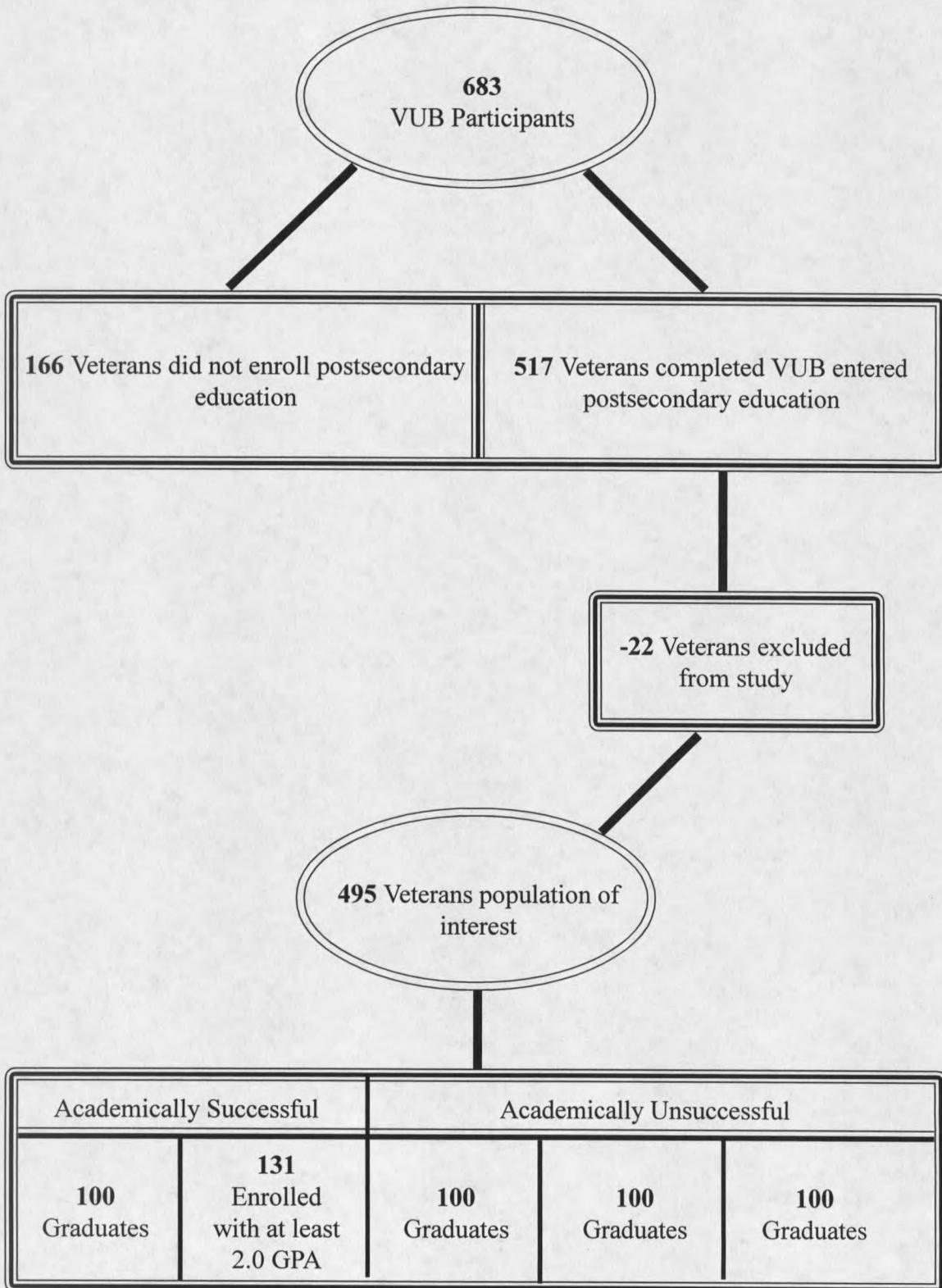


Figure 4: Quantitative Analysis of Participant Independent Variables & Dependent Variable Graduation

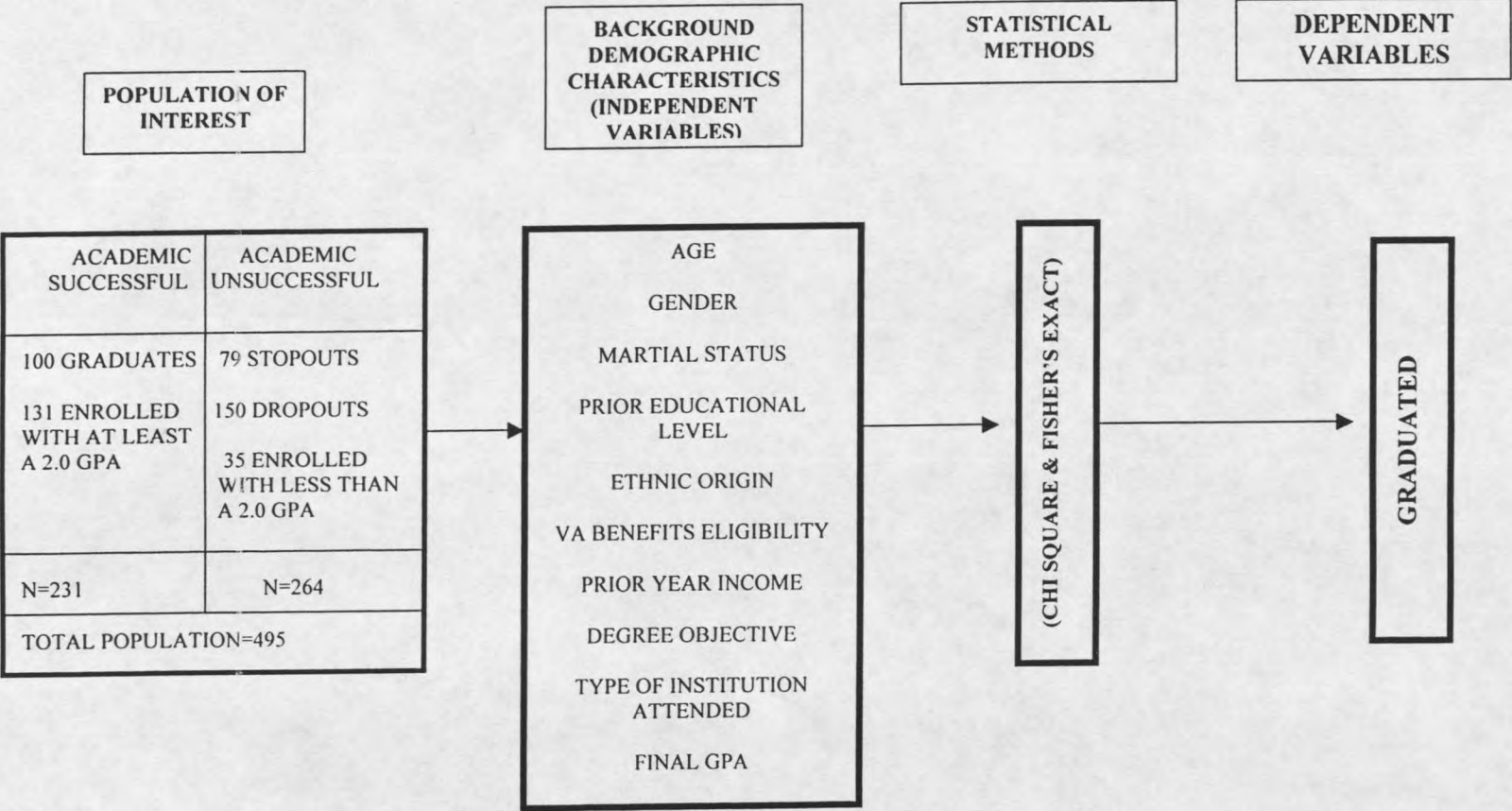
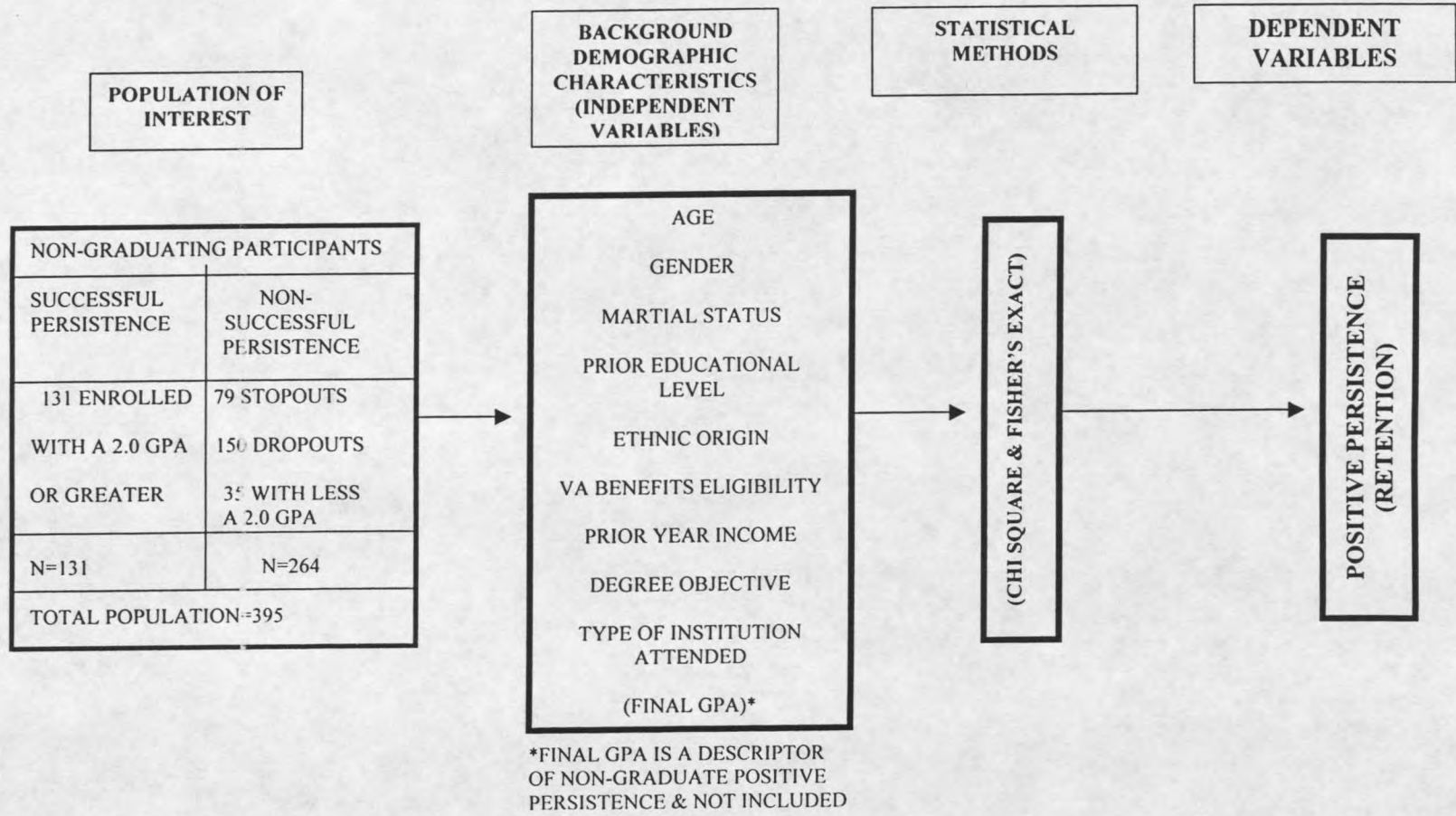


