

ABSTRACT

Title of Document: EXAMINING FACTORS ASSOCIATED
WITH LEADERSHIP SELF-EFFICACY IN
COLLEGE STUDENT MILITARY
PROGRAMS

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The current study examined the relationship between college experiences and socially responsible leadership with leadership self-efficacy for students who participate in military education programs. This study applied the social change model for leadership development, SCM, as the theoretical lens through which a socially responsible leadership process was understood in these programs. In addition, Astin's (1991) college impact model was applied to the design of the study in order to understand the relationship between involvement measures and leadership self-efficacy, an outcome of military education programs.

This *ex post facto* study was a secondary analysis of data collected through the 2006 administration of the Multi-Institutional Study of Leadership (MSL). The MSL provided a national sample of 1413 students who indicated involvement in a military

student group. These military education programs were defined broadly and included participation in Corps of Cadets and ROTC students.

The findings of this study indicate significant differences between students who participate in military education programs and other college students in terms of leadership self-efficacy. Military students indicated greater efficacy for leadership even when differences in background were accounted for. Second, the values of socially responsible leadership and leadership self-efficacy were positively correlated for students who participate in military education programs. Finally, the conceptual model designed for this study to understand leadership self-efficacy for military students was able to explain 49% of the variance in the criterion variable. Several factors significantly contributed to leadership self-efficacy, including demographic characteristics, a leadership self-efficacy quasi-pre-test, academic classification, leadership experiences, and socially responsible leadership. The study provided support for leadership self-efficacy as an outcome for students who participate in military education programs, and the use of socially responsible leadership as a means to understand leadership self-efficacy for this population. The study also identified areas of the campus environment that might be incorporated and developed further within military education programs in order to take full advantage of the college environment.

EXAMINING FACTORS ASSOCIATED WITH LEADERSHIP SELF-EFFICACY
IN COLLEGE STUDENT MILITARY PROGRAMS

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Dedication

This dissertation is dedicated to my children, Victoria and Nicolas, who have been the bookends of my graduate work. I want you to know that I struggled greatly trying to balance time with you and time needed to complete this degree, but in the end it was your lives that spurred me on toward the finish.

Nothing is a stronger influence psychologically on their environment, and especially on their children, than the unlived lives of the parents.

Carl Gustav Jung

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Table of Contents

Dedication.....	ii
Acknowledgements.....	iii
List of Tables	viii
List of Figures.....	ix
Chapter 1: Problem and Context	1
Introduction	1
Leadership Self-Efficacy	2
Military Education Programs.....	5
Corps of Cadets	5
Reserve Officers' Training Corps (ROTC)	6
Military Leadership Development	8
Military Leadership Theory	12
Social Change Model of Leadership Development	13
Research Questions.....	18
Scope and Limitations	18
Significance	20
Chapter 2: Review of Literature	23
Introduction	23
Leadership	24
Leadership Theory	24
Leadership Development	27
Socially Responsible Leadership.....	29
Social Learning and Leadership Self-Efficacy	36
Student Involvement.....	36
Social Cognitive Theory	37
Self-Efficacy and Leadership	42
Predictors of Leadership Self-Efficacy.....	44
Background Characteristics and Leadership Self-Efficacy	45
Environments and Leadership Self-Efficacy	49

Military Education Programs.....	57
Background.....	57
Characteristics of Students	59
Leadership Development Experiences.....	61
Leadership Development Theory	65
Military Leadership Theory and the SCM.....	66
Leadership Self-Efficacy within Military Programs.....	69
Conclusion.....	72
Chapter 3: Methodology	74
Research Questions and Hypotheses	74
Design.....	77
Multi-Institutional Study of Leadership	77
Instrumentation	78
Data Collection	79
Sampling Strategy.....	80
Student Participants	81
Study Participants	81
Conceptual Framework.....	82
Input Variables	84
Environmental Variables	87
Intermediate Outcome	88
Outcome: Leadership Self-Efficacy.....	92
Data Analysis.....	94
Data Preparation	94
Research Question 1	96
Research Question 2	96
Research Question 3	97
Chapter Summary	98
Chapter 4: Findings.....	100
Sample Characteristics	101
Demographic & Background Characteristics	102
Differences between Military and Non-Military Groups	106

T-test.....	106
Analysis of Co-Variance.....	106
Results for Hypothesis 1.....	108
Leadership Self-Efficacy in Military Education Programs.....	108
Correlation Analysis.....	108
Hypothesis 2.....	109
Hierarchical Multiple Linear Regression Analysis.....	109
Hypothesis 3a.....	120
Hypothesis 3b.....	121
Summary.....	121
Chapter 5: Discussion.....	123
Statement of the Problem.....	123
Review of Methods.....	124
Summary of Results.....	125
Discussion of Results.....	128
Background Characteristics and Leadership Self-Efficacy.....	128
College Environments and Leadership Self-Efficacy.....	133
Social Change Values and Leadership Self-Efficacy.....	136
Limitations.....	138
Implications.....	140
Future Directions for Research.....	146
Chapter Summary.....	148
Appendix A: Multi-Institutional Study of Leadership Student Survey (MSL-SS).....	150
Appendix B: SRLS-R2 Scale Items.....	158
Appendix C: Institutional Representation.....	160
Appendix D: Correlation Matrix.....	162
References.....	171

List of Tables

Table 1: *Leadership Development through ROTC Programs* 64

Table 2: *Descriptions of Demographic Variables* 86

Table 3: *Descriptions of Environmental Variables* 88

Table 4: *Reliability of SCM Scales* 90

Table 5: *Reliability of LSE Scale* 93

Table 6: *Demographic Characteristics of Sample*..... 103

Table 7: *Chi-Square Distribution of Differences by Military Participation on
Demographic Characteristics*..... 104

Table 8: *T-test Comparison of Leadership Self-Efficacy Based Upon Military
Participation* 106

Table 9: *ANCOVA Comparison of Leadership Self-Efficacy Based Upon Military
Participation with Demographic Covariates*..... 107

Table 10: *Adjusted and Unadjusted Group Means for LSE Outcome* 108

Table 11: *Correlation of SCM Values with LSE*..... 110

Table 12: *Hierarchical Multiple Regression Analysis of Predictors of LSE* 112

List of Figures

Figure 1: Conceptual Model of College Impact on LSE	16
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Chapter 1: Problem and Context

Introduction

Approximately 66% of the newly commissioned officers in the Army, Navy, Air Force and Marines are developed through military education programs offered on university campuses (Lauritzen, 2007). These programs have been operating on college campuses since the end of the US Civil War. With the passage of the Morrill Act in 1862, military education programs were established at land-grant institutions in an effort to develop future military leaders who would identify with the values of the American public. By infusing these future officers into civilian institutions, they could receive the education and training they needed to assume their military roles and maintain a citizen-soldier ethic (Nierberg, 2000). Today, over 270 institutions host a military education program on campus (Lauritzen). This indicates that these programs have extended beyond the original auspices of the Morrill Act as the armed services and universities alike have taken advantage of these programs.

Even though military education programs are widespread and account for a significant population of the military officer corps, very little research has been conducted to understand the effectiveness or outcomes of these programs. The existing literature has provided the historical background and influences of military programs (Lyons & Masland, 1959; Neiberg, 2000), selection criteria and retention in the programs (Griego, 1997; Ivey, 1982; Trobaugh, 1980; Wojciechowski, 1971), and the background characteristics of military education students (Card, 1977, Janowitz, 1973; Chen, 1993; Eisen, 2003). The only studies that have focused on the outcomes of the

programs have done so by investigating the traits and behaviors of effective leaders (Garland, 1987; Thomas, 1999).

These studies failed to examine leadership as a process among individuals and did not investigate the role of others in the leadership process. In addition, while Neiberg (2000) provided insight into the college/military relationship, no study, to date, has investigated the relationship of different college experiences for students in these programs. Therefore, this study proposed to examine the relationship between college experiences and socially responsible leadership on leadership self-efficacy for students who are involved in military education programs. However, before turning to a full description of the study's research questions, it is important to provide a brief background on three topics that serve as the focal points of this study: leadership self-efficacy, military education programs, and socially responsible leadership.

Leadership Self-Efficacy

While the purpose of military education programs is to commission the future officer leadership, one vision of the programs is to produce individuals who are confident in their leadership abilities as a result of their participation in the program (Shambach, 2006). This self-appraisal of an individual's ability to perform in a given leadership role is a measure of an individual's leadership self-efficacy. Therefore, one of the outcomes of participation in military education programs is leadership self-efficacy.

The concept of leadership self-efficacy is relatively new, so little literature exists to provide an understanding of this concept (Depp, 1993). The majority of studies that have included a measure of leadership self-efficacy have done so in order to predict

other leader behaviors and performance (Chan & Drasgow, 2001; Chemers, Watson, & May 2000; Depp, 1993; Magyar, 2000). One of the most significant findings of these studies indicated that leadership self-efficacy was the best predictor of leadership performance as measured by peer, instructor, and leadership experts for students who participate in Reserve Officers' Training Corps (ROTC) advance camp, a summer internship experience on military bases for students who are in the advanced ROTC program (Chemers, Watson, & May, 2000). In addition, leadership self-efficacy has been described as one of the most promising sources for understanding leadership performance (Chemers, 2000). While the relationship between leadership self-efficacy and leadership performance has been explored, no study was found that investigated the influences of an individual's appraisals of his/her own leadership efficacy within military education programs.

However, a related study was conducted to understand the relationship between college environments and leadership self-efficacy in a general, non-military context (Endress, 2000). The study found that the pre-college characteristics of gender and participation in a leadership class were related to higher ratings of leadership self-efficacy (Endress). In addition, the study addressed the sources that influence efficacy (experiences, observations, encouragements & reactions) when provided through leadership classes, on-campus employment and co-curricular involvement, which were all related to higher ratings of leadership self-efficacy (Endress). While Endress's study was able to provide a relationship between college environments and leadership self-efficacy, it also directly investigated the concepts of social cognitive theory.

The concept of leadership self-efficacy is grounded in Bandura's social cognitive theory (Bandura 1986, 1997). Social cognitive theory provides a model for understanding human behavior as the exercise of control in given situations (Bandura, 1997). This exercise of control is influenced by an individual's efficacy judgments, or his/her appraisal of ability to perform in a given situation. Bandura (1982) asserted that "self-referent thought is the mediator between knowledge and action" (p. 122). Therefore, an individual's efficacy for leadership would influence an individual's behavior or participation in leadership. Bandura (1986, 1997) identified four sources that influence self-efficacy judgments: enactive attainment, vicarious experiences, verbal persuasion, and physiological state. These are the same sources of leadership self-efficacy investigated in Endress's study. For example, prior education, a measure of enactive attainment, was related to leadership self-efficacy.

In a related theory of Leadership Identity Development (LID), social cognitive theory has also proved helpful in understanding how individuals come to think about themselves in terms of the leadership process. In the LID model, four influences provided the environmental contexts that promoted leadership identity development throughout the stages of leadership development (Komives, Owen, Longbeam, Mainella & Osteen, 2005). Adults and peers provided opportunities for observational learning (vicarious experiences) and verbal encouragements. Reflecting on experiences provided an affective component that influenced cognitive and emotional states. Reflection also provided a record of success that served as a form of verbal persuasion in subsequent leadership experiences. In addition, involvement experiences provided the "training ground" upon which a leadership identity was developed (Komives, et al.,

p. 598). The relationship between the way one thinks of himself or herself in the leadership process and the appraisals one makes about his or her ability to perform in a given leadership experience are proximal enough that it could be concluded that they too would influence leadership self-efficacy. Therefore, based upon social cognitive theory and leadership research, it would be expected that adults, peers, involvement experiences and intentional reflection would also influence leadership self-efficacy.

Military Education Programs

Since military education programs occur within the college environment, it is important to identify the types of experiences these programs include or value and might, therefore, influence leadership self-efficacy. To begin, military education program involvement opportunities will be reviewed, exploring two and four year ROTC participation, and Corps of Cadets. Then, the types of experiences included in the programs intended to promote leadership development will be reviewed.

Corps of Cadets

First, students can participate in military education programs at senior military institutions. There are seven institutions that are considered senior military colleges and maintain a Corps of Cadets (Title X, 2007). These colleges are Texas A&M University, Norwich University, The Virginia Military Institute, The Citadel, Virginia Polytechnic Institute and State University, and North Georgia College and State University (Title X). Norwich University was the first civilian military institution and served as the model upon which the ROTC program was designed (Nierberg, 2000). In addition, Texas A&M has the largest civilian Corps of Cadets (Kraus, 1976).

These select senior military colleges provide an environment that resembles the standards set at service academies (Kraus, 1976). Often, the senior military colleges have their own uniforms and a few require faculty, even civilian faculty, to wear a uniform (Kraus). In the case of Virginia Tech and Texas A&M, they also establish separate living quarters for those who participate in the Corps of Cadets as these military programs are conducted on campuses in which the Corps represents a large proportion of the student population, but not the total student population. Another element that sets these senior military colleges apart is the unique experience provided through their own customs and traditions that are a part of the military culture on these campuses (Adams, 2001; Strum, 2002).

Reserve Officers' Training Corps (ROTC)

Another more common option for participating in military education programs is through ROTC. The ROTC program is the standard military education provided on campuses that are not designated as senior military colleges. ROTC students enroll at the university in the same manner as other students and take a full course load which is supplemented by military training and education. Two options are available for students who participate in ROTC both of which provide scholarships for student participants. In addition, any student at the university can enroll in military science courses during the first two years given the approval of the department (Wilson, 2006).

Four-year program. As students are completing high school, they can choose to apply to the ROTC program at available universities. During the first two years of the ROTC program, students participate in program activities (these will be discussed in further detail below) and enroll in military science courses. After completion of the two

year introductory program, individuals compete for a position in the advanced program. These positions are reserved for those who will be commissioned into the armed services.

After selection into the advanced program, students participate in a summer field training experience, which is similar to an internship in their respective services. During the remaining two years, students enroll in advanced military science courses each year and participate in program activities. However, during these final two years, students also hold leadership positions within the military units and take responsibility for many of the program activities.

Two- year program. A two year program option exists for students who did not enter ROTC during their freshman year. This program is highly selective and admission begins in the sophomore year for entrance the junior year. For those who are accepted in the two-year program, they complete an extensive summer program that includes the field-training described above and an extended training that is intended to prepare the student for the final two course years. The students who are accepted in the two year program and complete the extensive summer experience then participate in the advanced program described above. They are also expected to accept a military commission at the completion of the advanced program.

While all ROTC students would be members of the Corps of Cadets at senior military colleges, not all students in the Corps of Cadets would be ROTC students. Apart from the ROTC scholarship, students who participate in a Corps of Cadets and are not a member of ROTC will not receive a commission to the armed services upon completion of their undergraduate degree. Throughout this dissertation, the term

military education programs will be used as an inclusive term that includes both ROTC and Corps of Cadet participation.

Military Leadership Development

The common dimensions that all military education programs share are education, training and professional experience (Center for Army Leadership [CAL], 2001; Chief Naval Education and Training [CNET], 2002; Lester, 2001). While each branch of the military maintains different program structures and experiences, they all provide education offered through academic courses, training provided through the military unit, and experiences provided through co-curricular internships and special camps.

Education. Military programs offer a structured course sequence in which students take at least one required military education course each semester. These courses range from service specific courses such as aerospace and naval science to more general courses such as leadership and ethics. Each course, whether professional or leadership in nature, is designed to incorporate leadership into the curriculum and is taught by a military officer. Course topics contain information on team leadership, communication, and problem-solving. The military academic courses are divided into basic and advanced courses. The basic courses are open to anyone at the university and a student can enroll given space availability and approval from the military science department. Therefore, students who are not involved in either ROTC or the Corps of Cadets can also participate in military education programs.

Training. In addition to the coursework, each of the services has professional training that requires learning certain skills and values that are important within each

branch of the service. Each program offers a leadership laboratory which is commonly referred to as drill. However, military drills are only one component of the leadership laboratory. This training component is often held one to two hours per week, or in a combination of hours equivalent to the prior and is designed to develop a sense of military customs and values within students. Therefore, these training experiences are developed focusing on the mental, emotional, and physical attributes of a military leader (Hesselbein & Shinseki, 2004).

Each of the services has created its own leadership laboratory that is designed around the values, customs and attributes that are characteristic of the service. The Air Force describes its training program as Practical Military Training (PMT) and includes physical fitness, drills, parades, and instillation visits (Air Force Officer Accession and Training Schools [AFOATS], 2001). The Navy's training program requires two components; the first is credit-bearing, and the second is not. Naval science lab includes naval training, warfare doctrine, professional development, deployment and joint operations (CNET, 2002). The second non-credit bearing component is called Command and Leadership Training (CALT). CALT consists of drill and military competitions as well as program leadership and management (CNET). The Army's program is called Leadership Development Program, and it provides practice and feedback on the Army's leadership skills. Feedback is provided through a military evaluation system in which upper level students and the military program's officer leadership rate the progress of students in the program (United States Army Cadet Command Headquarters [USACCH], 2005). In addition, the Army requires field training exercises that are conducted on Army bases (USACCH). These experiences are

designed to increase self-confidence and develop teamwork among those in the program.

In addition to the formal leadership laboratory, military education programs seek to develop leadership through values-based programs. For example, the Army identifies its values through the acronym LDRSHIP: Loyalty, Duty, Respect, Selfless Service, Honor, Integrity and Personal courage (CAL, 2002). These values are implemented through honor codes, conduct policies as well as fitness and wellness programs. These codes are accepted as the foundation of character for every good citizen and officer (University of Massachusetts ROTC DET 370, 2003). Training meetings are also conducted as an aspect of the leadership laboratory and military unit management. These meetings are focused on a range of topics including communication, national defense policy, binge drinking and eating disorders (CNET, 2002). All of these training experiences are designed to develop the mental, physical, and emotional competencies of a military leader.

Experience. Many of these training components are designed and facilitated by students within the programs. For example, students oversee the enforcement of the honor codes and often lead training meetings. These experiences provide students with the opportunity to practice leadership. Leadership experience is provided in military education programs through leadership roles in the military unit, as well as through summer field experiences similar to internship experiences.

Experience is also provided through formal leadership positions within the military wing, unit, or brigade. For example, the Air Force indicates that each wing will have at least five student leadership positions including the Wing Cadet Commander,

Vice Wing Cadet Commander, Operations Group, Logistics Group and Support Group (AFOATS, 2001). The wing is further divided into squadrons and flight groups and within each of these divisions, leadership opportunities exist for students (AFOATS). The Navy provides a similar structure for its brigade leadership and intentionally states that leadership opportunities should be encouraged early in the program and not reserved exclusively for seniors (CNET, 2002). Recognizing the potential that the campus community offers in terms of leadership opportunities, the Air Force indicates that leadership positions held in college student organizations can be substituted for formal leadership within the wing; however, the latter is preferred (AFOATS, 2001). Decisions concerning the applicability of other campus leadership experiences would be at the discretion of the senior military officer on the campus.

For students who have been accepted into the advanced program, summer training on military bases, ships and installations is provided to give students the opportunity to experience military leadership within a real-world environment. The Army holds a four-week field training called Warrior Forge for those who will be entering their senior year the following fall semester (USACCH, 1998). The experience is designed to expose students to combat simulations and peer leadership opportunities (Western Region Cadet Command, n.d.). The Air Force also holds a four to six week summer training experience; however, this summer program is offered between the sophomore and junior year. The Air Force's program is designed to introduce students to the types of military careers that are available upon acceptance of a commission. The Navy also conducts a summer experience program for students, but their program is conducted at the conclusion of the freshman year. During the first year, students are

exposed to various warfare communities and the types of careers offered in the Navy through Career Orientation and Training for Midshipmen (CORTRAMID) (CNET, 2002). During the following two years, students are provided with experiences at-sea aboard working ships (CNET). These experiences are intended to provide students with opportunities analogous to internships in civilian organizations.

Military Leadership Theory

While all the services maintain typical program components, there is a void in the literature with regards to how leadership is purposefully developed in the programs, or leadership theory (Brown, 2002; Thirtle, 2002). This might seem surprising as a command and order approach is most commonly associated with military leadership. However, contemporary military leadership theorists contend that the military itself experienced a leadership paradigm shift post-Vietnam and around the time that new more relational leadership theories, such as transformational leadership, were being introduced (Brown, 2002). The timing is significant as the military was contending with societal mandates for an all volunteer force which led to what is known today as the modern military. In effect, military leaders recognized they were participating in a leadership process larger than individual skills and talents because of the changes occurring within (or to) the military. While this historical shift will be examined further in the next chapter, it provides evidence of an unstated leadership theory in college military programs focused on individual, group and societal values. And while the military has not specifically espoused a contemporary leadership theory, coincidentally, these values are the very components of socially responsible leadership identified in the social change model for leadership development (HERI, 1996).

