

AN EXPLORATORY STUDY OF EDUCATIONAL PARTICIPATION ISSUES
CONFRONTING ACTIVE DUTY AIR FORCE PERSONNEL ASSIGNED TO MCCONNELL
AIR FORCE BASE

by

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B.S., Alabama State University, 1973
MLA, Texas Christian University, 1976
M.S., Kansas State University, 2005

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

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Department of Educational Leadership
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Abstract

Serving in the military today is a very specialized and intense experience, with the use of technology requiring dedicated training and education. The military provides much of this specialized training, but also recognizes the value of higher education for its personnel. Our military personnel are supporting our country daily and their increased time away from their home station diminishes time for their personal pursuits which, for many of them, is off-duty education. This exploratory study sought to understand the perceived barriers and goals influencing participation in postsecondary education by active duty Air Force personnel, in particular those that have served in austere, remote locations.

This study used a modified version of Finks' survey design to develop a questionnaire. The survey was administered to airmen, non-commissioned officers, and officers who were stationed at McConnell Air Force Base. Data examining motivational factors and barriers to participation in postsecondary education were analyzed using descriptive and nonparametric statistical tests. Comparative analyses were conducted based on data from the demographic portion of the survey.

Goals for postsecondary participation included preparing for when they leave the military, securing professional advancement, giving them higher status in their jobs, and increasing competence in their jobs. Time was identified as a barrier, including not having time to study, taking time away from family or giving up leisure time. Some respondents indicated that the available courses did not seem interesting or that they did not enjoy studying. Other commonly reported barriers included not being able to attend class regularly or because the course was offered at an inconvenient time or location. A number of respondents also indicated

that courses not being offered at remote locations was a barrier to their participation in postsecondary education.

Although this was an exploratory study, the results can inform future empirical research as well as contribute to the literature focusing on personnel management. The findings from this study can be used as a first step that will allow the Air Force, postsecondary institutions and other stakeholders to enhance educational opportunities for this group and inform organizational effectiveness.

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Dedication

I want to dedicate this dissertation to my wife Patricia who tirelessly traveled from Wichita to Manhattan with me to keep me from falling asleep on the highway for the past years and to my children to show them that I am trying to lead by example.

Chapter 1 - Introduction

Training and education programs in the military have a long history (Polson, 2010). These early programs, however, typically only addressed military skills training. In 1947, when the Air Force became a separate branch from the Army, it realized the importance of education for its members to be effective leaders, supervisors, and managers. To help service members acquire the management and leadership skills they would need to be successful at each step of their careers, they developed an education program. However, as technology has continued to develop, the skills and training needed in both the military and the civilian world has increased. The changing global economy requires continued learning for adults to function and remain competitive in the workforce (Valentine, 1997).

In recent years, enrollment in postsecondary education among active duty U.S. service members has grown exponentially (Council of College and Military Educators, 2012). While these enrollment numbers are going up, the military and institutions of higher education are learning more about issues facing these students (Council of College and Military Educators, 2012). Some of these challenges are the same as those facing other nontraditional students. Other concerns, such as frequent exercises and deployments, are unique to their military status (American Council on Education, 2009).

Research has examined perceived barriers and motivational orientations to college participation for a variety of populations, particularly in non-military settings. While some studies have focused on a military audience (Brauchle, 1997; Brown, 1993), often these include only particular sub-groups, such as enlisted Army personnel. As a result, the findings from these

studies are not easily synthesized, making it difficult to develop a complete understanding of the issues facing these active duty students.

Role of the Researcher

The researcher had firsthand knowledge of some of the barriers facing active duty service members participating in postsecondary education. In 1998, the researcher was on active duty stationed at Taegu Air Base, an austere remote location in the Republic of Korea. This air base, located more than 300 miles from its parent base, was not equipped to provide educational services. Distance learning was not available at that time. As a result, the researcher was unable to continue his college studies and lost a year of academic work.

After contacting the parent base, Osan Air Base, and the Virtual Education Office in that location, the education advisor and education officer investigated the situation. The researcher was later advised that it was neither possible nor financially feasible for the Air Force to support his educational pursuits while stationed at Taegu Air Base. After serving his tour of duty in Korea, the researcher began to investigate this educational problem in the Air Force.

To provide context for the study, the researcher compiled an overview of the structure of the U.S. Air Force and the delivery of education to these service members. This brief review is presented below.

Background

In the early 1930s, the Army Signal Corps education training was centered mainly on aircraft technology under the leadership of General H. “Hap” Arnold. The Army Signal Corps was renamed the Army Air Corps in 1938. From 1938-1947 the Army Air Corps’ education program included only specialized military training needed to complete basic training and meet the needs of their military operations specialty (MOS). The only formal training available for

Air Corp personnel during this period was the U.S. Military Academy at West Point, New York. Advanced schools for officers included the Command and General Staff School at Fort Leavenworth, Kansas, and the Army War College at Carlisle Barracks, Pennsylvania (Radfor & Wun, 2009). In 1947 the U.S. Air Force was established as a separate entity and co-equal with the Army and Navy in the National Military Establishment, which later became the Department of Defense in 1949 (U.S. Air Force, 2010b).

Today, the Air Force is composed of sixteen major air commands and four separate operating agencies that make up its field organizations. The commands are organized by function in the United States and by area overseas. Almost 60 percent of the male officers in the Air Force are pilots, navigators, or bombardiers. Others are in administrative, instructional, or technical work. About 250 specialties are open to officers (Brady, 2006).

Enlisted men and women, called Airmen, may be mechanics, cooks, clerks, weathermen or weatherwomen, radar operators, or air crew and may choose from some 350 specialties. Nine out of 10 of these jobs are on the ground. Women who once enlisted as Women in the Air Force (WAF) are now a part of the larger Air Force. Enlisted men and women are given eight weeks of basic training, which includes military courtesy and discipline, care and handling of weapons and equipment, and other general military subjects. After basic training, recruits go to specialized schools to prepare for specific jobs. Adult education became a major interest of the leaders in the Air Force in 1976 when they realized that many of the enlisted members were functionally illiterate in the areas of English and mathematics (Sticht, 2002). The Air Force started an adult education program to teach these needed remedial subjects to its members on active duty.

Upon completion of Basic Training and Technical Training School, most military members are assigned to a permanent duty station. At this point, service members are able to

pursue additional educational opportunities, such as postsecondary education. Programs such as the GI Bill and Tuition Assistance (TA) are available to help service members achieve their educational goals. In many cases, additional education is required for promotion and advancement in the military (Thirtle, 2001).

However, service responsibilities and geographic location often prevented military students from attending traditional classroom-based courses located at colleges and universities (Council of College and Military Educators, 2012). To help address some of these issues, the Air Force began to open education offices around the world at its military installations. These centers later become known as Virtual Air Force Education Centers. These centers provide access to core college courses and graduate-level courses through partnering institutions. They also offer College Level Examination Program (CLEP) testing and Defense Activity for Non-Traditional Educational Support (DANTES) exams, as well as educational programs through professional development courses, online courses, and military education programs. Financial aid available for these efforts includes Pell Grants, loans, scholarship searches, and military organization scholarships (U.S. Department of Defense Voluntary Education, 2011).

In 1978 the Air Force confronted the need to deliver education courses to its personnel who would be sent from their home bases to short tours overseas. Education officers realized that when military members were sent to temporary duty away from their overseas installations to austere remote locations miles away, there was no form of education delivery available at these sites. In the 1970's, the Air Force did not have the logistical resources to offer course delivery to remote sites. Commanders suggested that when personnel were sent to these remote sites they would have to drop their courses until their tour was over and they returned to their parent bases (U.S. Air Force, 2010a).

Today many of our military bases overseas host education programs at their centers and offer college courses through colleges such as the University of Maryland, Troy State University, Texas Tech University, and Embry-Riddle (U.S. Air Force Virtual Education, 2009). However, even with the expansion of distance postsecondary programs, military personnel often have to drop their classes upon learning of an upcoming deployment. This act puts them behind in their courses from six months to sometimes two years (Kime and Anderson, 1997).

After the attack on the World Trade Center in September 2001 and hurricane Katrina in 2005 it became more difficult for military members to complete college courses due to temporary duty (TDY) assignments. Military members are sometimes stationed in austere remote locations around the world where the nearest military installation is not within a three hundred mile radius. In many cases, the only educational delivery is offered at the parent bases. On-line course access is provided only through centralized computers located in wireless cafes in the vending areas on each military installation. For example, in Kirkuk, Iraq, there is the Green Bean Café Shop where a service member can sign up to use laptops, but the waiting period is sometimes two to three hours long and military members have to pay a fee (McMurray, 2007).

Given this set of circumstances, the researcher designed this study to further examine issues surrounding participation in postsecondary education by active duty military personnel.

Statement of the Problem

Studies about active duty military personnel's reasons for or barriers to their participation in postsecondary education are relatively limited. The literature on adult learners and nontraditional students in postsecondary education is much broader. However, findings from these more general studies do not always apply to the military audience. While active duty students may share some characteristics of other nontraditional students, contextually they may

also face additional issues. What remains unclear is to what degree participation rates for active duty students are impacted by the military's unique characteristics, such as: frequent exercises and deployments, particularly to austere remote locations; geographical relocations; and unpredictable work hours. Or, are there other contributing variables like the lack of financial resources, support from leaders, and the individual's own motivation that are important to creating an environment of lifelong learning?

Purpose of the Study

The purpose of this study was to examine barriers Air Force personnel face in participating in higher education while on active duty. The study also explored this group's goals for participating in higher education.

Research Questions

The following research questions guided this study:

1. Are there barriers (relating to personal, professional, interest, or location issues) confronting active duty Air Force personnel in regard to their participation in higher education programs? If so, what are they?
2. Are there factors for active duty Air Force personnel that motivate them to participate in higher education programs? If so, what are they?
3. Do the responses from active duty Air Force personnel about motivations and barriers which influence their participation in higher education programs differ in regard to: military status, race, gender and years of service?

Significance of Study

The Air Force has stated in their standards, AFI 36-2306 (U.S. Air Force, 2010a), that one of their main goals for its members is to promote life-long learning and the whole-person

concept. The demand for service members with technical and analytical skills for operating complex military hardware and software will continue (Office of the Assistant Secretary of Defense, 1996). Further, the Commission on the Future of Higher Education stated:

In an era when intellectual capital is increasingly prized, both for individuals and for the nation, [the value of] postsecondary education has never been more important. Ninety percent of the fastest-growing jobs in the new knowledge-driven economy will require some postsecondary education. Already, the median earnings of a U.S. worker with only a high school diploma are 37 percent less than those of a worker with a bachelor's degree. Colleges and universities must continue to be the major route for new generations of Americans to achieve social mobility (U.S. Department of Education, 2006).

The value of postsecondary education has been recognized for military personnel (Ackerman, DiRamio, & Garza, 2009; Council of College and Military Educators, 2012; Kime & Anderson, 1997; McMurray, 2007; Thirtle, 2001). Leaders in the Air Force believe that one of the best ways to retain its military members is to promote their social well-being through educational programs offered through their virtual education centers around the world (U.S. Department of Defense, 2005). Educational benefits and opportunities have also been an important recruiting tool for the military. This exploratory study is an attempt to provide some preliminary information about active duty Air Force personnel's reasons for or barriers to their participation in postsecondary education. By gaining an understanding of these findings, the Air Force in particular and other military branches in general may be better able to take appropriate action to provide services that lessen barriers and widen participation in postsecondary education by active duty personnel.

Methodology

A survey developed by the researcher, the Military Education Participation Survey (MEPS), was used to collect data from active duty air force personnel at McConnell Air Force Base (MAFB). The survey was distributed in December 2009 to approximately 2,000 active duty service members. The statistical software SPSS was used to conduct analyses of the survey responses. Both descriptive and comparative analyses were conducted. Further information about the research methods used in this study is found in Chapter Three.

Assumptions

The assumptions that were established for this study are:

1. Participants will answer the questions honestly.
2. No other variables exist that will have a major influence on the outcome of this research.
3. Methodology of the study would not adversely affect the outcome of the study.

Delimitations

1. This exploratory study is limited to the responses of Air Force personnel stationed at McConnell Air Force Base in December 2009; however, caution should be taken in trying to generalize the results to a larger population without replicating the study.
2. The survey instrument was designed to meet the needs of this study in particular; therefore, there are no measures of validity or reliability beyond this particular population.

Definitions

The following definitions and abbreviations are used in this study.

Air Force Institute for Advanced Distributed Learning (AFIADL): the AFIADL promotes, delivers, and manages advanced distributed learning for U.S. aerospace forces.

Air Force Education Center (AF. Ed Center): The headquarters educational center that oversees the education programs for all Air Force military bases around the world.

Air Force Manpower Agency (AFMA): A field operating agency that reports directly to Headquarters U.S. Air Force Directorate of Manpower, Organization, and Resources, and plays a key role in measuring and documenting the Air Force's manpower requirements.

Air Force Virtual Education Center (AFVEC): Offers independent study advancement programs such as CLEP and DANTES tests, tuition assistance, and Graduate Record Exams.

Austere Remote Location: An undeveloped isolated environment used by the military for mission support purposes. Deployments can last from a few months to one year.

Barrier/Deterrents: Anything that limits or prohibits adult learners from participating in higher education programs.

Career Development Course (CDC): Courses designed to help airmen complete the specialty knowledge for the enlisted training program.

College Level Examination Program (CLEP): Examinations used to confer college credit based on independent study, prior course work, on-the-job training, professional development, cultural pursuits, or internships.

Defense Activity for Non-Traditional Education Support (DANTES): A program from the Department of Defense developed to help military personnel achieve their professional and personal education goals.

DANTES Exams: An extensive series of 38 examinations in college subject areas that are comparable to the final or end-of-course examinations in undergraduate courses.

Distance/Distributed Learning: Structured learning that takes place without the physical presence of the instructor.

Higher Education: Formal postsecondary education, such as college courses and programs, including both degree and certificate programs.

McConnell Air Force Base (MAFB): A United States Air Force Base located in Kansas, with a primary mission to provide global reach by conducting air refueling and airlift.

Military Education Participation Survey (MEPS): The researcher-developed questionnaire used in this study.

Professional Military Education (PME): The progression tier schools for job profession in the Air Force.

Temporary Duty Yonder (TDY): A relocation to other military installations temporarily for extended periods to perform jobs in the member's job description.

Summary

This first chapter provided an overview of this study. The impetus for constructing this study is the researcher's personal experience with the challenges of participating in higher education courses while being active duty in the Air Force stationed in austere remote locations. The purpose of the research was to examine barriers Air Force personnel face in participating in postsecondary education, and explore some of their goals for this type of educational participation. Data were analyzed using both quantitative and qualitative methods. The following chapter discusses selected aspects of the literature on adult education regarding participation studies and adult participation in higher education that are related to this research. Literature concerning education in the military and a brief review of literature concerning distance education as it relates to higher education and the military is also discussed.

Chapter 2 - Literature Review

The literature review for this study explored adult learning and education in the military. The chapter begins with a review of relevant models and theories of adult learning and adult participative behavior. Adult learners, barriers and deterrents to postsecondary education, and motivation to overcome barriers are addressed in this section. The second section provides a brief overview of the history of training and education in the U.S. military, with a particular focus on the U.S. Air Force. This section also discusses the expansion and use of technology to deliver educational opportunities in the military.

Adult Learning

The first part of this literature review summarizes relevant citations in the literature of adult learning. There are various theories and stage development models for adult learners that can be helpful in understanding the characteristics of this group. Merriam and Caffarella (1999) identified five main orientations to adult learning: behaviorist, social learning, humanist, constructivist, and cognitivist. Key elements from each of these orientations are presented in the following table.

Table 1. Orientation for Adult Learning

Orientation	Key Elements	Researcher(s)
Behaviorist	<ul style="list-style-type: none">• Learning is manifested by a change in behavior• Environment shapes behavior• Contiguity and reinforcement important	Skinner (1971) Tolman (1959) Hull (1951)
Social Learning	<ul style="list-style-type: none">• Emphasizes learner's interactions with others• Importance of self-efficacy• Purpose of education is to model new roles and behavior	Bandura (1986) Rotter (1954)
Humanist	<ul style="list-style-type: none">• Learning is a personal act to fulfill individual potential• Purpose of learning is to become self-actualized and autonomous	Maslow (1970) Rogers (1983)
Constructionist	<ul style="list-style-type: none">• Learning process is construction of meaning from experience• Locust of learning is individual	Steffe and Gale (1995) Candy (1991)
Cognitivist	<ul style="list-style-type: none">• Learning process is internal• Mental process includes insight, information processing, memory, & perception• Locust of learning is individual	Di Vesta (1987) Piaget (1966) Ausubel (1967)

As shown above, these orientations toward adult learning encompass a variety of perspectives. However, the cognitivist orientation appeared to be a common element among much of the research on motivational and deterrent theory as it starts with the premise that individuals have some control over their environment (Cross, 1981).

Models and Theories of Adult Participative Behavior

Adult participation in learning activities involves a complex set of factors and variables (Merriam and Caffarella, 1999). The following studies examine these issues.