Figure 4.1: Quantitative Analysis of Participant Independent Variables & Dependent Variable Positive Persistence



A total of ten independent variables were selected from participant files that reflected demographic information of interest to the study. The selected demographic variables also corresponded to background variables thought to influence attrition and retention in the theoretical models reviewed in this study. It should be noted that the independent variable of grade point average (GPA) was not analyzed in relation to positive persistence, because it is a condition of positive persistence. The selected variables were defined as follows

- (i) Age: Chronological age (in years) of the participants upon entering the program.
- (ii) Gender: As indicated on participants' application. Gender was identified as: (1) male or (2) female.
- (iii) Prior Educational Level: As indicated on the participants' application at the time of enrollment. The veteran's prior educational level was indicated as: (1) no high-school diploma or GED, (2) high-school diploma or GED, or (3) attainment of some college credit.
- (iv) Ethnic Origin/Race: U.S. Department of Education categories used to describe the ethnic groups of participants. The participants' ethnic group was identified as: (1) American Indian/Native Alaskan, (2) Asian/Pacific Islander, (3) Black (non-Hispanic), (4) Hispanic, or (5) White.
- (v) GI Bill Eligibility: Participants' eligibility to receive veteran's educational benefits under all chapters (30,31,32,34/30,1606) of the GI Bill as verified by the Department of Veterans Affairs Regional Office in St Louis. Eligibility was identified as: (1) eligible or (0) ineligible and pertains to receipt of the GI Bill during VUB participation and the participant's first semester in postsecondary education.

- (vi) Marital Status: As indicated on the participants' application at the time of enrollment. Marital status was indicated as: (1) married, (2) single, (3) divorced, or (4) separated.
- (vii) Prior Year Income: Participants' annual income from the year prior to enrollment in the program.
- (viii) Degree Objective: Degree categories are indicated as: (1) AA/AS degree (2) BA/BS degree or (3) Certificates (i.e. less than two-year degrees), and indicated the applicants' degree objective upon entering college.
- (ix) Type of Institution Granting Degree: Institutions granting participant degrees were indicated as: (1) Two year public or private institutions, (2) Four year public or private institutions, (3) Two or Four year tribal colleges.
- (x) Final Cumulative Grade Point Average: Participants' cumulative grade point averaged on a scale of 1.0 to 4.0 with the latter being highest. This variable was examined in relationship to (a) graduation and not (b) positive persistence since it defined a condition of the dependent variable.

Limitations and Delimitations

The following restriction applies to the statistical portion of this study.

1. The population utilized for this study was limited to the participants enrolled in the Montana Veterans Upward Bound Project from Fall 1992 to Spring 1998, which entered postsecondary education.
2. All data analyzed were longitudinal, archival data obtained from the Montana State University-Northern Veterans Upward Bound Project.

Therefore, caution was exercised when viewing the population studied as a representative sample of all veterans or other VUB projects.

3. The primary delimitations of the statistical study were the exclusion of other demographic variables noted by other studies and theories on graduation and student persistence. Such variables as receipt of federal financial aid, parent educational levels, high school grade point averages and information pertaining to social status were excluded because they were not uniformly maintained in participant files, or readily available to this study. Other assumptions, limitations and delimitations, as noted in Chapter 1, are applicable as well.

Data Collection Procedures

The Montana Veterans Upward Bound Project has maintained archival data on all participants enrolled in the Project since 1992. Program staff enters all personal data obtained from the students' application into a Microsoft Access database in May and December of each year (close of Fall and Spring semesters). During the months of January and July of each Project year, letters are sent to the various postsecondary educational and training institutes where Project participants have applied or enrolled, to request their transcripts. This information results in the formation of an educational tracking file for each student. Each student's place of enrollment, the courses taken, the number of units attempted, the number of units completed and the grades received are coded in this file. The tracking file also includes when the student participated in VUB. All participants are tracked for a period of at least two years. The files of those students

who do not take classes during a two-year period are categorized as dropouts and are no longer tracked. Those students who are categorized as stop-outs are not currently enrolled but continue to be tracked if they have shown some academic activity within a two-year period. Official transcripts are maintained to verify grades and graduation.

Personal and educational data of students are maintained using Microsoft Excel data base management software. The personal and educational data of the 517 participants who enrolled in college were entered into the SPSS statistical software version 10.0 file. Data were verified for accuracy against student files and 22 veterans were excluded from the study because of erroneous or incomplete files. Finally, all data were numerically coded and entered into the SPSS software program for analysis. The following steps were used to establish the database and accuracy of information.

The names and social security numbers of the VUB 517 veterans who entered postsecondary education and participated in the Montana Veterans Upward Bound Project, from spring semester 1992 to spring semester 1998, were identified from the Project database.

The demographic data collected were verified by referencing original student files. Those files that were incomplete or erroneous were deleted from the population of study (n=22).

Demographic data from the remaining 495 veterans were obtained from the program application and the following supporting documents: IRS income statements or 1040 forms, discharge paper (DD214), high school or college transcripts, GED certificates, and a VA statement of benefits.

Data Analysis

Two statistical approaches were employed to analyze the relationships between the demographic characteristics of the participants and their academic success.

1. Descriptive Statistics:

As Gay (1996) recommends, "the first step in data analysis is to describe, or summarize, the data using descriptive statistics" (p. 432). This first step allowed the researcher to identify and summarize the characteristics of the population of interest. It provided a summary of the data for the variables of interest (range, min, max, mean, mode and SD) and created frequency distribution tables indicating the levels of the variables, with their associated frequencies and percentages.

2. The Chi-Square Test of Independence:

The Pearson Chi Square Test "goodness of fit" test was used to analyze the strength of the relationship between certain demographic characteristics of participants and their postsecondary academic success. "If a marked difference exists between observed or actual frequencies falling in each category and the frequencies expected to fall in each category on the basis of chance or a previously established distribution, then the Chi Square test will yield a numerical value large enough to be interpreted as statistically significant" (Popham, and Sirotnik p. 253).

The Chi-Square test was used to test the null hypothesis that the two specified variables (graduation and positive persistence) are not related to each of the ten independent variables. Significance was established at $p < .05$, indicating that there was less than a 5 percent chance that the difference in the observed and predicted values was

due to chance. Therefore, at $p < .05$ the null hypothesis was rejected, indicating that there is a relationship between academic success and the demographic variable being studied (i.e. the variables are not independent). The selection of the significance level of $\alpha = .05$ is a common practice in educational research. Additionally, the Fisher's Exact test was used when the two variables under consideration formed a two by two table. There are some precautions in using the chi square as noted by Welkowitz, Ewen and Cohen (1991): 1.) The chi square can only be performed when observations are independent; 2.) Any subject must fall in one and only one category; 3.) The computation must be based on all subjects in the sample, and 5.) Chi Square is an approximate test for obtaining values for observed frequencies, since frequencies cannot be negative, the distribution cannot be normal when the expected population values are close to zero. Expected frequencies should not be less than 5 for 1 df. It should be noted that frequencies less than 5 were analyzed, and were presented in the crosstabulations found in Chapter 4. These cell frequencies were presented to more fully describe the population of interest, and because the analysis did not affect the results.