Social Change Model of Leadership Development

Therefore, the social change model (SCM) for leadership development provides a theoretical framework for understanding the leadership development process that occurs within military education programs. Although not designed specifically for military programs, this model was designed to understand the process of leadership for college students (HERI, 1996). The SCM, which will also be discussed further in Chapter Two, was developed by a working ensemble of leadership professionals to develop a collaborative, change-oriented, approach to leadership with college students (HERI). The model itself has seven critical values incorporated into three levels: individual, group and community values (HERI). The individual values include consciousness of self, congruence and commitment. Group values are commitment, common purpose and controversy with civility, and the value of community is represented through citizenship. These components work together toward change, or “the creative process of leadership – to make a better world and a better society for self and others” (HERI, p. 21).

The SCM and leadership training in military education programs share similar characteristics. For example, the SCM is values-based, as is the leadership development in military education programs. The values of the SCM, which include individual, group, and community, are similar to the change process that is part of the curriculum for military education students. This process will be discussed in further detail in Chapter Two. Furthermore, the outcome of the group process in the SCM is citizenship which harkens back to the very foundation of military education programs on college campuses. In addition, the change process of the SCM, making the world a better place

for society, self, and others, is the ethic of the citizen soldier. Therefore, the nature of the SCM is such that it provides a theoretical framework by which military leadership development can be understood.

Purpose

Therefore, the purpose of this research will be to understand the relationship between college experiences and leadership development (as represented by the SCM) with leadership self-efficacy for students who participate in military education programs. College experiences will be defined as involvement opportunities that are characteristic of leadership development in military programs (education, training, and leadership). While these involvement experiences are characteristic of military education programs, they could also be provided through general college student experiences such as involvement in student-led organizations. Those experiences in which students participate within the larger university context and are consistent with military education program values are included to capture the influence of the university on military education programs, the student experience, and the development of leadership self-efficacy for military education students.

College experiences will include leadership education, which encompasses one-time leadership workshops and seminars; moderate-term courses, training or institutes, and multi-semester programs. These variables are intended to capture leadership education experiences. Experiences of being mentored by faculty, staff, employers and other students, and participation in athletics are included to capture leadership training experiences. In addition, being involved in internships, practicum, co-op or clinical

experiences and holding a leadership position are included to capture leadership experience. All of these college experiences will be explored in detail in Chapter Two.

The leadership process will be understood in terms of socially responsible leadership as captured in the social change model for leadership development. This model provides the framework for understanding leadership as a process of affecting change on behalf of society, others and self (HERI, 1996).

In addition, “military education programs” is a broad term that encompasses both ROTC and Corps of Cadet participation. Students may also participate in these programs without being a member of either the ROTC or the Corps of Cadets by enrolling in military leadership courses. All levels of participation are included within the study.

Given these parameters, this study will first seek to understand if students who participate in military education programs differ from other non-military students in terms of leadership self-efficacy. A difference would provide rationalization for studying military students separate and apart from other college students. In addition, the study is concerned with the relationship between socially responsible leadership and leadership self-efficacy for students who participate in military education programs. Therefore, this relationship will be tested specifically for those who participate in the military programs. Finally, this study seeks to understand leadership self-efficacy for those in military education programs and the relationship with college experiences and socially responsible leadership. Figure 1 represents the conceptual model for the study.

Figure 1

Conceptual Model of College Impact on Leadership Self-Efficacy

INPUTS	ENVIRONMENTS	INTERMEDIATE OUTCOME	OUTCOME
<p><i>Background characteristics</i></p> <p>Gender</p> <p>Race/Ethnicity</p> <p><i>Pre-test</i></p> <p>Pre-college leadership self-efficacy</p> <p><i>Class level (bridge)</i></p>	<p><i>Leadership Education</i></p> <p>Short-term</p> <p>Moderate-term</p> <p>Long-term</p> <p><i>Mentoring</i></p> <p>Student Affairs</p> <p>Faculty</p> <p>Employers</p> <p>Community Members</p> <p>Other Students</p> <p><i>Athletic Participation</i></p> <p><i>Experiential Learning</i></p> <p>Community Service</p> <p>Internship</p> <p><i>Positional Leadership</i></p>	<p><i>Leadership Development</i></p> <p><i>Individual Values</i></p> <p>Consciousness of Self</p> <p>Congruence</p> <p>Commitment</p> <p><i>Group Values</i></p> <p>Collaboration</p> <p>Common Purpose</p> <p>Controversy with Civility</p> <p><i>Community Values</i></p> <p>Citizenship</p>	<p>Leadership Self-Efficacy</p>

Research Questions

To address the study's purpose, I will investigate the following research questions:

1. Is there a difference between students who participate in military education programs and those who do not in terms of leadership self-efficacy?
2. Is there a relationship between the individual, group, and community values of the social change model and leadership self-efficacy for students who participate in military education programs?
3. For students who participate in military education programs how do student background characteristics, leadership education, mentoring, athletic participation, experiential learning, holding a formal leadership position, and leadership development, contribute to a student's leadership self-efficacy?

Scope and Limitations

This study is limited to understanding military education programs at civilian institutions of higher education. It does not include service academies. Military education programs are defined broadly to include both scholarship and non-scholarship ROTC students as well as members of Corps of Cadets. Defining participation in military education programs this broadly will allow a more complete picture of the influence of military education for college students. However, given the findings of Blackwell (2004) this may also present a limitation to the study due to differences in background characteristics among students within military education programs at large. Therefore, efforts will be taken to control for background characteristics of students in the study.

In addition, the study will employ an *ex post facto* design and will use data collected in conjunction with the Multi-Institutional Study of Leadership (MSL). The MSL was designed to understand the effects of college environments on leadership outcomes via the social change model of leadership development. While this survey was designed specifically for college students and applies the same theoretical foundation as the present study, it was not designed specifically for military education populations. The current research is limited to the variables represented in the MSL including categorizing participation in military education as “military (e.g., ROTC)”. In addition, no measure was included in the survey to account for prior military experience, either JROTC or enlisted service.

Finally, there are limitations to survey research itself. The findings of the MSL are self-reported data. Individuals are asked to recall pre-college experiences and perceptions of leadership abilities. These responses will be affected by an individual’s recall and memory of these perceptions. There may also be some inflation in individual responses due to the social desirability of leadership characteristics. However, the method used to evaluate an individual’s leadership self-efficacy in the MSL has actually been shown to reduce inflated pre-test scores (Rohs 1999, 2002), and this method will be further reviewed in Chapter Two. In addition, since student-held beliefs and ideas directly influence the way individuals behave, using self-reported data to understand a concept directly related to these ideas/beliefs, self-efficacy, is appropriate (Erwin, 1991; Gonyea, 2005). In addition, given that the study attempts to understand leadership via the social change model, using a survey instrument that assesses only an individual perception of leadership is a limitation. Leadership is understood as a relational process

among individuals and yet the instrument used to measure this process did so from an individual perspective. However, for the purposes of this study, the researcher was interested in an individual phenomenon: leadership self-efficacy. Therefore, an individually scored item poses less threat to the current study. The MSL also attempted to account for a relational process of leadership by including individuals who both hold and do not hold formal leadership positions. In addition, the MSL provides the best measure of the socially responsible leadership that is currently available.

Significance

Despite these limitations, the results of this study will contribute to the literature in several ways. Practically, this study will provide useful information to fill a void in a strained relationship between higher education and the military since very little is known about the outcomes of military education programs. In addition, this study provides a theoretical contribution to leadership self-efficacy and how facets of the college experience, both general and military, shape it.

The findings of this study will provide evidence of the outcomes of military education programs which are currently limited in the literature. ROTC programs are still seen by many in the academic community as inferior in rigor and seriousness, as well as counter to the values of higher education, and thereby they retain a unique separateness from the main college and university life. The outcome of this research will provide evidence of the benefits or added value of participation in military education programs, which will enrich the current gap in the literature and provide support that ROTC and military education programs are more than a recruiting tool for the armed services and instead promote individual growth and development.

This study will add to the empirical research on leadership self-efficacy. Specifically, this research attempts to connect military program outcomes in the form of leadership self-efficacy with student leadership development, thus drawing together both student development and leadership theories. Additionally, the study will focus on the effects of general college involvement experiences such as faculty and student mentoring, leadership education, service, experiential learning, positional leadership, and leadership development on leadership self-efficacy. The results of this study will add to the college impact literature on the environmental sources of leadership efficacy.

Finally, Schroeder (1998) suggested that higher education should look to the armed services as an exemplar of values-based, teamwork focused, accountability-centered leadership development program to which people commit themselves in service of society. While historically ROTC gained its place on campuses in order to maintain a citizen ethic in the military, Schroeder suggests that higher education may gain by recognizing the potential benefit of military education programs for the university itself. Therefore, the results of this study will be useful to student affairs administrators as they seek to heighten the effects of their leadership programming. This knowledge will enable administrators in both military education programs and student affairs to work together on overall leadership education goals and provide the potential to increase their collaboration to contribute to student leadership self-efficacy.

The next chapter will provide more details on the focal points of this study: leadership, self-efficacy, and military education programs. In addition, socially responsible leadership will be connected with the leadership development process in military education programs through the elements of the social change model. The

chapter will also review research related to student background characteristics and environmental variables for understanding leadership self-efficacy.

Chapter 2: Review of Literature

Introduction

This review of literature will establish a theoretical grounding for the study of leadership self-efficacy within military education programs and the role of college environments and leadership development on that outcome. To begin, an overview of leadership theory and leadership development will be presented. Socially responsible leadership as represented in the social change model of leadership development serves as the theoretical lens by which this study will approach leadership. An overview of the background and research of this model will be presented. It is expected that leadership development will be influenced by student development in general and student involvement. Development and involvement occur in a social context. Therefore, Social Cognitive Theory will be presented with an emphasis on an exploration of self-efficacy. Together, these will provide the context for leadership self-efficacy.

After a review of the literature supporting the outcome measure, leadership self-efficacy, a review of literature that helps explain the predictors of this measure will be examined. Various student characteristics are expected to influence leadership self-efficacy as well as elements in the college environment.

Finally, because this study focuses on college military education programs as a context for leadership self-efficacy, an overview of the mission, purpose and background of these programs will be presented. Following, the background characteristics of individuals and the involvement experiences afforded to individuals who participate in military education programs will be presented. Then, the leadership

process in military education programs will be connected with the social change model and leadership self-efficacy.

Leadership

Leadership Theory

Leadership is an elusive concept. In fact, Burns (1978) went as far to say that “many of us do not have the faintest concept of what leadership is all about” (p. 451). Others agree that there has been a lack of congruence in the field of leadership with little agreement on how leadership is studied and practiced (Hackman & Wageman, 2007; Rost, 1991). Even identifying a common definition of leadership can be a challenge. Rost (1991) identified 221 various definitions of leadership in publication. It is no wonder misconceptions of leadership abound, if a common definition cannot even be reached. There are two basic reasons for the misconceptions about the field of leadership. First, conceptions of leadership are influenced by a socially constructed leader-centric view of leadership. In addition, the way in which leadership is understood has changed through the years, leaving an ambiguous understanding of the construct.

Leadership is a term that is used in everyday language to describe social experiences and to provide meaning to common events (Calder, 1977). Rost (1991) described three popular notions that influence our understanding of leadership, including leadership as excellence, leadership as administration, and leadership as management. Because these popular conceptions of leadership pervade society, they have influenced individual understanding of leadership and the role of a leader. This social construction of leadership has confused the nature of leadership and has led to changing views of how leadership is understood.

Thus, multiple definitions of leadership have been constructed focusing on various aspects of leader's behaviors and leadership situations. Leadership studies have traditionally been focused on a debate between leader-centrism and situational leadership (Hackman & Wageman, 2007). Leadership has often been defined in terms of a position of authority or power (Stogdill, 1969) or as a relationship in which one person wields power in order to get others to complete a task (Fielder, 1965). These definitions of leadership focus exclusively on the leader, and the innate abilities of leaders. It is the leader who is in a position of power, and the leader who uses influence.

Later definitions of leadership recognized that the practice of leadership, while dependent upon the leader, was influenced by the leadership context. Leadership was defined as "a dynamic process, varying from situation to situation with changes in leaders, followers, and situations" (Hersey & Blanchard, 1977, p. 89). This approach, while recognizing the roles of leaders, followers and situations, places emphasis on the leader to employ behaviors in different situations. In theory, an individual could be trained to adapt his/her leadership style to the specific situation. By the late 1970s, the field of leadership had become concentrated with an emphasis toward this situational approach (Hersey & Stinson, 1980). Leadership was still something that a leader did to someone else, but followers and situations were considered to influence the leader's behavior.

Transformational leadership. A major shift in thinking about leadership emerged with Burns' (1978) groundbreaking book, *Leadership*. Burns presented leadership as occurring when "one or more persons engage with others in such a way

that leaders and followers raise one another to higher levels of motivation and morality” (p. 20). While leadership theories had traditionally focused on the leader, including his/her characteristics and the actions taken to accomplish his/her goals within a specific situation, Burns included the follower as a key component in the leadership process. While previous theories of leadership may have focused on what the leader did to the follower, Burns examined the follower’s role in the leadership process. His theory of transforming leadership emphasized the engagement of leaders and followers, valued the contributions of participants and distributed power among both leaders and participants (Komives, Lucas & McMahon, 2006).

Burns’ (1978) notion of leadership is said to have ushered in a new paradigm of leadership. Prior theories are considered industrial models which focused on the traits, behaviors and situations that influence leaders. These models worked in an era when leadership was based upon production and efficiency (Komives et al., 2005).

Transformational leadership, a post-industrial model, focuses on the leader-follower relationship and the outcomes or change that is produced because of that relationship. Now scholars and practitioners are calling for a new school of leadership that reflects a change in understanding in leadership as more than good management by a positional leader (Rost, 1991).

Integral to this new paradigm of leadership is an understanding of the leader/follower relationship. Rost (1991) identified differences for followers in the post-industrial model. Followers are active, not passive. They are engaged in leadership not followership. In addition, in the process of leadership more than one leader and more than one follower will be identified. This understanding of the leader/follower

relationship recognized that even few positional leaders have unchecked authority (Hackman & Wageman, 2007). In other words, leaders fulfill both leader and follower roles. Instead, anyone can be a leader and/or a follower, and leaders and followers often change places in the leadership relationship as all those in the process are practicing leadership.

Leadership Development

The changing nature of the concept of leadership has also influenced how leadership development is conceptualized and practiced. This should not be surprising since how leadership is defined would greatly influence the leadership development process. Consequently, leadership development has been influenced by industrial models of leadership and has tended to focus on developing individual skills and abilities, and imparting knowledge and defining values. (Bass, 1990; Komives et al., 2005; Riggo, Ciulla & Sorenson, 2003; Rost & Barker, 2000).

Leader and leadership development. This means that the leadership development process has focused more on developing human capital through leader development than on social capital through leadership development (Day, 2001). In other words, one approach invests in the development of individual intra-personal talents. The latter approach invests in interpersonal or relational development and would include the development of community and reciprocal relationships. Day and O'Connor (2003) contend that “developing a leader without regard for the social and systems influences brought to bear by followers and organizational forces (e.g. culture) will have at best only limited success in developing leadership” (p. 19) Therefore, the focus on leader development does not necessarily translate into effective leadership

because the leadership process is influenced by the situation or leadership environment and others who are participating in the leadership process. Rost and Barker (2000) contend that leadership education in the future will need to be socially oriented towards relationships, the process of change, and the dynamics of the change process. Day (2001) explains:

Developing individual leaders without concern for reciprocal relations among people or their interactions within a broader social context ignores the research demonstrating that leadership is a complex interaction between individuals and their social and organizational environments. Attempting to build shared meaning systems and mutual commitments among communities of practice without a proper investment in individual preparation runs the risk of placing people in challenging developmental situations that are too far over their heads. The preferred approach is to link leader development with leadership development such that development of leadership transcends but does not replace the development of individual leaders. (p. 605)

Student leadership development. In an effort to understand the complex nature of leadership development, Komives et al. (2005) conducted a grounded theory study of college students to understand how individuals came to understand themselves in the leadership process, thus developing a leadership identity. As students entered college, their approach to leadership appeared consistent with industrial models or the more popular notions of leadership discussed earlier. Students saw leader and leadership as interchangeable concepts. As students moved through a staged developmental process, they began to understand leadership more as a relationship among individuals and thus

shifted their understanding of leadership to a post-industrial form (Komives, Longerbeam, Owen, Mainella & Osteen, 2006). This is important to the present study because, as individuals developed, their concept of leader and leadership changed. If the way that individuals think about leadership can change due to their college experiences, then it might be expected that as students in military leadership programs develop, their perceptions of their leadership efficacy might also change.

Just as the paradigm shift has been occurring in the broader field of leadership, college student leadership has experienced a similar transition. Early approaches of leadership on campuses focused on understanding the traits of leaders followed by approaches that concentrated on the context or environment of leadership, similar to situational models of leadership (Blackwell, 2004). A call for a different understanding of the leader has occurred, so that leaders on campus are those “who are actively engaged in making a positive difference in society. A leader in other words, is anyone – regardless of formal position – who serves as an effective social change agent, so in this sense every student is a potential leader” (Astin, 1997, p.9). This changed view of a “leader” then affects how leadership is practiced. If college leadership is to continue down the post-industrial path, it needs to affect the choices, behaviors and thoughts of those who will be participating in the leadership process and influencing others (Rost, 1991). Developing leadership, then, becomes more about how to participate in the leadership process than how to be an effective leader (Drath & Pauls, 1994).

Socially Responsible Leadership

Recognizing this new paradigm of leadership, a working ensemble of college leadership specialist gathered to understand the college student leadership process from

a post-industrial leadership perspective. What grew out of the discussions was a leadership model with the ultimate purpose of contributing to society by making the world a better place for self and others (Bonous-Hammarth, 2001). Their model of socially responsible leadership is referred to as the social change model of leadership development (SCM) (HERI, 1996) and provides a framework for which leadership education programs can foster leadership development. Merging the ideas that leadership development involves a form of human capital and social capital, the SCM of leadership development recognizes the need for both individual development and a process that promotes change.

Key elements of the social change model. There are several key elements that set the SCM apart from other leadership development models. First, the SCM was designed for the field of student affairs. It is specifically focused on the leadership development process of college students. While it may be applicable in different situations, the original focus of the model sets it apart from other models of leadership development that are irrespective of a college student focus. Second, the model takes a post-industrial view of leadership recognizing that leadership is a process, not a position, and development is important for all of those who participate in the leadership process. Lastly, the model is values-based and “explicitly promotes the values of equity, social justice, self-knowledge, personal empowerment, collaboration, citizenship, and service” (HERI, 1996, p. 18).

Because the model recognizes the social nature of leadership and that development occurs within and among groups, its design is organized around three different components or levels of leadership development. These are individual values,

group values, and community or society values. Each level of leadership development contains critical values. These critical values have become known as the “Seven C’s of Change” (Bonous-Hammarth, 2001). The seven critical values represented in the model are collaboration, consciousness of self, congruence, commitment, common purpose, controversy with civility and citizenship.

Individual values. At the individual level, the model is concerned with the personal qualities that are attempting to be developed. It also reflects the personal qualities that will influence the leadership relationship and the change process. Three critical values are inherent at the individual level. These are consciousness of self, congruence and commitment. Consciousness of self is a process of self-awareness that encompasses both the personal qualities resident within oneself and being attuned to those qualities. It means being aware of the concerns, interests, beliefs and values that motivate one to action. This critical value is noted as essential to the other values in the SCM because it serves as a foundation upon which the other values can be developed (HERI, 1996). Congruence is acting in accordance with ones values and belief systems. Commitment involves the depth of one’s actions and requires significant involvement and investment in the activity.

Group values. At the group level, the model is concerned with the relationships with others in the leadership process. This encompasses both the personal qualities needed for positive group functioning, and the effect of collaboration upon the change process. Three critical values are inherent at the group level, also. These values are collaboration, common purpose, and controversy with civility. Leadership is the process of individuals working together or in other words, collaboration. It involves shared

responsibility for the work of the group that capitalizes on the individual talents of the group members. Collaboration will depend upon the group establishing a common purpose or vision. Individuals become actively engaged in the process of establishing a common purpose through shared goals and values. Just as consciousness of self was identified as a foundational value for the other components of the model, common purpose serves as a bridge that brings the other components together (HERI, 1996). While common purpose is a group value, it connects individuals to the group in that individuals must share in the vision of the group and embrace the goals of the group. Common purpose also connects groups and individuals to the community in that the common purpose that individuals establish is the change that the group is trying to accomplish for the betterment of the community. The final critical group value is controversy with civility which recognizes that there will be differences in viewpoints within any group. However, these controversies are overcome through open dialogue, a willingness to hear another's view, and restraint in critique. Controversy with civility provides a safe environment where individuals feel safe to share their ideas and values with others.

Community/society values. At the community level, the model is concerned with the ends of the leadership process or the change action. The critical value invoked at this level is citizenship. It is the process of individuals connecting with the community in some action and working toward positive change for the benefit of self and others. Citizenship involves active engagement directed toward the betterment of others. On a college campus, that social activity might be directed toward the betterment of the

college community. In many respects, this level represents the desired outcome of the social change process.

Feedback loops. The SCM also recognizes the multi-directional nature of leadership. This is displayed through the representation of feedback loops that occur between each of the levels of the model. The feedback loops recognize that the interaction between (1) individual and group values, (2) group and community values and (3) individual and community values.