Motivational orientation models developed by Houle (1961) and Boshier (1971) are helpful in understanding the wide variety of reasons adult learners participate in learning activities. Houle (1961) developed a typology of learners. Goal-oriented learners use education as a means of achieving some other goal. Activity-oriented learners participate for the sake of the activity. Learning-oriented learners seek knowledge for its own sake. Houle, Burr, Hamilton and Yale (1947) were concerned that, in general, high income groups are more likely to participate in educational activities than low income groups. Many more professional, managerial, and technical people take part relative to their number in the population than people from other occupational groups (Houle et al, 1947). White collar and clerical workers participate in educational activities more than skilled laborers and unskilled laborers. Houle et al. (1947) argued that the most universally important factor is schooling. The higher the level of an adult's formal education, the more likely it is that he or she will take part in continuing education (Houle, 1961). Isolated adults who lack ready access to educational resources are less likely than the non-isolated to participate in continuing education. Isolation can result from chronic illness or physical handicap; geographically isolated adults include people in small towns and rural areas more so than people in the city and suburbs.

Boshier (1971) addressed participation in his research that introduced the Education Participation Scale (EPS) to help identify why adults participate in education. The EPS (A-Form) is comprised of six factors that measure motivational orientations such as social contact, social stimulation professional advancement, community service, external expectations, and cognitive interest.

The Chain-of-Response (COR) model by Cross (1981) was designed to address multiple issues related to adult participation in learning activities. The model is based on self-concept or

self-evaluation and attitude toward learning. One assumption of this model is that if an individual is motivated to participate in some form of learning activity, barriers can be overcome if sufficient information exists about the types of opportunities that are available. Cross (1981) also categorized three types of barriers. Situational barriers are those that arise from one's situation in life at a given point. Institutional barriers are those practices and procedures that exclude or discourage adults from participating in organized learning activities. Dispositional barriers are those related to one's attitudes and self-perceptions as about being a learner.

Scanlan and Darkenwald (1984) studied deterrents to participation in continuing education. They sought to contribute to theory-building in the area of participation, explore the underlying structure of the many reasons adults give for not participating in education, and determine if there truly was a deterrent factor in discriminating between participants and non-participants. They developed the Deterrents to Participation Scale (DPS) and administered it to a random sample of health professionals. Using a principle components factor analysis, they identified disengagement, lack of quality, family constraints benefit, and work constraints as barriers. Multiple regression analysis used in their approach indicated that the problem was in the predictors of participation, such as lack of quality, family constraints, and work constraints. Their conclusions identified conceptually meaningful deterrents as multi-dimensional.

Valentine and Darkenwald (1990) pointed out that one of the most difficult tasks that confronts adult educators is helping adults overcome the forces that deter their participation. In their investigation they discovered five deterrents to participation: personal problems, lack of confidence, educational costs, lack of interest in organized education, and lack of interest in available courses.

Darkenwald's and Valentine's (1985) research found that there are multiple meanings of "barrier" and the studies they reviewed featured diverse conceptualizations of the term "barriers." A common view is that barriers are things that cannot be overcome; otherwise the non-participants would have participated. Scanlan (1986) defined a deterrent to participation as a reason or a group of reasons that contribute to an individual's decision not to pursue an educational opportunity. Reed and Marsden (1980) defined barriers as "factors which keep people who want to participate in some activity from doing so" (p. 4). Beder (1990) noted that the terms barrier and deterrent have been used in the literature synonymously. Today the term "deterrents" has frequently replaced the word "barriers" in the adult education literature as barrier connotes an absolute blockage while deterrent suggests a less conclusive force that works with other forces. However, in the literature on postsecondary participation, the term barrier is still frequently used. For the purposes of this study, the two terms have been used interchangeably. Deterrents or barriers can also depress the frequency of participation below the desired level but do not necessarily prohibit participation entirely.

Scanlan (1986) identified eight deterrent categories: (a) individual, family or home-related problems; (b) cost concerns; (c) questionable worth, relevance or quality of educational opportunities; (d) negative educational perceptions, including prior unfavorable experiences; (e) apathy or lack of motivation; (f) lack of self-confidence; (g) a general tendency toward nonaffiliation; and (h) incompatibilities of time and/or place.

Searle and Jackson (1985) identified common barriers to participation as work commitments, no opportunity to participate close to home, no one to participate with, not knowing how to participate, and timid about participating in public. Searle and Jackson (1985) concluded that without information on the barriers that affect different subgroups, "education

delivery agencies will not be able to serve the entire range of the population to whom they have a responsibility” (p. 229).

Silva, Cahalan, and Lacireno-Paquet (1998) explored the many facets of barriers or deterrents to participation in adult education. In their review of existing research they sought to explain participatory behavior based on information gained from past empirical studies that have addressed the issue of why people choose to participate or not to participate in adult education. They also sought to understand what deters or motivates the participation of various groups in various types of adult education and discuss the kinds of policy implications various researchers have drawn from their studies. Their research reviewed literature from the field of adult education, including adult basic education, and the General Educational Development exam. The researchers focused mainly on studies addressing barriers to participation. One of the frameworks they examined was the Theory of Patterned Participation by Knox and Videback (1963). This theory notes the importance of life roles in the decision to participate in adult education. Miller’s (1967) adaption of the Lewin’s Field Theory Force Field Analysis looked at the interplay between personal needs and social structures. This approach highlights the importance of technological change factors. Technology can be a social motivator for increased education and can also be a source of more self-directed learning. Rubenson’s (1977) Recruitment Paradigm model was also examined. This model, sometimes referred to as an expectancy-valence approach, focused on the adult learner’s perceived value of the learning activity (valence) and the likelihood of being able to participate and benefit from the activity (expectancy). Participation hinges on the learner’s view of personal and environmental factors. Personal variables include prior experiences and personal needs. Examples of environmental variables include available educational opportunities and social norms and expectations.

Spencer (1976), in her book *Overcoming the Age Bias in Continuing Education*, addresses barriers to participation in adult education. She states that there are a variety of factors that account for low participation rates by adults of any age in continuing education activities. Informational, situational, institutional, and attitudinal barriers affect all potential participants to some degree. Yet, Spencer (1976) argues that these barriers have their greatest impact on older persons. Older adults usually possess attitudes and values that discourage them from seeking continuing education. For example, there are negative stereotypes in our society that concern the needs of older people. Many of them have the self-conceptions that they are poor learners. They make statements such as “I am too old to learn” or “I don’t have the energy” or “that takes too much effort.” Such perceptions may be reinforced by an unfavorable prior educational experience.

Participation in Postsecondary Education

One subset of the literature on adult participation in learning activities deals with participation in postsecondary education. Much of the literature categorizes adult learners by a variety of factors ranging from age, employment status, service in the military, and by various levels of educational attainment. Within the context of participation in post-secondary education, terms such as non-traditional students, adult students, and lifelong learners are used to describe these adults. Typically, seven characteristics are associated with this type of student: (a) entry to college delayed by at least one year following high school; (b) having dependents; (c) being a single parent; (d) being employed full time; (e) being financially independent; (f) attending part time; and (g) not having a high school diploma (Choy, 2002).

In their article on the conceptualization of adult participation, Blair, McPake, and Munn (1995) stated that there is a high priority being placed on adult education participation in many

quarters as a result of the numerous benefits it brings to the individual and society. They focused on higher education institutions that offered adults the opportunity to engage in courses leading to their first degree (rather than to adults involved in continuing education or access programs). The final results of their study found that 64 percent of the participants indicated that their reason for continuing their education was to get a better job, advancement in their current job, or other job-related reasons accounted for the respondents' participation.

Kaufmann (2000) stated that several new studies have shown that women still face barriers to educational participation. Kaufmann said that the Center for the Education of Women (CEW) at the University of Michigan found that although women have made great strides in higher education, they still face barriers to education. The CEW report emphasized the importance of education in increasing women's participation in the labor force; reducing unemployment, poverty, and welfare dependence; overcoming the wage gap between women and men; and meeting the needs of Michigan businesses for skilled employees. According to the CEW only 15 percent of Michigan women have completed four years of college or more, compared with a national average of 18 percent. Only 27 percent have completed one to three years. These figures imply income can be a barrier to educational participation. They argue that education is the most reliable means to lift families out of poverty. It is essential to increase access to higher education for welfare recipients and others who want to raise themselves into the arena of upward mobility (Kaufmann, 2000).

Educational Participation by Active Duty Military Personnel

The literature on adult learners as applied to active duty Air Force personnel is critical to understanding their perceived barriers and goals for participating in postsecondary education. The following section of the literature review examines the research relating to active duty

military personnel and their participation in postsecondary education. Research on the motivation and deterrents to postsecondary education participation by military populations is relatively limited (Covert, 2002). In an effort to broaden the literature reviewed for this study, research on personnel in all branches of the military, not just the Air Force, was reviewed.

Boesel and Johnson's (1988) study of the Army's Tuition Assistance program was consistent with earlier findings by Meinhardt (1979) about enlisted soldiers' motivation for participating in college courses. These studies revealed that generally, the reasons for participating in college courses were very pragmatic, such as the desire for job promotion and advancement. Career advancement was also identified as a key factor to participation in Brauchle's (1997) study. In addition, findings from Brauchle's study indicated that service members participated in educational activities to improve their career opportunities after leaving the military.

Martindale and Drake (1989) administered the Deterrents to Participation Scale (DPS), developed by Darkenwald and Valentine (1985), to a group of enlisted Air Force personnel. Their findings supported a number of factors from the Darkenwald and Valentine study, particularly "lack of encouragement." Similar to Murphy's (1977) study, these results discuss the importance of supportive groups or influential individuals that encourage educational participation. These could include parents, role models, and supervisors. Findings from Meinhardt's (1979) study also showed that unit company commanders had a positive influence on enlisted soldiers' decisions to participate. The most important role of educational program planners is to attract and retain adults in educational programs (Meinhardt, 1979).

While Darkenwald's (1980) book *Reaching Hard-to-Reach Adults*, focused on an adult basic education (ABE) audience, many of his arguments relate to this research, particularly in

regard to geographical barriers and promoting social mobility. Darkenwald (1980) stated that there are three reasons educators must work with hard-to-reach adults. First, “equal access to education opportunities promotes social mobility, economic independence, and individual and social well-being” (p. 4). Adult educators, therefore, have an ethical responsibility to serve those segments of the adult population that are under-represented in the ranks of participants.

Secondly, serving hard-to-reach adults is in the agency’s self-interest. Adult education helps an agency or organization accomplish its goals by more fully utilizing resources (funds, facilities, etc.), broadening the agency’s clientele base, and enhancing the agency’s reputation for expertise and accomplishment. Lastly, reaching hard-to-reach adults has always been uppermost in the minds of dedicated adult educators by and large; the hard-to-reach are those most in need of adult education.

The researcher was not able to find any studies focusing specifically on the educational concerns of military personnel stationed at austere remote locations. However, due to the location of these bases, situational barriers seem relevant; as well, those serving in such locations could be considered a hard-to-reach group. Air Force personnel in austere remote locations have less access to educational opportunities than their parent-based counterparts.

Adult Education in the United States Military

The Department of Defense (DoD) is one of the country’s largest providers of adult education (Polson, 2010). In 2008, the DoD spent nearly \$475 million to support voluntary education programs (Baker, 2009). Taking a systematic view, in 2009, the DoD budgeted more than \$10 billion for military training, recruiting, and retention (Office of the Under Secretary of Defense [Comptroller], 2008). Collectively, these efforts are “designed to maintain a highly educated and trained fighting force of 2.2 million service members and to ensure they possess the

critical skills needed to meet tomorrow's defense requirements" (Polson, 2010, p. 263). While this represents a substantial investment, additional training and education is needed to close the gap between the knowledge service members gain in their military training and the additional knowledge required to complete their complex missions. A range of adult education providers are needed to address this gap, from General Educational Development (GED) testing, to assessing on-the-job training, to delivering undergraduate- and graduate-level college courses (Polson, 2010).

History of Adult Education in the Military

Training and education in the U.S. military has a long history. Initially, adult education efforts in the military were provided to support soldier morale. Literacy education was provided to help soldiers read their Bibles (Polson, 2010). Wilds (1938) documented that military chaplains were the first adult educators directed to provide academic instruction to soldiers recovering at Valley Forge. The literacy efforts continued and expanded as the technical skills needed in the military continued to grow (Sticht, 2002).

The military's support of literacy education greatly improved the access to such training for underserved, and often unserved, populations. For example, during the Civil War, the Union Army assigned officers to work to reduce illiteracy rates of African Americans (Blassingame, 1965). During Reconstruction, the War Department continued these efforts, leading to the development of the Freedmen's Bureau, which was created to educate former slaves (Sticht, 2002).

Today, training and education continues in the military. As the technical knowledge required in the military has continued to grow, some research has found that the military's education requirements for enlistment are not sufficient. Kime and Anderson (1997) argue that

the minimal educational requirements do not prepare incoming service members with the basic skills they will need in the military workplace. In addition to some of the basic technical skills, today's military personnel, regardless of their leadership position, years of service or rank, require critical thinking skills and focus on problem solving (Kime & Anderson, 1997). As the military continues to work around the world, there is also a need for global and cultural awareness (Paschal, 2006). These requirements have led service members to increasingly seek out postsecondary educational opportunities while still on active duty.

Montgomery GI Bill

The first GI Bill of Rights, the Servicemen's Readjustment Act of 1944, has been called "the most significant development in the modern history of American education (Patterson, 1996, p. 69). The passage of this bill made college accessible to a wide range of military veterans after World War II, including first generation Americans, minorities, and those from low-income households (McMurray, 2007).

By most accounts, the GI Bill was a success in nearly all respects (Patterson, 1996). Millions of individuals had access to education that they would not have had previously. O'Donnell (2002) stated that, "the educational opportunities provided by the GI Bill drastically altered how the average American lived before and after World War II" (p. 5). The GI Bill has continued to play an important role in the U.S.. Most Americans believe that educational benefits should be provided to service members and veterans in exchange for their service to the country (McMurray, 2007). Many observers also believe that the GI Bill was a success for the military in terms of recruitment.

The current version of the GI Bill, the Post-9/11 Veterans Educational Assistance Act of 2008, was signed into law in June of that year. Historically, the majority of service members

have used these benefits to pursue their education after leaving the military. However, regulations do allow for active duty personnel to use the benefits while still in the service. From the military's perspective, having the service members complete their education while still on active duty would be beneficial(Asch, Kilburn, & Klerman, 1999). That way, the military is also able to benefit from the skills and knowledge gained by the individual, rather than simply paying for the education once the service member leaves the military (Asch, Kilburn, & Klerman, 1999).

Educational Opportunities in the Military

The range of knowledge and skills needed by military personnel calls for a combination of training and education. Polson (2010) discussed the Army's 2008 Statement on the Posture. This document suggests that "training prepares soldiers and leaders to operate in relatively certain conditions and focuses them on 'what to think.'" On the other hand, education "prepares soldiers and leaders to operate in uncertain conditions, focusing more on 'how to think'" (p. 269). While the military can address many of the training and education needs, institutions of higher education can also provide important services. The military offers a number of options to combine military service and postsecondary education. Asch, Kilburn, and Klerman (1999) outlined five basic tracks for combining active duty service and postsecondary education as listed on the following page.

Table 2. Tracks for Combining Active Duty Service and Postsecondary Education

Track	Description
Officer	Individual first attends a four-year college, then enters service as an officer.
College-Enlisted	Individual first attends college or receives some college credit, then enters the service as an enlistee.
Enlisted-College	Individual enters the service as a high school graduate, completes a service obligation, leaves the service, then attends college as a veteran, or in some cases, a member of a reserve or guard component.
Enlisted-Officer	Individual enters service as an enlisted member. During his or her career, the member leaves the service temporarily to attend a four-year college. Upon receiving a degree, the member returns to serve as an officer.
Concurrent	Individual obtains college credits while in the service.

Congress has held that men and women serving in the Armed Forces should have at least the same opportunity to advance academically as do civilians who remain outside the military (U.S. Department of Defense, 2005). Through the Voluntary Education Program, service members can enroll in college, receive tuition assistance, and earn degrees. In many instances, they can join college courses being conducted on military installations. For service members who wish to earn postsecondary education credits while still on active duty, each of the forces provides a variety of initiatives under the Voluntary Education Program to meet the educational needs of these soldiers (Asch, Kilburn and Klerman,1999). The table which follows provides a list of programs offered by each branch of the military to service members to earn postsecondary education credit.

Table 3. Programs Offered to Earn Postsecondary Education Credit While in the Military

Air Force	Army	Navy	Marine Corps
Tuition Assistance	Tuition Assistance	Tuition Assistance	Tuition Assistance
Credit for experience	Credit for experience	Credit for experience	Credit for experience
Community College of the Air Force (CCAF)	Servicemembers Opportunity Colleges Army Degrees (SOCAD)	Program for Afloat College Education (PACE)	Servicemembers Opportunity Colleges Marine Degrees (SOCMAR)
Air Force Institute of Technology (AFIT)	Concurrent Admissions Program for Army Enlistees (CONAP)	Servicemembers Opportunity Colleges Navy Degree (SOCNAV)	Marine Staff Noncommissioned Officer (NCO) Degree Completion Program
	Graduate School	Enlisted Education Advancement Program (EEAP)	Advanced/Special Education Degree Program
		Naval Post-Graduate School	

As part of these programs, the Defense Activity for Non-Traditional Education Support (DANTES) operates to provide educational support for military members. Specifically, DANTES sponsors a wide range of examination programs to help service members meet their education goals. Approximately 150,000 examinations are administered on more than 530 military installations worldwide annually.