Qualitative Design and Method of Study

Introduction

Marshall & Rossman (1999) provided an outline for proceeding with the design and methodology of qualitative research. Suggestions for formulating a qualitative design included: 1.) The rationale for the paradigm used; 2.) The population and selection methods; 3.) The data gathering methods; 4.) The recording, managing and analyzing data methods; 5.) The trustworthiness; 6.) Personal biography; and 7.) Ethical and

political considerations. Also included was the timeline for carrying out this research. This outline was used to establish the qualitative study of this portion of the research.

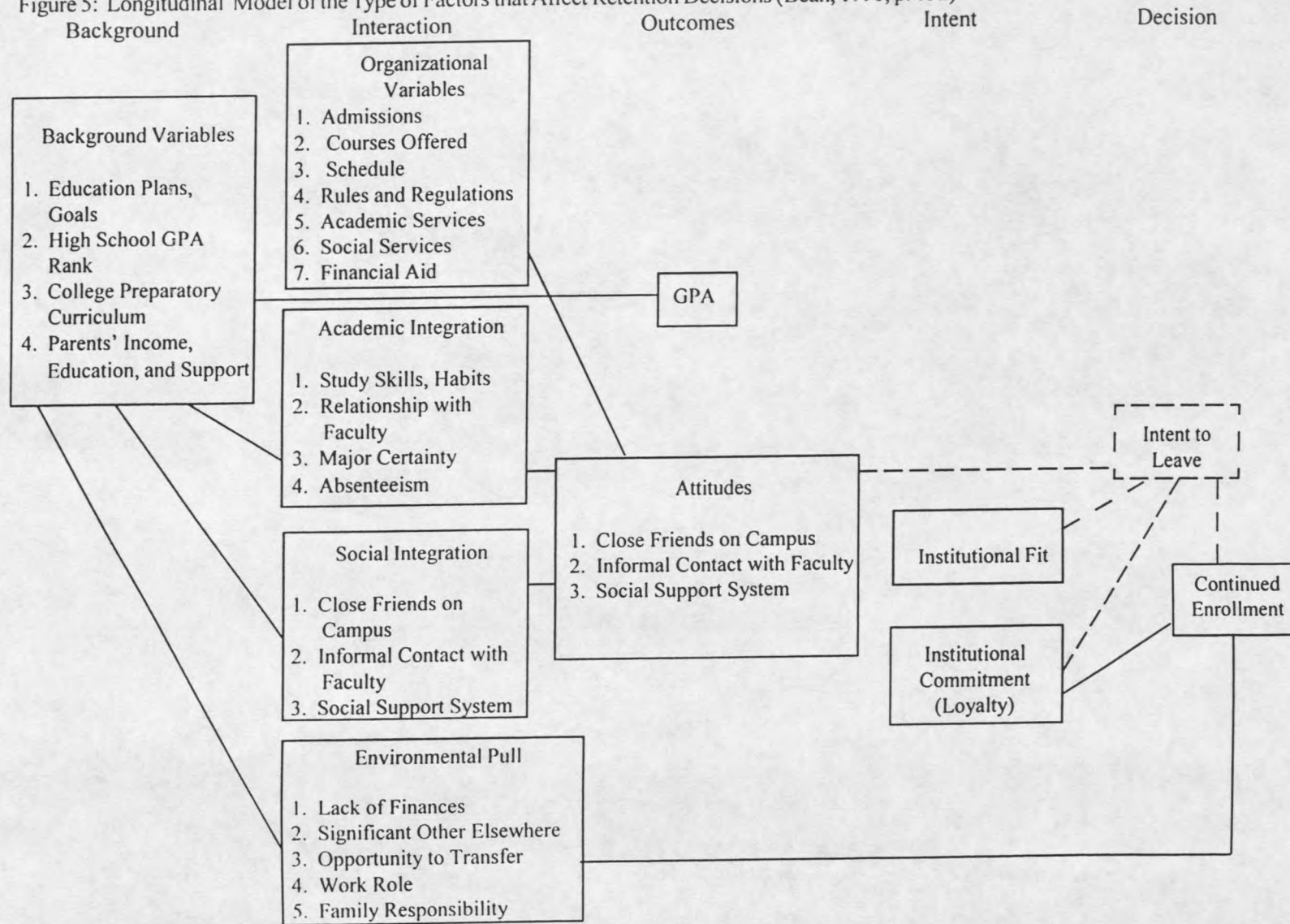
Rationale for Using the Qualitative Paradigm

A qualitative approach was used to address the third and fourth research questions set forth by this study. The lack of research related to the Veterans Upward Bound in general and to the Montana Veterans Upward Bound in particular, extends to a lack of understanding of the Project participants' educational experiences once they entered postsecondary education. Understanding these experiences has the potential of improving Project services and practices contributing to a greater academic success of participants. Hence, a "basic" or "generic" type of qualitative study as described by Merriam (1998) was selected to illustrate the college experiences of selected former Project veterans. It is not the focus of this study to substantiate a theoretical model, as in grounded theory research, but rather "to discover and understand a phenomenon (postsecondary experience), a process, or the perspectives...of the people involved" (Merriam, p. 11). As noted in Chapter 1; however, the Longitudinal Model of the Types of Factors that Affect Retention Decisions (Bean, 1990) provided the theoretical framework for framing the focus group interviews. The four sets of interactive factors as noted by Bean (1990), provided the focus of inquiry of participant postsecondary experiences. The model is presented in its entirety in Figure 5.

Focus of Inquiry

Determining the point of focus is an important first step in research, regardless of the paradigm utilized (Lincoln & Guba, 1985). The authors cited two primary reasons for

Figure 5: Longitudinal Model of the Type of Factors that Affect Retention Decisions (Bean, 1990, p. 152)



establishing the focus. "First, such focus establishes the boundaries...second, focusing effectively determines inclusion-exclusion criteria for new information that comes to light" (pp. 227-228). The focus established for this portion of the research was to illustrate the postsecondary experiences of selected Project participants. The "framing" of these experiences within Bean's Interaction Factors (organization, attitudes, social integration and environmental-pull factors), allowed the researcher to structure or guide the inquiry with enough flexibility for information to emerge, a key characteristic of naturalistic inquiry (Lincoln & Guba, 1985). It also provided boundaries for excluding or including narrative information.

Population and Selection

Marshall and Ross (1999) stated the purpose of the qualitative paradigm is to "illustrate subgroups" and to "facilitate comparison" (p.79). One purpose of this study's qualitative approach was to "illustrate" the postsecondary experiences of participating focus group members. The understanding of the Project participants' postsecondary experiences were limited, since only former VUB participants attending colleges in the Billings Montana area were included in the group interviews. This delimitation was noted in Chapter 1, excluded remote VUB tribal college participants that because of great distances were unlikely to attend the interviews. Three subgroups of participants were first established by tracking status to include: (i) participants who graduated, (ii) participants that demonstrated positive persistence, and (iii) participants who dropped out or stopped out (academically unsuccessful). Participants were further broken down by major demographic characteristics including type of institution attended, gender, and

ethnic origin. The composition of participants and those who attended is illustrated in Figure 6.

Figure 6: Focus Group Composition

COMPOSITION OF PARTICIPANT CONTACTS

Tracking Category (% of 495)	Total Number of Participants	4 year College (49%)	Tribal College (46%)	2 Year College (5%)	Male (84%)	Female (16%)	Native American (46%)	Non-Native American (51%)
Graduated (20%)	10	4	4	2	6	4	4	6
Positive Persistent (27%)	15	6	6	3	10	5	8	7
Unsuccessful (drop/ stop outs) (53%)	22	10	8	4	18	4	10	12
Total	47	20 (42%)	18 (38%)	9 ((19%)	34 (72%)	13 (28%)	22 (47%)	25 (53%)

COMPOSITION OF FOCUS GROUP PARTICIPANTS

Tracking Category (% of 495)	Total Number of Participants	4 year College (49%)	Tribal College (46%)	2 Year College (5%)	Male (84%)	Female (16%)	Native American (46%)	Non-Native American (51%)
Graduated	3	1	1	1	2	1	1	2
Positive Persistent	2	1	0	1	2	0	1	1
Unsuccessful (drop/ stop outs)	7	6	0	1	4	3	1	6
Total	12	8 (67%)	1 (8%)	3 (25%)	8 (67%)	4 (33%)	3 (25%)	9 (75%)

A total of 47 former participants were contacted by phone about their willingness to participate in one of the two focus groups. Of the 47 persons contacted, 13 former Montana VUB participants agreed to participate in one of the two focus groups. The

actual group compositions represented all interested “subcategories,” but were not reflective of the actual proportion in the total population of interest. Four-year and two-year attendees, females, and non-Native American veterans were over-represented, while Tribal College attendees from Little Big Horn College, and Dull Knife Memorial College were not represented. Males and Native American veterans were under-represented in both groups. The following methods were utilized in selecting focus group participants:

1. A list of all former Montana Veteran Upward Bound participants who entered postsecondary education was printed (n=517). The list was separated into graduates, college enrollees and the non-successful academic participants.
2. A total of 47 participants were identified based upon demographic subgroup categories, their VUB site of enrollment, the likelihood of them participating, and a preconceived notion that they would be good contributors in a group environment. Phone numbers were obtained from student files or contacts, and individuals were contacted by the researcher..
3. Of the 47 participants contacted, 14 agreed to attend. Refreshments, food, childcare, and a \$20 incentive were offered for attending. Two of the 14 did not attend. One cancelled just prior to the interview, claiming illness, and one participant who confirmed her attendance, just didn't show.
4. Each of the 14 participants agreeing to attend were mailed a cover letter, detailing the date, site and time of the group. Enclosed was an Informed Consent Form as referenced in the Appendix A, and a pre-group questionnaire used to triangulate participant responses and to introduce them to theme

questions also referenced in the Appendix B. A highlighted map indicating the location of the groups and parking was also included.