First, the interaction between individual values and group values recognizes that individual qualities affect group functioning while at the same time, the group is providing needed feedback for individual development. Individuals with their many differences participate in the leadership process. Group functioning is benefited when individuals approach the group self-aware, committed and acting in such a way that is congruent to their own values. In the same respect, individuals tend to gain the most from groups that work collaboratively, with a common purpose and process through controversy with civility. In addition, when individuals collaborate with a common purpose, individual commitment to the group is strengthened because it provides reinforcement that individuals are acting congruently.

Second, the interaction between group and community values recognizes the influence that the group can have for the community. In addition, the community provides the feedback needed by the group in order to be effective in producing change. Groups are more likely to produce change or act toward the betterment of others when they do so out of the critical group values. Most would agree that groups that are competitive, lack focus and that cannot resolve differences in opinion would be

ineffective in stimulating change. When groups are actively engaged in the betterment of others (citizenship), they tend to deepen their common purpose and strengthen their trust and collaborative nature.

Finally, the interaction between individual and community values recognizes that individuals are personally involved in the process of change and that active engagement will have an effect on individual values. Positive change is most likely to occur when individuals are self-aware, act according to their values and are fully committed to the purpose. In the same respect, by engaging in the social action, individuals come to realize that when they are committed to actions that they believe in, they can cause change.

Assessing the social change model. While the SCM is widely used by leadership educators, few studies have tested the model empirically (Dugan, 2006). In an effort to operationalize the constructs of the SCM, Tyree (1998) developed the Socially Responsible Leadership Scale (SRLS). This 104 item instrument was designed with eight scales to measure each of the values in the SCM and change which is identified as the overall outcome of the leadership process. The outcome was a valid and reliable instrument to assess socially responsible leadership among college students. (Chapter 3 provides additional information concerning the reliability and validity of the SRLS).

Even with the development of an instrument to test the SCM, only a few research studies have applied the SRLS in the research design. A few unpublished works have used the SRLS as an assessment instrument. Meixner (2000) and Morrison (2001) developed theses that used the SRLS as a measurement instrument. The only published works implementing the SRLS were conducted by Dugan (2006a, 2006b).

His first study examined the role of gender in leadership development via the SCM (Dugan, 2006a). His findings revealed that women scored higher than men on six of the eight values associated with the SCM. Only collaboration and controversy with civility were not significant. In his follow-up study, Dugan (2006b) investigated the role of involvement experiences in leadership development via the SCM. His findings revealed statistically significant differences among the eight values of the SCM and involvement experiences in community service, positional leadership roles, student organizations, and formal leadership education.

The length of the SRLS may have hindered its widespread use. As mentioned earlier, the SRLS was designed to measure the eight values of the SCM. In doing so, the final instrument designed by Tyree (1998) included 103 items with each scale consisting of 12-14 items.

A limitation of the Dugan (2006a, 2006b) studies was its use of a single institution research design. In 2005, a group of academic affairs and student affairs leadership specialist at the University of Maryland created a research team to investigate college student leadership through a multi-institutional study (Komives, Dugan, & Segar, 2006). The Multi-Institutional Study of Leadership (MSL) used the SCM as the theoretical basis for the study and therefore, sought to incorporate the SRLS into the research instrument. Because of the length of the SRLS, it was modified for inclusion in the MSL pilot study while still maintaining the integrity of each scale (National Clearinghouse for Leadership Programs [NCLP], 2008). However, the results from the pilot study indicated that the instrument was still too lengthy resulting in additional revisions. The final revisions produced the SRLS-2, a 68 item survey that

was included in the MSL (NCLP, 2008). The MSL represents the first organized research program that attempts to verify the constructs of the SCM. The MSL has produced several studies on the nature of leadership development via the social change model.

Social Learning and Leadership Self-Efficacy

Two themes emerge out of the review of literature concerning leadership development. First, the emerging paradigm of leadership recognizes leadership as a relational process among individuals oriented toward change. This process influences how one thinks of him or herself as a leader and evolves as a result of student engagement or involvement in leadership roles and education. Thus, Astin's theory of student involvement will be discussed in order to understand the importance of involvement for college students. In addition, since leadership development is influenced by one's understanding of himself/herself in the leadership process, leadership can be understood as a social process. Therefore Bandura's (1986,1997) social cognitive theory and self-efficacy will be reviewed. Self-efficacy theory will provide insight into the determinants of human behavior that affect effort and persistence that an individual is willing to extend in a given situation. For the purpose of this study, that situation is the leadership process.

Student Involvement

In an effort to understand the effect of college on student outcomes, Astin (1984) proposed a theory of student involvement. Student involvement refers to the psychological and physical energy that a student expends in the academic environment. Astin concluded that prior to proposing a theory of student involvement, students were

treated as a “black box” with the college “doing” something (i.e. creating policies, programs, etc.) and producing some intended outcome. Missing from this scenario is what the student *does* in the environment that the college has created. Thus, to understand how a student changes during the course of college, one needs to understand the nature of student involvement. Examples of student involvement include both in-class and out-of-class activities such as commitment to studies and faculty interaction as well as participation in student government, fraternities/sororities, athletics and ROTC.

There are a few basic premises to student involvement (Astin, 1984).

Involvement is both physical and psychological activity within the environment. This would include, for example, holding a leadership position on campus and reflecting on the group experience. Involvement also occurs along a continuum so that an individual’s involvement changes over time in varying degrees and for varying activities. Involvement has both quantitative and qualitative aspects. Therefore, involvement can be measured in terms of numbers (contacts, hours, visits, etc) and quality of engagement. This also indicates a strong relationship between involvement and development. As individuals become more involved, they also experience more opportunity for growth and development. Therefore, as involvement increases, so should development as well. Consequently, Astin (1984) concluded that the effectiveness of a college or university’s practices can be determined based upon how well it encourages student involvement.

Social Cognitive Theory

While the theory of student involvement recognizes various degrees and types of involvement, it is understood in behavioral terms. In other words it is, primarily,

concerned with what the student does in the environment or how he/she perceives his/her actions in the environment. An additional component, not addressed by the theory of involvement, is the recognition of *why* or *how* the student became involved. Just as Astin (1984) recognized that outcomes were not merely the result of college policies or programs and that the student was a missing piece with regards to development, so too is involvement influenced by more than a manipulation of the environment. Involvement is also influenced by an individual's self-appraisal of his/her ability to perform the behavioral or cognitive task, or his/her self-efficacy.

Self-efficacy is grounded in social cognitive theory. This theory provides a model for understanding human behavior which is focused on the control that individuals exercise in given situations (Bandura, 1997). This model is different than most contemporary theories of behavior that view the interaction between personal and environmental variables as determining behavior. In these models, either the person and situation function independently of one another connecting in some way to produce behavior or the person and situation affect one another producing the resulting behavior (Bandura, 1986). Instead, social cognitive theory posits that personal influences, environmental influences and behavior function interdependently with one another as the determinants of behavior. Bandura (1986, 1997) described this process as triadic reciprocity in which the three determinants of behavior mutually interact.

An example in terms of the college experience will provide an illustration of this triadic process. In the college environment, individual preferences influence which co-curricular activities, among all the available options, an individual will participate in and when he/she will participate. Through individual engagement or involvement,

students partly influence future activities. In addition, the institution also determines which activities will be offered through such elements as available resources, institutional mission, etc. In turn, the options provided also shape individual preferences. In this example, all three factors are affecting each other. Student preferences influence involvement which influences available activities. The available activities influence student choice and interests.

The social change model also provides an example of the application of social cognitive theory. In the SCM an individual chooses to become involved in a leadership group or project. The group then participates in some event or action intended to cause change in the community. The reaction of the community then influences individual values and commitment to change. This process was discussed in detail earlier with regards to the feedback loops in the SCM.

In both examples provided, individuals make some choice about the type of involvement, action or behavior they will pursue. These choices are at least partially influenced by an individual's self-efficacy or one's self appraisal of his/her ability to perform or participate. Bandura (1982) noted that "self-referent thought is the mediator between knowledge and action" (p. 122). Therefore, leadership self-efficacy would be influenced by the involvement choices that an individual participates in, and whether or not an individual believes that he or she can successfully participate in the leadership process.

Self-efficacy judgments. Self-efficacy judgments will, therefore, shape the choices of a student's behaviors and environments. Unless an individual believes that he or she is capable of accomplishing a task, whether that task is cognitive or behavioral

in nature, there is little incentive to engage in the activity. One's expectations toward task accomplishment and success will determine the motivation and amount of effort and persistence of an individual toward the task. Bandura (1986, 1997) identified four sources that individuals use to make self-efficacy judgments.

The most influential source of information that an individual uses to make appraisals of performance is personal experience. Whether an individual has engaged in the activity before and his or her success or failure in the activity will influence whether or not he or she will engage in the activity again. This influence is more about an individual's interpretation of success than the relative success of the activity. Therefore, how an individual thinks about and organizes experiences is important. This includes an appraisal of one's ability, task difficulty, amount of effort one is willing to expend, sources of support, circumstances under which the task will occur and the pattern of past success and failures (Bandura, 1997). This may be one of the reasons why Komives et al. (2005) found critical reflection an important component of leadership identity development as it would provide individuals an opportunity to conduct these appraisals of experience. In addition, once self-efficacy has been developed in this manner, it tends to generalize to new situations (Bandura, 1986). Therefore, it would be predicted that past leadership experiences, especially when individuals have felt efficacious about their involvement, would influence leadership involvement and add to an individual's appraisal of leadership efficacy.

Another source of information that an individual uses to make appraisals of performance are the experiences of others. When individuals watch others perform successfully at a task, especially those with whom they relate, they tend to believe that

the task is accomplishable. In this way, social comparisons made through those who serve as role models can affect an individual's willingness to engage in the activity. This may be one of the reasons why peers are so important to involvement, and why they were influential in the development of leadership identity (Astin, 1993; Komives et al., 2005). Observations of others can also provide information about the environment and the nature of predictability of events (Bandura, 1982). When individuals observe others, they tend to gain strategies that will promote success in difficult or challenging situations. This source of influence of self-efficacy appraisals can also be affected by an individual visualizing himself or herself as successful at the task.

Encouragement from others that the individual can be successful at the task is another source of information that individuals use to make self-efficacy appraisals. This may present itself when individuals try to convince others that they are capable or have the ability to accomplish the task. While this source may affect the way an individual views his or her ability, it has a greater effect on influencing pre-existing thoughts of ability (Bandura, 1986). In this way, verbal persuasion is most effective at influencing the effort and persistence of individuals. Relating this concept to leadership self-efficacy, adults and peers would provide the mentorship and encouragement that would influence an individual's self-efficacy appraisals, and this encouragement would be most powerful when the individual already has some belief that he or she can engage in leadership.

In addition, an individual's physiological state can influence his or her self-efficacy appraisals. This factor presents itself in the form of fear, stress, or other emotional states that influence an individual's desire to engage in the activity.

Individuals are more confident in their ability to perform a task when they are not overwhelmed by emotions. When individuals are fearful of the task, for instance, they will be less likely to engage. Overcoming these physiological states would involve enhancing emotions, reducing stress or helping individuals to correct misinterpretations of their emotions (Bandura, 1991).

Self-Efficacy and Leadership

Individuals will have different ability appraisals depending upon the situation or activity. In other words, an individual may have high self-efficacy judgments in regards to one activity over another. In this way, self-efficacy is best assessed through domain specificity. The purpose of this study is to understand self-efficacy in relation to leadership. While the study of self-efficacy has been related to educational pursuits, health, clinical therapy, athletic performance and career development, it has not been fully incorporated into leadership theory (Bandura, 1997; Denzine, 1999). This is surprising given that “viewed from the social cognitive perspective, what leadership researchers have been describing for years is a person engaged in self-regulation in a complex and ever changing task setting and leadership setting” (McCormick, 2001, p. 28).

Literature that has connected leadership and self-efficacy has done so in a way to promote the incorporation of the two ideas. In his review of leadership theory, Chemers (2000) described leadership self-efficacy as one of the most promising sources for understanding leadership performance. In addition, he concluded that leadership self-efficacy might serve as the connection between contingency/situational models of leadership and transformational leadership. He stated that “the fit between the leader’s

personal characteristics and situational parameters is an important determinant of a leader's confident and efficacious behavior – behavior that is the basis for the critical functional elements of leadership. That behavior, in turn, gives rise to the effective group processes and positive perceptions by observers that constitute transformational leadership [*sic*]" (p. 36).

Several studies have examined leadership self-efficacy as a predictor of leadership performance. In a dissertation study, Depp (1993) may have been the first to apply the domain of leadership to self-efficacy. Her research focused on leadership self-efficacy as a predictor of community involvement. An interesting component of this research was that the leadership self-efficacy variable was split into internal leadership efficacy and external leadership efficacy with the former measuring leadership efficacy at an organizational level and the latter measuring leadership efficacy at the societal level. These two constructs are closely related to the leadership efficacy that might occur at the group and community levels of the SCM. Magyar (2002) investigated leadership efficacy as a predictor of leader performance for collegiate rowers. The study revealed that personal and situational factors influenced leadership efficacy which in turn influenced behavior (performance). In another study, self-rated leadership efficacy was related to leader evaluations by peers, instructors and outside observers (Chemers, Watson, & May, 2000). They concluded that leadership efficacy contributes to actual leadership performance and not the perception of competency. Lastly, McCormick (2001) proposed a model that characterized the influence of leadership self-efficacy on behavior as described by Chemers above. In McCormick's model, components of self-regulated behavior, including self-efficacy, influenced individual behaviors and the

leadership environment. Even at the time of his article, McCormick noted that no research had been produced examining the relationship between a leadership development program and leadership self-efficacy.

Predictors of Leadership Self-Efficacy

At this point, a general overview of leadership theory and leadership development has been provided. The social change model has been presented as the foundational leadership development model represented in this study. In addition, the theories of student involvement and social cognitive theory have been presented to understand the nature of leadership self-efficacy. The focus of this review of literature will now turn to a review of the predictors, both personal and environmental, that influence leadership self-efficacy.

The literature that reviewed the predictors of leadership efficacy was sparse. In a dissertation study, Endress (2000) concluded that a leadership education class was a predictor of increased self-efficacy for relational leadership in the specific collegiate environments of on-campus employment, co-curricular involvement and an academic leadership class. While this dissertation is the only such documented research concerning the predictors of leadership efficacy, it does so with a limited population at a single institution. The sample size was so small in some instances the author cautions against the ability to generalize the findings.

In a construct related to leadership efficacy, Chan and Drasgow (2001) sought to understand individual differences in relation to the Motivation To Lead (MTL). Their MTL construct is similar to self-appraisals or determinants of efficacy; however, they also use leadership self-efficacy as a predictor of MTL. They found that leadership self-

efficacy mediated personality, individual values and leadership experiences in relation to MTL. This study is important in that it found individual differences related to leadership self-efficacy and that general cognitive ability was not related to MTL (or leadership self-efficacy). In other words, prerequisite skills did not influence the perceptions of individuals concerning their interest to participate in leadership. A limitation of the study was the lack of inclusion of situational or environmental variables.

Since the literature on leadership self-efficacy is lacking, relevant literature from studies of leadership and self-efficacy will supplement this section. It is also important to point out that most of the studies cited below do not focus specifically on student populations participating in military education programs, but instead on a more general postsecondary enrollment.

Background Characteristics and Leadership Self-Efficacy

Gender. Women's patterns of relating and developing are different than those experienced by men. Evidence of these developmental patterns can be found in psychosocial/identity development theories (Chickering & Reisser, 1993; Josselson, 1987; Straub, 1987;) moral development literature (Gilligan, 1982) and cognitive development literature (Baxter Magolda, 1993; Blenky et al., 1986; Goldberger, 1996). Belenky et al. (1986) sought to understand why women seem to doubt their intellectual competence and why they tend to conceptualize themselves outside of authority. Their work provided insight into gendered patterns of knowing such as silence and connected/separate knowing. Their discovery of connected knowing in women pointed to the importance of relations and individual experiences in the knowing process.

Women are also socialized in such a way to be collaborative and relational while men are expected to be competitive and aggressive (Komives, 1991). Therefore, women tend to approach leadership from a participatory style encouraging collectivity and reciprocity while deemphasizing hierarchal relationships (Astin & Leland, 1991).

This evidence would tend to support the notion that the ways in which women develop are closely associated with a relational, process-oriented approach to leadership and would therefore support differences in the way leadership is perceived based upon gender. Yet, the literature in leadership studies demonstrating the differences between the genders has been mixed. Endress (2000) indicated that women were more efficacious in the process of relational leadership than men. In addition, Whitt (1984) found that women reported gains in self-confidence and self-efficacy to leadership experiences.

Additional studies in related research have tended to support the differences between men and women. However, these findings appear to be influenced by environmental climate. When exploring the differences between men and women in terms of leadership development, women scored higher than men on six of the eight constructs of the SCM (Dugan, 2006a). The only exceptions were collaboration and controversy with civility (Dugan). Women also scored higher on all constructs of the SCM in the follow-up to Dugan's study (Calizo, Cilente & Komives, 2007). However, Eagly and Johnson (1990) found that the strength of the difference between men and women's leadership style was influenced by the environment in which leadership was practiced. Environments that were more socially influenced diminished the differences in leadership among men and women. In addition, when the environment is traditionally

male dominated, women are less efficacious in their abilities to perform in the environment (Betz & Hackett, 1981).

While women may be well suited for leadership experiences, they tend to not express aspirations toward leadership (Boatright & Egidio, 2003). Men tend to rate themselves higher in leadership ability and show greater evidence of gains in their leadership perceptions during the college years (Astin, 1993; Kezar & Moriarty 2000). In a study exclusively on gender from the MSL data, women also scored lower on leadership self-efficacy than men (Calizo et al., 2007).

On the other hand, there does not appear to be a difference in terms of men and women's involvement in leadership experiences (Schuh & Laverty, 1983). Furthermore, leadership experiences have been shown as equally influential to the development of leadership ability and skills for both men and women (Cress et al., 2001; Moriarty & Kezar, 2000).

Two implications can be drawn from this review of research on gender and leadership. First, it appears that women may have some advantage in terms of transformational leadership especially as displayed through the values of the SCM. Second, this difference may present itself through perceptions of skills, but women still suffer from constraining beliefs with regards to their role in the leadership process (Astin & Astin, 2000). Therefore, these constraining beliefs influence leadership efficacy and the practice of leadership.

Race/ethnicity. The literature reveals similar implications for students of color and leadership self-efficacy. In her study of the effects of several college environments

on leadership self-efficacy, Endress (2000) did not find any differences with regards to race.

However, there does appear to be differences in development for students of color (Helms, 1995; Tatum, 1997). These developmental differences affect a student's involvement which will influence leadership development and one's feelings of efficacy toward leadership. Ethnicity is considered to have an influence on social learning and self-efficacy as the customs and values of groups shape and regulate behavior (Bandura, 1997). Furthermore, Arminio et al. (2000) found that students of color do not tend to identify as leaders. This could be due in part to a conflict between a social influence of leadership as "the leader" and a preference to practice leadership in a participatory manner and rely on team processes (Armino et al.). These students may be less likely to identify as a leader since their social process of leadership is different than a socially constructed leader-centric view of leadership.

A preference for a more relational form of leadership is also reflected in the types of experiences that influence leadership development for African American students. Kezar & Moriarty (2000) found that co-curricular experiences were particularly influential for African American men and women as involvement in a leadership class and working on group projects were both significant predictors of leadership. The only significant extracurricular experience for African American males was participation in service opportunities which could also be influenced by a preference for a more relational form of leadership. This research supports the findings that students of color excel in the group and societal elements of leadership development (Dugan, Jacoby, Gasiorski, Jones & Kim, 2007).

Environments and Leadership Self-Efficacy

For both gender and race/ethnicity, environments played a role in leadership. Involvement experiences are also important predictors of leadership in general and leadership self-efficacy. However, only one empirical study has considered leadership self-efficacy as the dependent or outcome variable (Endress, 2000). In Endress' study, besides gender, prior leadership education was significant in predicting leadership self-efficacy. No other variables had a significant effect at the multivariate level. However at the univariate level, leadership classes also proved to be significant. Because this is the only research that explores the development of leadership self-efficacy and because of the limitations of this study, the predictors of general leadership development will also be included in this section.

Environments were also important to the development of leadership identity in the formulation of the Leadership Identity Development (LID) model (Komives et al., 2005) which was discussed briefly at the beginning of this chapter. This model provides evidence that individuals move from understanding leadership from the popular notions described earlier (Rost, 1991), to a post-industrial understanding of leadership described as a process of individuals engaging with one another toward change. This change in understanding leadership is facilitated through college environments. Since a change in understanding of leadership itself would be expected to influence an individual's efficacy beliefs, it is important to focus briefly on the environmental influences identified in the Leadership Identity Model (Komives et al.).