Another program, the Community College of the Air Force (CCAF) offers military personnel the opportunity to pursue a degree anywhere and at any time (Air Force Virtual Education, 2009). CCAF has partnered with local colleges and universities surrounding Air Force installations to offer local and distance learning options to fulfill general education requirements. CCAF has a website to track progress reports for its students enrolled at colleges and universities around the world. They have access to online transcripts and also access to a

catalog that identifies more than 380,000 distinct courses reflecting codes used by CCAF to apply credits. CCAF also offers opportunities for military students to CLEP test and use DANTES standardized subject tests.

CCAF offers numerous online education programs and courses. The Air Force Virtual Education Center came online in 2003 and was designed to streamline the process of participating in off-duty education. Today the Air Force Virtual Education Center is designed to provide students one-stop shopping for all higher education needs (Air Force Virtual Education, 2009). It offers a wide array of online services to empower students to actively participate in all aspects of their education and encourages progress of educational endeavors, whether it is working towards a Community College of the Air Force degree, applying for commissioning, or testing for professional military education.

Given the various duty assignments, exercises, and deployments that are common to military personnel, distance learning is a critical component to educational programs for this audience. Cropsey (2007) examined American Sentinel University's online education programs and the variety of technologies they used to make educational goals readily attainable for military students who are subject to deployments, stressful conditions, and changing work schedules (2007, p. 8). The internet technologies used by American Sentinel programs include personal computers, notebook computers, PDA's and Smart phones that have access to the internet.

The structured independent study courses at Sentinel University are delivered through Moodle, an open source academic presentation application. The online courses lead students through each course with directions on what to do next and contain faculty lecture notes to explain difficult concepts. They include self-tests and practice exercises to help students prepare

for graded exams. Textbooks written by academic and industry experts form the basis of each course (Capicik, 2008).

The U.S. military has recognized the importance and practicality of distance education for soldiers (McMurray, 2007). The various delivery options have given service members access to education programs that would not be available otherwise. The following section presents a brief review of distance education in the military.

Distance Education in the Military

The military began offering distance learning programs in the 1940's. These offerings consisted of low-technology, print-based correspondence courses, some of which are still available today (Barry & Runyan, 1995). In the 1950's, course delivery in the military was provided through television broadcast (Kanner, Runyan, & Desidertor, 1954). It was not until 1973 that an interactive component was added to distance learning in the military. The Air Force Institute of Technology (AFIT) began using a system called Teleteach to provide instruction to remote locations over phone connections (Christopher & Milam, 1981). By the end of the 1970's, the system had expanded to incorporate an electronic blackboard. This equipment allowed the instructor to transmit material written on an electronic sensor board over the telephone lines. The data were received and displayed by a television monitor.

As computer technology continued to expand during the 1980's and 1990's, the Army developed the Teletraining Network (TNET) and the Army Logistics Management Center (ALMC) to coordinate and deliver distance courses. The U.S. Navy was an early adopter of video teletraining (VTT), using digital video compression to enhance communication capabilities over limited bandwidth (Barry & Runyan, 1995). This networked system operated via satellite or

landlines and was available 24 hours a day. AFIT also developed a videoteleseminar that allowed for one-way video and two-way audio communications.

Recently Troy University, became a partner with the Navy college program of distance learning. Troy offers Navy college participants the opportunity to earn a fully accredited quality education from anywhere around the globe (Troy University, 2005). The use of emerging technologies coupled with traditional methodology creates an optimal learning environment. For many years, Troy focused on educational solutions for military personnel. They realized that the flexible education could be completed either locally or around the world. Flexibility is the foundation of distance learning program instruction and delivery (Vest, 2001). The Distance Learning Center at Troy University in Alabama now offers distance learning via web interactive and delivered through the Blackboard Internet-learning platform. Students may complete course work on an anytime/anyplace basis worldwide. Additional distance learning courses at Troy are also provided using video conferencing, cable TV, and web-enhanced and video tape/DVD media. All distance learning faculty members meet the standards set forth by the Southern Association of Colleges and Schools, the State of Alabama, and the review agencies.

In 2000, the U.S. Army announced a \$600-million program to reshape the competitive world of online learning. The program, called eArmyU, would enable any interested soldier to take distance education courses on the internet at little or no cost. This program was designed to change the image of the Army and open the floodgates to colleges and companies eager to sell online courses to soldiers (Tice, 2011). The Army also hoped to use the program as a recruiting and retention incentive aimed at exposing soldiers to online learning.

The eArmyU portal provided soldiers access to degree programs at more than 30 colleges and universities. Through eArmyU, eligible soldiers had the opportunity to earn a certificate or

an associate's, bachelor's, or master's degree from a home college while taking courses from multiple colleges. These web-based courses offered "anytime, anywhere" flexibility, allowing soldiers to study at times that were most convenient for them – even as their responsibilities, schedules, and duty assignments changed.

In 2011, the Army announced that eArmyU would be shut down in March 2012. The program had run successfully for 10 years, but had reached a point of maturity, essentially meeting its recruiting and retention objectives and increasing soldiers' participation in their own education development (Tice, 2011). Of the 64,087 soldiers who have enrolled in eArmyU since its 2001 launch, 11,741 have earned certificates and degrees (Tice, 2011).

Army Learning Concept 2015

As part of the Army Concept Framework for Future Army forces, the U.S. Army has identified functional concepts that detail "how future Army forces will conduct operations as part of the joint force to deter conflict, prevail in war, and succeed in a wide range of contingencies in the future operational environment" (U.S. Army, 2012, Army Integration Capabilities Center website). Among these concepts, the U.S. Army Learning Concept for 2015 (U.S. Army, 2011) "is the Army's visualization of how the Army will train and educate Soldiers and leaders in individual knowledge, skills, attributes, and abilities to execute full-spectrum operations in an era of persistent conflict." (p. 1).

The Army has set out to adapt to a changing society and develop new ideas to address future challenges by implementing the U.S. Army Learning Concept (ALC) for 2015. General Martin E. Dempsey, the United States Army Commanding Officer, noted that the ALC will improve Army learning by leveraging technology without sacrificing standards in order to provide credible, rigorous, and relevant training and education for combat seasoned soldiers and

leaders. It makes clear that the responsibility for developing soldiers in this learning continuum is a shared responsibility among the institutional schoolhouse, tactical units and the individuals themselves.

ALC 2015 does not focus on any particular technology but rather the opportunities presented by dynamic virtual environments, such as on-line gaming and mobile learning (U.S. Army, 2011). It speaks of access to applications, the blending of physical and virtual collaborative environments, and learning outcomes. As part of ALC 2015, the Army will seek to offer distributed learning on a full scale using the power of information and communication technologies, such as simulation, interactive media instructions, video teletraining, e-learning and others, to deliver standardized training and education at the right place and time. Distance learning may involve student instructor interaction in real time (synchronous) and non-real time (asynchronous). It may also involve self-paced student instruction without benefit of an instructor.

The goal of the Army Learning Concept 2015 is to ensure that the people of the Army retain the competitive advantage over its adversaries. The lifelong learner is central to the ALC 2015. Soldiers and leaders continually assess themselves, identify what they need to learn, and use skills that help them to effectively acquire and update knowledge, skills, and attitudes. Soldiers and leaders value and integrate all forms of learning, both formal and informal, on a daily basis to seek improvement of themselves and their organizations.

The ALC 2015 Working Group is a collaborative effort between civilians and the military to support the implementation of ALC 2015. As an initial step, the Working Group has recommended three near-term actions that schools and centers can take to prepare for ALC 2015. These include:

1. Transition traditional classroom environments to collaborative problem-solving experiences led by facilitators, rather than instructors, to engage learners to think and understand the relevance and context of learning content.
2. Focus learning to the individual's experience and competence level based on assessment results.
3. Dramatically reduce the use of instructor-led Microsoft PowerPoint lectures; focus on a blended learning approach that incorporates multiple technologies and experiences (U.S. Army, 2011).

Distance Learning in the Air Force

The Air Force has embraced distance learning as a tool for improving the education and training of its service members. The mission of the Air Force Institute for Advanced Distributed Learning is to promote, deliver, and manage distance learning for airmen and space forces (U.S. Air Force, 2010b). This is done through extension courses using Air University courseware. Mediated learning plays a major role using the Institute's delivery medium the Air Technology Network (ATN). In 2006, ATN had 13 broadcast centers connected terrestrially to a network operating center, which transmitted courses to 154 earth station downlinks reaching 266 classrooms worldwide. ATN is the core infrastructure being used by the Air Force to provide education and training opportunities to their learners—whether in garrison or at a deployed location. However, at this time there was no delivery for those personnel in austere remote locations.

Summary

This chapter provided an overview of the selected literature that is relevant to this research. Adult participation in education studies, adult participation in postsecondary

education, and education in the military provided a foundation for this study. The literature revealed numerous studies on adult participation in education. As reported, these studies found that adult participation in education is a complex issue. The following chapter explains the methodology used in this study to further explore adult participation in education, particularly for active duty Air Force personnel.

Chapter 3 - Research Methodology

The purpose of this study was to examine barriers Air Force personnel face in participating in higher education while on active duty. The study also explored this group's goals for participating in higher education. The methodology used to conduct the research for this study is described in this chapter and is organized into the following sections: research questions; selection of participants; development of the instrument; data collection procedures; and data analysis.

Research Questions

The following research questions guided this study:

1. Are there barriers (relating to personal, professional, interest, or location issues) confronting active duty Air Force personnel in regard to their participation in higher education programs? If so, what are they?
2. Are there goals for active duty Air Force personnel that motivate them to participate in higher education programs? If so, what are they?
3. Do the responses from active duty Air Force personnel about motivations and barriers which influence their participation in higher education programs differ in regard to: military status, race, gender and years of service?

This research was designed as an exploratory study. As such, directional hypotheses were not generated. The researcher chose the exploratory study design as there were no existing studies that focused specifically on active duty Air Force personnel and barriers they face in attending postsecondary education.

Selection of Participants

The site for this study was McConnell Air Force Base (MAFB), Kansas. This site was selected because the researcher works on the base. As an instructor on the base, the researcher has access to the base commander and his staff, the director of education and his staff, as well as the military personnel stationed there. The base commander and the base education director granted permission to the researcher to administer a survey to base personnel. The participants in this study were active duty Air Force personnel stationed at MAFB from January 2006 to March 2009.

At the time of the study, 3,000 military active duty personnel were assigned to MAFB. Approximately one-third of the base population was deployed overseas during the study. The remaining 2,000 military active duty personnel constituted the population for the study. The military personnel included in this study were men and women who were airmen, non-commissioned officers, or officers on active duty in the United States Air Force. The personnel stationed at MAFB hold a broad range of occupation specialties such as communication, fire protection, administration, security police, food service, medicine, civil engineering, contracting, education, transportation, dental care, legal services, leadership and training, and chaplain services.

Due to security restrictions, demographic information at the base level is not publicly available. As results are presented in the following chapter, the demographic breakdown of the survey respondents is discussed in relation to the Air Force in general, as posted on the Air Force Personnel Center (AFPC) website (Air Force Personnel Center, 2011).

Protection of Human Rights

This study complied with all the requirements of the Kansas State University Committee on Research Involving Human Subjects. A copy of the IRB application is included in Appendix A.

Development of the Instrument

The researcher developed the instrument used in this study, the Military Education Participation Survey (MEPS). The framework for MEPS is grounded in classic adult education studies on participation (Boshier, 1971; Cross, 1981; Darkenwald & Valentine, 1985; Houle, 1961; Scanlon, 1986). The 48-item questionnaire was designed to identify barriers and motivational goals for pursuing education by active duty military Air Force personnel. Survey items were based in the Chain-of-Response Model (Cross, 1981) wherein adult participation in learning is thought to come more from an internal response rather than from outside influences. Items relating to barriers were based in Scanlon's (1986) review of several theories of deterrents to participation in adult education. In this work, a deterrent includes variables that are influenced by an individual's perceptions of the importance of those variables as well as how they affect the individual based on life circumstance.

To further define the barriers and goals, the researcher grouped the items within four categories. These categories, or domains, encompass reasons adults engage in educational pursuits or choose not to participate. For this study, the domains defined for the MEPS were: 1) Personal considerations and perceived ability; 2) Professional considerations; 3) Interest; and 4) Location. The researcher's personal experience in the military, as well as his on-going work with active duty military personnel, contributed to the selection of these specific domains. Support for these domains was also found in the literature on participation in adult education

(Boshier & Collins, 1985; Cross, 1981; Darkenwald & Valentine, 1990; Scanlon, 1986; Valentine, 1997). Descriptions of the domains that are related to both barriers and goals follow.

Domain One - *Personal considerations and perceived ability*. This category focuses on personal responsibilities and circumstances. These include issues such as time constraints, family concerns, and general considerations such as personal health and well-being. This category also includes one's self-perception of the ability to succeed in the academic work.

Domain Two - *Professional considerations*. This category targets issues relating to professional responsibilities and one's career. These include various requirements of training and education for promotion, as well as restrictions in availability based on one's professional assignment.

Domain Three - *Interest*. This category focuses specifically on one's interest in pursuing education.

Domain Four - *Location*. The final category identifies issues related to physical location. While these issues typically relate to barriers, they may also contribute to motivational goals in some cases.

The following table shows the distribution of survey items in the various domains. A copy of the survey appears in Appendix B.

Table 4. MEPS Item Distribution by Domain

Domain	Number of Survey Items
Personal Considerations & Perceived Ability	23
Professional Considerations	5
Interest	4
Location	3

Development of the questionnaire and process for organizing the analysis was guided by the work of Fink (2003). As discussed in her work, the key components of good survey research

are: 1) Specific objectives; 2) Straightforward questions; 3) Sound research design; 4) Sound choice of sample or population; 5) Reliable and valid survey instruments; 6) Appropriate management and analysis; and 7) Accurate reporting of survey results. A final consideration in designing survey research is the availability of adequate resources to conduct the study (Fink, 2003). This could include financial needs such as postage, use of certain on-line survey systems, or computer software to manage and analyze data. It is also necessary to consider other needed resources such as time to administer the questionnaires and to collect, analyze, and report the data. The researcher incorporated these components within the context of this study, as outlined below.

Specific objectives and choice of population: As described in Chapter One and noted at the beginning of this methodology section, the study was guided by several research questions. These questions provided the framework for designing and implementing the research at MAFB.

Straightforward questions/research design: The researcher worked with an expert panel at MAFB to review and modify the questionnaire and provide feedback on methods to administer the survey on base.

Reliable and valid survey instruments: The researcher also conducted a pilot study at MAFB to test the instrument and make any needed modifications.

Appropriate analysis and reporting: Based on the type of data collected in the study, the researcher chose to conduct descriptive analyses. The results are provided in Chapter Four.

The researcher also incorporated elements of Dillman's (2009) *Tailored Design Method*, which complemented the steps outlined above in the survey design. These elements are described further in the data collection section of this chapter.

Items on each scale were scored on a five point scale in graduation ranging from “not important” to “very important.” The survey questionnaire was designed based on summated rating scale format, which is commonly used in surveys for several reasons (Fink, 2003). First, the summated rating scale format can demonstrate desirable psychometric properties. This means that well-constructed scales can produce good reliability and validity to substantiate the findings. Secondly, the summated scale format is relatively easy and inexpensive to develop. Thirdly, respondents typically find a well-designed instrument and scale to be quick and easy to answer (Fowler, 1993; Spector, 1992). Scale items must be defined and described concisely but with sufficient detail for the respondent to understand what is being asked. The researcher must have a certain degree of experience or knowledge about statistics to be able to design the scale in a way that can be meaningfully analyzed (Fink, 2003).

In order to look at differences in response between various groups within the survey population, additional demographic data were collected on the MEPS. These variables were: status; gender; race; and time in service.

Pilot Study

A pilot study was conducted in order to test the survey and data collection procedures that were used in this research. It was administered in fall 2009 to 40 Air Force personnel using the base internet network. None of the participants in the pilot study were included in the main study. All 40 surveys were returned. An initial review of the reliability of the instrument was conducted using Cronbach’s alpha (α). This particular test is a measure of internal consistency, based on the average inter-item correlation. Analysis of the pilot study data found an alpha of .68 for the survey items. Reliability scores in the range of .7 are generally considered acceptable in this type of research (Kline, 1999). As part of the pilot study, participants provided feedback

regarding the length of time it took them to complete the instrument questionnaire, whether they fully understood the directions, if the instrument items were easy to understand, and whether there were additional goal statements that should be added.

The main feedback from the pilot study respondents was that the instrument needed more details explaining the purpose of the study. Based on these comments, the researcher revised the survey introduction to include additional information about the study and to emphasize that participation was strictly voluntary. The researcher also found that the word “austere” was a bit confusing to the respondents. For the full study survey, this term was clarified and carefully explained. These modifications were intended to give the respondents a better understanding of the study and to encourage their participation.

Based on feedback from the pilot, the researcher also made some modifications to the layout of the survey to streamline the questionnaire for the respondents and simplify the data entry and analysis process. First, the demographic section was moved to the end of the survey. Following Dillman’s (2009) method, the first question on the survey should apply to everyone, be easy, and be interesting. For this reason, the demographic questions are typically placed at the end of the survey. The researcher also made the decision to collect data about the age of the respondent as a fill-in-the-blank item. By having the respondents give their actual age, as opposed to reporting it in a range, the researcher has more flexibility to group the data as needed for analysis. This modification was also made for the “number of years in service” item, as well as “years in college.” Finally, the researcher revised the pilot survey for the full study by sequentially numbering the questions to help simplify data entry.