5. A flyer was sent as a reminder and was planned to arrive a few days before their scheduled interviews. Finally, participants were called on the day of the interviews to confirm their attendance.

Data Gathering Methods

As noted in Chapter 2, focus group interviews, as a qualitative method of gathering information, can yield very valid results provided they follow rigorous procedures as earlier noted. Krueger (1994) stated: "Focus groups are valid if they are used carefully for a problem that is suitable for focus groups inquiry" (p. 31). The "suitability" was addressed earlier in this section, and the following described the study's protocol in preparing and gathering data:

1. Identification of participants who represented the diversity of the selected demographic characteristics for this study, who were thought likely to commit to attend and contribute, were invited to participate. This initial step was an important step in gathering data. Krueger (1994) observed: "Of all the elements of focus group interviewing, the most overlooked and underestimated aspect is the recruitment of the right people" (p. 76).
2. Equally important is the person who gathers the information. The selection of a group moderator was an important consideration for this study. Because the researcher was actively involved in many aspects of the participants' education, and served as the chief administrator, it was

decided that a group facilitator external to the VUB Project should be employed to avoid biases and provide greater objectivity. Dr. Cindy Dell was selected as the moderator. Her background in qualitative research, her professional interest in student retention, her familiarity with the theoretical models used in the study, and her work with Native American students made her an excellent choice. The one limitation of using her as a moderator was her limited knowledge of the VUB Project and her total unfamiliarity with any of the participants. These concerns were addressed by including an assistant, Mr. Fred Betz, who serves as the Coordinator of Instruction and Student Support Services for the Project. This collaborative arrangement provided an analytic environment for what Krueger calls the "middle ground" between fully accepting focus group information and being skeptical. This collaborative process had several advantages as listed by Krueger (1994). "It increases the connection with participants, it increases the talent pool, it increases the quantity and breath of feedback in conducting and carrying out the study, and it increases the analysis of results" (p. 189).

3. Pre-group planning was conducted with the moderator, assistant and researcher. A review of the study, the development of draft questions and Krueger's books on conducting focus groups were provided to acquaint the facilitators with focus group protocol. A second meeting was conducted to finalize the pre-group questionnaire and focus group

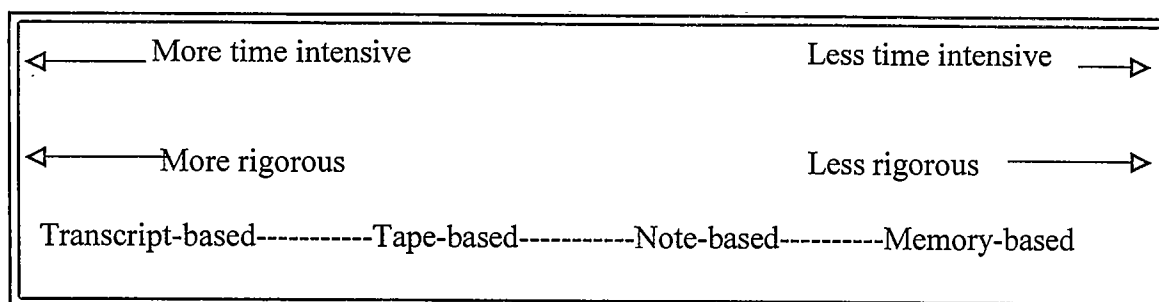
questions, to review the protocol, to ensure the necessary logistics, review the participants, and the methods for analysis.

4. Two separate groups interviews were conducted with one group of five “academically successful” and a second group of seven “academically unsuccessful” participants attending. The participant composition of these groups can again be referenced in Figure 6. The first group interviews lasted approximately 95 minutes, while the second group interviews concluded in 110 minutes. This did not include time for meals and introductions.
5. The groups were scheduled on a Wednesday night and Thursday night from 5:30 to 7:30, since many of the participants were working or attending school during the day. Several participants who worked at night made adjustment in their work schedules to attend. One participant’s babysitter cancelled at the last moment, but she was able to bring her children; they were entertained with videos and snacks while she attended the group. Group discussions were tape recorded on two machines, and both the moderator and assistant took notes. Upon the conclusion of interviews, and after all participants left, the moderators debriefed the researcher noting major themes, impressions, and insights. This information proved valuable in the analysis of the results described in the following section.

Recording, Managing and Analysis of Data

The researcher serves as the primary instrument in qualitative research (Marshall & Rossman 1990). As such, the collecting and analysis of qualitative data is a “simultaneous activity” as opposed to the linear process in quantitative research (Merriam, 1998). In the previous section the study’s protocol for recording and gathering of focus group data was described. Analysis as a separate process begins with the purpose of the study, which in this case was to gain an understanding of the postsecondary experiences of selected former VUB participants, as it related to their academic success or failure. Further, as Krueger (1998) stated “analysis starts by going back to the intent of the study” and that “the problem drives the analysis” (p.4). Hence in this study, the problem presented was the lack of information and understanding regarding the postsecondary experiences of a selected group of VUB participants. The quality of the focus group analysis rests not only in the procedures followed and the qualifications of the moderator, but also in what Krueger (1998) strongly voiced as essentially: “an openness to new ideas, approaches, and concepts” (p. 3). Focus group analysis, however, is different and unique from individual interviews or other forms of qualitative analysis. The most unique feature of the focus group process is that it derives data produced by participants influencing each other, and that opinions change and differs among members. Krueger (1998) describes this process as “evolutionary” and the recognition of these changes and shifts, including periods of silence, were important and had meaning in the analysis of the interviews. Because of the fluid nature of focus groups, Krueger (1998) suggested a protocol for analyses., which was followed by this study.

1. A tape base method of analysis was used and thought to be sufficient, since abridged transcripts were used collectively with moderator notes and a pre-group questionnaire for triangulation purposes. The diagram below illustrates a continuum of analysis strategy presented by Krueger (1998).



2. A tape base analysis was made of both focus groups interviews. The first group interview was conducted to gain an understanding of “academic success” in relation to the three areas of interest: (i) demographic variables related to academic success, (ii) the four interactive factors of Bean’s (1990) longitudinal model, and (iii) implications for Project improvement. A second group interview was conducted to provide information about the same three areas of interest; however, the focus was to gain an understanding of participant experiences that resulted in their not being academically successful.
3. After listening to the tapes, reviewing abbreviated tape transcripts, and noting answers to the pre-group questionnaire, data were coded and sorted into the three areas of interest described earlier. The results of the analysis are reported in Chapter 4.

Trustworthiness of the Research

The “truth value” (internal validity) of the qualitative design is described by Lincoln & Guba (1985) as the “extent to which the findings relate to reality” (p. 294). The authors cited the work of Denzin (1978) who described four methods to increase the credibility of qualitative research. All four of these methods were employed to various degrees within the design of this study. These methods included: 1.) The use of multiple investigators (a group facilitator, a Project staff member, and the researcher); 2.) The application of different theories (Bean’s nontraditional student models of retention [1985,1987] provided the theoretical framework for investigation of background variables and his 1990 longitudinal interaction factor model was utilized as the framework for understanding the college experiences of focus group within their institutions; 3.) The use of multiple sources of data (the study included database information, student hard files with verifiable documentation, focus group information and demographic data), and 4.) The use of different methods of inquiry (both statistical and naturalistic inquiry) supported the study.

The concern of the applicability of research findings to specific situations (referred to as transferability) is not claimed by the naturalistic paradigm. In fact, “in a strict sense it is impossible” (Lincoln & Guba, p. 316). This does not diminish its importance, however, since “thick description” and “prolonged engagement” provided by this type of inquiry can enable future researchers “interested in making a transfer to reach a conclusion about whether transfer can be contemplated as a possibility” (Lincoln & Guba, p.316). The authors also suggested a number of methods to increase the dependability or the reliability of the study and the confirmability or the value of the data.

The researcher used several of these methods within the study. These included: 1) The keeping of auditable raw data contained and documented in student files; 2) The recording, coding and categorizing of narrative notes; and, 3) Utilization of Dr. Cindy Dell and Mr. Fred Betz as group moderators to review the coding and analysis of data.

Personal Biography

The role of the researcher as the research instrument is fundamental to the qualitative paradigm (Marshall, Rossman, 1999). Because of inherent biases of the researcher mentioned earlier, he decided to play an indirect role in the group facilitations. Marshall & Rossman (1999) termed the degree of the researcher's participation as "deploying the self" (p.79). This researcher defined his roles as: making the initial contact for calling students to invite their participation and explaining the study to them; serving as the "host" in welcoming the participants; introducing Dr. Dell as the group facilitator; and participating as a team member with Dr. Dell and Mr. Fred Dietz in analyzing the narrative data. Resumes of Dr. Dell, and Mr. Fred Dietz are included in Appendix D.