Four developmental influences provided the environmental contexts that promoted the development of leadership identity (Komives et al., 2005). These

included adults, peers, meaningful experiences and reflection. While the role or impact that these influences had on development changed over the course of the developmental process, all four continued throughout the process. First, adults through family members were supportive and encouraging agents in the leadership process. In this role, adults served to build confidence in individuals. Others outside the family also began to serve as role-models for actions and behaviors and provided some concept of a leader. Adults then moved into a role of mentoring individuals in the leadership process. They encouraged participation and engagement and often were the ones who sponsored individuals into groups. In the final stages of leadership identity development, adults started to take on the role of a peer and friend who listens to the concerns of students as they struggled through issues.

Second, peers served to influence the development of leadership identity as friends and role-models, sponsors, and then followers, teammates and collaborators (Komives et al., 2005). Similar to roles that adults shared in the leadership process, peers first began as friends and examples by which individuals modeled their behaviors. Peers also sponsored others into groups inviting them to participate in events or join groups. Within those group experiences, the role of peers developed from followers to teammates and finally collaborators. This changing role of peers in the leadership process demonstrates the development of a post-industrial ideological perspective of leadership.

Engagement in activities also served to influence the development of the leadership identity. These involvement experiences serve as the “training ground” for the development of the leadership identity (Komives et al., 2005, p. 598). Involvement

experiences served different purposes in the developmental process. The experiences provided membership with others of similar interests. The experiences also provided a way for individuals to experience something larger than themselves and a way for individuals to influence change.

The final element identified as influencing leadership identity was a form of critical reflection (Komives et al., 2005). Individuals needed structured opportunities to reflect upon experiences and ideas. This process of reflection, whether in the form of journaling or critical conversations, provided individuals the opportunity to perform a self-assessment influencing their own growth and development. As these environmental contexts influenced the way individuals thought of themselves and their role in leadership, they would potentially influence an individual's efficacy beliefs.

Participation in college leadership experiences has also shown a positive relationship with leadership skills and abilities. Students, who participated in leadership programs, showed greater gains in leadership knowledge, skills and abilities than individuals who did not participate in leadership activities (Cress et al., 2001; Dugan & Haber, 2007; Zimmerman-Oster & Burkhardt, 1999). Because leadership experiences are important to leadership development, and leadership development is predicted to influence leadership self-efficacy, the types of experiences that are likely to have the most impact will now be considered.

Student interaction and mentoring. In meta-analysis researching the impact of college on students, peer interaction is noted as a significant predictor in college outcomes (Astin, 1993; Pascarella & Terenzini, 2005). Pascarella and Terenzini (2005) indicated that the college's impact on leadership development may be more general in

terms of student to student interaction than specific, except with regards to leadership programs. In addition, Astin (1993) found student to student interaction as the most important component to growth in recognizing oneself as a leader.

Student to student interaction presents itself in both curricular and extracurricular forms such as working on class projects or fraternity or sorority membership. Some of the many ways that students interact with one another on campus that influences leadership development will be discussed in further detail in this section. In Astin's (1993) longitudinal study of college impacts, student interaction in the form of fraternity and sorority membership, intramural sports, volunteering, tutoring other students, participating in group projects and preparing class presentations all yielded larger than average increases in leadership.

A student's classroom experience has a significant impact on leadership development. A key characteristic of leadership programs that influenced student development was the inclusion of active learning within the classroom (Cress et al., 2001). In addition, working on class and group projects predicted leadership and the development of leadership skills after accounting for differences in race and gender (Moriarty & Kezar, 2000).

Because of the influence of peers on the development of leadership, it might be predicted that peer mentoring would influence leadership development; however, no study has explored this possibility directly. Exemplary leadership programs have been identified as including participant involvement in the program design and including program graduates as mentors (Zimmerman-Oster & Burkhardt, 1999). Additionally, role models were identified as important for student success and yet for students of

color, role models were particularly difficult to identify on campus (Arminio et al., 2000). At midsized institutions, students who had previously served in a leadership role were often identified as role models for students of color (Arminio et al.).

Faculty interaction and mentoring. Second only to student to student interaction is faculty to student interaction. Similar to research on student interaction, faculty to student interaction is important to student development during college (Astin, 1993; Pascarella & Terrenzini, 2004). Astin's research found that not only was faculty to student interaction associated with the development of leadership qualities, but also that a strong research orientation of the faculty is negatively related to leadership development. He concluded that a faculty with a strong research orientation would have less time to devote to student interaction and would therefore lessen faculty to student interaction which is positively related to leadership development.

A large percentage of exemplary leadership programs include a form of adult mentoring or guest speakers as a component of the program (Zimmerman-Oster & Burkhardt, 1999). In a study of over 10,000 students, Jordan and Nettles (1999) concluded that the type of environment, structured versus unstructured, in which the leadership activity is conducted can also influence the opportunity to interact with role models. Structured leadership experiences provided greater opportunities to interact with role models and positively correlated with continued leadership participation. Identifying appropriate role models on campus was a significant challenge for students of color and women; however, having a significant adult mentor was important to leadership development (Armino et al., 2000; Calizo et al., 2007; Komives et al., 2006; Whitt, 1994).

Leadership education. The role of formal classroom instruction, workshops and seminars on the development of leadership has been consistently positive (Astin & Cress, 1998; Cress et al., 2001, Moriarty & Kezar, 2000). Students who participated in leadership classes report the highest levels of leadership ability (Moriarty & Kezar, 2000). This finding is consistent regardless of gender or ethnicity.

In a review of model programs that implemented the SCM within the program structure, seminars and workshops were the most common program activity for leadership development (Zimmerman-Oster & Burkhardt, 1999). In addition for students who participated in leadership courses, a gain was reported in the theoretical understanding of leadership and an interest in developing leadership in others (Zimmerman-Oster & Burkhardt). In a review of the types of campus experiences that influence the seven values of leadership in the SCM, leadership courses and workshops supported the development of common purpose and citizenship (Dugan, 2006b). Again, in support of earlier research, gender was neutral with regards to the positive impact of education on leadership development via the SCM (Calizo et al., 2007).

Experiential learning. Service opportunities provide individuals with the opportunity to practice leadership. The number of hours a student spends volunteering has a direct relationship with the development of leadership skills (Astin, 1993; Cress et al., 2001). In their review of the outcomes of leadership experiences Cress et al., identified service as one of the three elements of leadership programs directly impacting student development. In addition, involvement in service experiences enhanced social self-confidence which may be related to an individual's leadership self-efficacy (Astin & Sax, 1998).

As mentioned previously, service was the most significant predictor of leadership ability in African American men and the only extra-curricular involvement experience that displayed an impact for this group (Kezar & Moriarty, 2000). Additional research investigating the differences in leadership between men and women confirmed that service experiences were more powerful for men than they were for women. (Calizo et al., 2007).

In Dugan's (2006b) study designed to understand the relationship between involvement and leadership via the SCM, service was the most significant predictor of leadership. Participation in service opportunities was significantly related to six of the seven leadership constructs (Dugan). Only controversy with civility was not significant; however, none of the involvement experiences explored in the study affected this construct.

While limited research exists on the relationship between internships and leadership development, a few findings do indicate that it is an important factor to consider. Cress et al. (2001) determined that an individual's perceived leadership potential was influenced by participation in internship experiences whether or not that experience was a part of a larger leadership program. Moriarty and Kezar (2000) found that internship experiences were particularly influential for males in the development of leadership. The conclusion is that internship experiences would be important to leadership development for all students.

Athletic participation. The research on the influence of sports participation on leadership development has resulted in mixed results (Pascarella & Terrenzini, 2004). While Astin's (1993) longitudinal study identified intramural sports as a predictor of

leadership, other studies found no relationship between sports participation and the development of leadership skills (Cornelius, 1995). Other studies have suggested that the relationship between intramural participation and leadership development may be dependent on other student characteristics (Kezar & Moriarty, 2000).

Positional leadership. Since the focus of leadership research prior to the post industrial era was on the leader, most leadership studies have examined leadership from the role of the leader. In fact, it is difficult at times to disentangle leader studies from leadership studies. A few research studies have specifically examined holding a leadership position on the development of leadership. Evidence suggests that students who held formal leadership experiences were different at college entry than those who did not; however, their development continued to outpace those who did not hold leadership positions (Cooper, Healy & Simpson, 1994). This finding indicates that the leadership role provides opportunities for leadership development. Moriarty and Kezar (2000) suggested that the effects of positional leadership may be dependent on gender and race characteristics as holding a formal leadership position was only influential for white males in their study.

While these background predictors provide a general overview of the types of variables that are related to leadership self-efficacy, these studies have not focused specifically on individuals in military programs but a more general student population. As military programs have a very unique culture, values and history, the very nature of the program influences how leadership is experienced. It is important then to understand the nature of these programs and their general approach to leadership and its relation to leadership self-efficacy.

Military Education Programs

As the purpose of this study is to understand the relationship between college experience and leadership development on leadership self-efficacy for those in military education programs, the focus of the literature review will now specifically be directed toward understanding the military component and its outcomes. Military education programs provide the specific environment in which the different predictors of leadership development and self-efficacy operate such as leadership courses, positional leadership and mentoring. The background of military education programs in institutions of higher education will be explored followed by the characteristics of the student population in military education programs. While military programs operate within the different branches of service (Air Force, Army, Navy), they have a similar program of instruction in order to prepare students for military service. The theory and underlying purpose of these components will be discussed in relation to the SCM. This section will conclude by investigating how the program of instruction, intended to promote leadership development, affects leadership self-efficacy among students in military education programs.

Background

The formation of military programs on college campuses dates to the nineteenth century. Military academies such as The Citadel and Norwich had formed to provide the training and the officer corps needed to fight the Civil War (Axe, 2007). Following the war, civilian institutions of higher education were created with the passage of the Morrill Land Grant of 1862. Morrill included in the bill a provision that these civilian institutions would provide military training (Axe, 2007; Brubacher & Rudy, 1997;

Nierberg, 2000). It is important to consider this tradition because the purpose for establishing military training at civilian institutions was to create an officer corps that reflected the value system of the American society established in the tradition of the citizen-soldier.

Civilian colleges and universities, not the armed services, led the way in creating on-campus military training programs. From the early nineteenth century to the present, the administrators of American higher education have believed firmly that the national defense requires skilled young officers, but that these young men should not be prepared exclusively by the military itself.

(Nierberg, 2000, p. 2)

The passage of the National Defense Act of 1916 formalized the relationship between institutions of higher education and the military with the creation of the Reserve Officer's Training Corps. With the United States facing a serious manpower shortage as it prepared to enter World War I, ROTC units expanded on college campuses with 40,000 cadets in 1917 (Axe, 2007). By 1945, ROTC graduates accounted for 12 percent of Army officers (Axe). Later, the ROTC Revitalization Act of 1964 provided the scholarship funding needed to attract potential cadets in an era of declining enrollment and debates about its place on campus (Neiberg, 2000). In an effort to keep the ROTC program alive, approximately six years later, the Air Force opened its recruitment to women, and the other services followed suit (Neiberg). It was not until the late 1970s and early 1980s that the ROTC programs began to stabilize after pressure from colleges and universities to upgrade curriculum and staff standards (Neiberg). While the 1990s again experienced declining enrollment due to the end of

the cold war and military policies concerning gay enlistment, a significant change occurred on September 11, 2001, and interest in the military began to rise. Schools such as UC Berkeley, the University of Florida, and the University of Maryland experienced such rises in ROTC applications that waiting lists were created (Angelo, 2002).

ROTC and military education programs have served a large number of students and fulfilled a significant role for the armed services. Between 1945 – 2000, 400,000 students participated in ROTC programs (Axe, 2007). Today, over 270 colleges and universities host military education programs with over 200,000 students involved in the programs (Lauritzen, 2007; Samuels, 2001). In addition, approximately two-thirds of the Army's commissioned officers are developed in these programs (Lauritzen). Senior military colleges such as Norwich, The Citadel and Texas A&M not only host ROTC programs but continue in the tradition of the military college with a Corps of Cadets. The Corps of Cadets provides military training and leadership opportunities to a larger number of students than just those who participate in the ROTC program. The term military education programs is used throughout to indicate the inclusion of students who participate in the Corps of Cadets and students who have enrolled or participated in these programs beyond those who are on contract with ROTC.

Characteristics of Students

Military education programs serve a significant role as they are available on many college campuses and a significant number of students are involved. Several studies have been conducted to understand characteristics of the student population that participates in military education programs; however, they reach contradictory conclusions. Goertzel and Hengst (1971) conducted an empirical study comparing the

demographic variables and attitudes of ROTC and non-ROTC students at the University of Oregon. The findings suggested that the ROTC cadets do not differ greatly from male university undergraduates on most background variables including family income and parents' education. Significant differences were reported between the personality differences of ROTC and non-ROTC students, such as authoritarianism, intolerance and conservatism (Goertzel & Hengst). Card (1977) reported contradictory findings in a cross-sectional study with nationwide sample of high school seniors, ROTC college students, non-ROTC college students and ROTC graduate Army officers. The findings suggested that ROTC cadets differed from non-ROTC college students in their demographic background as well as their socio-psychological profile. A major limitation of both studies is their age. These studies were both conducted at a time when military education programs were being redefined on college campuses. They were also conducted before the introduction and widespread acceptance of women into ROTC programs.

More recent military studies have concerned the retention of students in ROTC programs and investigated the differences between students who participated in the basic course, which is open to anyone and those who participated in the advanced course, which is reserved for students pursuing a military career and commission. In a study by Ivey (1982), gender, SAT scores, GPA and general cognitive ability did not appear as significant differences between basic and advanced course participants. Differences were found in relation to the background characteristics of students including age, race, parent's education and military experience, prior military experience of the student, marital status and class year (Ivey). Differences were also

found in relation to university characteristics, such as college attended and ROTC program size, and college experiences, such as ROTC GPA, career intent, and ROTC scholarship (Ivey). Chen (1993) also investigated differences in students choosing a military career. She found differences between ROTC and non-ROTC students in terms of age, political beliefs, and father's military background. In addition, she also found that ROTC students were more confident in their leadership abilities than non-ROTC students (Chen). Blackwell (2004) also found differences between ROTC students on scholarship and students participating in the Corps of Cadets. These differences were associated with academic classification, gender, age, prior leadership experience, military affiliation and experiences in positional leadership.

Given the findings from both the earlier studies conducted prior to changes in the military education programs and the more recent findings, there appears to be differences in the background characteristics of students who participate in military education programs. In addition, given the findings in the Chen (1993) study, it would be expected that students who participate in military education programs would be more efficacious in their leadership abilities. Therefore, students characteristics would be expected to have a relationship with leadership self-efficacy.

Leadership Development Experiences

The general goal for students who participate in military education program is to train leaders who will ultimately protect and defend the country through service. Army's Cadet Command states this mission is to "commission the future officer leadership of the U.S. Army and motivate young people to be better citizens" (Shambach, 2006, p. 34). This mission exemplifies the citizen-soldier ideal that undergirded the formation of

military education programs on college campuses. The vision of military education programs then, is to develop leaders who are confident in their abilities, committed to the values of military service, display moral and physical excellence, and bring diversity to the officer corps (Shambach).

While each branch of the military has its own approach to leadership development, they have several common dimensions. The Army indicates that its leadership development rests upon “three pillars: institutional training and education, operational assignments, and self-development.” (CAL, 2001, p.3). The Army ultimately places these pillars in a leadership conceptual framework of leadership that is built upon the principles of Be, Know, Do (Hesselbein & Shinseki, 2004). The Navy describes its leadership development as including “education, training, and professional development” (CNET, 2002, p. IV-1). Similarly, the Air Force describes its leadership development as a “never-ending process of self-study, education, training and experience” (Lester, 2001, p.xiii). The Air Force also describes leadership as a process of being, knowing, and doing. (Lester). All espouse the common leadership development elements of education/knowing, training/being, and experience/doing.

Each service has a division of education and training that prepares the educational components of its program and the curriculum presented in its college-level courses. Professional training and the characteristics of leaders are presented in the services’ core competencies and these detail the leadership expectations of officers. Training is directed by the professional staff in each military unit as well as through the cadets and student leaders who participate in the program. Experience is gained through field experiences, special camps, and ship tours that are usually offered during the

summer. In addition, students gain experience by participating in the leadership of the military unit. Each command is designed around a leadership structure that provides students with increasing responsibility throughout their university experiences. Wilson (2006) provided an overview of these leadership development experience depicted in Table 1.

The process of leadership development is progressive so that students build upon knowledge, skills and abilities throughout the course of the program. The program starts at the individual level and progresses to team and organizational levels of leadership (Shambach, 2006; Wilson, 2006). Wilson (2006) described the theoretical underpinnings of ROTC programs to progress from followership, through team leadership, to transformational leadership. Shambach explained that each class experiences different levels of leadership involvement based upon this progression:

- Freshmen focus on personal leadership attributes. They learn military values, mission and customs. (followership)
- Sophomores develop interpersonal leadership skills. They serve as role models for the freshmen. (transition to team leadership)
- Juniors practice team leadership and facilitate leadership of those who are in the basic course (Freshman/Sophomores). (team leadership)
- Seniors operate at the organizational level and work toward improving the unit toward its goals. They effectively organize the team to accomplish its purpose. (transformational leadership)

Table 1
Leadership Development through ROTC Programs

	Army	Air Force	Navy/Marines
Education	<p><i>Military Science & Leadership (MSL)</i></p> <ul style="list-style-type: none"> • Basic I/II • Officership/basic leadership • Leadership Teamwork <p><i>Basic Officer Leader's Course (BOLC)</i></p> <ul style="list-style-type: none"> • MSL III/IV • Leadership Development & Assessment Course • Baccalaureate degree with military history 	<p><i>General Military Course (GMC)</i></p> <ul style="list-style-type: none"> • AS100 & AS 200 <p><i>Professional Officer Course (POC)</i></p> <ul style="list-style-type: none"> • AS300 & AS400 	<p><i>Basic Course</i></p> <ul style="list-style-type: none"> • Intro to Naval Science/Naval Affairs • Ship Systems /Leadership & Management <p><i>Advanced Course</i></p> <ul style="list-style-type: none"> • Navigation • Naval warfare • Leadership & Ethics
Training	<p><i>Leadership Laboratory with base visits</i></p>	<p><i>Practical Military Training (PMT)</i></p> <ul style="list-style-type: none"> • Leadership Laboratory (LLAB) • Military drills & ceremonies • Base visits • Physical fitness 	<p><i>Naval Science Laboratory Command and Leadership Training (CALT)</i></p> <ul style="list-style-type: none"> • Drill team • Inter-unit competition
Experience	<p><i>Cadet Unit Leadership</i></p> <ul style="list-style-type: none"> • Leadership Development Program (LDP) <p><i>Leader Development & Assessment Course</i></p> <ul style="list-style-type: none"> • Warrior Forge (National Advanced Leadership Camp) • 4 weeks • Prior to senior year • Conducted at Ft. Lewis 	<p><i>Cadet Wing Leadership</i></p> <ul style="list-style-type: none"> • Wing, Squadron, Flight Leadership positions <p><i>Air Force Field Experience</i></p> <ul style="list-style-type: none"> • 4-6 weeks • Prior to junior year • Conducted at AF bases 	<p><i>Midshipmen Brigade Leadership</i></p> <ul style="list-style-type: none"> • Battalion, Company, & Platoon leadership positions <p><i>Navy Field Experience</i></p> <ul style="list-style-type: none"> • Sophomore: Career Orientation and Training for Midshipmen (CORTRAMID) • Junior: At-sea training • Senior: At-sea training (surface and nuclear)

Leadership Development Theory

While this progression appears deliberate and potentially grounded in theoretical evidence, it would be difficult to identify one document that clearly articulates a theory of military leadership development for pre-commissioned officers. In fact, several military scholars have argued that such a document does not exist (Brown, 2002; Thirtle, 2002). Brown provided several sources that offer insight to the current principles of leadership, even though a formal doctrine has not existed since 1947. She concluded that the military needs to develop a formal doctrine that “acknowledges uncertainty and encourages the development of innovative leadership and followership practices” (p. 44).

Her evidence of a leadership theory in the services follows a similar progression as leadership theory espoused in contemporary society. It also recognizes that the military has been heavily influenced by contemporary, civilian, leadership theories, even in the absence of a written doctrine. This leadership theory progression begins with trait focused leadership theory that evolved out of World War II and an appreciation of war heroes. The armed services approach to leadership drew from civilian trait-focused leadership studies (Brown, 2002). As the United States entered the Cold War, the military’s approach to leadership shifted. This time, the focus was on teamwork and leadership training manuals, and included studies of leader-follower interactions (Brown). It is not surprising that in civilian leadership studies, group dynamics and behavior were also dominating the literature. In the 1960s and 1970s, competing missions in the services lead to an exploration of systems theory and contingency theories. Brown comments that training materials encouraged officers to apply appropriate leadership practices with an appreciation for the followers, context and mission. The end of the

Vietnam War undoubtedly changed the military, with the end of the draft and the introduction of an all volunteer force. It was during this time that ROTC programs began the scholarship programs in order to recruit college men into the military (Nierberg, 2000). Significant changes were being brought on the military and the military officers could relate to a leadership theory that understood the relationship between leaders and their communities (Brown).