Data Collection

In order to collect survey data from participants in this study, the researcher worked in coordination with the Director of Education and Training at the base. For the secure and efficient administration of the survey, the MEPS questionnaire was distributed electronically on the installation's internal data and communications network.

The questionnaire was distributed in December 2009, via e-mail. The e-mail was sent to each of the 20 Squadron Training Manager on base requesting them to encourage their unit personnel to complete the MEPS. After one week, 121 completed survey instruments were returned. A reminder message was sent in late December requesting that they re-engage their unit personnel to complete the voluntary MEPS. Seventy-seven more surveys were returned for a total of 198 completed surveys being used in this study. The response period closed in early January 2010.

Data Analysis

A descriptive statistical analysis was conducted on the survey responses. Mean scores, standard deviations, and range of responses were reported. The researcher used SPSS version 14 for Windows to run all statistical analyses. In addition to the data tables generated from the results, graphical representations of the results are also provided in the appendices to further illustrate trends in the data. In order to answer the third research question, comparative analyses between the sub-groups were conducted using the Mann-Whitney nonparametric test. The Mann-Whitney (Gibbons, 1992) is a nonparametric statistical test comparable to the *t*-test for data with normal distributions. These tests are used to compare mean scores across two groups, in this case the comparison of data based on the various demographic variables. The researcher first reviewed histograms of the survey responses to determine the normality of the data. Given

the small sample size of the sub-groups and the lack of a normal distribution across the groups the researcher chose to use this non-parametric analysis.

The responses to the open-ended items were reviewed for common themes or patterns. The researcher used Patton's (2002) approach to content analysis as a "qualitative data reduction and sense-making effort that takes a volume of qualitative material and attempts to identify core consistencies and meanings" (p. 453). The responses were reviewed and categorized by like meanings. These summary results are also reported in Chapter 4.

Summary

This chapter presented the research methodology used for this study. It used a modified version of Fink's survey design and was administered to airmen, non-commissioned officers, and officers who were stationed at McConnell Air Force Base, Kansas, in December 2009. Data examining motivational factors and barriers to participation in postsecondary education by military personnel were collected and analyzed using descriptive and nonparametric statistical tests. Comparative analyses were conducted based on data from the demographic portion of the survey. Complete results of the data and analysis are found in Chapter Four.

Chapter 4 - Presentation and Analysis of Data

As discussed in Chapter 1, the purpose of this study was to examine barriers Air Force personnel face in participating in higher education while on active duty. The study also explored this group's goals for participating in higher education. The study focused on active duty Air Force personnel stationed at McConnell Air Force Base (MAFB) from January 2006 to March 2009. The findings are presented in this chapter are organized around the three research questions that were used to guide this study. This chapter includes five sections: 1) a review of the survey rate of return; 2) a description of the demographic information of the respondents; 3) a presentation of the barriers to educational participation; 4) a presentation of the motivational factors to educational participation; and 5) a presentation of the descriptive comparisons of the responses based on the specified demographic variables for the study (military status, race, gender, and years of service).

Survey Returns

The Military Education Participation Survey (MEPS) was distributed by e-mail to the 20 Squadron Training Managers at MAFB to administer to their units. The surveys were returned anonymously, with no identifying information at either the squadron or individual level. Due to the method of distribution, it is not possible to calculate an exact response rate for the survey as the research did not have a definitive number of personnel that received the questionnaire. Of the approximately 2000 active duty personnel stationed at MAFB, 198 surveys were returned, resulting in approximately a 10% return rate. This was a low response rate for survey research. The study did not have the resources to follow-up with the other 90% of the Air Force personnel to determine if, or how, their responses would differ from the surveys that were returned.

Demographic Data

The demographic section of the MEPS asked respondents to provide the following information: 1) military status and grade; 2) gender; 3) race; and 4) time in service. These data were used to create a profile of the military personnel that participated in the study, as well as serve as variables to be included in the statistical analyses. Table 45 below presents the military status as reported by the survey participants. Demographic information specific to MAFB was not available; therefore, the researcher compared these results to reports available on-line through the Air Force Personnel Center website (AFPC) to see if the distribution of enlisted personnel to officers was similar to that of the overall Air Force. The report for FY 2010 showed that 80% of U.S. Air Force personnel were enlisted and 20% were officers (AFPC, 2011).

As shown, the results indicated that a slightly higher percentage (90%) of enlisted personnel responded to the survey as compared to their representation in the Air Force as a whole (80% overall). However, as an exploratory study, the focus of the study was to present initial data from the survey and considerations for further research. The intent was not to generalize results to a larger population at this time.

Table 5. Military Status

Military Status	Frequency	Percent
Enlisted	180	90.9
Officer	12	6.1
Missing	6	3.0
Total	198	100.0

Table 6 presents the disaggregation by military grade. As shown, nearly 70% of the enlisted personnel were in grades E-3 to E-6.

Table 6. Military Grade

Military Grade	Frequency	Percent
<i>Enlisted</i>		
E-1	2	1.1
E-2	6	3.0
E-3	50	25.3
E-4	28	14.1
E-5	43	21.7
E-6	33	16.7
E-7	14	7.1
E-8	3	1.5
E-9	1	0.5
<i>Officer</i>		
O-2	2	1.0
O-3	4	2.0
O-4	3	1.5
O-5	3	1.5
Missing	6	3.0
Total	198	100.0

Table 7 presents the other demographic results (Gender, Race, and Time in Service) from the survey participants. As shown, more than three-fourths of the respondents to the survey were male. These results are similar to the gender breakdown for Air Force personnel overall. As reported on the Air Force Personnel Center website, the gender breakdown for the U.S. Air Force in FY 2010 was 80.8% male and 19.2% female (Air Force Personnel Center, 2011). Specific demographic information about MAFB was not available, but based on the responses, it is assumed that the gender breakdown is similar at this installation.

Table 7. Gender, Time in Service, Race

Gender	Frequency	Percent
Male	154	76.8
Female	38	19.2
Missing	8	4.0
Total	198	100.0
Time in Service	Frequency	Percent
Less than 2 years	47	23.7
2-5 years	48	24.2
6-10 years	42	21.2
11-15 years	27	13.6
More than 15 years	26	13.1
Missing	8	4.0
Total	198	100.0
Race	Frequency	Percent
Caucasian	136	68.7
African American	19	9.6
Hispanic	18	9.1
Asian	7	3.5
Other*	6	3.0
Hispanic (non-Black)	1	0.5
Missing	11	5.6
Total	198	100.0

*Other racial categories reported included: Bi-racial (1); Black/Hispanic (1); Pacific Islander (2); Puerto Rican (1); non-response (1).

Given the respondents' distribution of enlisted personnel to officers, the reported time in service reflects these populations. Nearly 50 percent of the respondents indicated they had five or fewer years in the service. The Air Force no longer publishes statistics on the racial or ethnic information of its personnel, so it was not possible to compare the results from the survey respondents to see if they are similar to the overall breakdown of the service (AFPC, 2011).

In order to be able to provide a comprehensive profile of the respondents to this survey, participants were also asked to indicate whether they have taken college courses in the past and if they were currently taking college courses. These results are presented in tables 8 and 9.

Table 8. Respondents that Have Taken College Courses in the Past

	Frequency	Percent
Yes	156	78.8
No	40	20.2
Missing	2	1.0
Total	198	100.0

Table 9. Respondents Currently Taking College Courses

	Frequency	Percent
Yes	58	29.3
No	138	69.7
Missing	2	1.0
Total	198	100.0

As shown, most of the respondents were not currently taking college courses but had taken some in the past. This is an important aspect to consider as it indicates that while some of the barriers described below may have impacted the respondents' participation, it was not a complete deterrent. This consideration will be discussed further in Chapter Five.

Finally, the researcher wanted to know how many respondents had served at austere remote locations. Due to military security issues, this could not be a direct question on the survey instrument. However, as a proxy measure, the researcher included the following item in the section on barriers: "Because no courses were offered at remote sites." Traditionally, courses are offered at parent bases overseas but none at the remote sites when Air Force personnel are deployed several hundred miles away from parent bases.

The researcher used the assumption that a respondent would know that there were no courses offered at remote sites if he or she had been assigned to a remote site. Following this rationale, all respondents that agreed or strongly agreed with this item were assumed to have served at austere remote locations. The following table presents these data.

Table 10. Respondents assumed to have served at austere remote locations

	Frequency	Percent
Yes	33	16.7
No	163	82.3
Missing	2	1.0
Total	198	100.0

As shown above, based on the logic applied by the researcher, approximately 17% of the respondents are assumed to have served at austere remote locations. It is difficult to estimate how many military personnel serve at these locations as assignments are highly dependent on one's job within the service.

Barriers to Educational Participation

As described in Chapter Three, MEPS was designed to identify barriers and motivational goals for pursuing education, and specifically higher education, by active duty military Air Force personnel. The responses from the survey generated data appropriate for descriptive statistical analyses. The results are presented in the following pages in table format.

Survey participants rated a number of Items that could impact their participation in higher education. Respondents used the scale provided to indicate their level of agreement, or disagreement, with each item. The five-point scale was defined as: 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; and 5 = Strongly Agree.

Data presented in Tables 11 through 14, which follow, address the first research question for this study.

Table 11. Domain 1 Barriers: Personal Considerations and Perceived Ability

Items	N	M	SD
1.1. Because I felt I couldn't compete with younger students.	198	1.43	.789
1.2. Because I don't enjoy studying.	198	2.30	1.130
1.3. Because of personal health problems or handicap.	197	1.32	.746
1.4. Because I didn't think I would be able to finish the course.	198	1.70	1.007
1.5. Because I didn't have time for the studying required.	198	2.48	1.277
1.6. Because I didn't meet the course requirements.	194	1.60	.816
1.7. Because I couldn't afford the registration or course fees.	198	1.86	1.069
1.8. Because I felt I was too old to take the course.	198	1.38	.700
1.9. Because I didn't know about courses available for adults.	198	1.61	.858
1.10. Because my family did not encourage participation in education.	198	1.49	.823
1.11. Because of family problems.	197	1.60	.972
1.12. Because participation would take away time from my family.	198	2.32	1.305
1.13. Because I had trouble giving up my leisure time.	198	2.28	1.222
1.14. Because I felt unprepared for the course.	198	1.79	.980
1.15. Because I didn't think I could attend regularly.	197	2.20	1.248
1.16. Because I prefer to learn on my own.	197	1.88	1.048

The study participants were asked to rate 16 items relating to personal considerations and perceived ability to pursue educational participation. As shown above, these items refer to issues such as time constraints, family concerns, and general considerations such as personal health and well-being. While the mean scores overall were low, indicating most respondents disagreed or strongly disagreed that these items were barriers to their participation in education, patterns of interest are evident. Five of these Items had means above 2.20 and corresponding standard

deviations over 1.100. Based on the scale, these results indicate that the responses for these particular items were distributed over the entire scale, with a substantial number of individuals agreeing or strongly agreeing that these Items were barriers to educational participation. These specific items were: 1.2 Because I don't enjoy studying (mean 2.30; sd = 1.130); 1.5 Because I didn't have time for the studying required (mean 2.48; sd = 1.277); 1.12 Because participation would take away time from my family (mean 2.32; sd = 1.305); 1.13 Because I had trouble giving up my leisure time (mean 2.28; sd = 1.222); and 1.15 Because I didn't think I could attend regularly (mean 2.20; sd = 1.248).

Table 12 below presents barriers from the second domain, professional considerations.

Table 12. Domain 2 Barriers: Professional Considerations

Items	N	M	SD
2.1. Because education would not help me on my job.	198	1.59	.912
2.2. Because my supervisor wouldn't allow me to take college courses.	198	1.51	.811

The second domain included only two items targeting issues relating to professional responsibilities and one's career. Respondents generally indicated that these professional considerations were not barriers to their participation in education.

Table 13 presents barriers from the third domain, interest.

Table 13. Domain 3 Barriers: Interest

Items	N	M	SD
3.1. Because I wanted to learn something specific but the course was too general.	198	1.95	1.070
3.2. Because the courses available did not seem interesting.	198	2.05	1.046
3.3. Because I'm not interested in taking courses.	196	1.78	.993
3.4. Because I didn't think the course would meet my needs.	192	1.72	.912

The third domain included four items related to one’s interest in pursuing education. In reviewing the data, responses to the first two items showed higher mean scores and standard deviations as compared to the other items in this domain. Similar to the results from the first domain, these responses indicate a greater distribution across the scale for these particular Items. These are: 3.1 Because I wanted to learn something specific but the course was too general (mean 1.95; sd = 1.070); 3.2 Because the courses available did not seem interesting (mean 2.05; sd = 1.046).

Survey responses relating to the last domain, location, are presented in Table 14, below.

Table 14. Domain 4 Barriers: Location

Items	N	M	SD
4.1. Because the course was offered at an inconvenient time or location.	198	2.65	1.288
4.2. Because the course was offered in an unsafe area.	198	1.74	1.077
4.3. Because no courses were offered at remote sites.	196	2.17	1.358

The items in this domain identified possible barriers to participation related to physical location. Respondents indicated that courses being offered at inconvenient times or locations could be a barrier to their educational participation (mean 2.65; sd = 1.288).

Motivational Goals for Educational Participation

The second research question for this study was, “Are there factors for military personnel assigned to austere remote locations which motivate them to participate in higher education programs? If so, what are they?” Tables 15 and 16 present the data addressing this research question. The final scale items on the MEPS asked participants about potential reasons or goals for their participation in college courses. Respondents used the scale provided to indicate the

level of importance for each item. The five-point scale was defined as: 1 = Not Important; 2 = Slightly Important; 3 = Somewhat Important; 4 = Quite Important; and 5 = Very Important.

Similar to the items presented under barriers, the list of goals was broken down into two domains (Table 15), personal considerations and professional considerations (Table 16).

Table 15. Domain 1 Motivational Goals: Personal Considerations

Items	N	M	SD
1.1. To get relief from boredom.	197	1.96	1.136
1.2. To prepare for service to the community.	197	3.39	1.372
1.3. To improve my ability to serve mankind.	197	3.32	1.364
1.4. To improve my social relationships.	196	2.87	1.450
1.5. To satisfy my intellectual curiosity.	197	3.62	1.382
1.6. To prepare me for when I leave the military.	197	4.31	1.162

Of the motivational goals in the first domain, respondents indicated that preparation for when they leave the military was the most important item related to personal considerations (mean 4.31; sd = 1.162).

Table 16. Domain 1 Motivational Goals: Professional Considerations

Items	N	M	SD
2.1. To secure professional advancement.	197	4.23	1.117
2.2. To increase my competence in my job.	197	3.89	1.303
2.3. To give me higher status in my job.	195	3.93	1.340
2.4. To keep up with competition.	197	3.66	1.415
2.5. To fulfill requirements of a government agency.	197	3.20	1.420

Survey respondents indicated that securing professional advancement was the most important professional consideration goal for participation in higher education (mean 4.23; sd = 1.117).

In addition to the scale items on the MEPS instrument, survey participants were also able to provide responses to several open-ended items. The researcher reviewed these responses for themes and patterns. The results are presented below.

Fifty-five (55) respondents indicated that they were currently taking college courses. Comments from the rest of the respondents regarding reasons they were not taking courses are reported by theme in the following table.

Table 17. Reasons for Not Attending School

Response Theme	Frequency
Family/personal issues or concerns	25
Currently working on CDCs	20
Work commitments	16
Lack of time	16
Have already completed my degree/program	9
Frequent deployments and exercises	8
No interest in attending school	6
Not ready/prepared to attend	5

As shown, the responses provided to this survey item were similar to the categories used in the scale items. Family and personal commitments were frequently reported as reasons for not attending school. Work commitments were also shared as a common reason for not attending. As shown in the table above, having to complete the CDCs frequently prevents respondents from attending school.

The next item asked respondents to share what they thought the military service could do to better support their educational goals. Responses ranged from allowing personnel more time/flexibility to take courses to having the military offer courses at remote sites to providing free books. Comments from the respondents are reported by theme in the following table.

Table 18. What the Military Service Can Do to Better Support Educational Goals

Response Theme	Frequency
Allow more time to take courses	19
Provide courses at austere remote locations	14
Provide tuition assistance	13
Military does fine	12
Encourage/support education	10
Offer more flexible courses on base	7
Provide free books	6
Don't know	5

The final section of this chapter presents data to address the third research question of this study.

Descriptive Comparison of Responses

The final stage of the data analysis examined comparisons of the survey responses based on select demographic characteristics. This analysis addresses the third research question, “Do the responses from military personnel about motivations and barriers which influence their participation in higher education programs differ in regard to: military status, race, gender, and years of service?” The comparisons were made by first disaggregating the results by the independent variables listed above. Non-parametric analyses (Mann-Whitney) were conducted to compare the responses about barriers and motivations between groups. Statistically significant results are presented in the following tables. Summary tables for each domain, showing all Items and results, can be found in Appendix C.

Barriers

Personal Considerations and Perceived Ability

The researcher first examined the disaggregation based on military status. To streamline the analysis, this comparison was defined as enlisted personnel (grades E1-E9) and officers

(grades O1-O10). Upon analysis, the data showed no statistically significant differences between the responses of the two groups.