Ethical and Political Considerations

A primary importance to this study was participant confidentiality. Several procedures to insure participant confidentiality were followed and included: explaining the purpose and procedure of the study, providing an informed consent form to each participant, and providing the names and telephone numbers of the researcher and committee chair, if there were questions. Additional precautions were used in the study by referring to participants only by first initials. Students were further assured that the

2001

Activity	JAN	FEB	MAR	APR	MAY
Defend Proposal					
Conduct Focus Groups					
Analysis & Auditing of Narrative Data					
Write Chap 4,5					
Defend Dissertation					

CHAPTER 4

RESULTS

Introduction

Two approaches of investigation were conducted in addressing the study's research questions. A quantitative method using both descriptive analyses was employed to describe the demographic characteristics of Montana's Veterans Upward Bound participants, and to seek to identify the relationships between these characteristics and graduation and retention. A qualitative approach using focus group interviews was utilized to illustrate the postsecondary educational experiences of academically successful and unsuccessful Billings VUB participants.

This chapter reports the results of these analyses, which are presented in the following sections: Descriptive Analysis Results, Chi Square Analysis Results (graduation and positive persistence), and Focus Group Analysis Results.

Descriptive Analysis Results

Analyses were performed on the demographic data of 495 veterans who participated in the Montana Veterans Upward Bound project between Spring semester 1992 and Fall semester 1998, and attended postsecondary education. The personal and educational characteristics analyzed resulted in a great deal of descriptive statistics. The computer program SPSS 10.0 was used to provide numerical and graphical representations of the analyses, enabling the population of interest to be described fully. The following participant characteristics were used as descriptors: educational attainment

status (tracking status), age, gender, ethnic/racial background, marital status, degree objective, prior educational level, type of institution attended, prior year's income and final GPA.

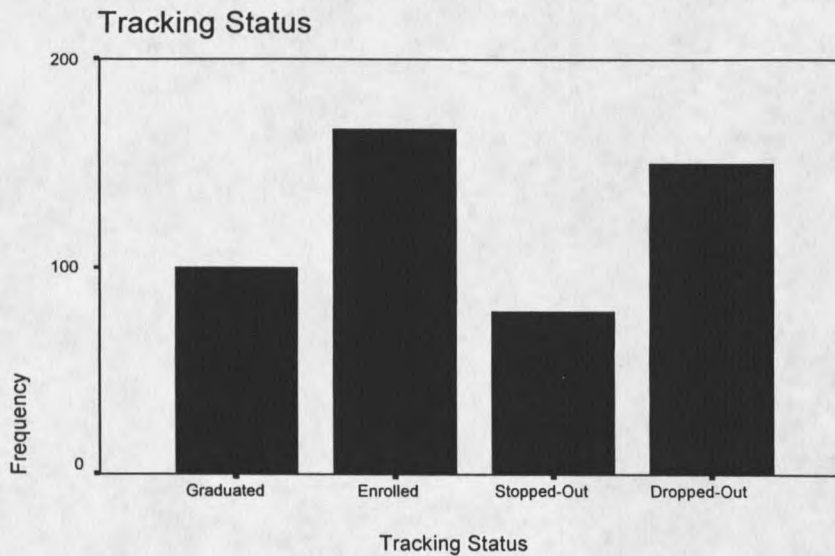
The following frequency tables provide the frequency (count) and relative percent that fell within subcategories of the descriptive categories analyzed within the population of interest. Each frequency table is followed by a bar chart that graphically displays the frequencies observed.

The educational attainment status of the participants as of Spring semester 1998 is displayed as Table 1. One hundred (100) of the 495 participants (20%) had graduated from a post-secondary institution. Among the remaining 395 participants, 33.5% were currently enrolled, 16% had stopped-out (i.e. not attended for less than 2 years) and 30% had dropped-out (i.e., not attended for 2 or more years). The distribution of the attainment status is displayed as Figure 8.

Table 1: Educational Attainment Status

Tracking Status	Frequency	Percent	Cumulative Percent
GRADUATED	100	20.2	20.2
Enrolled	166	33.5	53.7
Stopped-Out	79	16.0	69.7
Dropped-Out	150	30.3	100.0
Total	495	100.0	

The distributions of the independent, explanatory variables describing personal characteristics: age, gender, marital status, prior education level, ethnic origin, VA benefit eligibility, and prior year's income are displayed in Tables 2a through 11 and Figures 9 through 18.

Figure 8: Histogram: Educational Attainment Status

The statistics regarding the age of the participants are displayed in Table's 2a and 2b display. The wide age range of the participants in the VUB project are illustrated in Table 2a. . The youngest veteran was 17 and the oldest veteran was 70. Therefore, there was a 53-year range in the ages of the participants. The average age (mean) of the veterans was 34 with a large standard deviation of nearly 11 years around the average. The median age was 32 and the most common age (i.e., the mode) was 25.

The frequencies within the age intervals specified are displayed in Table 2b. The range of ages was divided into nine intervals. All but the minimum and maximum age intervals specify a span of five years. Due to the fact that only 16 participants were below 21 years of age, the minimum age interval was specified to encompass a span of eight years (17 to 25). This age interval accounts for over 27% of the participants. Nearly 20% of the participants were between 26 and 30 years of age. As indicated by the

median, 50% of the participants were 32 years of age or younger. The remaining 50% of the participants' ages as distributed are displayed in Table 2b and Figure 9.

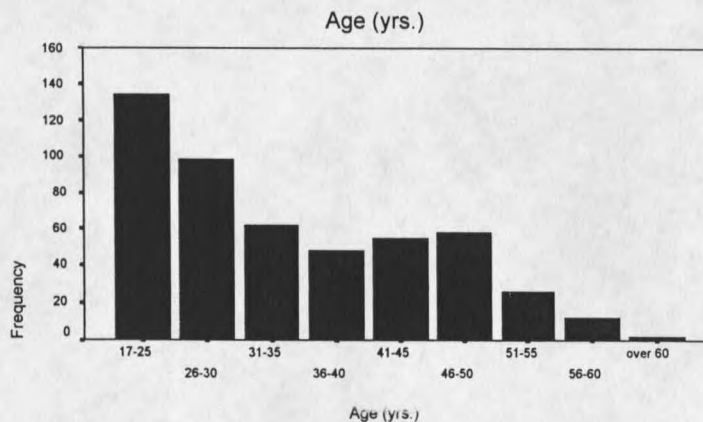
Table 2a: Descriptive Statistics: Age

Variable	N	Range	Minimum	Maximum	Mean	Median	Mode	Std. Deviation
Age	495	53	17	70	34.36	32	25	10.71

Table 2b: Age Interval

Age Interval (yrs.)	Frequency	Percent	Cumulative Percent
17-25	134	27.1	27.1
26-30	98	19.8	46.9
31-35	62	12.5	59.4
36-40	48	9.7	69.1
41-45	55	11.1	80.2
46-50	58	11.7	91.9
51-55	26	5.3	97.2
56-60	12	2.4	99.6
over 60	2	.4	100.0
Total	495	100.0	

Figure 9: Histogram: Age

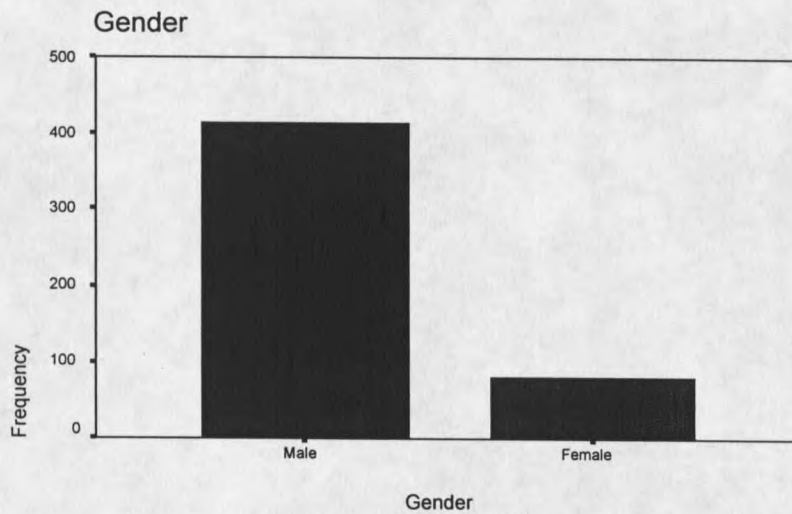


As one would expect, the majority of the project participants (84%) were male.

The participants' gender is displayed in Table 3 and Figure 10.