This idea of a transformational approach to leadership is developing in the military today, and with events like the terrorists' attacks on September 11, 2001 and the following War on Terror that lacked a clear enemy, it is becoming even more clear that leadership is no longer unidirectional and directed by one person (Allen & Cherrey, 2000). It could not be more evident that even positional leaders lack unchecked authority. The process is multi-directional involving leaders and followers that are "inextricably bound up with one another" (Hackman & Wagman, 2007, p. 46). This idea of transformational leadership recognizes that in order for military leadership to be successful, it must recognize that individuals are participating in a process that is larger than individual skills and talents and must work to improve the system in order to sustain the organization for the future (Corbett, 2001; Dannithorne, 1994; Ulmer, 1998).

Military Leadership Theory and the SCM

While the military has not provided a formal leadership development theory, the practices conducted within college military education programs are closely aligned with socially responsible leadership. In fact, Shambach's (2006) recent review of the Army's leadership development programs called for closer investigation of the SCM to provide a framework for military education programs. The concepts in the SCM of followership,

team leadership (or small troop leadership) and service before self are very similar to the ideas represented in the individual, group and community values of the SCM (Eisen, 2003). To understand the relationship between these components, the following will provide an overview of the military education program progression within the framework of the SCM.

Individual values and followership. During the first year of military education programs, students are led through a process of followership or what Dannithorne (1994) describes as a process of “getting to zero” (p. 20). It is a personal process of individual development and learning military values, customs, and mission. As mentioned previously, the individual values of the SCM are consciousness of self, congruence, and commitment. Consciousness of self, or recognizing the beliefs and values that motivate oneself to action, is similar to the self-management characteristic of followership as self-management is the ability to take responsibility and create change in oneself (Johnson & Harper, 2005; Kelley, 1996). Congruence or acting in accordance with one’s values is similar in nature to the moral aptitude component of followership. Moral aptitude calls one to share knowledge and insight into a situation even if it could result in personal loss (Bennis, 1996). Commitment requires investment in the activity and recognizes the importance of the mission and goals of the organization. This is explicit in both the theory of followership and in the individual values of the SCM.

Group values and team leadership. The group values of the SCM are collaboration, common purpose, and controversy with civility. These values are all inherent in the process of team leadership. Through the process of learning followership, individuals begin to learn that the group can outperform the individual, and that the

product is greater than the sum of the parts. They begin to develop interdependence, realizing that the accomplishments of the group are dependent upon everyone. This is the very process of collaboration. The team approach to leadership is also reflected in such military mottos as “ship, shipmate, self” (Johnson & Harper, 2005). First and foremost is the “ship” which represents the organization, goal or mission. This identification of the mission is the development of a common purpose. In order for the mission to be accomplished or the team to perform optimally, individuals must depend upon one another. This process includes mutual accountability in that individuals must be cognizant of the interests of others and work toward mutual care and protection (Johnson & Harper, 2005). Inherent in this process would be approaching controversy with civility.

Societal/community values and transformational leadership. The SCM model espouses citizenship as the outcome or goal of the social change process. This, too, is the goal of military education programs as the intention of the military leadership development process is to motivate individuals to become better citizens (Shambach, 2006). This is the process of working toward change on behalf of others, which is the purposeful intent of public service. This is the service, mission, and role of the military on behalf of the American public.

This overview of the military leadership development process clearly aligns within the framework of the SCM. Therefore, the SCM can provide the theoretical model for understanding military leadership development. In this study, the SCM will be used to understand the relationship between leadership development and leadership self-efficacy for those involved in military education programs. It is therefore important to review the research related to leadership self-efficacy for those in military education programs.

Leadership Self-Efficacy within Military Programs

There was no empirical research that investigated the relationship between participation in military education programs and perceived leadership self-efficacy. Therefore research that has been conducted with this population of students in related studies will be reviewed for connections to the research on general student leadership development and leadership self-efficacy.

There is no clear evidence on the relationship between gender and leadership within military education programs. As the studies discussed earlier in this chapter indicate, gender has been a significant difference between ROTC and non-ROTC students. This may not come as a surprise as the military has traditionally been male dominated, and it has only been since the introduction of the all volunteer force that women have entered the military in increasing numbers as officers. Women were first recruited for the officer corps through ROTC programs as a way to maintain the officer corps (Nierberg, 2000). Following the Vietnam War, the military suffered from declining recruits into the officer corps and women were allowed to commit in an effort to stabilize recruitment. However, women still did not hold equal status with men in the military as service selection options for women were limited through the combat exclusion rule (Stevens, 2008). This rule excludes women from various service assignments due to the belief that women are not physically or psychologically suited for war (Stephens, 1997). Differences for women in the military have been displayed through such policies as different uniform standards throughout the years and gender-normed physical readiness standards (Pershing, 2003). In fact, Pershing contends that gender is even more salient than race in the military due to these different policies and the demographic makeup of

the military forces. While racial minorities are represented in the military proportionally with societal demographic trends, women are still underrepresented in the military based upon these standards (Pershing). While the literature on gender and new approaches to transformational leadership shows some advantages for women in a relational leadership process, the literature on gender in the military indicates that these advantages may not exist.

Both Jordan (1987) and Blackwell (2004) found differences between genders with regards to leadership. Jordan's study indentified gender as a factor contributing to peer ratings of leadership with males scoring higher than females on peer ratings. However, this finding may be an artifact of peer interaction as females lived in different quarters than males reducing their opportunity for interaction. Blackwell's study confirmed research presented earlier in this chapter as he found differences in leadership style between men and women. Self and peer ratings of leadership were not provided in his study. On the other hand, several research studies, including a multi-institutional study, concluded that no differences existed between gender and leadership within military education programs (Chemers, Watson, & May, 2000; Griego, 1997).

The relationship between race and leadership was not clear either. Jordan (1997) again found differences in ratings based upon race. White students were rated higher by both black and white students, than were black students. However, when considering race in terms of leadership style, Blackwell (2004) found no differences.

Other personal and environmental characteristics were found to influence studies of leadership within military education programs. Academic classification and years in the military program were found to contribute to both peer and self ratings of leadership

(Chemers, Watson, & May, 2000; Griego, 1997) In addition, Blackwell (2004) found that, as rank in leadership increased (more formal leadership roles), students began to display a more transformational leadership style than those who were in lower ranks in the programs. This might also be a product of years in the program or academic classification as students who hold higher ranks in the military programs tend to be those with more years and experience in the program who are typically upper class students.

Students who had completed field-training rated their leadership higher than students who had not completed field-training (Griego, 1997). Field-training experiences are intended to provide students with specialized and individualized professional development opportunities. These experiences are similar to internships in which student are acquainted with the life, duties, and responsibilities of officers on military bases and aboard ships. Since individuals who have completed field-training are also upper-level students, this might be an artifact of academic classification or age. However, since previous research also suggests that internships are significantly related to leadership development, it might be assumed that these experiences add to one's perception of leadership competency (Cress et al., 2001; Moriarty & Kezar, 2000).

While college student leadership development studies had found significant differences between formal leadership courses and leadership development, no study examined this relationship for military education programs. One reason this might be is because of the different focus of leadership development between academia and the military (Nierberg, 2000). Military education programs tend to be more action-oriented and focused on behavioral changes while universities tend to have a more education-oriented approach embedded in leadership courses and curricula (Shambach, 2006). Since

differences have been found for non-military college students which relates leadership courses with development in citizenship (Dugan, 2006b), understanding the impact of professional military courses would also be an significant consideration given the importance of citizenship to military education programs.

Furthermore, no studies were found that investigated the relationship between officer and faculty interaction to the leadership development of students in military education programs. Given the great emphasis placed upon the importance of senior officers within these programs and the record of faculty importance to the student leadership development process, it would be important to understand how influential they are to the leadership development of students (Cress et al., 2001). Additionally, it might be expected, based upon the importance of adult mentors to Leadership Identity Development model, that military officers, who could provide mentoring, would be influential to leadership self-efficacy.

Conclusion

In conclusion, this chapter has provided a review of relevant literature related to the relationship between leadership self-efficacy and participation in military education programs. Taking into account several personal characteristics, involvement experiences and leadership development are expected to influence leadership self-efficacy. Because of the similarities between the theory presented in the SCM and the process of leadership development that is conducted in military education programs, the SCM provides a good framework from which to consider leadership development. Because leadership is a social process and efficacy beliefs are influenced by experiences, involvement experiences are also expected to affect leadership self-efficacy.

The next chapter will provide the methods and procedures for the study. The study's conceptual framework will be presented in order to understand the relationship between student participation in military education programs and leadership self-efficacy.

Chapter 3: Methodology

The purpose of this chapter is to provide an overview of the methods and procedures used in the current study. Following, the research questions are restated with the corresponding hypothesis. Then, the design of the study will be introduced including the survey instrument, sampling strategy and subjects. The conceptual framework guiding the study including the independent and dependent variables will then be presented. The chapter will conclude with an overview of the analytical methods employed.

Research Questions and Hypotheses

The purpose of this study is to understand the relationship between college experiences and leadership development on leadership self-efficacy for students who participate in military education programs. The research questions and hypotheses for the study follow:

1. Is there a difference between students who participate in military education programs and those who do not in terms of leadership self-efficacy?

Hypothesis 1: Students who participate in military education programs will self report greater leadership self-efficacy than students who do not participate in military education programs.

Chen (1993) reported that ROTC students were more confident in their leadership abilities and possessed a stronger drive to achieve than students who were non-ROTC participants. Therefore, it would be expected that students who participate in military education programs would be more efficacious in their leadership abilities than students who do not participate in the programs.

2. Is there a relationship between the individual, group and community values of the social change model and leadership self-efficacy for student involved in military education programs?

Hypothesis 2: A positive correlation exists between the individual, group, and community values of the social change model and leadership self-efficacy for students who participate in military education programs.

While no formal leadership development model exists for military education programs (Brown, 2002; Thirtle, 2002), the programs are designed around core elements of leadership education, training, and experience (Center for Army Leadership, 2001; Hesselbein & Shinseki, 2004; Lester, 2001). These experiences are progressive--beginning with individual development, followed by team and organizational leadership (Shambach, 2006; Wilson, 2006). The concepts of followership, team leadership and service before self, which are included in the progressive military program, are closely related to the individual, group and community values of the social change model (SCM) (Eisen, 2003). A more detailed explanation of the relationship between the leadership values represented the SCM and military education programs can be found in Chapter 2. Therefore, it would be expected that a positive correlation would exist between the individual, group and community values of the SCM and leadership self-efficacy.

3. How do student background characteristics, leadership education, mentoring, athletic participation, experiential learning, holding a formal leadership position, and leadership development, contribute to a student's leadership self-efficacy?

Hypothesis 3a: Controlling for input characteristics (race/ethnicity, gender, class year), leadership self-efficacy will be significantly predicted by college experiences including leadership education, mentoring, athletic participation experiential learning and holding a formal leadership position.

Hypothesis 3b: Controlling for input characteristics (race/ethnicity, gender, class year), leadership self-efficacy will be significantly predicted by leadership development represented in the individual, group and community values of the social change model.

While very little research exists that directly examines the relationship between college experiences and leadership development for leadership self-efficacy, there is still evidence to conclude that a relationship will exist. Endress's (2000) study did investigate the relationship between college experiences and leadership self-efficacy. While the study included a more general college student population, a relationship did exist between leadership education and leadership self-efficacy.

In addition, there is evidence to suggest that environmental factors are related to leadership in general. Environmental factors played a key role in the way that individuals thought of themselves in terms of being a leader in the development of a leadership identity (Komives et al., 2005). Campus experiences including student interaction/mentoring, faculty interaction/mentoring, leadership education, experiential learning, athletic participation and positional leadership have all been related to gains in leadership skills and abilities or leadership development (Astin, 1993; Cress et al., 2000; Dugan, 2006b; Moriarty & Kezar, 2000; Pascarella & Terrenzini, 2004; Zimmerman-Oster & Burkhardt, 1999;). In addition, field training experiences for students in military

education programs have been related to individual perceptions of leadership (Griego, 1997). Given the evidence that a relationship exists between college experiences and other leadership outcomes, it would be expected that these college experiences would influence the way an individual perceives his/her ability to perform or participate in the leadership process.

Design

This *ex post facto* study was a secondary analysis of data collected by the Multi-Institutional Study of Leadership (MSL). The MSL provided a national, multi-institutional sample of self-reported data provided by undergraduate students. This study included data from students who indicated involvement in a military student group and a comparison group. Following, a description of the instrumentation, sample and data collection methods are described.

Multi-Institutional Study of Leadership

The Multi-Institutional Study of Leadership (MSL) was designed to understand leadership development for college students and the effect of college environments on leadership outcomes (Dugan & Komives, 2007b). The conceptual model utilized by the study was Astin's (1991) college impact model. The college impact model assesses the impact of college environments (E) on student outcomes (O) while controlling for pre-college characteristics, inputs (I). While the intended use of the I-E-O model is with a pre/post test or longitudinal design, the MSL utilized a one-time post-test design that incorporated a quasi-pre-test in the instrument. This quasi-pre-test will be discussed further in the outcome variable section of this chapter. In addition, the MSL utilized the

social change model (SCM), discussed fully in Chapter 2, as the theoretical foundation for the study.

The MSL provides several strengths to the current study. First, it measures both the college environments characteristic of military education programs, and leadership development via the social change model. In addition, the survey provides a reliable measure of the outcome variable of leadership self-efficacy ($\alpha=.88$). The MSL also provides insight into college student leadership development as few studies have focused specifically on this population. In addition, the multi-institutional design of the MSL included fifty-two institutions from multiple institutional characteristics (e.g. public, private, Carnegie classification and size). This approach supports the ability to generalize the findings better than a single-institutional sample. Since the MSL provides the best source for the study, the development of the instrument and the key scales included in the study will now be discussed.

Instrumentation

The Multi-Institutional Study of Leadership Student Survey (MSL-SS) was developed by a 19 member team of academic and student affairs staff at the University of Maryland (Komives, Dugan & Segar, 2006) (see Appendix A). The MSL-SS was designed to measure leadership in two ways. First, leadership is measured through the social change model (SCM) and assessed with the Socially Responsible Leadership Scale Revised Version 2 (SRLS-R2), originally developed by Tyree (1998) and revised by Dugan (Dugan & Komives, 2007a). In addition, leadership efficacy is measured through a leadership self-efficacy scale (LSE) designed by the MSL team. Two pilot tests were

conducted of the MSL-SS to test the reliability and validity of the items on the instrument before implementation in MSL study in the spring of 2006.

Additional information on tests of validity and reliability conducted on the SRLS-R2 and LSE will be provided in the Conceptual Framework section of this chapter.

Pilot tests. Two pilot tests were conducted on the MSL-SS. In October 2005, the initial pilot of the MSL-SS was conducted with a small group of students at the University of Maryland (Smist, 2006). The purpose of this pilot test was to consider factors such as clarity of items, completion time and participant fatigue. After this initial test, participants indicated that the instrument was too long and repetitive.

A more comprehensive pilot test was conducted in December 2005 (NCLP, 2008). This test was a web-based survey conducted with a random sample of 3,411 students at the University of Maryland. A total of 782 students participated in the study (23% response rate) with 88% completing the entire instrument. The results from the pilot test led to additional revisions of the key scales of the instrument and the creation of sub-studies from scales that were supplemental to the MSL. These changes were implemented in order to reduce participant completion time and raise the response rate. The two pilot studies of the MSL-SS included the SRLS-R. Following the second pilot test, this item set was reduced further for inclusion in the main study to respond to the concerns of instrument length and the completion rates. In addition, the second pilot provided the reliability test for the LSE scale.

Data Collection

This study utilized data from the MSL Spring 2006 national study. The data was collected using a web-based administration of the MSL-SS implemented through the

Survey Science Group (SSG). The national study was conducted with a purposeful sample of 52 institutions and a sample of 155,716 students (Dugan, 2008). Individuals were invited to participate in the study via e-mail and received up to four reminders in three weeks requesting participation in the survey. Responses were received from 56,854 or 37% of the sample population (Dugan, 2008).

Sampling Strategy

Over 150 institutions expressed interest in participating in the MSL with 55 institutions chosen based upon institutional characteristics (Dugan & Komives, 2007a; Dugan & Komives, 2007b). The MSL team was interested in maximizing the variation in the institutional sample so that the findings from the study would be more widely generalizable (Komives, Dugan, & Segar, 2006). Institutions were selected based upon their size, Carnegie classification, institutional control, geographic location and leadership programming (Komives, Dugan & Segar). Of the 55 institutions invited to participate in the study, two withdrew before data collection and a third institution was removed from the data for failure to comply with research protocols (Komives, Dugan, & Segar).

Public institutions were more represented in the data (58%) than private institutions (42%) (Fincher, 2008). In addition, large institutions (enrollment over 10,000) comprised 52% of the sample (Fincher). The institutional composition of this sample was an advantage for the study because of the relationship between land grant institutions (large, public universities) and military programs. Of the institutions included in the study, 21% were land grant universities (Komives, Dugan, & Segar, 2006). Based upon an internet search of institutional catalogs of the participating institutions by the

researcher, approximately 60% of the institutions in the sample host at least one military science program and approximately 85% of the institutions either host a military science program or have a cooperative agreement with a local university that hosts a military science program. No one institution was oversampled in the study as no more than 7% of the responses for those indicating participation in military student group were received from a single institution (S. Komives, personal communication, June 16, 2008).

Student Participants

Participants for the MSL were drawn from samples depending upon the size of the campuses' enrollments. Campuses with an enrollment of 4,000 or less used the full student population. Campuses with enrollments exceeding 4,000 drew a random sample standardized at a 95% confidence interval with a ± 3 confidence of error. At these campuses, student participants were oversampled by 70% in order to achieve at least a 30% response rate expected of survey instruments. The data collection yielded a 38% response rate which fell between an acceptable rate of 30-40% expected from internet survey data collection (Crawford, Couper & Lamia, 2001).

From the 52 participating institutions, 155,716 students were invited to participate in the study (Dugan, 2008). From those invited, 56,854 responses were received with 50,378 completing at least 90% of the 68-items associated with the SCM (Dugan).

Study Participants

Two groups were selected for the current study: (1) students were selected from the MSL sample who indicated participating in a military student group, and (2) a matched sample of students from the same institutions who did not indicate participation in a military student group. For example, if 10 respondents are included in the military

sample from Texas A&M, then a random sample of 10 non-military participants were also chosen from Texas A&M. The MSL-SS asked participants “Which of the following kinds of student groups have you been involved with during college? (check all the categories that apply)”. Twenty-one options were provided for students to respond. Responses to “Military (e.g., ROTC)” determined whether the participant was placed in the military student group or the non-military student group.

From the 56,854 student sample, 1,413 chose the option of participating in a military group (J. Dugan, personal communication March 15, 2007). The sample included students from multiple institutions. Students with more than 90% missing responses on the study’s key scales, SRLS-R2 or LSE were eliminated from the sample.

Conceptual Framework

Astin’s (1991) input-environments-outcome (I-E-O) model was utilized in this study in order to understand the relationship between the independent variables and leadership self-efficacy. This is the same conceptual model employed in the MSL (Dugan & Komives, 2007a). The purpose of the I-E-O model is to allow researchers to adjust for input or background characteristics of students in order to get a more representative estimate of the contributions of different college environments on student outcomes (Astin). Inputs and environments are the independent variables within the research study while outcomes are the dependent variables.

Inputs refer to student background characteristics prior to entering college. These measures are both fixed characteristics or demographics and variable characteristics that change over time such as aptitude or values (Astin, 1991). Inputs can also serve as pretests for the outcome measures. Certain variables are also considered bridge measures

as they are characteristic of the student and the environment. In this study, class level served as a bridge measure as it is a characteristic of both the student and the institution.

Environments are the educational experiences that a student encounters during college. Astin (1991) remarked that “the environment encompasses everything that happens to a student during the course of an educational program that might conceivably influence the outcomes under consideration” (p. 81). Given the range of possibilities of environmental measures, environments are categorized into two broad areas: within-institution variables and between-institution variables. Within-institution variables are those experiences that occur within the institution such as student programming, student housing options, etc. These variables are experienced differently by students within the institution and not all students will be affected by all within-institution variables. Between-institution variables are the structural characteristics of the institution such as Carnegie classification. While these measures provide characteristics of the total institution, they are more distal to the individual student’s experience and therefore, may have less significance on student outcomes (Astin).

Outcomes are the changes or development in students which the institution attempts to influence through the college environment. Outcomes can be classified as cognitive (knowledge and reasoning) or affective (attitudes, values, beliefs, etc.). Some aspects of the environment can also serve as intermediate outcomes. Because environments occur over time, earlier occurring environments (i.e. between-institution variables) have the potential to affect later occurring variables (i.e. within-institution variables). Therefore, intermediate outcomes are those aspects of the college environment

that are both influenced by other environments and influence the outcome variable (Astin, 1993).

The constructs in this study's conceptual framework are ordered according to the following pattern, as designed by Astin (1991): input measures of student background characteristics, quasi-pre-test of leadership self-efficacy, class level which serves as a bridge variable, environmental measures from distal to proximal of leadership education, mentoring, athletic participation, experiential learning, positional leadership, and the intermediate outcome of leadership development measured via SCM. Leadership development is considered to be an intermediate outcome because it is hypothesized to be affected by both other elements of the college environment and a relationship with the study's outcome, leadership self-efficacy. The conceptual model is depicted in Figure 1. Following, the variables selected for the study will be discussed in further detail.