The researcher next examined the responses by gender, as presented in table 19.

Table 19. Barriers Domain 1: Personal Considerations and Perceived Ability by Gender

Items	<i>M</i>		<i>SD</i>	
	Females	Males	Females	Males
1.1. Because I felt I couldn't compete with younger students.	1.47	1.43	.862	.786
1.2. Because I don't enjoy studying.	2.21	2.32	1.044	1.166
1.3. Because of personal health problems or handicap.	1.39	1.30	.887	.721
1.4. Because I didn't think I would be able to finish the course.	1.76	1.66	.998	.996
1.5. Because I didn't have time for the studying required.	2.37	2.49	1.217	1.302
1.6. Because I didn't meet the course requirements.	1.55	1.59	.828	.799
1.7. Because I couldn't afford the registration or course fees.	1.87	1.84	1.070	1.076
1.8. Because I felt I was too old to take the course.	1.42	1.36	.826	.655
1.9. Because I didn't know about courses available for adults.	1.63	1.59	.852	.825
1.10. Because my family did not encourage participation in education.	1.61	1.45	.946	.787
1.11. Because of family problems.	1.50	1.62	.830	1.006
1.12. Because participation would take away time from my family.	2.18	2.34	1.249	1.322
1.13. Because I had trouble giving up my leisure time.	2.11	2.30	1.311	1.207
1.14. Because I felt unprepared for the course.	1.63	1.82	.852	1.006
1.15. Because I didn't think I could attend regularly.	1.97	2.22	1.174	1.259
1.16. Because I prefer to learn on my own.*	1.55	1.96	.760	1.107

*Statistically significant at $p > 0.05$ based on Mann-Whitney test

As shown in the preceding table, based on comparison of results by gender, one item was found to be statistically significant ($p < 0.05$): “because I prefer to learn on my own.” Males were

less likely to “strongly disagree” that they prefer to learn on their own (mean = 1.96) as compared to the females (mean = 1.55).

The researcher then disaggregated the data by race. As shown in the demographic tables previously, nearly 70% of respondents reported their race as “white.” Given the relatively small number of responses across the non-white racial categories (African American, Asian, Hispanic, and Other), the researcher collapsed these categories to conduct the comparative analysis. The two groups for comparison were defined as white and non-white (all other categories). In reviewing the responses, the results showed no statistically significant differences between the responses of the two groups.

Finally, the researcher disaggregated the responses by time in service. As with the previous variable, the researcher created two categories for this comparison. All respondents who indicated they had served for five years or less were placed in one category. The second category reflected the respondents who had served more than five years. Results of the analysis are presented in the following table.

Table 20. Barriers Domain 1: Personal Considerations and Perceived Ability by Time in Service

Items	M		SD	
	Five Years or less	> Five Years	Five Years or less	> Five Years
1.1. Because I felt I couldn't compete with younger students.	1.47	1.40	.810	.771
1.2. Because I don't enjoy studying.	2.35	2.25	1.146	1.118
1.3. Because of personal health problems or handicap.	1.29	1.36	.757	.739
1.4. Because I didn't think I would be able to finish the course.	1.64	1.75	.944	1.064
1.5. Because I didn't have time for the studying required.	2.28	2.67	1.269	1.263
1.6. Because I didn't meet the course requirements.	1.62	1.59	.805	.830
1.7. Because I couldn't afford the registration or course fees.*	2.07	1.67	1.169	.933
1.8. Because I felt I was too old to take the course.	1.35	1.41	.615	.773
1.9. Because I didn't know about courses available for adults.	1.61	1.61	.776	.931
1.10. Because my family did not encourage participation in education.	1.41	1.56	.751	.882
1.11. Because of family problems.	1.54	1.65	.912	1.026
1.12. Because participation would take away time from my family.*	2.00	2.62	1.194	1.337
1.13. Because I had trouble giving up my leisure time.	2.25	2.31	1.237	1.213
1.14. Because I felt unprepared for the course.	1.84	1.74	.960	1.000
1.15. Because I didn't think I could attend regularly.	2.22	2.17	1.211	1.287
1.16. Because I prefer to learn on my own.	1.95	1.82	.999	1.091

*Statistically significant at $p > 0.05$ based on Mann-Whitney test

As shown in the preceding table, based on comparison of results by time in service, two items were found to be statistically significant ($p < 0.05$): “because I couldn't afford the registration or course fees” and “because participation would take away time from my family.” Respondents that had served five years or less were more likely to “agree” (mean = 2.07) that

they could not afford the registration or course fees as compared to the responses from those that had served more than five years in the Air Force (mean = 1.67). However, for the second item, the respondents that had served for more than five years in the Air Force were more likely to “agree” (mean = 2.62) that participation would take time away from their family as compared to those with less time in service (mean = 2.00).

Professional Considerations

The second domain looked at barriers related to professional considerations. The comparison groups described above were again used in a non-parametric analysis of the responses. No statistically significant differences were found between the comparative groups. The complete summary tables are found in Appendix C.

Interest

The third domain looked at barriers related to interest. No statistically significant differences were found between the comparative groups. The complete summary tables are found in Appendix C.

Location

The fourth domain looked at barriers related to location. No statistically significant differences were found between the comparative groups. The complete summary tables are found in Appendix C.

Motivational Goals by Domain

As described previously in this chapter, the final scale items on the MEPS asked participants about potential reasons or goals for their participation in college courses. Respondents used the scale provided to indicate the level of importance for each item. The five-point scale was defined as: 1 = Not Important; 2 = Slightly Important; 3 = Somewhat Important;

4 = Quite Important; and 5 = Very Important. Similar to the items presented under barriers, the list of goals was broken down into two domains, personal and professional considerations.

For the second part of the comparative analysis, the researcher examined the responses about educational motivations or goals using the same comparative groups as the analysis on barriers, military status, race, gender, and years of service. These results are presented in the following tables.

Personal Considerations

The Mann-Whitney analysis showed statistically significant differences by race and time in service in the survey responses regarding personal considerations. These results are presented in tables X and X following.

Table 21. Domain 1 Motivational Goals: Personal Considerations by Race

Items	M		SD	
	Non-White	White	Non-White	White
1.1. To get relief from boredom.	2.06	1.96	1.249	1.128
1.2. To prepare for service to the community.	2.82	3.44	1.629	1.338
1.3. To improve my ability to serve mankind.*	2.56	3.39	1.459	1.339
1.4. To improve my social relationships.	2.41	2.92	1.543	1.437
1.5. To satisfy my intellectual curiosity.	3.18	3.67	1.590	1.358
1.6. To prepare me for when I leave the military.	4.24	4.32	1.437	1.137

*Statistically significant at $p > 0.05$ based on Mann-Whitney test

As shown in the table above, based on comparison of results by race, one item was found to be statistically significant ($p < 0.05$): “to improve my ability to serve mankind.” White respondents were more likely to indicate that it was “quite important” (mean = 3.39) they improved their ability to serve mankind, as compared to the responses from the non-white respondents (mean = 2.56).

Table 22. Domain 1 Motivational Goals: Personal Considerations by Time in Service

Items	<i>M</i>		<i>SD</i>	
	Five Years	> Five Years	Five Years	> Five Years
1.1. To get relief from boredom.*	2.18	1.77	1.164	1.077
1.2. To prepare for service to the community.	3.44	3.34	1.300	1.439
1.3. To improve my ability to serve mankind.	3.50	3.196	1.251	1.447
1.4. To improve my social relationships.*	3.11	2.66	1.379	1.486
1.5. To satisfy my intellectual curiosity.*	3.94	3.34	1.260	1.432
1.6. To prepare me for when I leave the military.	4.45	4.19	1.054	1.245

*Statistically significant at $p > 0.05$ based on Mann-Whitney test

As shown in the previous table, based on comparison of results by time in service, three items were found to be statistically significant ($p < 0.05$): “to get relief from boredom,” “to improve my social relationships,” and “to satisfy my intellectual curiosity.” Respondents that had served five years or less were more likely to indicate that it was “somewhat important” (mean = 2.18) to participate in higher education to get relief from boredom as compared to the group that had more than five years of service (mean = 1.77). Respondents that had served five years or less were more likely to report that improving social relationships was “somewhat important” (mean = 3.11) as reason to participate in higher education, as compared to the respondents that had served for more than five years (mean = 2.66). Finally, respondents that had served five years or less were more likely to report that the goal of satisfying their intellectual curiosity was “quite important” in participating in higher education, as compared to the respondents that had served for more than five years (mean = 3.34).

Professional Considerations

The Mann-Whitney analysis showed statistically significant differences by military status and race in the survey responses regarding professional considerations. These results are presented in the following tables.

Table 23. Domain 1 Motivational Goals: Professional Considerations by Military Status

Items	M		SD	
	Enlisted	Officers	Enlisted	Officers
2.1. To secure professional advancement.	4.22	4.42	1.101	1.165
2.2. To give me higher status in my job.	3.92	4.25	1.348	1.055
2.3. To keep up with competition.*	3.63	4.50	1.402	1.000
2.4. To fulfill requirements of a government agency.*	3.18	4.08	1.412	1.084
2.5. To increase my competence in my job.	3.86	4.50	1.321	.905

*Statistically significant at $p > 0.05$ based on Mann-Whitney test

As shown in the previous table, based on comparison of results by military status, two items were found to be statistically significant ($p < 0.05$): “to keep up with competition” and “to fulfill requirements of a government agency.” Officers were more likely to report that the goal of keeping up with competition was “very important” (mean = 4.50) to their participation in higher education, as compared to the responses from the enlisted personnel (mean = 3.63). Officers also indicated that fulfilling requirements of a government agency were “quite important” (mean = 4.08) to their participation in higher education, as compared to the responses from the enlisted personnel (mean = 3.18).

Table 24. Domain 1 Motivational Goals: Professional Considerations by Race

Items	<i>M</i>		<i>SD</i>	
	Non-White	White	Non-White	White
2.1. To secure professional advancement.	4.18	4.23	1.425	1.089
2.2. To give me higher status in my job.	3.75	3.95	1.770	1.299
2.3. To keep up with competition.	3.06	3.72	1.676	1.379
2.4. To fulfill requirements of a government agency.*	2.41	3.27	1.583	1.386
2.5. To increase my competence in my job.*	3.24	3.96	1.480	1.272

*Statistically significant at $p > 0.05$ based on Mann-Whitney test

As shown in the table above, based on comparison of results by race, two items were found to be statistically significant ($p < 0.05$): “to fulfill requirements of a government agency” and “to increase my competence in my job.” White respondents indicated that fulfilling requirements of a government agency were “somewhat important” (mean = 3.27) to their participation in higher education, as compared to the responses from the non-white respondents (mean = 2.41). White respondents also reported that increasing competence in their jobs was “quite important” (mean = 3.96) to their participation in higher education, as compared to the responses from the non-white respondents (mean = 3.24).

Chapter Summary

This chapter presented the analyses of the survey data collected for this study. Nearly 200 active duty Air Force personnel at McConnell Air Force Base submitted responses to the Military Education Participation Survey (MEPS). The data analyses of these responses were conducted using SPSS. Results were presented as descriptive statistics, showing frequencies and mean scores where appropriate. Comparative analyses using the non-parametric Mann-Whitney test were also presented to show differences in survey responses based on selected demographic characteristics of military status, gender, race, and time in service.

Chapter 5 - Discussion and Conclusions

The purpose of this study was to examine barriers Air Force personnel face in participating in higher education while on active duty. The study also explored this group's goals for participating in higher education. Chapter One presented an overview of the issues active duty military personnel face in trying to pursue postsecondary education, with a particular focus on personnel assigned to austere remote locations during their service. A review of the literature in Chapter Two on adult learners' motivational orientations and perceived barriers to postsecondary educational opportunities indicated that understanding why active duty Air Force personnel choose to participate or not participate remains incomplete. The methodology used in the study was explained in Chapter Three, along with the rationale for employing survey research. Chapter Four presented the data from the survey including the descriptive statistics and comparative analyses. This final chapter will present a discussion of the findings and the implications of the study, including recommendations for future research.

It is important to note that this was an exploratory study and only the first step in examining the issue with this population. At the time of the research, there were only a limited number of empirical studies addressing this population (Brauchle, 1997; Brown, 1993, Covert, 2002). Results from this study illustrate some of the barriers reported by active duty Air Force personnel stationed at McConnell Air Force Base at the time of the study. Although these results are not generalizable to the Air Force as a whole, it is hoped that the scope of the research can be expanded in the future to address these important issues. By gaining an understanding of these findings, the Air Force in particular and other military branches in general may be better able to take appropriate action to provide services that lessen barriers and widen participation in postsecondary education by active duty personnel.

Research Design

The researcher used two complementary approaches to design this research study. Fink's (2003) components for quality survey research and Dillman's (2009) Tailored Design Method guided the development of the Military Education Participation Survey (MEPS). Finks and Dillman each have extensive research history and are recognized experts in survey research. Due to the fact that the researcher had only limited access to the study population, the survey administration followed a modification to Dillman's method. Working in conjunction with the education office at McConnell Air Force Base (MAFB), a prenotice letter was sent via email to the squadron training leaders who would distribute the survey to the study participants. The education office followed this contact by sending the questionnaire to the squadron training leaders. With the intent of increasing the number of responses, the researcher requested that the education office send a reminder message about completing and returning the surveys.

The population for this study was comprised of approximately 2,000 active duty Air Force personnel assigned to MAFB in the winter of 2009. Although the research followed Dillman's steps, only approximately 10 percent (n=198) of the sample returned surveys. The researcher recognizes that this low rate of response impacts the generalizability of the results. However, as an exploratory study, the research can still be of use to the field if only to provide preliminary findings. The researcher conducted both descriptive and comparative analyses on the data. Additionally, the researcher conducted content analysis on the open-ended survey items to identify themes in the responses.

Discussion of Results

Each of the research questions used to guide this study is presented below with a discussion of the related findings.

Research Question One

The first research question in this study was, “Are there barriers (relating to personal, professional, interest, or location issues) confronting active duty Air Force personnel in regard to their participation in higher education programs? If so, what are they?”

As described in Chapter Three, the MEPS asked respondents to indicate whether the issues listed on the questionnaire were barriers to their participation in postsecondary education. These barriers were categorized into four broad domains: personal, professional, interest, and location. A review of the data shows barriers in three domains were most commonly reported by the respondents. Time was reported as a barrier to respondents’ participation, which included not having time to study, taking time away from family, or giving up leisure time. Interest was also a consideration. Some respondents indicated that the available courses did not seem interesting or that they did not enjoy studying. Other commonly reported barriers included not being able to attend class regularly or the course being offered at an inconvenient time or location. A number of respondents also indicated that the lack of courses being offered at remote locations was a barrier to their participation in postsecondary education.

Scanlan’s (1986) review of past research findings revealed that the following factors impact adult learners’ decisions to participate in education: (a) individual, family or home-related problems; (b) cost concerns; (c) questionable worth or relevance; (d) negative education perceptions or prior educational experiences; (e) apathy or lack of motivation; (f) lack of self-confidence; (g) general tendency toward nonaffiliation; (h) incompatibilities of time and/or place. When compared to Scanlan’s synthesis of past research,

- Time away from family or giving up leisure time reported from this study’s findings most closely related to the individual, family, or home-related problems.

- Lack of interest in available courses or no enjoyment of studying most closely relates to negative education perceptions and the apathy or lack of motivation factors.
- Lack of time to study, not being able to attend class regularly, or having class offered at inconvenient times or locations most closely relates to incompatibilities of time and/or place.

Rubenson's (1997) recruitment paradigm is also important to note here as this model recognizes the interaction of the various personal and environmental variables operating in an individual's life, which is also similar to the Chain-of-Response model discussed previously (Cross, 1981). For reporting purposes in this study, the researcher addressed the barriers individually, recognizing, however, that their impact often comes through an interaction between the various factors.

In categorizing the barriers across the four domains, only two items were assigned to professional considerations: "because education would not help me on my job" and "because my supervisor wouldn't allow me to take college courses." These items had some of the lowest mean score results, indicating that these were not considered barriers by the respondents.

Responses to one of the open-ended items also provided additional information about barriers to participation in postsecondary education. The survey asked respondents to indicate what more the military could do to support their educational goals. The respondents shared the following: 1) allocate more money for books and fees; 2) offer more online courses; 3) encourage supervisors to allow and support coursework; 4) increase tuition assistance; 5) increase the G.I. Bill benefits; and 6) offer courses at remote sites.

Research Question Two

The second research question in this study was, “Are there goals for active duty Air Force personnel that motivate them to participate in higher education programs? If so, what are they?”

Respondents were also asked to identify potential reasons or goals they had to participate in postsecondary education. For this section of the survey, the items were categorized as either personal or professional considerations. In relation to personal considerations, respondents indicated that preparing for when they leave the military and satisfying their intellectual curiosity were the most common reasons to participate in postsecondary education. Regarding professional considerations, securing professional advancement, giving them higher status in their jobs, and increasing competence in their jobs were the most commonly reported reasons to participate in postsecondary education.