Table 3: Description Statistic: Gender

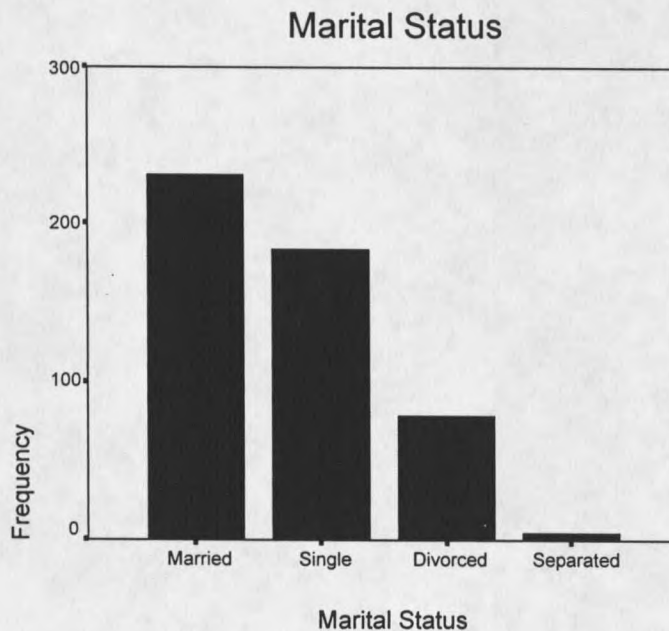
Gender	Frequency	Percent	Cumulative Percent
Male	414	83.6	83.6
Female	81	16.4	100.0
Total	495	100.0	

Figure 10: Histogram: Gender

The marital status reported by the project participants is displayed in Table 4 and Figure 11. The data indicated that 46.5% were married, nearly 16% were divorced and less than 1% were separated. A rather large percentage of the veterans were single (37%). However, with 50% of the participants 32 years of age or younger, this statistic is plausible.

Table 4: Descriptive Statistic: Marital Status

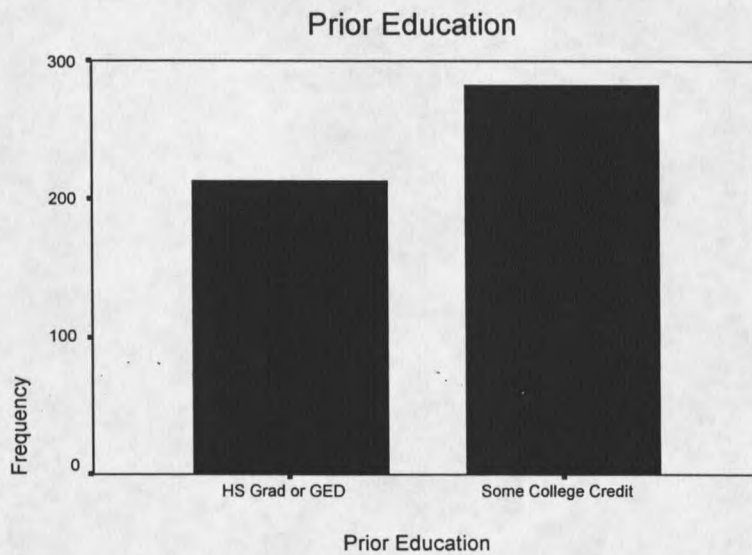
Marital Status	Frequency	Percent	Cumulative Percent
Married	230	46.5	46.5
Single	183	37.0	83.4
Divorced	78	15.8	99.2
Separated	4	.8	100.0
Total	495	100.0	

Figure 11: Histogram: Marital Status

The educational level of the participants prior to enrollment in the project was examined with the subcategories of 1) high school graduate or having obtained a GED, or 2) having earned some college credit. The prior educational level is displayed in Table 5 and Figure 12. Within the sample of Montana VUB participants, 213 (43%) had simply completed high school or received a GED diploma, whereas 282 (57%) had previously received some college credit.

Table 5: Descriptive Statistic: Prior Education Level

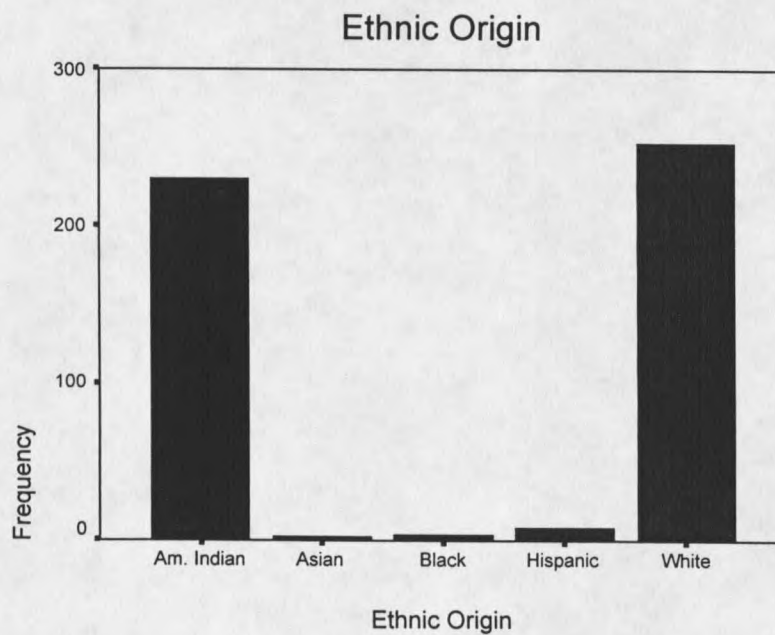
Prior Education Level	Frequency	Percent	Cumulative Percent
High School Diploma/GED	213	43.0	43.0
Some College Credit	282	57.0	100.0
Total	495	100.0	

Figure 12: Histogram: Prior Education

The ethnic origins of project participants are illustrated in Table 6 and Figure 13. The data was descriptive of the ethnic origin/race of members of Montana's VUB. Among the Montana VUB participants, over 46% were American Indian or Native Alaskan and over 51% of the participants were White. However, the subcategories of Asian/Pacific Islander, Black, and Hispanic accounted for only 0.4%, 0.6%, and 1.6% of the sample, respectively.

Table 6: Descriptive Statistic: Ethnic Origin

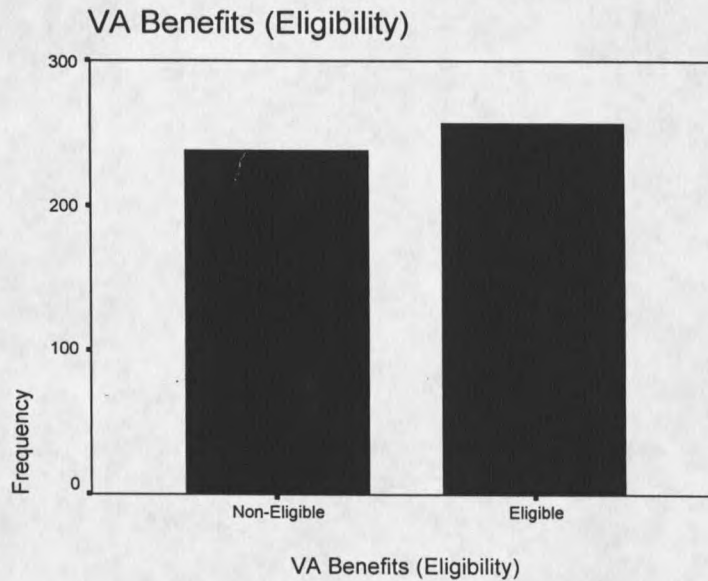
Ethnic Origin	Frequency	Percent	Cumulative Percent
Am. Indian/Native Alaskan	229	46.3	46.3
Asian/Pacific Islander	2	.4	46.7
Black	3	.6	47.3
Hispanic	8	1.6	48.9
White	253	51.1	100.0
Total	495	100.0	

Figure 13: Histogram: Ethnic Origin-Race

Participants' eligibility for VA educational benefits was determined based upon the requirements specified in the GI Bill. Within the population of interest of Montana VUB participants, VA benefits eligibility, as displayed in Table 7 and Figure 14 indicated that: 48% were non-eligible for VA benefits, and 52% met the requirement(s) to be eligible and receive VA benefits.

Table 7: Descriptive Statistic: VA Benefits Eligibility

VA Benefits (Eligibility)	Frequency	Percent	Cumulative Percent
Non-Eligible	238	48.1	48.1
Eligible	257	51.9	100.0
Total	495	100.0	

Figure 14: Histogram: VA Benefits Eligibility

Each participant's income for the year prior to enrollment in the project was verified. The wide range and distribution of incomes reported as reported in illustrated in Tables 8a and 8b. The minimum verified income of \$0 was reported by 39% of the participants. Less than 6% reported that their income for the prior year was over \$30,000. Among this 6% was the participant who reported the maximum income of \$120,374. The average income for the 495 project participants was \$7,474. The wide range of incomes created a large standard deviation of \$12,006. The frequency and

percent of participants within the 8 income intervals specified is displayed in Table 8b and Figure 15.