Input Variables

The input variables included the student's (1) demographic characteristics, (2) perceptions of leadership self-efficacy prior to college, and (3) class level. The input entered last in the model is class level as it is both a student and environmental characteristic (i.e., bridge measure). Since military programs are designed with a beginning and advanced program with a four-year and two-year option, the amount of time an individual has been exposed to the environment as measured by class-level could influence the other environmental variables. Respondents chose their class level from the following options: (1) First year/freshman, (2) Sophomore, (3) Junior, (4) Senior, (5) Graduate student, (6) Other. Only undergraduates were included in the study, or those who chose options 1-4. Three demographic variables were included in the study:

Figure 1

Conceptual Model of College Impact on Leadership Self-Efficacy

INPUTS	ENVIRONMENTS	INTERMEDIATE OUTCOME	OUTCOME
<p><i>Background characteristics</i></p> <p>Gender</p> <p>Race/Ethnicity</p> <p><i>Quasi-pre-test</i></p> <p>Pre-college leadership self-efficacy</p> <p><i>Class level (bridge)</i></p>	<p><i>Leadership Education</i></p> <p>Short-term</p> <p>Moderate-term</p> <p>Long-term</p> <p><i>Mentoring</i></p> <p>Student Affairs</p> <p>Faculty</p> <p>Employers</p> <p>Community Members</p> <p>Other Students</p> <p><i>Athletic Participation</i></p> <p><i>Experiential Learning</i></p> <p>Community Service</p> <p>Internship</p> <p><i>Positional Leadership</i></p>	<p><i>Leadership Development</i></p> <p><i>Individual Values</i></p> <p>Consciousness of Self</p> <p>Congruence</p> <p>Commitment</p> <p><i>Group Values</i></p> <p>Collaboration</p> <p>Common Purpose</p> <p>Controversy with Civility</p> <p><i>Community Values</i></p> <p>Citizenship</p>	<p>Leadership</p> <p>Self-Efficacy</p>

(1) Gender; (2) Race/Ethnicity, and (3) Parent's Income. These background characteristics are outlined in Table 2.

Table 2
Descriptions of Demographic Variables

Variable	Response Options
Gender	Male Female
Race	White/Caucasian African American/Black American Indian/Alaska Native Asian/Pacific Islander Latino Multiracial or Multiethnic
Parent's Income	Less than 12,500 12,500-24,999 25,000-39,999 40,000-54,999 55,000-74,999 75,000-99,999 100,000-149,999 150,000-199,999 200,000 and over

Perceptions of leadership self-efficacy prior to college were measured with a composite variable. The quasi-pre-test composite measure of *leadership self-efficacy* included these four self-reported individual items:

- Leading others
- Organizing a group's tasks to accomplish a goal
- Taking initiative to improve something
- Working with a team on a group project

Using the scale of 1=Not at all confident, 2=Somewhat confident, 3=Confident, and 4=Very confident, students rated their confidence in these areas. The Cronbach alpha reliability for the leadership self-efficacy quasi-pre-test for the full MSL sample was $\alpha = .89$. The Cronbach alpha coefficient for the military sample was also $\alpha = .89$ indicating the scale maintained reliability.

Environmental Variables

The environmental variables in this study included student involvement experiences such as (1) leadership education, (2) mentoring, (3) athletic participation, (4) experiential learning and (5) positional leadership. Leadership education included three variables to measure how often students participated in short-term, moderate-term and long-term leadership education experiences. Mentoring included five variables in which respondents were asked to indicate how many times they were mentored by (1) student affairs staff, (2) faculty, (3) employers, (4) community members and (5) other students. Athletic participation was measured with dichotomous variables in which respondents indicated participation in (1) sports – intercollegiate or varsity, (2) sports – club, and (3) sports – leisure or intramural. This variable was recoded into a single dichotomous variable indicating whether an individual had participated in athletics or not. For a full explanation of this process, refer to data preparation in the data analysis section of this chapter. Experiential learning was composed of two dichotomous variables. Respondents were asked to indicate whether they (1) experienced a practicum, internship, field experience, co-op experience or clinical experience and (2) whether they engaged in community service in an average semester. The final environmental variable asked how often an individual had held an office in a college organization (i.e., positional

leadership), with responses ranging from never (1) to much of the time (5). The environmental variables are outlined in Table 3.

Table 3
Descriptions of Environmental Variables

Variable	Response Options
Short-term leadership education	From Never (1) to Many (4)
Moderate-term leadership education	From Never (1) to Many (4)
Long-term leadership education	From Never (1) to Many (4)
Mentoring – Student Affairs	From Never (1) to Many (4)
Mentoring – Faculty	From Never (1) to Many (4)
Mentoring – Employer	From Never (1) to Many (4)
Mentoring – Community Member	From Never (1) to Many (4)
Mentoring – Other Student	From Never (1) to Many (4)
Athletic Participation	Yes (1) /No (0)
Community Service	Yes (1) /No (0)
Internship	Yes (1) /No (0)
Leadership Position	From Never (1) to Much of the time (5)

Intermediate Outcome

Leadership development was considered an intermediate outcome for the study as it is both influenced by involvement experiences but also influences an individual’s self-appraisal of leadership. To measure leadership development, the SRLS-R2 scale, designed to measure the SCM of leadership, was utilized.

SRLS-R2 scale. The SRLS-R2 was based upon the Socially Responsible Leadership Scale (SRLS) developed by Tyree (1998) in a dissertation study. The author employed DeVellis’s (1991) outline for scale development to create a 103-item

instrument to measure socially responsible leadership. The scale included 8 constructs represented in the SCM, including change. Her dissertation employed a three phase data collection. First was a rater exercise to measure content validity of the items. After this phase, 202 items were maintained for a pilot test. The second phase was a pilot test to measure test-retest reliability. Following this phase, reliability and validity analysis were conducted to reduce the items to a 104 item instrument. A final pilot test was conducted using the 104 item instrument. Follow the results, Tyree recommended the removal of one item in future studies resulting in a 103-item SRLS.

The MSL team sought to reduce the number of items in the SRLS to increase response rates in the MSL-SS. In an effort to reduce the items of the SRLS, an attempt was made to reuse Tyree's (1998) original data; however, the data was not useable. Therefore, a sample was used from a follow-up study that utilized Tyree's scales (Dugan 2006a, 2006b). By removing items with the lowest factor loadings, an instrument, SRLS-R, was created with 83 items (NCLP, 2008).

Because the MSL-SS contained items in addition to the SRLS-R to address pre-college characteristics and college experiences, response rates continued to be affected by the number of items in the SRLS-R. Using the Dugan (2006a, 2006b) data again, which relied on the original scales developed by Tyree (1998), the number of items was further decreased to 68 while maintaining internal consistency among the 8 constructs representing the 7 "C's" of the SCM and change. While some scale reliabilities decreased from Tyree's original study, others maintained or increased. The second revision, SRLS-R2, was implemented in the MSL which was used in this study. The reliability scores for the eight constructs are depicted in the Table 4 for the SRLS and each revision. The final

column indicates the Cronbach alpha internal consistency scores obtained using this study's sample.

Table 4
Reliability of SCM Scales

Scales	SRLS ^a	SRLS-R ^b	SRLS-R2 ^c	MSL ^d	Military Sample ^e
Individual Values					
Consciousness of Self	.82	.79	.78	.79	.80
Congruence	.82	.79	.79	.80	.85
Commitment	.83	.84	.83	.83	.86
Group Values					
Collaboration	.77	.82	.80	.82	.86
Common Purpose	.83	.73	.81	.82	.86
Controversy with Civility	.69	.71	.72	.77	.79
Community Values					
Citizenship	.92	.90	.89	.77	.82
Change ^f	.78	.82	.82	.81	.81

^a 103-item instrument (Tyree, 1998). ^b83-item instrument (Appel-Silbaugh, 2005). ^c 68-item instrument (Dugan et al., 2006). ^d Multi-Institutional Study of Leadership (MSL, 2006). ^e Military Sample from MSL (2006). ^f Not included in this study.

For the purposes of this study, I clustered the seven constructs of the SCM into three groups (individual, group, and community values) that will be represented in the final three blocks of the hierarchical regression analysis. The rationale for clustering the scales was twofold. Theoretically, the three levels of leadership (individual, group and community) have been related to the military concepts of followership, team leadership and service before self. (For a full theoretical explanation, refer to Chapter 2). While the military does not espouse a formal leadership theory, the levels of the SCM do correspond with the process of leadership development that is conducted within college military programs. Clustering the scales into three groups would more closely align the leadership development variable with theory.

In addition, the SRLS-R2 was designed based upon the SRLS scales designed by Tyree (1998). While the intention of the SRLS was to measure the eight constructs of the SCM, the rater exercise intended to provide content validity indicated that the three levels may be a better measure than the eight constructs. In fact, Tyree (1998) retained many of the items in the scale for the pilot test not based upon construct agreement, but level agreement. In her review of the process, Tyree comments “at this point in the research, it was thought that items might not differentiate themselves more specifically than the level they identified. The rater exercise, as a test of content validity, thus supported the contribution of these three components to understanding this process of leadership development” (p. 146).

For these reasons, the leadership development items were clustered into three different constructs of individual, group and community values for this study. Refer to Appendix B for the scales and items to be included in the three groups.

Outcome: Leadership Self-Efficacy

The dependent variable used in this study, *leadership self-efficacy*, was a composite measure made of the following items for which individuals were asked to rate how confident they were that they could be successful at:

- Leading others
- Organizing a group's tasks to accomplish a goal
- Taking initiative to improve something
- Working with a team on a group project

Using the scale of 1=Not at all confident, 2=Somewhat confident, 3=Confident, and 4=Very confident, students rated their confidence in these areas. The scale is identical to the quasi-pre-test variable in the input section, with the only exception being that students are rating their current—as opposed to their previous—efficacy in leadership activities.

The LSE scale was created by the MSL team drawing upon Bandura's (1997) social learning theory. The items of the scale were reviewed by leadership experts prior to the pilot study to establish content validity (S. Komives, personal communication, July 16, 2008). The scale was included in the University of Maryland pilot test of the MSL-SS conducted in December 2005. Following the administration, factor analysis was conducted and confirmed that all items in the LSE scale should be included in the MSL-SS ($\alpha=.88$). The scale was retested for the current study and remained a reliable measure ($\alpha=.88$).

The LSE scale is measured in a quasi-pre-test, then/now approach, in which students are asked to recall their leadership self-efficacy prior to college and then asked to measure their current leadership efficacy. The then/now approach was implemented

versus a true pre-test/post-test design due to research studies that have concluded that the approach provides a more accurate measure of ability than a pre/post design (Rohs, 1999, 2002). Findings have revealed that pre-test measures of leadership tend to inflate abilities affecting differences between pre- and post-test results. Therefore, the post-test results might indicate that no change occurred for participants when development actually occurred (Rohs & Langone, 1996). For these reasons, the then/now approach was implemented in the MSL with the LSE scale.

Internal consistency was tested using Cronbach’s coefficient alpha, represented in Table 5. The scale was also implemented in a recent study of leadership self-efficacy for students with a learning disability. The scale was found to be reliable with this population as well (quasi-pre-test $\alpha = .88$, post-test $\alpha = .89$). In addition, consistency of the alpha scores across the samples is another indicator of the reliability of the scale. Internal consistency of the LSE scale was tested again using Cronbach’s coefficient alpha with the military student sample included in this study, yielding similar and strong results.

Table 5
Reliability of LSE Scale

	Pilot Test (2005)		MSL (2006)		Military Sample	
	Quasi-pre-test	Post-test	Quasi-pre-test	Post-test	Quasi-pre-test	Post-test
Leadership	.81	.86	.89	.88	.89	.88
Self-Efficacy						

Data Analysis

This study used several statistical methods to examine the relationship between involvement experiences and leadership development on leadership self-efficacy for those who have participated in military programs. This section describes the analysis process used to test the hypotheses for each research question.

Data Preparation

Several procedures were conducted in order to prepare the data for analysis. First, a preliminary analysis was conducted with descriptive statistics to screen the data for errors.

1. Using descriptive statistics, the variables were reviewed to ensure that the data fell within the acceptable range for each variable.
2. Respondents with less than 90% completed responses on the study's key scales, SRLS-R2 or LSE, were eliminated from the sample. Missing cases were analyzed to determine if missing values were random or if a systematic pattern existed in the missing data.
3. Outliers, or standardized residual values ± 3.3 were examined (Tabachnick & Fidell, 2007). When the 5% trimmed mean was very different from the mean values, extreme outliers were removed from the data. (Pallant, 2007)

Second, given the categorical nature of the race/ethnicity and the athletic participation variables, these variables were re-coded into dichotomous, or "dummy" variables. First, Asian and Native Hawaiian were recoded into a new category: Asian/Pacific Islander. In addition, Mexican American, Puerto Rican, Cuban American, and Other Latino were combined to a new variable: Latino. Then, each racial/ethnic

group was made into its own dichotomous variable (e.g., African American: 1=yes, 0=no, etc.).

The items included in the athletic participation variable were also collapsed from three dichotomous variables (intercollegiate or varsity sports, club sports, and leisure or intramural) into one dichotomous variable indicating sports participation: 1=yes, 0=no.

Then, the data file was split into two groups. The first group included those who participated in military education programs, and the comparison group included those who did not participated in military education programs. Military participation was determined by an affirmative answer on the MSL-SS to the question “Which of the following kinds of student groups have you been involved with during college? (check all the categories that apply, with respondents choosing “Military (e.g., ROTC)”. The second group was a matched sample of non-military program students from the same institutions as the first group. (See “Study Participants” section of this chapter for more information).

Finally, since the reliability of scales are dependent upon the particular sample, the reliability of the study’s key scales, the 7 “C”s of the SRLS-R2 & LSE, were retested with the military sample and the comparison sample to insure that the scales remained reliable. Cronbach alpha coefficients were computed to test for internal consistency. The resulting coefficient should be above .7 in order for the scales to remain reliable for the samples in the study (DeVellis, 2003). Table 2 reports the reliability estimates for the SCM measures for the current study, and Table 3 reports the reliability for the LSE scale.

After the data was prepared in this manner, the following procedures were conducted in order to address each research question.

Research Question 1

The first research question examined whether differences existed in terms of leadership self-efficacy for students who participated in military programs and those who did not. A 2-tailed independent-samples *t*-test was conducted to explore any significant differences between the two groups. Participation in military programs (yes/no) served as the categorical, independent variable. The score on the LSE scale served as the continuous, dependent variable. Statistical significance was set at $p \leq .05$. In addition, a follow-up Analysis of Co-Variance was conducted to control for the influence of demographic and background characteristics. Statistical significance was also set at $p \leq .05$ for this analysis.

Research Question 2

The second research question sought to understand the relationship between the values of the SCM and leadership self-efficacy for students who were involved in military education programs. Using the sample of students who participated in military education programs, Pearson product-moment correlation coefficients examined the relationship between each of the seven values in the social change model and leadership self-efficacy. The three scale scores that represent the individual values of the SCM (consciousness of self, congruence, and commitment) were tested for a relationship with the LSE scale score in addition to the group values (collaboration, common purpose, and controversy with civility) and the community value (citizenship). Statistical significance was set at $p \leq .05$.

Research Question 3

The third research question sought to understand the relationship between student involvement experiences and leadership development on leadership self-efficacy for students who participated in military education programs. This question was tested using hierarchical ordinary least squares regression analysis. Each of the independent variables described in the conceptual model above was regressed on leadership self-efficacy to test for a relationship between the independent variables and the outcome variable. In hierarchical multiple regression, variables are entered in blocks in order to understand the amount of variance each block contributes to predicting the outcome variable. As blocks of variables are entered in the equation, the researcher is able to understand the contribution of each new block, above and beyond those already entered in the equation. In addition, hierarchical multiple regression allows the researcher to understand individual variables' contributions in predicting the dependent variable, using standardized beta (β) coefficients. Statistical significance for β will be set at $p \leq .05$.

I tested for multicollinearity among the independent variables using a standard set by Cohen, Cohen, West, and Aiken (2003): tolerance levels of .10 or less or VIF values of 10.00 or higher were considered a serious risk. No threats to multicollinearity were found in the data. Next, the categorical variables (e.g. race/ethnicity) were converted to dummy variables, and one category – the referent – was removed from the analysis. Finally, data from a residual scatterplot was checked for violations of normality, linearity and homoscedasticity.

In hierarchical multiple regression, the researcher uses theory to determine the variables that will compose each block and the order in which the blocks are entered into the regression equation. This research applied the I-E-O model of data analysis described by Astin (1993) in which inputs are entered into the equation first, followed by environments from distal to proximal. Applying Astin's process, the following blocks were created:

Block 1: *Demographic characteristics*: gender; race/ethnicity; parents' income

Block 2: *Quasi-pre-test*: perception of pre-college leadership self-efficacy

Block 3: *Bridge variable*: class level

Block 4: *Leadership education*: short, moderate, long-term experiences

Block 5: *Leadership training*: mentoring (student affairs, faculty, employers, community members, and other students); athletic participation (varsity, club, intramural).

Block 6: *Leadership experience*: experiential learning (practicum, internship, field experience, co-op experience, clinical experience and community service); *positional leadership* (holding a position in a college organization)

Block 7: *Individual values*: Consciousness of Self, Congruence, Commitment

Block 8: *Group values*: Collaboration, Common Purpose, Controversy with Civility

Block 9: *Community values*: Citizenship

Chapter Summary

This chapter provided the methodology employed to examine the relationship between college experiences and leadership development on leadership self-efficacy for those who participate in military programs. This quantitative study used data collected from the 2006 Multi-Institutional Study of Leadership to answer the research questions and hypotheses in the study. The data was analyzed using t-test, bi-variate correlation, and hierarchical multiple regression. The next chapter, Chapter 4, will present the results of these analytic methods.

Chapter 4: Findings

The purpose of this study was to understand the relationship of college experiences and socially responsible leadership (as represented by the social change model) to leadership self-efficacy for students who participate in military education programs. The study first sought to understand if students who participate in military education programs differ from other non-military students in terms of leadership self-efficacy. Then, the study explored the contributors to leadership self-efficacy for those who participate in military education programs.

This chapter presents the results from several types of data analyses used to answer the study's research questions. First, the results from the descriptive analysis of respondent's demographic characteristics are presented as well as differences between the military and non-military samples. A *t*-test and follow-up ANCOVA were conducted to determine if the groups are different on the criterion variable, leadership self-efficacy.

The remaining analyses were conducted with the military group alone in order to understand leadership self-efficacy for those who participate in military education programs. A correlation analysis was conducted between the intermediate outcomes, values of socially responsible leadership, and the dependent variable to establish a relationship between the two. Finally, hierarchical multiple linear regression analysis was used to examine the relationship between college experiences and socially responsible leadership with leadership self-efficacy for students who participate in military education programs.

Sample Characteristics

This study used data collected in the 2006 administration of the Multi-Institutional Study of Leadership (MSL). The MSL data contained 50,378 responses from individuals who had completed at least 90% of the SRLS-2 scale. Of these respondents, 1,413 students answered positively to having participated in a military group (i.e. ROTC) during college. All of these respondents comprise the “military” group in the study. The military respondents represented 52 institutions (see Appendix C). Both two-year and four-year institutions are represented in the sample. In addition, based on an internet search of the 52 institutions websites and document review, 49 specifically mentioned an on-campus military program or an agreement with another local university. Only three institutions (Galludet, Montgomery College, and Rollins College) did not mention a military program. All responders were kept in the military sample as participation was possible at another institution either concurrently or prior to the institution of response.

In addition to the military group, a comparison non-military group was formed. The non-military group was created by a random sample from each institution represented in the military group. The same number of individuals was included in the non-military group as in the military group. For instance, 50 individuals responded positively to participation in a military group from Auburn University. Therefore, a random sample of 50 individuals who did *not* indicate participating in a military group was also chosen from Auburn University.

The total sample included 2,826 respondents: 1,413 in the military group and 1,413 in the non-military group. The highest percentage of responses was from Texas

A&M University (6.5%), which is a senior military institution. The lowest percentage of responses was from Rollins College (0.3%), a private liberal-arts college that did not have any information on their website or student handbook about military programs.

Demographic & Background Characteristics

Frequencies were conducted for the entire sample for demographic and background variables including gender, sexual orientation, race, parent's education, parent's income and class standing. Table 6 shows the results of the descriptive statistics. Gender was fairly balanced in the entire sample (male 52%, female 47%). The majority of the sample was white (71%) and heterosexual (94%). In addition, parental education and income were investigated as a proxy to socio-economic status. Parental education indicated a more educated sample with 36% indicating completing a bachelor's (n=800) or associate's (n=218) degree. Another 35% of the sample indicated the completion of at least one graduate degree (masters n=684; doctorate or professional, n=313).