Motivation is an important part of participative behavior. In reviewing the data from this study compared to past research about adult motivation toward postsecondary education, the researcher identified two common themes. First, previous research identified pragmatic reasons for participation such as job advancement and promotion or career enhancement (Brauchle, 1997; Covert, 2002; Meinhardt, 1979; Murphy, 1977). Previous studies also identified the desire for enhanced career opportunities after leaving the service (Brauchle, 1997; Brown, 1993). Based on this review of participation literature related to military personnel, it appeared that “satisfying their intellectual curiosity” was unique to participants in this study. However, these results are consistent with the literature on adult motivation in general, particularly Houle’s (1961) three-factor typology about motivation.

These potential reasons or goals for in postsecondary education participation were consistent for those military personnel who had served at austere remote locations, as well as those who had not been assigned to those bases.

Research Question Three

Finally, the third research question in this study was, “Do the responses from active duty Air Force personnel about motivations and barriers which influence their participation in higher education programs differ in regard to: military status, race, gender, and years of service?”

In comparing the survey results by the categories listed above, the research identified a number of trends related to perceived barriers and motivational orientations toward participation in postsecondary education. Studies about active duty military personnel participation in postsecondary education are limited, particularly those that have examined differences in sub-groups within this population. Given this gap in the literature, the findings below are discussed only in the context of this study and not within the broader literature of the field.

First, when looking at perceived barriers, the data showed no statistically significant differences between responses from enlisted personnel and officers. However, when looking at the three barriers related to location, the researcher identified some interesting patterns in the responses. For all three items, “because the course was offered at an inconvenient time or location,” “because the course was offered in an unsafe area,” or “because no courses were offered at remote sites,” officers were much more likely to indicate these as barriers as compared to the enlisted personnel. As discussed in Chapter Four, the researcher used the final item above, “because no courses were offered at remote sites,” as a proxy measure to determine which respondents had served at austere remote locations. Based on the responses, it was assumed that approximately 46 percent of the officers had served at these locations, as compared to about 15 percent of the enlisted personnel. Given these differences in assignments, it is reasonable to expect the variation in responses between the two groups. It is interesting to note that when the responses to this item are broken down by gender, race, and time in service, the distribution across the groups are much more similar. For example, approximately 17 percent of the male

respondents were assumed to have served at austere remote locations, compared to 19 percent of the females. Looking at the responses by race, approximately 17 percent of the white respondents were assumed to have served at austere remote locations, compared to 12 percent of the non-white respondents. Finally, approximately 16 percent of the respondents that had served less than five years in the Air Force were assumed to have served at austere remote locations, compared to 18 percent of the females.

Responses about barriers were then compared by gender. Only one item was found to be statistically significant: “because I prefer to learn on my own.” The responses showed that males were slightly more likely to report this as a barrier. It should be noted, however, that overall the respondents generally strongly disagreed this was a barrier to their participation in postsecondary education. As a result, the practical significance of this item should be considered in drawing conclusions from these findings.

Responses about barriers were then compared by race. As reported in Chapter Four, no items were found to be statistically significant. However, as an exploratory study, care should be taken in drawing conclusions from the findings. The Department of Defense has always sought to have a socially representative enlisted force and continues to focus efforts to that end (Armor and Gilroy, 2009). As shown in the survey results from this study, nearly 70 percent of the respondents were white, with only approximately 30 percent reporting a race other than white. Given the importance of education to military personnel, and society in general, this should be considered an issue for further research and will be discussed in more detail in that section of this chapter.

Finally, responses about barriers were compared by time in service. Two items were found to be statistically significant: “because I could not afford the registration or course fees”

and “because participation would take away time from my family.” As discussed previously in Research Question One, time away from family is a commonly reported barrier in adult participation in postsecondary education studies (Scanlan, 1986). Survey results showed that those individuals who had served for more than five years were more likely to indicate that time away from family was a barrier, as compared to those who had served for five years or less. Based on the researcher’s experience in the Air Force, these results seemed reasonable as those who have served longer typically are older and thus more likely to have a family. Younger personnel may not have the same level of family responsibilities that would impact their participation.

The comments from the survey participants provide additional evidence of this. As one individual shared, “Between work and deployments, the little time I have I want to spend with my family.” Another person stated, “I don’t spend enough time with my family now. I would never have time with them if I took classes.” When asked what the military could do to better support the educational goals of servicemen and service women, one respondent commented, “Nothing. Deployment takes up family time, so I don’t want to use up any of that time at home.”

While concerns related to cost or course fees were not apparent in the aggregate, these barriers are identified when looking at the data by time in service. Respondents that had served for five years or less were more likely to indicate cost was a barrier, as compared to those that had served for more than five years. Again, as based on the researcher’s experiences, these responses seemed reasonable as those that have served longer tend to be at a higher rank and higher pay grade than those that have served fewer years.

The study next looked at the responses regarding goals or potential reasons to participate in postsecondary education. The researcher first examined goals related to personal

considerations and found four items to be statistically significant. None of these differences was based on military status. Data from this study showed that enlisted personnel and officers report similar educational goals. They both indicated that participation in postsecondary education would prepare them for upward mobility in the Air Force and society upon leaving the Air Force.

For the goal “to improve my ability to serve mankind,” white respondents were slightly more likely to indicate this as a reason or potential reason to participate in postsecondary education. As mentioned above, however, based on the small sample size and unequal distribution in this study, further research will be required to better understand participation issues in regard to race.

Three other goals were found to be statistically significant, all in relation to time in service. Respondents that had served for five years or less were more likely to indicate that reasons or potential reasons to participate in postsecondary education were “to get relief from boredom,” “to improve my social relationships,” and “to satisfy my intellectual curiosity,” as compared to those respondents who had served more than five years in the Air Force. These findings are consistent with the literature on adult motivation in general, particularly Houle’s (1961) three-factor typology about motivation.

Finally, the researcher examined the reported goals for participation related to professional considerations. Looking at the differences in responses based on status, the researcher again found that enlisted personnel and officers reported similar educational goals. Both groups indicated that participation in postsecondary education could help secure professional advancement. For two items, “to keep up with competition” and “to fulfill requirements of a government agency,” officers were more likely to indicate that these were

goals for participation as compared to enlisted personnel. Given the educational requirements for officers, these results are consistent with demographic reports from the Air Force.

Contributions to the Field of Adult Education

The results of this study may contribute to the field of adult education in many ways. Serving in the military today is a highly specialized and intense experience. More and more of the military uses technology that requires dedicated training and education. The military provides much of this specialized training, but also recognizes the value of higher education for its personnel. Chapter Two presented a discussion of the Montgomery GI Bill (MGIB) and the benefits available to service members. As noted, however, while active duty personnel are permitted to use MGIB benefits while in the service, the program was designed primarily to be used after the service member leaves the military. From the military's perspective, this is a weakness as the service funds this human capital investment, but it does not receive the benefit of this education unless an individual joins a reserve component. Given that, examining the barriers active duty personnel face as well as the goals they have for participating in postsecondary education is an important issue for the military. The findings from this study could be used by the Air Force, postsecondary institutions, and other stakeholders as a first step toward enhanced educational opportunities for this group and to inform organizational effectiveness.

Many service members recognize the importance of pursuing postsecondary education while on active duty. In many cases, those taking courses have a promotional edge on those who do not due to the fact that coursework is often used in configuring promotional points. As shown in the results of this study, both enlisted personnel and officers indicated the need for postsecondary education to prepare them for life after the military.

While all sides agree that postsecondary education is important, the reality is that active duty service members face a variety of barriers in their pursuit of education. Frequent deployments and exercises are not conducive to regular class attendance and coursework. With the expansion of distance learning, there are opportunities to continue one's education such as online courses, streaming video via the Web, and independent correspondence. However, not all installations are equipped to provide educational services. In particular, austere remote locations have not been designed to offer educational support to service members stationed at those installations. Data from this study reported a need for coursework accessibility in remote locations.

Due to the remote nature of these locations, the availability of educational opportunities may be beneficial in several ways. First, it might allow Air Force members to continue their college courses while stationed at austere remote locations around the world. Secondly, it may prevent the personnel from falling behind on their present studies. Thirdly, it might better position personnel academically when promotion cycles roll around.

When military personnel go on Temporary Duty (TDY) to austere remote locations they are still thinking of the challenges their families are facing back home. Although they may learn a few words in the language of the host nation deployment site, there still remains "down-time" when there is nothing to do. The Air Force could potentially offer college courses at austere remote locations either by correspondence or online using laptop computers which could be checked out at the base education department before departure to a remote location.

It is important that the Air Force continues to learn more about the needs of college course delivery at these austere remote locations around the world. While the research associated with this project is limited, it has opened the door to some interesting questions: Is

there a need to deliver courses to austere remote locations in the Air Force? Will it be beneficial to the well-being of Air Force personnel while deployed? What are the consequences when service members drop courses and fall behind in their studies upon deployment?

The findings from this research have implications for offering college courses to the active duty personnel in austere remote locations around the world. The researcher believes that answers to the research questions presented here, together with additional findings relative to education delivery to Air Force personnel in austere remote locations, may aid in developing empirical research of a similar nature in the future, and may also contribute to the literature focusing on personnel management.

The focus on exploring possibilities to expand educational opportunities to austere remote locations is important as currently no educational services are being offered at those locations. The military has addressed the need for communications and health care in these remote locations, and now it is time to focus on education. The findings from this study could also be informative regarding educational issues facing service members who are not deployed.

Educational benefits, including the GI Bill as well as specialized training provided through the military, are important to recruitment efforts. When military members first enlist in the United States Air Force they are told by their recruiters about the opportunity afforded them to attend college while on active duty. What many recruiters fail to tell them is that they are supposed to finish their Career Development Courses (CDCs) before they are allowed to take college courses while on active duty. Depending on the type of training the individual is in, these courses can take up to 18 months or two years to complete. To help address this lag time, the Air Force could work with postsecondary institutions to ensure that the educational centers and educational counselors are prepared to work with the service members and streamline the

process to get them into appropriate educational programs as soon as possible. To help develop personnel, supervisors can encourage them to take college courses, which will help them through promotions, and also help them to obtain better jobs when they depart the Air Force.

This exploratory study was a basic first step in understanding educational goals of active duty Air Force personnel. Much more research is needed in order to draw any substantive conclusions. The most significant contribution to the field from this study is the additional research questions generated and the opportunity to expand this research in future years.

Recommendations for Future Research

Based on the study's key findings, the following four recommendations for future research are presented.

1. This study focused on service members at one Air Force installation. Studies of a similar population at other installations are recommended to determine whether military personnel face other barriers not discovered in this research.
2. This research could be beneficial to not only Air Force officials but also other branches of the Armed Forces as well. The study could be replicated to examine the educational barriers and goals of personnel in these other branches to determine the degree of differences or similarities in the issues they face.
3. While this research looked at several sub-groups (by status, gender, race, and time in service), additional studies could examine educational participation issues facing personnel at different stages of their career. For example, how do barriers and goals for soldiers at the beginning of their military careers differ from those nearing a point of career transition?

4. In regard to a broader study, it may be valuable to further explore the logistics of providing educational services at austere remote locations. Such an effort would require coordination and collaboration between the military and higher education institutions. It would be important for Air Force personnel and college administrators to understand the magnitude of institutional planning needed to make this delivery possible.

Summary

A college degree is needed more now than ever in a changing society; it is the way of the future. Learning more about these Air Force personnel who are trying to change the direction of their lives and their families' lives through the benefits of education will in future years change society as a whole.

Supporting military members around the world in their higher educational efforts should be at the top of our list. Most military members are focused on voluntary education in higher education while on active duty. Because of the service members' workforce efforts, dedication, and selfless professionalism, it is deemed necessary that the military should assure higher education delivery to them when they are deployed to austere remote locations in order for them to continue their studies without interruption. These military members are dedicated to our country and we in turn should be dedicated to their passion for higher education.

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Appendix A - Approved Application for Research Involving Human Subjects

Committee for Research Involving Human Subjects (IRB)

Application for Approval Form

Last revised on March 2008

ADMINISTRATIVE INFORMATION:

Title of Project: (if applicable, use the exact title listed in the grant/contract application)

Educational Participation Issues Confronting Military Personnel Assigned to Austere Remote Locations

Type of Application:

New, Addendum/Modification,

Principal Investigator: (must be a KSU faculty member)

Name:	Dr Jeff Zacharakis	Degree/Title:	Ed.D Associate Professor
Department:	Educational Leadership	Campus Phone:	785-532-5872
Campus Address:	326 Bluemont Hall	Fax #:	785-532-7304
E-mail			

Contact Name/Email/Phone for Questions/Problems with Form: Terry Harrison Sr. , Terry2@ksu.edu, 316-683-8583

Does this project involve any collaborators not part of the faculty/staff at KSU? (projects with non-KSU collaborators may require additional coordination and approvals):

No
 Yes

Project Classification (Is this project part of one of the following?):

Thesis
 Dissertation
 Class Project

Faculty Research

Other: _____

Please attach a copy of the Consent Form:

Copy attached

Consent form not used

Funding Source: Internal External (identify source and attach a copy of the sponsor's grant application or contract as submitted to the funding agency)

Copy attached

Not applicable

No funding needed

Based upon criteria found in 45 CFR 46 – and the overview of projects that may qualify for exemption explained at <http://www.ksu.edu/research/comply/irb/about/exempt.html>, I believe that my project using human subjects should be determined by the IRB to be exempt from IRB review:

No

Yes (If yes, please complete application including Section XII. C. 'Exempt Projects'; remember that only the IRB has the authority to determine that a project is exempt from IRB review)

If you have questions, please call the University Research Compliance Office (URCO) at 532-3224, or comply@ksu.edu

Human Subjects Research Protocol Application Form

The KSU IRB is required by law to ensure that all research involving human subjects is adequately reviewed for specific information and is approved prior to inception of any proposed activity. Consequently, it is important that you answer all questions accurately. If you need help or have questions about how to complete this application, please call the Research Compliance Office at 532-3224, or e-mail us at comply@ksu.edu.

Please provide the requested information in the shaded text boxes. The shaded text boxes are designed to accommodate responses within the body of the application. As you type your answers, the text boxes will expand as needed. After completion, print the form and send the original and one photocopy to the Institutional Review Board, Room 203, Fairchild Hall.

Principal Investigator:	Dr. Jeff Zacharakis
Project Title:	Educational Participation Issues Confronting Military Personnel Assigned to Austere Remote Locations
Date:	Oct 14, 2009

NON-TECHNICAL SYNOPSIS (brief narrative description of proposal easily understood by nonscientists):

After careful review of this research topic on the subject of participation of higher education course offerings at austere remote locations at Air Force Bases around the world, and consulting with Air Force Officers, Education Officers, and some military personnel that are presently taking courses, and are often deployed, it is deemed necessary to pursue and engage in further research study in/on this subject. The basis of this study is to understand the reason for non-participation in college education courses at austere remote locations at Air Force Military Bases around the world..

I. BACKGROUND (concise narrative review of the literature and basis for the study):

This study seeks to understand the reason for non-participation in college education courses at austere remote locations. Austere remote locations are areas located out in the wilderness several hundred miles away from their remote site in an isolated environment or a terrestrial and space environment. Most times when military members are deployed they have to drop their college courses and resume them when they return from their deployment. In past years several Commanders and Education Officers at Air Force bases both overseas and Continental US(CONUS) have shared with each other a need to visit the thought of offering courses to Air Force members stationed at austere remote locations. To combat this situation and draw a better understanding of this problem, a survey consisting of 40 questions have been organized to be completed by Air Force members in a 40-person pilot study and later using a 700 personnel full study. A panel of Air Force experts were formed to review the survey and make recommendations and approval. This survey has been approved by the panel. The Air Force Education Officer will assist me in the administering of the survey and he will take full responsibility for personnel consent authorization. The models used to organize the survey is Arlene Finks' Survey Research Model, and Don Dillman's Tailored Design Method.

II. **PROJECT/STUDY DESCRIPTION** (please provide a concise narrative description of the proposed activity in terms that will allow the IRB or other interested parties to clearly understand what it is that you propose to do that involves human subjects. This description must be in enough detail so that IRB members can make an informed decision about proposal).

With the guidance of my professor, I have organized a survey jury at McConnell Air Force Base to assist me with this survey study. There will be a pilot study of 40 personnel and a full jury of 700 to follow.

III. **OBJECTIVE** (briefly state the objective of the research – what you hope to learn from the study):

This research is very important to Commanders and military personnel. Military members support the United States daily around the world and their increased time away from their home stations diminishes time for their personal pursuits and interests, which, for many, is off-duty education. This research will hopefully gain insight to the educational needs of military personnel while stationed at austere remote locations around the world. I wish to learn how to assist military personnel by establishing a method for them not to drop courses when they are deploying, and not have to return from the field and have to start all over again..

IV. **DESIGN AND PROCEDURES** (succinctly outline formal plan for study):

A	Location of study:	McConnell Air Force Base, Wichita Kansas
B	Variables to be studied:	2x2 Analysis of Variance (ANOVA); 2 Desire and 2 obstacle type
C	Data collection methods: (surveys, instruments, etc – PLEASE ATTACH)	Surveys using Dillman’s methodology and Arlene Finks’ Survey Instrument.
D	List any factors that might lead to a subject dropping out or withdrawing from a study. These might include, but are not limited to emotional or physical stress, pain, inconvenience, etc.:	None
E	List all biological samples taken: (if any)	40 each in pilot study and 700 base-wide for full study. Both active duty, some in class and some not.
F	Debriefing procedures for participants:	Oral and written presentation to education staff survey panel, graduate committee and other stakeholders. The survey proctor will explain the survey purpose. Subjects will remain anonymous.