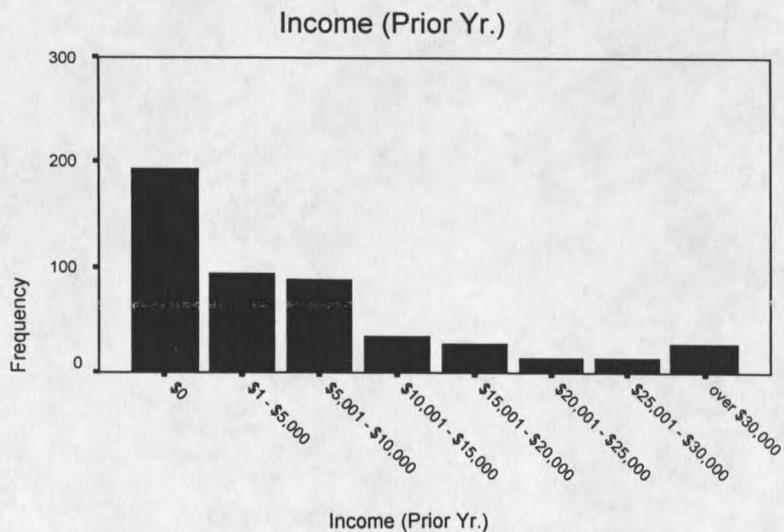
Table 8a: Descriptive Statistic: Prior Year's Income

Variable	N	Range	Minimum	Maximum	Mean	Std. Deviation
Income (Prior Year)	495	\$120,374	\$0	\$120,374	\$7,474.42	\$12,005.91

Table 8b: Prior Year Income Intervals

Prior Year's Income	Frequency	Percent	Cumulative Percent
\$0	193	39.0	39.0
\$1 - \$5,000	94	19.0	58.0
\$5,001 - \$10,000	89	18.0	76.0
\$10,001 - \$15,000	35	7.1	83.0
\$15,001 - \$20,000	28	5.7	88.7
\$20,001 - \$25,000	14	2.8	91.5
\$25,001 - \$30,000	14	2.8	94.3
Over \$30,000	28	5.7	100.0
Total	495	100.0	

Figure 15: Histogram: Prior Year Income



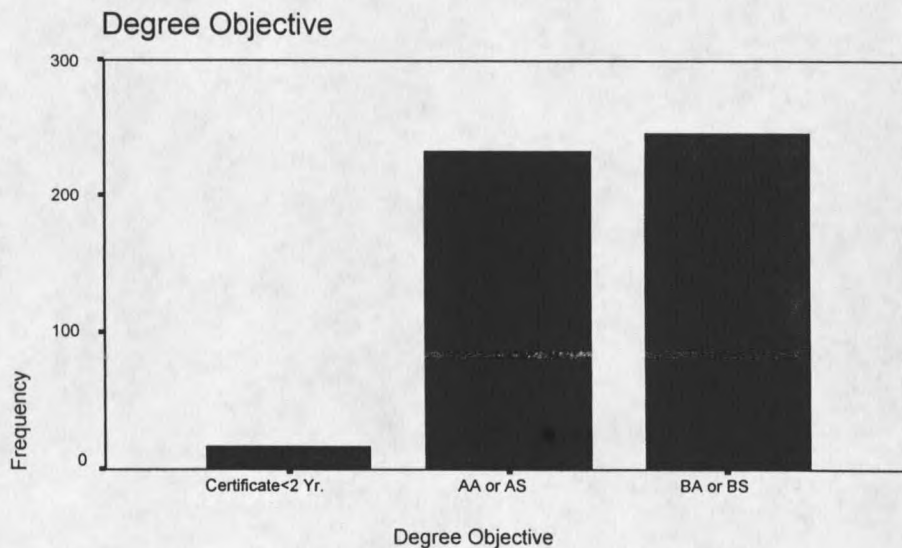
The distributions of the independent variables describing the following post-secondary characteristics is described in Tables 9 through 11 and Figures 16 through 18. These characteristics include: degree objective, type of post-secondary educational institution (PSE), and final cumulative grade point average (GPA).

Almost 50% of the participants chose to pursue a Bachelor of Arts (BA) or Bachelor of Science (BS) degree as illustrated in Table 9 and Figure 16. Forty-seven percent (47%) chose to pursue an Associate of Arts (AA) or Associate of Science (AS) degree, and 3% pursued a certificate of less than two years.

Table 9: Descriptive Statistic: Degree Objective

Degree Objective	Frequency	Percent	Cumulative Percent
Certificate < 2 yr.	16	3.2	3.2
AA or AS	233	47.1	50.3
BA or BS	246	49.7	100.0
Total	495	100.0	

Figure 16: Histogram: Degree Objective

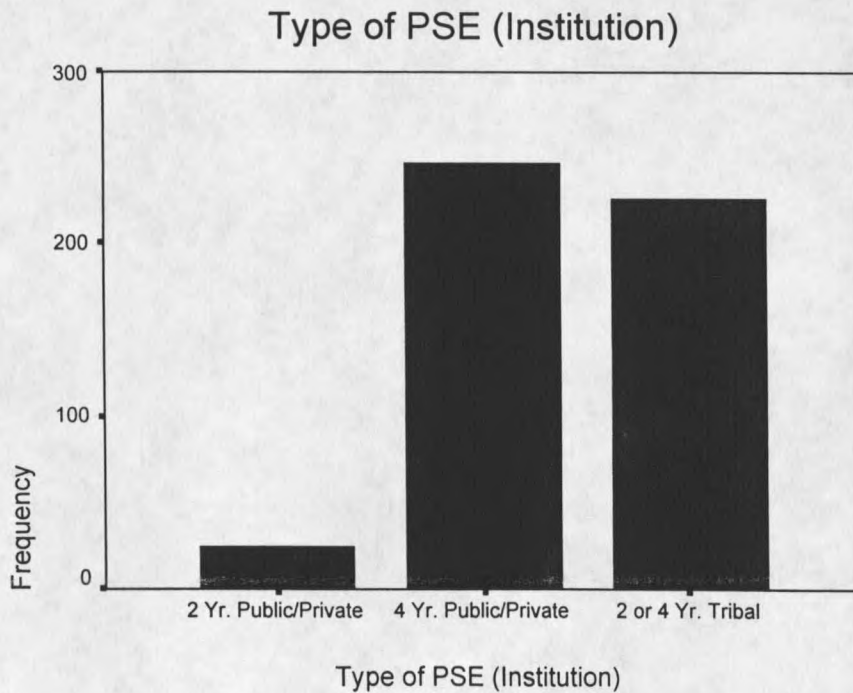


The type of institution participants attended is displayed in Table 10 and Figure 17. Nearly 50% of the participants attended a four-year public or private institution. Two or four year Tribal Colleges were attended by 45.5% of the participants, and nearly 5% of the veterans attended a two-year public or private institution.

Table 10: Descriptive Statistic: Type of PSE Institution Attended

Type of PSE (Institution)	FREQUENCY	PERCENT	Cumulative Percent
2 Yr. Public/Private	24	4.8	4.8
4 Yr. Public/Private	246	49.7	54.5
2 or 4 Yr. Tribal	225	45.5	100.0
Total	495	100.0	

Figure 17: Histogram: Type of PSE Institution Attended

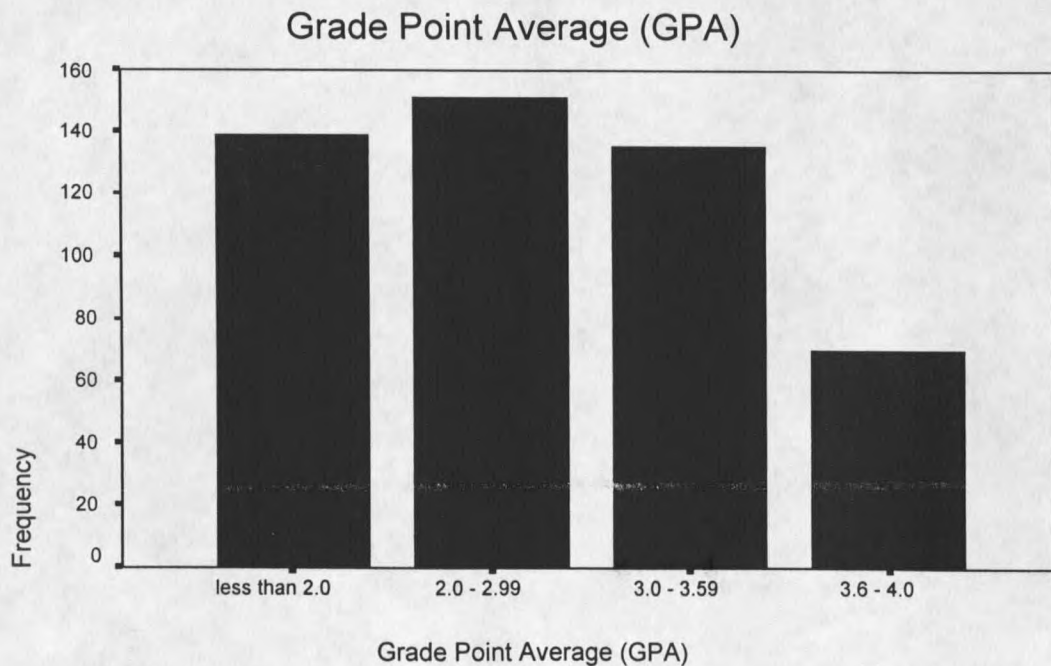


Participants' final cumulative grade point averages (GPA) are recorded in Table 11 and Figure 18. Within the sample, 27.5% of the participants had a GPA < 2.0. A GPA between 2.0 and 2.99 was held by 30.5% of the participants. Approximately 28% of the participants earned a GPA between 3.0 and 3.59, and 14% earned a GPA of 3.60 or above.