Respondents reported a wide range of parental income with the largest percentages reported in the 55,000-74,999 (n=352), 75,000-99,000 (n=407) and 100,000-149,000 (n=397) ranges. Frequencies were also conducted for class standing. Among class standing, seniors comprised the largest classification (n=800). First year freshman accounted for 20.9% of the sample (n=591), sophomores 20.0% (n=566), juniors 26.5% (n=748) and others 1.5% (n=41).

Table 6
Demographic Characteristics of Sample

	<i>n</i>	%
Gender		
Male	1338	47.3
Female	1474	52.2
Race		
White	1984	70.2
African American /Black	161	5.7
American Indian	7	.2
Asian Pacific American	211	7.5
Latino(a)	138	4.9
Multi-racial	245	8.7
Other	61	2.2
Sexual Orientation		
Heterosexual	2657	94.0
Bisexual	47	1.7
Gay/Lesbian	34	1.2
Rather not say	77	2.7
Parent Education		
Don't know	37	1.3
Less than H.S. diploma or GED	64	2.3
H.S. diploma or GED	321	11.4
Some College	374	13.2
Associates Degree	218	7.7
Bachelors degree	800	28.3
Master's degree	684	24.2
Doctorate or professional degree	313	11.1
Parent Income		
Less than 12,500	121	4.3
12,500-24,999	168	5.9
25,000-39,999	200	7.1
40,000-54,999	250	8.8
55,000-74,999	352	12.5
75,000-99,999	407	14.4
100,000-149,999	397	14.0
150,000-199,999	181	6.4
200,000 and over	184	6.5
Don't know	319	11.3
Rather not say	232	8.2
Class Standing		
Freshman	591	20.9
Sophomore	566	20.0
Junior	748	26.5
Senior	880	31.1

Differences in demographic and background characteristics between the military and non-military group were conducted with a chi-square test. Table 7 presents the findings from the comparison. The chi-square test indicated that there were significant differences between the groups on the variables of gender, parents' income, class standing. The military sample contained a larger proportion of male students (n=940) than the non-military sample (n=534). The greatest difference between the samples in terms of parents' education was that a greater proportion of the non-military sample did not know their parent's income (n=197) in comparison to the military sample (n=122). In terms of class standing, the military sample had a larger number of seniors (n=479) than the non-military sample (n=401), while the non-military sample had a greater number of freshmen (n=352) than the military sample (n=239).

Table 7
Chi-Square Distribution of Differences by Military Participation on Demographic Characteristics

	<i>Military</i>	<i>Non-Military</i>	<i>Chi-square</i>
Gender			$\chi^2=237.8$ *** ; <i>df</i> = 2; p=.000
Male	940	534	
Female	464	874	
Race			$\chi^2=12.3$; <i>df</i> = 6; p=.055
White	951	1033	
African American /Black	90	71	
American Indian	5	2	
Asian Pacific American	117	94	
Latino(a)	76	62	
Multi-racial	129	116	
Other	34	27	

	<i>Military</i>	Non- Military	Chi-square
Sexual Orientation			$\chi^2=3.4;df=3; p=.329$
Heterosexual	1318	1339	
Bisexual	23	24	
Gay/Lesbian	20	14	
Rather not say	45	32	
Parent Education			$\chi^2=3.8;df=7; p=.798$
Don't know	20	17	
Less than H.S. diploma or GED	32	32	
H.S. diploma or GED	165	156	
Some College	191	183	
Associates Degree	108	110	
Bachelors degree	393	407	
Master's degree	352	332	
Doctorate or professional degree	143	170	
Parents' Income			$\chi^2=36.2***;df=10; p=.000$
Less than 12,500	68	53	
12,500-24,999	85	83	
25,000-39,999	113	87	
40,000-54,999	138	112	
55,000-74,999	168	184	
75,000-99,999	198	209	
100,000-149,999	225	172	
150,000-199,999	94	87	
200,000 and over	84	100	
Don't know	122	197	
Rather not say	109	123	
Class Standing			$\chi^2=29.82***;df=4; p=.000$
Freshman/First year	239	352	
Sophomore	289	277	
Junior	383	365	
Senior	479	401	
Other	23	18	

*p<.05, **p<.01, *** p<.001

Differences between Military and Non-Military Groups

T-test

An independent samples *t*-test was conducted to compare leadership self-efficacy for those who participate in military education programs, and those who do not. The means and standard deviations for leadership self-efficacy among the groups are presented in Table 8. Levene's test indicated that the assumption of equal variances between the groups was not violated. The *t*-test indicated there was significant difference between military education participants and non-participants for leadership self-efficacy ($p=.000$). To determine the magnitude of difference between the groups, the effect size was calculated with eta squared using the formula $t^2/(t^2 + (N1+N2-2))$ provided in Pallant (2007). The eta squared for this mean difference is .02 which according to Cohen (1998) is a small effect size, meaning the differences among the groups, although significant, were small.

Table 8

T-test Comparison of Leadership Self-Efficacy Based Upon Military Participation

	Total	Mean Score	SD	<i>t</i> -statistic (<i>df</i>) <i>p</i> -value
Leadership Self-Efficacy				
Military	1201	13.13	2.48	6.72 (2382)
Non-military	1183	12.44	2.51	$p=.000$

Analysis of Co-Variance

Given the demographic and background differences between the groups, and the small effect size of the eta squared, follow-up tests were conducted using ANCOVA. A one-way between-groups analysis of covariance was conducted to compare leadership

self-efficacy outcome for the military and non-military groups. The independent variable was participation in military education programs, or not. The dependent variable was the leadership self-efficacy outcome variable. Covariates included in the analysis were gender, parental income, and academic class level. (The statistically different background characteristics between the military and non-military samples as indicated in the chi-square analysis above).

Preliminary checks were conducted to ensure that there was no violation of the assumptions of normality, linearity, homogeneity of variances, and homogeneity of regression slopes. After adjusting for the covariates, a significant difference on the leadership self-efficacy outcome, $F(1,2332) = 3.38, p=.00$, partial eta squared = .012, still existed between those who participate in military education programs and those who do not (Table 9). The partial eta squared again indicated that while differences between the groups existed, the effect size was small. In addition, Table 10 reports the mean scores on the LSE scale prior to accounting for the covariates and the adjusted means revealing the relatively small change in the adjusted LSE score as indicated by the small effect size.

Table 9
ANCOVA Comparison of Leadership Self-Efficacy Based Upon Military Participation with Demographic Covariates

Source	Sum of Squares	<i>df</i>	Mean Score	<i>F</i>	<i>p</i> -value	Partial eta squared
Gender	48.65	1	48.65	8.02 **	.005	.003
Parent's Income	13.94	1	13.94	2.30	.130	.001
Class Standing	259.51	1	259.51	42.76 ***	.000	.018
Military Group	168.48	1	168.48	27.77 ***	.000	.012
Error	14147.74	2332	6.07			
Total	397489.00	2337				

* $p<.05$, ** $p<.01$, *** $p<.001$

Table 10
Adjusted and Unadjusted Group Means for LSE Outcome

Group	Unadjusted Mean	Adjusted Mean
Military Education Program	13.13	13.08
Non-Military Education Program	12.44	12.51

Results for Hypothesis 1

The first hypothesis for this study was: students who participate in military education programs will self-report greater leadership self-efficacy than students who do not participate in military education programs. This hypothesis was supported. Significant differences were found between military program participants and non-participation in terms of self-reported leadership self-efficacy, and military program participants had a significantly higher mean score. Even after demographic and background differences (gender, parent’s income, class standing) were statistically controlled, the groups still showed a difference in leadership self-efficacy.

Leadership Self-Efficacy in Military Education Programs

Correlation Analysis

The relationship between the seven values of the social change model (consciousness of self, congruence, commitment, collaboration, common purpose, civility and citizenship) and leadership self-efficacy for students in military programs was investigated using the Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation in the assumption of normality, linearity and homoskedasticity. There was a strong correlation between each of the values and leadership self-efficacy (Table 11). Therefore, higher scores in the values of the social

change model are associated with greater leadership self-efficacy for participants in military education programs.

Hypothesis 2

A positive correlation exists between the individual, group, and community values of the SCM and leadership self-efficacy for students who participate in military education programs. This hypothesis was supported. Positive correlations were found between each of the values of the SCM and leadership self-efficacy. While the values of the social change model were highly inter-correlated, each value independently explained between 23.3 (collaboration) to 28.7 (consciousness of self) percent of the variance in leadership self-efficacy at the univariate level.

Hierarchical Multiple Linear Regression Analysis

Hierarchical multiple regression was used to assess the ability of campus environments and socially responsible leadership (via the social change model) to predict leadership self-efficacy for students in military education programs, after controlling for demographic variables, a quasi-pre-test of leadership self-efficacy and academic classification. The independent variables were entered in nine blocks to evaluate the predictive value each set of variables added to explain the variance in leadership self-efficacy.

The overall results indicate that 49.4% of the variance in leadership self-efficacy can be explained by the variables in the study's conceptual model. Results from each block of the analysis are presented in Table 12. A significance level of $p \leq .05$ was established to test for the unique contribution of each variable entered into the regression equation.

Table 11
Correlation of SCM Values with LSE

	Individual			Group			Community
	Consciousness of Self	Congruence	Commitment	Collaboration	Common Purpose	Controversy with Civility	Citizenship
Individual Values							
Consciousness of Self	–						
Congruence	.77***	–					
Commitment	.73***	.85***	–				
Group Values							
Collaboration	.67***	.78***	.78***	–			
Common Purpose	.72***	.86***	.84***	.83***	–		
Controversy with Civility	.67***	.73***	.70***	.72***	.74***	–	
Community Values							
Citizenship	.65***	.75***	.74***	.83***	.80***	.76***	–
Leadership Self Efficacy	.54***	.49***	.50***	.48***	.51***	.47***	.53***

*p<.05, **p<.01, *** p<.001

Procedures testing the assumptions of multiple regression indicate that there were no problems with multicollinearity among the independent variables. Bivariate correlations (Appendix D) indicated that the highest correlated variables were two of the seven critical values of the social change model: congruence and common purpose ($r=.859$). Tolerance levels were .17 (congruence) and .16 (common purpose) and the VIF were 5.75 and 6.13 respectively. According to Cohen, Cohen, West & Aiken (2003) with tolerance levels above .10 and VIF values below 10, the assumption of multicollinearity is not violated.

When checking for outliers, six cases had standardized residual values of ± 3.3 and represented a possible risk to the regression analysis. According to Pallant (2007) in a normally distributed sample, one percent of the cases would be expected as outliers in the sample. As the number of outliers in the sample (6) fell below 1% of the sample, or 14:1413, the number of outliers present within the samples was not unusual. Before removing the outlier cases from the analysis, the value of Cook's Distance was examined. Cook's Distance provides the relative influence of each case on the model as a whole. According to Tabachnick and Fidell (2007) cases with values larger than one are potential problem for the regression analysis. In this analysis, the maximum value is .086. Therefore, retaining these cases posed no threat to the multiple regression analysis, and therefore, all cases were retained.

The results of the regression are assessed by analyzing the significance of each variable and the percent of the variance of leadership self-efficacy that is explained by each block of variables, after controlling for the influence of previously entered blocks. Some variables were significant until other variables were entered, suggesting shared variance among the two variables. In other words, the two variables are highly correlated with one another, and they shared the variance in the dependent variable. As more variables entered the equation, the

variables share increasing amounts of predictive power with one another. As newer variables enter the equation and explain a greater part of the variance in the dependent variable, earlier variables lose predictive power.

The first block contained students' background characteristics. Five variables were significant in this block: gender ($\beta = -.07$, $p < .05$), African American/Black ($\beta = .10$, $p < .01$), Asian/Pacific Islander ($\beta = -.10$, $p < .01$), Hispanic/Latina ($\beta = .09$, $p < .05$), and Parental Income ($\beta = .07$, $p < .05$). Being African American/Black and Hispanic/Latina maintained a positive significant relationship throughout all nine blocks indicating that these racial/ethnic groups were more likely to feel efficacious about their leadership than other racial groups. Other variables that were not significant were White/Caucasian, and American Indian/Native American. For this block $R^2 = .041$, $F(7, 989) = 6.10$, $p < .001$.

The second block contained one variable, the leadership self-efficacy quasi-pre-test. This variable also contributed significantly to the variance explained in the model, $\beta = .48$, $p < .001$, and remained at the same level ($p < .001$) throughout the remainder of the blocks. In fact, it contributed 22% of the variance in leadership self-efficacy, the most of all the blocks entered. During this block, gender, Asian/Pacific Islander and parental income were no longer significant indicating that the leadership self-efficacy quasi-pre-test was a stronger predictor of the dependent variable, leadership self-efficacy, than these demographic variables. At this stage, White/Caucasian also entered the regression, $\beta = .10$, $p < .05$. This block was significant $R^2 = .026$, $F(1, 988) = 298.64$, $p < .001$.

Table 12

Hierarchical Multiple Regression Analysis of Predictors of LSE

Step	Variable Entering	<i>r</i>	R ² change	<i>F</i> Change	Beta after controlling for					
					Block 1	Block 2	Block 3	Block 4	Block 5	Block 6
					Background Characteristics β	LSE Pretest β	Class Standing β	Leadership Education β	Leadership Training β	Leadership Experience β
1	Demographic Variables	0.20	0.04	60.98 ***						
	Gender	-0.06			-0.07 *	-0.05	-0.05	-0.04	-0.05	-0.05
	White/Caucasion	0.07			0.08	0.10 *	0.10 *	0.11 **	0.11 **	0.10 *
	African American/Black	0.06			0.10 **	0.09 *	0.09 **	0.09 **	0.10 **	0.10 **
	American Indian/Native Alaskan	0.01			0.00	-0.02	-0.02	-0.02	-0.02	-0.02
	Asian/Pacific Islander	-0.16			-0.10 **	-0.06	-0.06 *	-0.06	-0.06	-0.06
	Hispanic/Latina	0.06			0.09 *	0.08 *	0.09 **	0.09 **	0.09 **	0.09 **
	Parental Income	0.07			0.07 *	0.03	0.03	0.03	0.03	0.03
2	Leadership Self-Efficacy Pre-test	0.51	0.22	298.64 ***						
	LSE Pre-test	0.49			0.48 ***	0.48 ***	0.48 ***	0.45 ***	0.45 ***	0.44 ***
3	Classification	0.54	0.03	12.18 ***						
	Sophomore	0.03			0.02	0.00	0.13 ***	0.11 **	0.10 **	0.09 **
	Junior	-0.01			-0.01	-0.01	0.13 ***	0.10 **	0.10 **	0.09 *
	Senior	0.09			0.10 **	0.12 ***	0.23 ***	0.19 ***	0.19 ***	0.17 ***
4	Leadership Education	0.57	0.03	13.77 ***						
	Short-Term	0.26			0.26 ***	0.19 ***	0.17 ***	0.14 ***	0.13 ***	0.11 **
	Moderate-Term	0.22			0.21 ***	0.15 ***	0.13 ***	0.04	0.05	0.04
	Long-Term	0.15			0.14 ***	0.09 **	0.09 **	0.01	0.01	-0.01
5	Leadership Training	0.57	0.01	1.64						
	Mentoring - Student Affairs	0.10			0.10 **	0.07 **	0.07 **	0.02	0.01	0.00
	Mentoring - Faculty	0.15			0.15 ***	0.10 ***	0.08 **	0.04	0.03	0.03
	Mentoring - Employer	0.11			0.10 **	0.07 *	0.05 *	-0.01	0.00	0.00
	Mentoring - Community Member	0.04			0.04	0.01	0.01	-0.05	-0.07 *	-0.08 *
	Mentoring - Other Student	0.14			0.14 ***	0.10 ***	0.10 ***	0.05 *	0.06	0.04
	Athletic Participation	0.04			0.02	0.00	0.00	-0.01	-0.02	-0.03
6	Leadership Experience	0.58	0.01	4.49 **						
	Community Service	0.16			0.15 ***	0.11 ***	0.10 ***	0.07 *	0.07 **	0.06 *
	Internship	0.07			0.07 *	0.08 **	0.04	0.01	0.01	0.00
	Leadership position	0.25			0.24 ***	0.18 ***	0.15 ***	0.10 **	0.09 **	0.08 *

Table12 (cont)

Hierarchical Multiple Regression Analysis of Predictors of LSE

Step	Variable Entering	<i>r</i>	R2 change	<i>F</i> Change	Beta after controlling for					
					Block 1	Block 2	Block 3	Block 4	Block 5	Block 6
					Background Characteristics β	LSE Pretest β	Class Standing β	Leadership Education β	Leadership Training β	Leadership Experience β
7	SCM - Individual Values	0.70	0.15	93.53 ***						
	Consciousness of Self	0.54			0.53 ***	0.42 ***	0.41 ***	0.40 ***	0.40 ***	0.40
	Congruence	0.49			0.49 ***	0.40 ***	0.38 ***	0.37 ***	0.37 ***	0.37
	Commitment	0.50			0.49 ***	0.40 ***	0.39 ***	0.37 ***	0.37 ***	0.37
8	SCM - Group Values	0.70	0.01	4.13 **						
	Collaboration	0.48			0.48 ***	0.38 ***	0.37 ***	0.35 ***	0.35 ***	0.35
	Common Purpose	0.51			0.51 ***	0.41 ***	0.40 ***	0.39 ***	0.38 ***	0.38
	Civility	0.47			0.47 ***	0.37 ***	0.35 ***	0.34 ***	0.34 ***	0.34
9	SCM- Community Value	0.70	0.00	6.03 *						
	Citizenship	0.53			0.52 ***	0.41 ***	0.39 ***	0.38 ***	0.37 ***	0.37

p*<.05, *p*<.01, *** *p*<.001

Table 12 (cont)

Hierarchical Multiple Regression Analysis of Predictors of LSE

Step	Variable Entering	<i>r</i>	R2 change	<i>F</i> Change	Block 7	Block 8	Block 9
					SCM- Individual	SCM- Group	SCM- Community
					β	β	β
1	Demographic Variables	0.20	0.04	69.98 ***			
	Gender	-0.06			-0.07 **	-0.07 **	-0.07 **
	White/Caucasion	0.07			0.04	0.05	0.05
	African American/Black	0.06			0.07 *	0.07 *	0.07 *
	American Indian/Native Alaskan	0.01			-0.02	-0.01	-0.01
	Asian/Pacific Islander	-0.16			-0.04	-0.04	-0.04
	Hispanic/Latina	0.06			0.06 *	0.06 *	0.06 *
	Parental Income	0.07			0.04	0.03	0.03
2	Leadership Self-Efficacy Pre-test	0.51	0.22	298.64 ***			
	LSE Pre-test	0.49			0.32 ***	0.32 ***	0.31 ***
3	Classification	0.54	0.03	12.18 ***			
	Sophomore	0.03			0.04	0.04	0.04
	Junior	-0.01			0.05	0.05	0.05
	Senior	0.09			0.10 **	0.10 **	0.10 **
4	Leadership Education	0.57	0.03	13.77 ***			
	Short-Term	0.26			0.04	0.03	0.03
	Moderate-Term	0.22			0.05	0.05	0.04
	Long-Term	0.15			0.03	0.04	0.04
5	Leadership Training	0.57	0.01	1.64			
	Mentoring - Student Affairs	0.10			0.03	0.03	0.05
	Mentoring - Faculty	0.15			0.00	0.00	0.00
	Mentoring - Employer	0.11			0.02	0.02	0.02
	Mentoring - Community Member	0.04			-0.03	-0.03	-0.03
	Mentoring - Other Student	0.14			-0.01	-0.01	-0.01
	Athletic Participation	0.04			0.01	0.01	0.01
6	Leadership Experience	0.58	0.01	4.49 **			
	Community Service	0.16			0.01	0.01	0.00
	Internship	0.07			0.00	0.00	0.00
	Leadership position	0.25			0.10 **	0.09 **	0.09 **

Table12 (cont)

Hierarchical Multiple Regression Analysis of Predictors of LSE

Step	Variable Entering	<i>r</i>	R2 change	<i>F</i> Change	Block 7	Block 8	Block 9
					SCM-Individual β	SCM-Group β	SCM-Community β
7	SCM - Individual Values	0.70	0.15	93.53 ***			
	Consciousness of Self	0.54			0.26 ***	0.24 ***	0.24 ***
	Congruence	0.49			0.06	-0.03	-0.03
	Commitment	0.50			0.15 **	0.08	0.08
8	SCM - Group Values	0.70	0.01	4.13 **			
	Collaboration	0.48			0.08	0.02	-0.03
	Common Purpose	0.51			0.15 **	0.12 *	0.10
	Civility	0.47			0.09 *	0.07	0.03
9	SCM- Community Value	0.70	0.00	6.03 *			
	Citizenship	0.53			0.15 ***	0.12 *	0.12 *

p*<.05, *p*<.01, *** *p*<.001

The third block contained class standing: sophomore, junior and senior (first-year/freshman was the referent category). All three variables were significant in this block: sophomore ($\beta=.13$, $p<.01$), junior ($\beta=.13$, $p<.01$), and senior ($\beta=.23$, $p<.001$). Class standing, however, lost significance as only being a senior remaining significant through the final block. This suggests that later blocks related to the college environment and socially responsible leadership have a stronger relationship with leadership self-efficacy than being a freshman, sophomore, or junior. On the other hand, being a senior (as opposed to being a freshman/first-year student) was directly related to stronger leadership self-efficacy. The third block was significant $R^2=.029$, $F(3,985) = 12.18$, $p<.001$.