V. RESEARCH SUBJECTS:

- A Source: Air Force military personnel stationed at McConnell Air Force Base, Kansas
- B Number:
- C Characteristics: (list any unique qualifiers desirable for research subject participation)
- D Recruitment procedures: (Explain how do you plan to recruit your subjects? Attach any fliers, posters, etc. used in recruitment. If you plan to use any inducements, ie. cash, gifts, prizes, etc., please list them here.) My subjects will be recruited by the education officer's staff at McConnell Air Force Base, Kansas. No inducements will be used in this study.

VI. RISK – PROTECTION – BENEFITS: The answers for the three questions below are central to human subjects research. You must demonstrate a reasonable balance between anticipated risks to research participants, protection strategies, and anticipated benefits to participants or others.

- A Risks for Subjects: (Identify any reasonably foreseeable physical, psychological, or social risks for participants. State that there are “no known risks” if appropriate.)
None. There are no risks involved.
- B Minimizing Risk: (Describe specific measures used to minimize or protect subjects from anticipated risks.)
To assure anonymity by assuring the names are anonymous.
- C Benefits: (Describe any reasonably expected benefits for research participants, a class of participants, or to society as a whole.)
It will help enlisted personnel in the future to achieve their goals.

In your opinion, does the research involve more than minimal risk to subjects? (“Minimal risk” means that “the risks of harm anticipated in the proposed research are not greater, considering probability and magnitude, than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests.”)

Yes No

VII. CONFIDENTIALITY: Confidentiality is the formal treatment of information that an individual has disclosed to you in a relationship of trust and with the expectation that it will not be divulged to others without permission in ways that are inconsistent with the understanding of the original disclosure. Consequently, it is your responsibility to protect information that you gather from human research subjects in a way that is consistent with your agreement with the volunteer and with their expectations. If possible, it is best if research subjects' identity and linkage to information or data remains unknown.

Explain how you are going to protect confidentiality of research subjects and/or data or records. Include plans for maintaining records after completion.

No names will be gathered. All surveys will be controlled by the Education Officer which will be the survey proctor.

VIII. INFORMED CONSENT: Informed consent is a critical component of human subjects research – it is your responsibility to make sure that any potential subject knows exactly what the project that you are planning is about, and what his/her potential role is. (There may be projects where some forms of “deception” of the subject is necessary for the execution of the study, but it must be carefully justified to and approved by the IRB). A schematic for determining when a waiver or alteration of informed consent may be considered by the IRB is found at <http://www.ksu.edu/research/comply/irb/images/slide1.jpg> and at <http://ohrp.osophs.dhhs.gov/humansubjects/guidance/45cfr46.htm#46.116>. Even if your proposed activity does qualify for a waiver of informed consent, you must still provide potential participants with basic information that informs them of their rights as subjects, i.e. explanation that the project is research and the purpose of the research, length of study, study procedures, debriefing issues to include anticipated benefits, study and administrative contact information, confidentiality strategy, and the fact that participation is entirely voluntary and can be terminated at any time without penalty, etc. Even if your potential subjects are completely anonymous, you are obliged to provide them (and the IRB) with basic information about your project. See informed consent example on the URCO website at <http://www.ksu.edu/research/comply/irb/app.html>). It is a federal requirement to maintain informed consent forms for 3 years after the study completion.

- Yes No Answer the following questions about the informed consent procedures.
- a. Are you using a written informed consent form? If “yes,” include a copy with this application. If “no” see b.
- b. In accordance with guidance in 45 CFR 46, I am requesting a waiver or alteration of informed consent elements (See Section VII above). If “yes,” provide a basis and/or justification for your request.

Request waiver to the Inform Consent form. The military survey monitor will take full responsibility to explain consent based on a voluntary basis due to their own free will.

- c. Are you using the online Consent Form Template provided by the URCO? If “no,” does your Informed Consent document has all the minimum required elements of informed consent found in the Consent Form Template? (Please explain)

My documents will consist of minimum elements of consent.

- d. Are your research subjects anonymous? If they are anonymous, you will not have access to any information that will allow you to determine the identity of the research subjects in your study, or to link research data to a specific individual in any way. Anonymity is a powerful protection for potential research subjects. (An anonymous subject is one whose identity is unknown even to the researcher, or the data or information collected cannot be linked in any way to a specific person).

I will not have access to my subjects, but I will have access to data. Data could be used in briefings to those with access need.

- e. Are subjects debriefed about the purposes, consequences, and benefits of the research? Debriefing refers to a mechanism for informing the research subjects of the results or conclusions, after the data is collected and analyzed, and the study is over. (If “no” explain why.)

The education office will debrief the Commander, Subjects, and other stakeholders with a need to know.

* It is a requirement that you maintain all signed copies of informed consent documents for at least 3 years following the completion of your study. These documents must be available for examination and review by federal compliance officials.

IX. PROJECT INFORMATION: (If you answer yes to any of the questions below, you should explain them in one of the paragraphs above)

- | Yes | No | Does the project involve any of the following? |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | a. Deception of subjects |
| <input type="checkbox"/> | <input type="checkbox"/> | b. Shock or other forms of punishment |
| <input type="checkbox"/> | <input type="checkbox"/> | c. Sexually explicit materials or questions about sexual orientation, sexual experience or sexual abuse |
| <input type="checkbox"/> | <input type="checkbox"/> | d. Handling of money or other valuable commodities |

- e. Extraction or use of blood, other bodily fluids, or tissues
- f. Questions about any kind of illegal or illicit activity
- g. Purposeful creation of anxiety
- .
- h. Any procedure that might be viewed as invasion of privacy
- .
- i. Physical exercise or stress
- j. Administration of substances (food, drugs, etc.) to subjects
- k. Any procedure that might place subjects at risk
- .
- l. Any form of potential abuse; i.e., psychological, physical, sexual
- m. Is there potential for the data from this project to be published in a journal, presented at a conference, etc?
- .
- n. Use of surveys or questionnaires for data collection
- .
- IF YES, PLEASE ATTACH!!

X. SUBJECT INFORMATION: (If you answer yes to any of the questions below, you should explain them in one of the paragraphs above)

- | Yes | No | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | Does the research involve subjects from any of the following categories? |
| <input type="checkbox"/> | <input type="checkbox"/> | a. Under 18 years of age (these subjects require parental or guardian consent) |
| <input type="checkbox"/> | <input type="checkbox"/> | b. Over 65 years of age |
| | | . |
| <input type="checkbox"/> | <input type="checkbox"/> | c. Physically or mentally disabled |
| <input type="checkbox"/> | <input type="checkbox"/> | d. Economically or educationally disadvantaged |
| | | . |
| <input type="checkbox"/> | <input type="checkbox"/> | e. Unable to provide their own legal informed consent |
| <input type="checkbox"/> | <input type="checkbox"/> | f. Pregnant females as target population |
| <input type="checkbox"/> | <input type="checkbox"/> | g. Victims |
| | | . |
| <input type="checkbox"/> | <input type="checkbox"/> | h. Subjects in institutions (e.g., prisons, nursing homes, halfway houses) |
| | | . |
| <input type="checkbox"/> | <input type="checkbox"/> | i. Are research subjects in this activity students recruited from university classes or volunteer pools? If so, do you have a reasonable alternative(s) to participation as a research subject in your project, i.e., another activity such as writing or reading, that would serve to protect students from unfair pressure or coercion to participate in this project? If you answered this question "Yes," explain any <u>alternatives options</u> for class |

credit for potential human subject volunteers in your study.

j. Are research subjects audio taped? If yes, how do you plan to protect the recorded information and mitigate any additional risks?

k. Are research subjects video taped? If yes, how do you plan to protect the recorded information and mitigate any additional risks?

CONFLICT OF INTEREST: Concerns have been growing that financial interests in research may threaten the safety and rights of human research subjects. Financial interests are not in themselves prohibited and may well be appropriate and legitimate. Not all financial interests cause Conflict of Interest (COI) or harm to human subjects. However, to the extent that financial interests may affect the welfare of human subjects in research, IRB's, institutions, and investigators must consider what actions regarding financial interests may be necessary to protect human subjects. Please answer the following questions:

Yes No

a. Do you or the institution have any proprietary interest in a potential product of this research, including patents, trademarks, copyrights, or licensing agreements?

b. Do you have an equity interest in the research sponsor (publicly held or a non-publicly held company)?

c. Do you receive significant payments of other sorts, eg., grants, equipment, retainers for consultation and/or honoraria from the sponsor of this research?

d. Do you receive payment per participant or incentive payments?

e. If you answered yes on any of the above questions, please provide adequate explanatory information so the IRB can assess any potential COI indicated above.

XII. PROJECT COLLABORATORS:

KSU Collaborators – list anyone affiliated with KSU who is collecting or analyzing data: (list all collaborators on the project, including co-principal investigators, undergraduate and graduate students)

Name:

Department:

Campus Phone:

Dr. Jeff Zacharakis	Educational Leadership	785-532-5872
Dr. David Thompson	Chairman Educational Leadership	785-532-5535
Dr. Frank Spikes	Adult Continuing Education	785-532-5535
Dr. Teresa Miller	Educational Leadership	785-532-5535

B. Non-KSU Collaborators: (List all collaborators on your human subjects research project not affiliated with KSU in the spaces below. KSU has negotiated an Assurance with the Office for Human Research Protections (OHRP), the federal office responsible for oversight of research involving human subjects. When research involving human subjects includes collaborators who are not employees or agents of KSU the activities of those unaffiliated individuals may be covered under the KSU Assurance only in accordance with a formal, written agreement of commitment to relevant human subject protection policies and IRB oversight. The Unaffiliated Investigators Agreement can be found and downloaded at (<http://www.ksu.edu/research/comply/irb/forms/invagree.pdf>). The URCO must have a copy of the Unaffiliated Investigator Agreement on file for each non-KSU collaborator who is not covered by their own IRB and assurance with OHRP. Consequently, it is critical that you identify non-KSU collaborators, and initiate any coordination and/or approval process early, to minimize delays caused by administrative requirements.)

Name:	Organization:	Phone:
Mr. Steve Holman	Education Officer McConnell AFB, KS	316-759-4242
Mr. Marvin Respress	Base Training Manager	316-759-5327

Does your non-KSU collaborator's organization have an Assurance with OHRP? (for Federalwide Assurance and Multiple Project Assurance (MPA) listings of other institutions, please reference the OHRP website under Assurance Information at: <http://ohrp.osophs.dhhs.gov/polasur.htm>).

- No
- Yes If yes, Collaborator's FWA or MPA # _____

Is your non-KSU collaborator's IRB reviewing this proposal?

- No
- Yes If yes, IRB approval # _____ My professor has given me consent for this proposal. You can contact Dr. Zacharakis if necessary.

C. Exempt Projects: 45 CFR 46 identifies six categories of research involving human subjects that may be exempt from IRB review. The categories for exemption are listed on the KSU research involving human

subjects home page at <http://www.ksu.edu/research/comply/irb/about/exempt.html>. If you believe that your project qualifies for exemption, please indicate which exemption category applies (1-6). Please remember that only the IRB can make the final determination whether a project is exempt from IRB review, or not.

Exemption Category:

XIII. CLINICAL TRIAL Yes No

(If so, please give product.)

Export Controls Training:

-The Provost has mandated that all KSU faculty/staff with a full-time appointment participate in the Export Control Program.

-If you are not in our database as having completed the Export Control training, this proposal will not be approved until your participation is verified.

-To complete the Export Control training, follow the instructions below:

Click on:

<https://online.ksu.edu/templating/courseHomePage/index.jsp?courseId=101464>

1. After signing into K-State Online, you will be taken to the Export Control Homepage
2. Read the directions and click on the video link to begin the program
3. Make sure you enter your name / email when prompted so that participation is verified

If you click on the link and are not taken to K-State Online, this means that you have already completed the Export Control training and have been removed from the roster. If this is the case, no further action is required.

-Can't recall if you have completed this training? Contact the URCO at 785-532-3224 or comply@ksu.edu and we will be happy to look it up for you.

Post Approval Monitoring: The URCO has a Post-Approval Monitoring (PAM) program to help assure that activities are performed in accordance with provisions or procedures approved by the IRB. Accordingly, the URCO staff will arrange a PAM visit as appropriate; to assess compliance with approved activities.

If you have questions, please call the University Research Compliance Office (URCO) at 532-3224, or comply@ksu.edu

INVESTIGATOR ASSURANCE FOR RESEARCH INVOLVING HUMAN SUBJECTS

(Print this page separately because it requires a signature by the PI.)

P.I. Name: Dr. Jeffrey Zcharakis, EdD. Associate Professor

Title of Project: Educational Participation Issues Confronting Military Personnel Assigned to Austere remote Locations

XII. ASSURANCES: As the Principal Investigator on this protocol, I provide assurances for the following:

Research Involving Human Subjects: This project will be performed in the manner described in this proposal, and in accordance with the Federalwide Assurance FWA00000865 approved for Kansas State University available at <http://ohrp.osophs.dhhs.gov/polasur.htm#FWA>, applicable laws, regulations, and guidelines. Any proposed deviation or modification from the procedures detailed herein must be submitted to the IRB, and be approved by the Committee for Research Involving Human Subjects (IRB) prior to implementation.

Training: I assure that all personnel working with human subjects described in this protocol are technically competent for the role described for them, and have completed the required IRB training modules found at: <http://www.ksu.edu/research/comply/irb/training/index.html>. I understand that no proposals will receive final IRB approval until the URCO has documentation of completion of training by all appropriate personnel.

Extramural Funding: If funded by an extramural source, I assure that this application accurately reflects all procedures involving human subjects as described in the grant/contract proposal to the funding agency. I also assure that I will notify the IRB/URCO, the KSU PreAward Services, and the funding/contract entity if there are modifications or changes made to the protocol after the initial submission to the funding agency.

Study Duration: I understand that it is the responsibility of the Committee for Research Involving Human Subjects (IRB) to perform continuing reviews of human subjects research as necessary. I also understand that as continuing reviews are conducted, it is my responsibility to provide timely and accurate review or update information when requested, to include notification of the IRB/URCO when my study is changed or completed.

Conflict of Interest: I assure that I have accurately described (in this application) any potential Conflict of Interest that my collaborators, the University, or I may have in association with this proposed research activity.

Adverse Event Reporting: I assure that I will promptly report to the IRB / URCO any unanticipated problems involving risks to subjects or others that involve the protocol as approved.

Accuracy: I assure that the information herein provided to the Committee for Human Subjects Research is to the best of my knowledge complete and accurate.

(Principal Investigator Signature)

(date)

Appendix B - Military Education Participation Survey

You are invited to participate in a study of non-participation of Air Force members taking college courses while stationed in austere remote locations around the world. Austere remote means when you are hundreds of miles from your remote site base. So many times military members drop their courses when they have to deploy. We are trying to find a method to stop this situation. This survey is strictly voluntary. If you feel threatened by it at any time, please stop at any time.

Directions: Each year military personnel participate in some type of educational activity, such as courses, workshops, seminars and training programs offered by schools, colleges, and other organizations or community groups. However, they sometimes find it hard to participate in these areas do to constraints and barriers. Please decide the importance of each one of the following statements to participate or not participate in this Military Education Participation Survey (MEPS).

Please circle yes or no.

1. Have you taken college courses in the past? Yes No

2. Are you presently taking college courses? Yes No

3. Rate these barriers to you taking a college course. Please circle area that most describes your agreement.

Reason	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	1	2	3	4	5
1. Because I felt I couldn't compete with younger students.	1	2	3	4	5
2. Because I don't enjoy studying.	1	2	3	4	5
3. Because of personal health problems or handicap.	1	2	3	4	5
4. Because I didn't think I would be able to finish the course.	1	2	3	4	5
5. Because I didn't have time for the studying required.	1	2	3	4	5
6. Because I wanted to learn something specific but the course was too general.	1	2	3	4	5
7. Do not answer this question	1	2	3	4	5

Reason	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Because I didn't meet the course requirements	1	2	3	4	5
8. Because the courses available did not seem interesting	1	2	3	4	5
9. Because the course was offered at an inconvenient time or location.	1	2	3	4	5
10. Because I couldn't afford the registration or course fees.	1	2	3	4	5
11. Because I felt I was too old to take the course.	1	2	3	4	5
12. Because I didn't know about courses available for adults.	1	2	3	4	5
13. Because my family did not encourage participation in education.	1	2	3	4	5
14. Because of family problems.	1	2	3	4	5
15. Because I'm not interested in taking courses.	1	2	3	4	5
16. Because participation would take away time from my family.	1	2	3	4	5
17. Because I had trouble giving up my leisure time.	1	2	3	4	5
18. Because the course was offered in an unsafe area.	1	2	3	4	5
19. Because education would not help me on my job.	1	2	3	4	5
20. Because I felt unprepared for the course.	1	2	3	4	5
21. Because I didn't think I could attend regularly.	1	2	3	4	5
22. Because my supervisor wouldn't allow me to take college courses.	1	2	3	4	5
23. Because I didn't think the course would meet my needs.	1	2	3	4	5
24. Because I prefer to learn on my own.	1	2	3	4	5
25. Because no courses were offered at remote sites.	1	2	3	4	5

4. The last few items are potential reasons or goals to enroll in college courses. Rate each item as it applies to you. Please circle appropriate level of importance.