Table 11: Grade Point Average (GPA)

Grade Point Average (GPA)	Frequency	Percent	Cumulative Percent
less than 2.0	136	27.5	27.5
2.0 - 2.99	151	30.5	58.0
3.0 - 3.59	138	27.9	85.9
3.6 - 4.0	70	14.1	100.0
Total	495	100.0	

Figure 18: Histogram: Grade Point Average



Chi Square Analysis Results: Crosstabs & Charts: Graduation

Cross-tabulation was performed on the demographic data to determine, which independent variables were strongly associated with the dependent variables: graduation and positive persistence (i.e. currently enrolled with a GPA of 2.0 or greater). Each independent variable was crosstabulated with the binary dependent variable specified as a measure of academic success: graduation.

Pearson Chi-Square (χ^2) analysis was performed to determine whether variables were independent of graduation. Each Chi-Square test assumes that the variables are independent and tests to see if this assumption can be rejected, indicating that there is a significant relationship between the two variables. The degrees of freedom (df) for the statistic will be the # of subcategories for the independent variable + the # of subcategories for the dependent variable - 2. If the variables are independent, the cross-tabulation will produce expected cell counts similar to the observed cell counts. If a relationship exists between the variables, the observed and expected cell counts will be significantly different. A significance level of $\alpha = .05$ was used to determine statistical significance. An observed significance level $p < .05$ indicated that the observed and expected cell counts were significantly different, and therefore the variables are not independent. This implies that a significant relationship exists between the independent (i.e. explanatory) and the dependent (i.e. response) variables analyzed.

A Fisher's Exact test was performed in addition to a Chi-Square test when testing the relationship between some of the variables. The Fisher's Exact test differs from the Pearson Chi-Square test in that it can only perform calculations on a 2 by 2 table (i.e.

both variables must be binary, having only two possible responses). The resulting analysis differs in that it can test both 2-sided and 1-sided tests. A 2-sided test, as performed by the Chi-Square test, indicates whether a relationship exists between the variables. On the other hand, a 1-sided test indicates that there is a directional (positive or negative) association between the variables. Examining the counts and/or Bar Charts can assist greatly in determining the direction of a significant 1-sided test.

The cross-tabulation of age and graduation produced an expansion of a 9 by 2 table. Among the 134 participants in the 17 to 25 year age group as displayed in Table 12a: 120 of the participants had not graduated by Fall 1998 and 14 participants had graduated. The expected cell counts within the age group were approximately 107 and 27, respectively. The observed cell counts indicate that 10.4% of the participants between 17 and 25 years of age are graduates. Similarly, 14% of the graduates are between 17 and 25 years of age. If these percentages were used for statistical inference, one would consider the cells conditional probabilities. One would claim that:

- i.)* The probability of graduating given that you are between 17 and 25 years of age is 10.4%, and
- ii.)* The probability of being between 17 and 25 years of age given that you have graduated is 14%.

The observed and expected cell counts in the four age groups over 45 years of age were quite similar. However, a great deal of difference existed in the observed and expected cell counts in the younger age groups. The Pearson Chi-Square analysis as displayed in Table 12b, produced a large, statistically significant Chi-Square value of 20.822 with 8 degrees of freedom (df). The resulting significance level was $p = .008$.

Therefore, based upon the Chi-Square analysis, the researcher concluded that there was a statistically significant difference between the observed and expected cell counts. This implies that there is a significant relationship between a veteran's age and academic success through graduation. One may interpret this to mean that the independent variable of age is an explanatory variable for the response of academic success through graduation. Figure 19 graphically displays the significant relationship between these variables.

The independent variable of gender was crosstabulated with the dependent variable of graduation. The observed and expected cell counts were very similar as showed in Table 13a. Each expected cell count differed from the observed cell count by less than 1. Therefore, the Pearson Chi-Square analysis displayed in Table 13b produced a small Chi-Square value of .012 with 1 degree of freedom (df). The resulting significance level was $p = .912$. A Fisher's Exact test was also performed because both gender and graduation are binary. The results of the 1-sided test produced a significance level of $p = .525$, and the 2-sided test produced a significance level of the maximum of $p = 1.00$. These calculations indicate that gender and graduation are almost entirely independent. There appeared to be practically no relationship between gender, and academic success through graduation.

The expansion within both subcategories of gender, and the percentage of graduates is approximately equal to 20% as recorded in Table 13a and Figure 20.

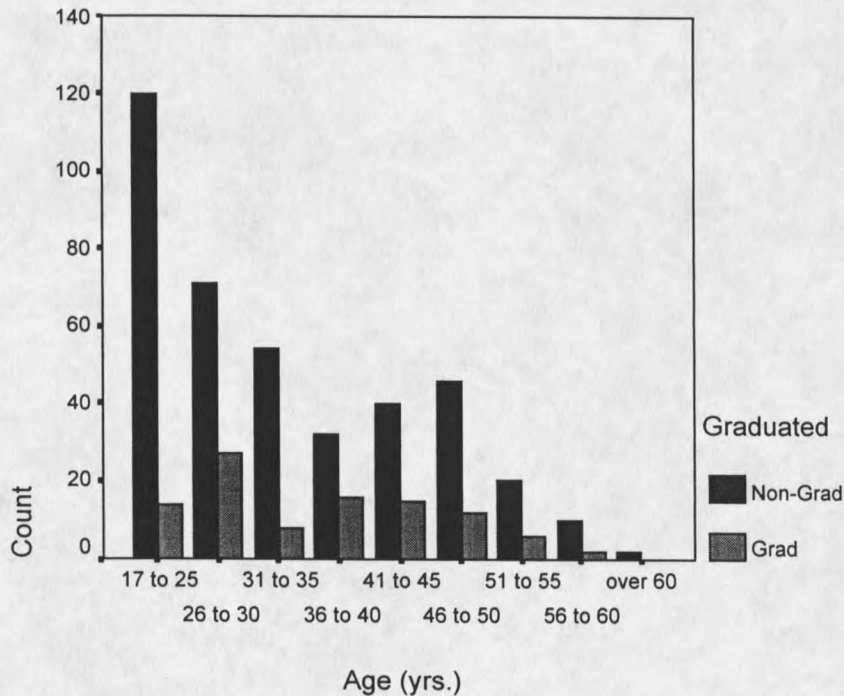
Table 12a: Age (yrs.) * Graduated (Y/N) Cross tabulation

Age (yrs.)	Statistics	Non-Grad	Grad	Total
17 to 25	Count	120	14	134
	Expected Count	106.9	27.1	134
	% within Age (yrs.)	89.6%	10.4%	100.0%
	% within Graduated (Y/N)	30.4%	14.0%	27.1%
26 to 30	Count	71	27	98
	Expected Count	78.2	19.8	98
	% within Age (yrs.)	72.4%	27.6%	100.0%
	% within Graduated (Y/N)	18.0%	27.0%	19.8%
31 to 35	Count	54	8	62
	Expected Count	49.5	12.5	62
	% within Age (yrs.)	87.1%	12.9%	100.0%
	% within Graduated (Y/N)	13.7%	8.0%	12.5%
36 to 40	Count	32	16	48
	Expected Count	38.3	9.7	48
	% within Age (yrs.)	66.7%	33.3%	100.0%
	% within Graduated (Y/N)	8.1%	16.0%	9.7%
41 to 45	Count	40	15	55
	Expected Count	43.9	11.1	55
	% within Age (yrs.)	72.7%	27.3%	100.0%
	% within Graduated (Y/N)	10.1%	15.0%	11.1%
46 to 50	Count	46	12	58
	Expected Count	46.3	11.7	58
	% within Age (yrs.)	79.3%	20.7%	100.0%
	% within Graduated (Y/N)	11.6%	12.0%	11.7%
51 to 55	Count	20	6	26
	Expected Count	20.7	5.3	26
	% within Age (yrs.)	76.9%	23.1%	100.0%
	% within Graduated (Y/N)	5.1%	6.0%	5.3%
56 to 60	Count	10	2	12
	Expected Count	9.6	2.4	12
	% within Age (yrs.)	83.3%	16.7%	100%
	% within Graduated (Y/N)	2.5%	2.0%	2.4%
OVER 60	Count	2	0	2
	Expected Count	1.6	.4	2
	% within Age (yrs.)	100.0%	.0%	100.0%
	% within Graduated (Y/N)	.5%	.0%	.4%
TOTAL	Count	395	100	495
	Expected Count	395	100	495
	% within Age (yrs.)	79.8%	20.2%	100.0%
	% within Graduated (Y/N)	100.0%	100.0%	100.0%

Table 12b: Chi-Square Test of Age vs. Graduated (Y/N)

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	20.822 ^a	8	.008

a. 3 cells (16.7%) have expected count less than 5. The minimum expected count is .40.

Figure 19: Histogram: Age Interval of Participants**Table 13a:** Gender * Graduated (Y/N) Cross tabulation

Gender	Statistics	Non-Grad	Grad	Total
Male	Count	330	84	414
	Expected Count	330.4	83.6	414
	% within Gender	79.7%	20.3%	100.0%
	% within Graduated (Y/N)	83.5%	84.0%	83.6%
Female	Count	65	16	81
	Expected Count	64.6	16.4	81
	% within Gender	80.2%	19.8%	100.0%
	% within Graduated (Y/N)	16.5%	16.0%	16.4%
Total	Count	395	100	495
	Expected Count	395.0	100.0	495
	% within Gender	79.8%	20.2%	100.0%
	% within Graduated (Y/N)	100.0%	100.0%	100.0%