Reason	Not Important	Slightly Important	Somewhat Important	Quite Important	Very Important
1. To get relief from boredom.	1	2	3	4	5
2. To secure professional advancement.	1	2	3	4	5
3. To give me higher status in my job.	1	2	3	4	5
4. To keep up with competition.	1	2	3	4	5
5. To increase my competence in my job.	1	2	3	4	5
6. To prepare for service to the community.	1	2	3	4	5
7. To improve my ability to serve mankind.	1	2	3	4	5
8. To fulfill requirements of a government agency.	1	2	3	4	5
9. To improve my social relationships.	1	2	3	4	5
10. To satisfy my intellectual curiosity.	1	2	3	4	5
11. To prepare me for when I leave the military	1	2	3	4	5

5. What do you think is the number one reason you are not attending school?

6. What can your military service do to better support your educational goals?

7. Are there any concerns we have not addressed?

Demographics

8. What is your rank/grade? Please circle appropriate grade.

E-1	E-2	E-3	E-4	E-5	E-6	E-7	E-8	E-9	
O-1	O-2	O-3	O-4	O-5	O-6	O-7	O-8	O-9	O-10

9. What is your age (in years)? _____

10. What is your gender? Please circle appropriate gender.

Male	Female
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11. What is your race? Please circle appropriate ethnicity.

African American

Caucasian

Asian

Hispanic

Hispanic (non-Black)

Other (please list) _____

12. Time in service (in years): _____

13. How many years have you attended college? _____

14. Highest degree obtained?

Associate's

Bachelor's

Master's

Doctorate

Comments:

Appendix C - Statistical Tables

Table C-1. Barriers Domain 1: Personal Considerations and Perceived Ability by Military Status

Factors	Mean		Standard Deviation	
	Enlisted	Officers	Enlisted	Officers
1.1. Because I felt I couldn't compete with younger students.	1.47	1.08	.815	.277
1.2. Because I don't enjoy studying.	2.33	1.92	1.143	1.038
1.3. Because of personal health problems or handicap.	1.35	1.08	.774	.277
1.4. Because I didn't think I would be able to finish the course.	1.68	1.54	.973	.776
1.5. Because I didn't have time for the studying required.	2.48	2.31	1.262	1.437
1.6. Because I didn't meet the course requirements.	2.67	1.77	1.528	.832
1.7. Because I couldn't afford the registration or course fees.	1.88	1.62	1.092	.768
1.8. Because I felt I was too old to take the course.	1.38	1.31	.703	.630
1.9. Because I didn't know about courses available for adults.	1.59	1.69	.824	.947
1.1.0. Because my family did not encourage participation in education.	1.51	1.31	.849	.480
1.11. Because of family problems.	1.61	1.38	.990	.650
1.12. Because participation would take away time from my family.	2.31	2.15	1.296	1.281
1.13. Because I had trouble giving up my leisure time.	2.23	2.69	1.192	1.437
1.14. Because I felt unprepared for the course.	1.80	1.62	.999	.768
1.15. Because I didn't think I could attend regularly.	2.19	1.92	1.240	1.115
1.16. Because I prefer to learn on my own.	1.91	1.46	1.062	.877

Table C-2. Barriers Domain 1: Personal Considerations and Perceived Ability by Gender

Items	Mean		Standard Deviation	
	Females	Males	Females	Males
1.6. Because I felt I couldn't compete with younger students.	1.47	1.43	.862	.786
1.7. Because I don't enjoy studying.	2.21	2.32	1.044	1.166
1.8. Because of personal health problems or handicap.	1.39	1.30	.887	.721
1.9. Because I didn't think I would be able to finish the course.	1.76	1.66	.998	.996
1.10. Because I didn't have time for the studying required.	2.37	2.49	1.217	1.302
1.6. Because I didn't meet the course requirements.	1.55	1.59	.828	.799
1.7. Because I couldn't afford the registration or course fees.	1.87	1.84	1.070	1.076
1.17. Because I felt I was too old to take the course.	1.42	1.36	.826	.655
1.18. Because I didn't know about courses available for adults.	1.63	1.59	.852	.825
1.19. Because my family did not encourage participation in education.	1.61	1.45	.946	.787
1.20. Because of family problems.	1.50	1.62	.830	1.006
1.21. Because participation would take away time from my family.	2.18	2.34	1.249	1.322
1.22. Because I had trouble giving up my leisure time.	2.11	2.30	1.311	1.207
1.23. Because I felt unprepared for the course.	1.63	1.82	.852	1.006
1.24. Because I didn't think I could attend regularly.	1.97	2.22	1.174	1.259
1.25. Because I prefer to learn on my own.	1.55	1.96	.760	1.107

Table C-3. Barriers Domain 1: Personal Considerations and Perceived Ability by Race

Items	Mean		Standard Deviation	
	Non-White	White	Non-White	White
1.1. Because I felt I couldn't compete with younger students.	1.53	1.39	.919	.701
1.2. Because I don't enjoy studying.	2.20	2.27	1.120	1.085
1.3. Because of personal health problems or handicap.	1.41	1.29	.923	.631
1.4. Because I didn't think I would be able to finish the course.	1.78	1.63	1.126	.894
1.5. Because I didn't have time for the studying required.	2.38	2.49	1.284	1.271
1.6. Because I didn't meet the course requirements.	1.53	1.60	.797	.815
1.7. Because I couldn't afford the registration or course fees.	1.96	1.82	1.147	1.060
1.8. Because I felt I was too old to take the course.	1.53	1.32	.869	.593
1.9. Because I didn't know about courses available for adults.	1.67	1.58	.853	.803
1.10. Because my family did not encourage participation in education.	1.69	1.43	.996	.747
1.11. Because of family problems.	1.82	1.48	1.114	.854
1.12. Because participation would take away time from my family.	2.40	2.25	1.268	1.304
1.13. Because I had trouble giving up my leisure time.	2.07	2.30	1.095	1.237
1.14. Because I felt unprepared for the course.	1.82	1.76	1.072	.945
1.15. Because I didn't think I could attend regularly.	2.11	2.15	1.205	1.246
1.16. Because I prefer to learn on my own.	1.91	1.85	1.125	.989

Table C-4. Barriers Domain 1: Personal Considerations and Perceived Ability by Time in Service

Items	Mean		Standard Deviation	
	Five Years or less	> Five Years	Five Years or less	> Five Years
1.1. Because I felt I couldn't compete with younger students.	1.47	1.40	.810	.771
1.2. Because I don't enjoy studying.	2.35	2.25	1.146	1.118
1.3. Because of personal health problems or handicap.	1.29	1.36	.757	.739
1.4. Because I didn't think I would be able to finish the course.	1.64	1.75	.944	1.064
1.5. Because I didn't have time for the studying required.	2.28	2.67	1.269	1.263
1.6. Because I didn't meet the course requirements.	1.62	1.59	.805	.830
1.7. Because I couldn't afford the registration or course fees.	2.07	1.67	1.169	.933
1.8. Because I felt I was too old to take the course.	1.35	1.41	.615	.773
1.9. Because I didn't know about courses available for adults.	1.61	1.61	.776	.931
1.10. Because my family did not encourage participation in education.	1.41	1.56	.751	.882
1.11. Because of family problems.	1.54	1.65	.912	1.026
1.12. Because participation would take away time from my family.	2.00	2.62	1.194	1.337
1.13. Because I had trouble giving up my leisure time.	2.25	2.31	1.237	1.213
1.14. Because I felt unprepared for the course.	1.84	1.74	.960	1.000
1.15. Because I didn't think I could attend regularly.	2.22	2.17	1.211	1.287
1.16. Because I prefer to learn on my own.	1.95	1.82	.999	1.091

Professional Considerations

Table C-5. Domain 2 Barriers: Professional Considerations by Military Status

Items	Mean		Standard Deviation	
	Enlisted	Officers	Enlisted	Officers
2.1. Because education would not help me on my job.	1.59	1.62	.932	.768
2.2. Because my supervisor wouldn't allow me to take college courses.	1.49	1.38	.780	.650

Table C-6. Domain 2 Barriers: Professional Considerations by Gender

Items	Mean		Standard Deviation	
	Females	Males	Females	Males
2.1. Because education would not help me on my job.	1.42	1.63	.642	.982
2.2. Because my supervisor wouldn't allow me to take college courses.	1.34	1.51	.627	.806

Table C-7. Domain 2 Barriers: Professional Considerations by Race

Items	Mean		Standard Deviation	
	Non-White	White	Non-White	White
2.1. Because education would not help me on my job.	1.51	1.59	.787	.923
2.2. Because my supervisor wouldn't allow me to take college courses.	1.58	1.46	.839	.749

Table C-8. Domain 2 Barriers: Professional Considerations by Time in Service

Items	Mean		Standard Deviation	
	Five Years or less	> Five Years	Five Years or less	> Five Years
2.1. Because education would not help me on my job.	1.53	1.65	.797	1.007
2.2. Because my supervisor wouldn't allow me to take college courses.	1.49	1.51	.727	.884

Interest

Table C-9. Domain 3 Barriers: Interest by Military Status

Items	Mean		Standard Deviation	
	Enlisted	Officers	Enlisted	Officers
3.1. Because I wanted to learn something specific but the course was too general.	1.94	2.00	1.063	1.291
3.2. Because the courses available did not seem interesting.	2.07	1.77	1.071	.725
3.3. Because I'm not interested in taking courses.	1.78	1.77	.998	1.013
3.4. Because I didn't think the course would meet my needs.	1.73	1.54	.930	.660

Table C-10. Domain 3 Barriers: Interest by Gender

Items	Mean		Standard Deviation	
	Females	Males	Females	Males
3.1. Because I wanted to learn something specific but the course was too general.	1.84	1.94	1.001	1.075
3.2. Because the courses available did not seem interesting.	2.08	2.03	1.050	1.057
3.3. Because I'm not interested in taking courses.	1.61	1.82	.946	1.037
3.4. Because I didn't think the course would meet my needs.	1.46	1.77	.650	.963

Table C-11. Domain 3 Barriers: Interest by Race

Items	Mean		Standard Deviation	
	Non-White	White	Non-White	White
3.1. Because I wanted to learn something specific but the course was too general.	1.91	1.93	1.019	1.041
3.2. Because the courses available did not seem interesting.	2.04	2.02	1.021	1.057
3.3. Because I'm not interested in taking courses.	1.66	1.79	.834	.988
3.4. Because I didn't think the course would meet my needs.	1.76	1.64	.857	.831

Table C-12. Domain 3 Barriers: Interest by Time in Service

Items	Mean		Standard Deviation	
	Five Years	> Five Years	Five Years	> Five Years
3.1. Because I wanted to learn something specific but the course was too general.	1.99	1.91	1.087	1.058
3.2. Because the courses available did not seem interesting.	2.03	2.07	1.036	1.060
3.3. Because I'm not interested in taking courses.	1.67	1.87	.876	1.082
3.4. Because I didn't think the course would meet my needs.	1.73	1.70	.832	.987

Location**Table C-13. Domain 4 Barriers: Location by Military Status**

Items	Mean		Standard Deviation	
	Enlisted	Officers	Enlisted	Officers
4.1. Because the course was offered at an inconvenient time or location.	2.62	3.31	1.265	1.548
4.2. Because the course was offered in an unsafe area.	1.69	2.54	1.015	1.664
4.3. Because no courses were offered at remote sites.	2.12	3.00	1.309	1.870

Table C-14. Domain 4 Barriers: Location by Gender

Items	Mean		Standard Deviation	
	Females	Males	Females	Males
4.1. Because the course was offered at an inconvenient time or location.	2.84	2.60	1.305	1.298
4.2. Because the course was offered in an unsafe area.	1.68	1.76	1.016	1.110
4.3. Because no courses were offered at remote sites.	2.05	2.207	1.450	1.358

Table C-15. Domain 4 Barriers: Location by Race

Items	Mean		Standard Deviation	
	Non-White	White	Non-White	White
4.1. Because the course was offered at an inconvenient time or location.	2.82	2.61	1.370	1.289
4.2. Because the course was offered in an unsafe area.	1.96	1.70	1.278	1.035
4.3. Because no courses were offered at remote sites.	2.44	2.11	1.531	1.319

Table C-16. Domain 4 Barriers: Location by Time in Service

Items	Mean		Standard Deviation	
	Five Years	> Five Years	Five Years	> Five Years
4.1. Because the course was offered at an inconvenient time or location.	2.66	2.64	1.277	1.305
4.2. Because the course was offered in an unsafe area.	1.72	1.76	1.059	1.098
4.3. Because no courses were offered at remote sites.	2.26	2.09	1.359	1.358

Motivational Goals by Domain**Personal Considerations****Table C-17. Domain 1 Motivational Goals: Personal Considerations by Military Status**

Items	Mean		Standard Deviation	
	Enlisted	Officers	Enlisted	Officers
1.1. To get relief from boredom.	1.98	1.46	1.146	.877
1.2. To prepare for service to the community.	3.40	3.58	1.373	1.165
1.3. To improve my ability to serve mankind.	3.32	3.83	1.369	1.030
1.4. To improve my social relationships.	2.89	3.09	1.453	1.375
1.5. To satisfy my intellectual curiosity.	3.63	3.92	1.386	1.084
1.6. To prepare me for when I leave the military.	4.33	4.33	1.167	.888

Table C-18. Domain 1 Motivational Goals: Personal Considerations by Gender

Items	Mean		Standard Deviation	
	Females	Males	Females	Males
1.1. To get relief from boredom.	2.21	1.88	1.234	1.089
1.2. To prepare for service to the community.	3.66	3.30	1.214	1.394
1.3. To improve my ability to serve mankind.	3.66	3.22	1.192	1.380
1.4. To improve my social relationships.	3.03	2.83	1.365	1.477
1.5. To satisfy my intellectual curiosity.	3.82	3.55	1.333	1.389
1.6. To prepare me for when I leave the military.	4.29	4.30	1.113	1.199

Table C-19. Domain 1 Motivational Goals: Personal Considerations by Race

Items	Mean		Standard Deviation	
	Non-White	White	Non-White	White
1.1. To get relief from boredom.	2.06	1.96	1.249	1.128
1.2. To prepare for service to the community.	2.82	3.44	1.629	1.338
1.3. To improve my ability to serve mankind.	2.56	3.39	1.459	1.339
1.4. To improve my social relationships.	2.41	2.92	1.543	1.437
1.5. To satisfy my intellectual curiosity.	3.18	3.67	1.590	1.358
1.6. To prepare me for when I leave the military.	4.24	4.32	1.437	1.137

Table C-20. Domain 1 Motivational Goals: Personal Considerations by Time in Service

Items	Mean		Standard Deviation	
	Five Years	> Five Years	Five Years	> Five Years
1.1. To get relief from boredom.	2.18	1.77	1.164	1.077
1.2. To prepare for service to the community.	3.44	3.34	1.300	1.439
1.3. To improve my ability to serve mankind.	3.50	3.196	1.251	1.447
1.4. To improve my social relationships.	3.11	2.66	1.379	1.486
1.5. To satisfy my intellectual curiosity.	3.94	3.34	1.260	1.432
1.6. To prepare me for when I leave the military.	4.45	4.19	1.054	1.245

Professional Considerations

Table C-21. Domain 1 Motivational Goals: Professional Considerations by Military Status

Items	Mean		Standard Deviation	
	Enlisted	Officers	Enlisted	Officers
2.1. To secure professional advancement.	4.22	4.42	1.101	1.165
2.2. To give me higher status in my job.	3.92	4.25	1.348	1.055
2.3. To keep up with competition.	3.63	4.50	1.402	1.000
2.4. To fulfill requirements of a government agency.	3.18	4.08	1.412	1.084
2.5. To increase my competence in my job.	3.86	4.50	1.321	.905

Table C-22. Domain 1 Motivational Goals: Professional Considerations by Gender

Items	Mean		Standard Deviation	
	Females	Males	Females	Males
2.1. To secure professional advancement.	4.29	4.18	1.063	1.149
2.2. To give me higher status in my job.	3.97	3.88	1.301	1.366
2.3. To keep up with competition.	3.79	3.62	1.277	1.436
2.4. To fulfill requirements of a government agency.	3.24	3.19	1.403	1.418
2.5. To increase my competence in my job.	4.00	3.85	1.208	1.334

Table C-23. Domain 1 Motivational Goals: Professional Considerations by Race

Items	Mean		Standard Deviation	
	Non-White	White	Non-White	White
2.1. To secure professional advancement.	4.18	4.23	1.425	1.089
2.2. To give me higher status in my job.	3.75	3.95	1.770	1.299
2.3. To keep up with competition.	3.06	3.72	1.676	1.379
2.4. To fulfill requirements of a government agency.	2.41	3.27	1.583	1.386
2.5. To increase my competence in my job.	3.24	3.96	1.480	1.272

Table C-24. Domain 1 Motivational Goals: Professional Considerations by Years in Service

Items	Mean		Standard Deviation	
	Five Years	> Five Years	Five Years	> Five Years
2.1. To secure professional advancement.	4.36	4.11	.949	1.244
2.2. To give me higher status in my job.	4.12	3.76	1.217	1.429
2.3. To keep up with competition.	3.76	3.57	1.309	1.506
2.4. To fulfill requirements of a government agency.	3.34	3.07	1.308	1.510
2.5. To increase my competence in my job.	4.06	3.74	1.216	1.365