The fourth block contained the variables related to leadership education. These included short-term, moderate-term, and long-term leadership education experiences. Only short-term experiences were significant in this block ($\beta=.14$, $p<.001$). Moderate-term and long-term experiences did not contribute significantly to leadership self-efficacy which indicates that these experiences do not uniquely contribute to leadership self-efficacy beyond short-term educational experiences. This block was significant $R^2=.032$, $F(3,982) = 13.77$, $p<.001$.

In the fifth block, leadership training experiences were added. Only one variable, mentoring by a community member was significant, and it had a negative relationship with leadership self-efficacy. However, the contribution of the fifth block was not significant $R^2=.33$, $F(6,976) = 1.64$, $p=.132$.

In the sixth block, leadership experiences were added. Community service ($\beta=.06$, $p<.05$) and holding a leadership position ($\beta=.08$, $p<.05$) contributed to the

variance in leadership self-efficacy. Participating in an internship did not contribute to leadership self-efficacy. This block was significant $R^2=.34$, $F(3,973) = 4.49$, $p<.01$.

The seventh block of variables comprised the 3 scales of the social change model that encompass individual values. These are consciousness of self, congruence and commitment. Consciousness of self ($\beta=.26$, $p<.001$) was a significant predictor of leadership self-efficacy and remained so throughout the final block. In addition, commitment ($\beta=.15$, $p<.01$) was significantly related to leadership self-efficacy in this block; however, it loses its predictive power when the next block of variables is entered in the eighth block. This block was significant $R^2=.48$, $F(3,970) = 93.53$, $p<.001$.

Several changes to previously entered variables occurred during this block. First, several variables lost predictive power including the race variable of White/Caucasian, class standing (freshman & sophomore only), short-term leadership experiences, and leadership experience through community service. This indicates that socially responsible leadership, through individual values, is a better predictor of leadership self-efficacy than these variables, or that all of these variables share variance with consciousness of self. In this block, gender, which was previously not significant, became significant. Gender was negatively correlated with leadership self-efficacy ($r=-.06$), but positively correlated with the individual values of the social change model (consciousness of self, $r=.05$; congruence, $r=.08$; and commitment, $r=.8$) which were entered in this block. In addition, the individual values were positively correlated with leadership self-efficacy (consciousness of self, $r=.54$; congruence, $r=.50$; and commitment, $r=.48$). In other words, when the individual values of the SCM are

accounted for, the relationship between gender and leadership self-efficacy is augmented (i.e., a suppressor effect).

The eighth block added the group values of the social change model including collaboration, common purpose, and civility. Only common purpose ($\beta=.12$, $p<.05$) was significantly related to leadership self-efficacy. In this block, commitment, an individual value of the SCM, lost predictive power. The absence of significance when common purpose entered, suggests that these two variables share variance. The correlation between commitment and common purpose was second highest in the model, $r = .84$. This block was significant $R^2=.49$, $F(3,967) = 4.13$, $p<.01$.

In the final block, all of the independent variables were entered in the model, including citizenship which represented community values in the SCM. Citizenship was a significant predictor of leadership self-efficacy ($\beta=.12$, $p<.05$). At only .3% of the variance explained, it contributed very little to the total model. However, as a singular predictor entered in the final block, it was still significant, $p<.05$. Above and beyond the variance explained by the other independent variables in the model, citizenship explained a statistically significant proportion of the variance in leadership self-efficacy. The final block was significant $R^2=.49$, $F(1,966) = 6.03$, $p<.05$.

Overall, the conceptual model identified for this study explained 49.4% of the variance in leadership self-efficacy. Significant predictors in the final regression block that were powerful contributors to the model included the leadership self-efficacy quasi-pre-test and the individual SCM value of consciousness of self. Being female (negative), a senior in class standing, and holding a formal leadership position were moderately

predictive of leadership self-efficacy. Other predictors included being African American/Black, Hispanic/Latina, and the community value of citizenship.

The block with the single best predictive power was the leadership self-efficacy quasi-pre-test block explaining 22.3% of the variance in leadership self-efficacy. Socially responsible leadership as evidenced through the individual values of the social change model, block seven, contributed 14.9% to the variance in leadership self-efficacy. The first block, containing demographic characteristics (gender, race, parent's income) explained 4.1% of the variance in leadership self-efficacy. The block containing measures of leadership education contributed 2.9% to leadership self-efficacy. Class standing contributed 2.6% of the variance in leadership self-efficacy. The blocks containing measures of leadership experiences, group values, and community values contributed .9%, .7% and .3% respectively to the variance in leadership self-efficacy.

Hypothesis 3a

Controlling for background characteristics, leadership self-efficacy will be significantly predicted by college experiences related to leadership education, training and experiences. This hypothesis was partially supported. Leadership education (block 4), leadership training (block 5), and leadership experiences (block 6) explained 4.5% of the variance in leadership self-efficacy, and one leadership experience (holding a leadership position) was a significant predictor of leadership self-efficacy in the final model. While leadership experiences through a campus leadership position was the only variable that remained in the final block, prior to entering socially responsible leadership values, short-term leadership education, community service, and holding a campus leadership position were all positive contributors to leadership self-efficacy. The

variables that comprised leadership training experiences including mentoring by student affairs, faculty, employer, community member, other students, and athletic participation did not predict leadership self-efficacy in the final model.

Hypothesis 3b

Controlling for background characteristics and college experiences, leadership self-efficacy will be significantly predicted by socially responsible leadership as evidenced in the individual, group and community values of the social change model of leadership development. This hypothesis was partially supported. The individual, group and community values of the SCM (block 7-9) explained 20.4% of the variance in leadership self-efficacy. In addition, the individual values of the SCM explained more variance in leadership self-efficacy (14.9%) than any other variable besides the leadership self-efficacy quasi-pre-test. The community value of leadership, while only explaining .3% of the variance, was able to explain a statistically significant proportion of the variance even after the proceeding variables claimed 49.1% of the variance. Key predictors of the leadership self-efficacy identified in the SCM were consciousness of self and citizenship.

Summary

This chapter began with a review of the characteristics of the study's sample and the creation of a sample of non-military students matched by institution with the military sample. A description of the samples' respondents by background characteristic was explored. An analysis of the differences in background characteristics between the two groups revealed differences in gender, class standing and knowledge of parent's income. A *t*-test was conducted to compare the groups on the criterion variable, leadership self-

efficacy. The military group was more efficacious in their abilities to participate in the leadership process than the non-military group. Because of the differences in background characteristics among the military and non-military samples, an ANOVAs was conducted using background and demographic characteristics (gender, parent's income, and class standing) as covariates. Even when demographic and background characteristics were controlled for, the military group was still significantly different from the non-military group in leadership self-efficacy.

The remaining analyses were conducted examining only the military group in an effort to understand the contributors to leadership self-efficacy for the group. Of most interest was the relationship of college experiences and socially responsible leadership to leadership self-efficacy. A correlation analysis revealed a positive correctional between the values of socially responsible leadership identified in the social change model and leadership self-efficacy. Hierarchical multiple linear regression indicated that the conceptual model developed for the study contributed 49.4% to the variance of leadership self-efficacy for students who have participated in military education programs. A leadership self-efficacy quasi-pre-test and individual values/consciousness of self were the greatest contributors to the variance in leadership self-efficacy. Gender, race (African American/Black and Hispanic/Latina), being a senior, holding a leadership position in a college organization and community value/citizenship were also significant contributors.

The next chapter will provide a discussion of the findings, connect them with previous research, and provide possible implications of the findings. The study's limitations and suggestions for further research will be presented.

Chapter 5: Discussion

This chapter will restate the research problem and review the major methods used in the study. Then, a summary of the results connected to existing theory and research will be presented. A discussion of the study's limitations and implications for practice will be provided. The chapter will end with suggestions for future research.

Statement of the Problem

Military education programs serve the armed forces by supplying approximately two-thirds of all newly commissioned officers. These programs operate on college campus are intended to develop military leadership with a citizen-soldier ethic. In 2008, the military experienced a historic year celebrating 35 years as an all-volunteer force. It was this change that spurred research on military education programs in terms of background characteristics of students enrolled in the programs and the selection criteria and retention of students in the program. Otherwise, very little research has been conducted to understand modern military education programs. In addition, the military has experienced a tenuous relationship with higher education in which its place on campus, the preparation of instructors and the awarding of academic credit has been questioned (Nierberg, 2000).

As the purpose of these programs is to produce the future officers of the services, one deliberate outcome is preparing students who are confident in their leadership abilities and capable of participating in the military's leadership. This appraisal by an individual of his/her ability to participate in leadership is leadership self-efficacy. Therefore, leadership self-efficacy is an outcome of military education programs. However, much like research on military education programs, very little research exists

to understand leadership self-efficacy or the relationship of college experiences to leadership self-efficacy.

This study sought to understand if students who participate in military education programs differ from other college students in terms of leadership self-efficacy. Second, the study wanted to understand the relationship between college experiences and socially responsible leadership with leadership self-efficacy for students who participate in military education programs. To address this question, the values of socially responsible leadership, as identified in the social change model, were examined with leadership self-efficacy to determine if a relationship existed between the two.

Review of Methods

As explained in Chapter 3, a secondary analysis of data collected from the 2006 administration of the Multi-Institutional Study of Leadership was performed to answer these questions. All students completing the survey and answering positively to participating in a military group during college were included in the military group. A non-military group was also created from students matched by institution who had also completed the MSL.

The groups were then compared using an independent samples *t*-test to identify differences between the groups in leadership self-efficacy. Since the descriptive analysis of the data revealed demographic differences between the groups, an ANCOVA was also conducted to compare the groups while controlling for the demographic variables. The military group was then examined independently. First, the values of the SCM and leadership self-efficacy were compared using Pearson product moment correlation analysis. Since the military has not espoused a foundational leadership theory for

military education programs, the relationship between the social change model values and leadership self-efficacy for this group needed to be established. The final analysis was a hierarchical multiple regression used to understand the relationship between college environments, socially responsible leadership, and leadership self-efficacy for students who participate in military education programs.

Summary of Results

Descriptive analysis revealed differences between the background characteristics of students who participate in military education programs and other college students. The two groups were compared on the background characteristics of gender, race, sexual orientation, class standing, parent's education and parent's income. The final two variables were used as a proxy of socioeconomic status (Terenzini, Cabrera & Bernal, 2001). The areas of difference between the two groups included gender, class standing and parent's income.

In general, more males participated in military education programs than in the general college population. In fact, males accounted for 67% (n=940) of the military group while only 38% (n=534) of the non-military sample. This difference is most likely associated with the recruiting for military programs (Nierberg, 2000) and the traditionally male dominated environment of the military as it was not until the late 1970s that women were even admitted into the programs. In addition, the number of women recruited into military programs has been limited due to the combat exclusion rule (Stevens, 2008).

Class standing was another area in which students from military programs differed from other college students as those in military programs tended to be more senior (n=479) than non-military students (n=401), while freshmen tended to be more

represented in the non-military group (n=352) than the military group (n=239). This finding is reasonable given that seniors would have had more opportunity to participate in a military group than freshmen.

Another difference revealed in the demographic analysis was the difference in parental income. Respondents were able to choose from a range of income levels as well as “don’t know” and “rather not say”. The response with the largest adjusted residual, indicating an area of difference, was the response “don’t know” with more non-military students choosing the response. It might be that students who participate in military education programs are more aware of parental income as a result of completing scholarship applications associated with the program. This variable and parent’s education were included as a proxy to understand socio-economic differences; however, while differences existed between the groups in terms of parental income, it appears that the difference is in *knowledge* of parental income versus actual income differences (a socio-economic measure). Since parent’s education was not significantly different between the groups, a conclusive statement about differences in socioeconomic status, as measured by parental income and education, was not identified between the groups.

Military students did not differ from other college students with regards to race, parent’s education, and sexual orientation. These findings tend to support early research (Goertzel & Hengst, 1971) that found military students were not that different from college men. It also contradicts Ivey’s findings that showed military students differed from other in terms of race and parent’s income. Since Ivey’s study was conducted at a single institution versus a national study as the present, the findings may be localized to the institution. It does seem interesting, given the military’s “don’t ask, don’t tell” policy

that students who participated in military education programs did not differ from other college students in terms of sexual orientation.

Military students were also compared to non-military students on the criterion variable, leadership self-efficacy. The result of the *t*-test indicated that military students were more likely to report greater leadership self-efficacy than non-military students. Because of the differences in background characteristics detected among the two samples, a follow-up ANCOVA was conducted to determine if differences in background characteristics may influence leadership self-efficacy between the two groups. The results of the ANCOVA indicated that military students report greater leadership self-efficacy than non-military students even when background characteristics are statically controlled. Therefore, military students differ from other college students in terms of leadership self-efficacy. These findings support Chen's (1993) study which found ROTC students were more confident in their leadership abilities than other students.

Recognizing that students who participate in military programs differ from others in leader efficacy outcomes gave cause to understand the contributions to leadership self-efficacy for this group. Of particular interest was the relationship between college environments and socially responsible leadership, via the social change model, with leadership self-efficacy. Since the relationship between socially responsible leadership and leadership self-efficacy had not previously been established in research, Pearson product moment correlation coefficients were computed for each of the values with leadership self-efficacy. Moderate to strong, positive correlations were established between each of the values represented in the SCM and leadership self-efficacy.

Hierarchical multiple linear regression analysis indicated that 49.4% of the variance in leadership self-efficacy could be explained by the conceptual model designed for this study. Eight of the nine blocks of variables significantly contributed to understanding leadership self-efficacy for students who participate in military programs. These included (a) background characteristics, (b) leadership self-efficacy quasi-pre-test, (c) class standing, (d) leadership education, (e) leadership experience, (f) SCM-individual values, (g) SCM-group values, (h) SCM-community value. The only block that did not contribute to the model was leadership training which included mentoring and athletic participation.

Discussion of Results

Background Characteristics and Leadership Self-Efficacy

The first three blocks of the regression equation contained variables used to control for the background characteristics of students in military education programs. These blocks of variables represented demographic differences (gender, race, and parent's income), a leadership self-efficacy quasi-pre-test, and class standing (bridge variable). All three of these blocks were significant ($p < .000$) predictors of leadership self-efficacy. In addition, cumulatively, they accounted for 29% of the variance in leadership self-efficacy. Following, each of these areas will be discussed in more detail.

Gender. As presented in Chapter 4, gender (which was entered in the first block) became significant in the seventh block when the values of socially responsible leadership were added and stayed significant through the final model. This is known as a suppressor effect, occurring when two independent variables have opposite relationships with the dependent variable (one positive and the other negative) and a positive

relationship with one another (Astin, 1991). With regards to gender, it has a negative relationship with leadership self-efficacy while the values of the SCM have a positive relationship with leadership self-efficacy. Gender and the values of the SCM are positively correlated with one another. Therefore, when the individual values of the SCM are accounted for, the relationship between gender and LSE is augmented.

This finding is in contrast to leadership studies that have found that women report higher leadership self-efficacy than men (Endress, 2000; Dugan 2006a). Also, much of the leadership research that has focused on gender and transformational leadership has tended to find that women have a more transformational, relational style than men.

Therefore, the findings tend to support the literature that has investigated the environment in which the leadership process takes place (Eagly & Johnson, 1990; Betz & Hackett, 1981). Betz and Hackett (1981) found that women report lower self-efficacy in male dominated environments. Since the focus of this study is leadership self-efficacy for those in military education programs, it may be that the male dominated environment influences the leadership self-efficacy for women. Another possible explanation is that women have disempowering or constraining beliefs around leadership (Astin & Astin, 2000). Astin and Astin describe this as a process where individuals feel they lack the requisite skills and experience to effect change. This may be a particular issue for women as researchers have found that men report greater gains in leadership during college than women (Astin, 1993; Kezar and Moriarty 2007). Thus, women may have a more transformational approach to leadership but still tend to believe their leadership abilities are not as developed based upon constraining beliefs. This finding appears to

generalize beyond the military population as Calizo et al. (2007) found consistent findings for the entire MSL study.

Race. With regards to race, Endress (2000) found no influence of race to leadership self-efficacy. This is again inconsistent with the findings in the present study in which race (African American/Black and Hispanic/Latina) did contribute to the variance in leadership self-efficacy. In particular, a positive relationship exists between African American/Black students and Hispanic/Latina students (as opposed to the referent category of multi-racial) with leadership self-efficacy.

Prior theory suggests a possible explanation for the findings in the present study. Armino et al. (2000) indicated that students of color may not identify as leaders as often as other students and prefer to practice leadership in a more participatory, relational manner. The components of leadership self-efficacy in this study included statements that indicated individuals were comfortable in the leadership process, not only in a leader position. This approach to leadership self-efficacy may highlight the confidence that students of color feel with socially responsible leadership. In addition, Dannithorne (1994) suggests that military programs espouse a process of “getting to zero,” in terms of individual development and the values of the military. It could be that the nature of military education programs is such that they de-emphasize differences among individuals including race. Pershing (2003) noted evidence of this phenomena in her research indicating that race is not as salient in military programs because many of the military standards (uniform, physical readiness, etc.) are standard for race while they differ on gender. Therefore, the nature of military programs may provide a structure that allows students of color to experience leadership in a manner that enhances their efficacy.

Certainly, more research is needed on these findings to really understand the relationship between race and leadership self-efficacy.

Leadership self-efficacy quasi-pre-test. The leadership self-efficacy quasi-pre-test was the single best predictor of the outcome leadership self-efficacy included in the conceptual model. The leadership self-efficacy quasi-pre-test explained 22% of the variance in the criterion variable by itself. This finding indicates that the best predictor of future leadership self-efficacy is past efficacy. This is certainly consistent with social cognitive theory and the antecedents to self-efficacy in general. Bandura (1986, 1997) identified personal experience as the most powerful influence on efficacy in new situations. In the current research, of the four antecedents of self-efficacy described in Chapter 2, personal experience is likely to be the only antecedent that influenced leadership self-efficacy in the present study. This will be discussed further when college environments are discussed in this chapter.

Academic classification. Consistent with previous findings, academic classification contributed to the prediction of leadership self-efficacy (Chemers, Watson & May, 2000; Griego, 1997). In the final block, seniors differed significantly from freshmen. This is a finding that makes sense given that seniors have been in college longer than freshmen, and they have had the opportunity to be involved in more college experiences than freshmen. However, prior to considering the values in the SCM, all three classifications were significant predictors of leadership self-efficacy. Only after the SCM values enter does academic classification lose its predictive power indicating that a socially responsible leadership perspective is a better predictor of leadership self-efficacy than academic classification.

Given that the SCM is considered an intermediate outcome variable, this finding has an important implication. First, the values of the SCM as intermediate outcomes indicate that these values are expected to be products of the environment (Astin, 1991). Considering socially responsible leadership as a product of the college environment is supported by leadership identity development theory which indicates that, as individuals showed more complexity in their leadership identity development, they also displayed a more transformational approach to leadership. Blackwell (2004) also found that, as students became more senior in the military education programs, they displayed more transformational approaches to leadership. The findings demonstrate that a socially responsible leadership perspective, as measured through the SCM values, is a better predictor of leadership self-efficacy than years in college (academic classification). This may also be influenced by the development of a transformational approach to leadership that appears to be developed throughout the college experience. While this hypothesis was not the subject of the current study, the relationship between academic classification, the SCM values, and leadership self-efficacy provide a basis for exploring the relationship further.

Being a senior also contributes to understanding leadership self-efficacy above and beyond demographic variables, the leadership self-efficacy quasi-pre-test, and other academic classifications. It also remained significant as other environmental variables and socially responsible leadership was considered. While it is not possible to tell why being a senior had such an impact from the current study, the unique difference of this group to other academic classifications should be considered. For instance, those who are seniors and are participating in military education programs are more likely to have

accepted a commission in the armed forces, especially if they are members of the ROTC. It may be possible that this group has a more future orientation or tends to think about experiences beyond college, and knows that they will be moving into an officer position, which affects their efficacy toward leadership. This relationship, however, is not possible to substantiate in the current study due to the cross-sectional nature of the data. The measure of participation in military education programs was conducted at one time point and does not measure the length or depth of involvement.

College Environments and Leadership Self-Efficacy

The next three blocks of the regression equation contained variables used to recognize experiences in the college environment that are common in military programs. These blocks were leadership education, training, and experiences. Only two of the three blocks were significant ($p < .01$) predictors of leadership self-efficacy. The variables included in military training (mentoring and athletic participation) did not contribute to leadership self-efficacy in the final model. Cumulatively, college environments accounted for 5% of the variance in leadership self-efficacy in the final model.

Additionally, the only variable that remained significant in the final model was holding a leadership position. It might be surprising that, given the transformational approach to leadership taken in the study, that leadership position would be the only environmental variable that would still be significant in the final model. However, prior to the individual, group and community values of the social change model entering the analysis (block 7), short-term leadership education and community service were both significant predictors of LSE ($p < .05$). While holding a leadership position predicts leadership self-efficacy above and beyond the values of the SCM, leadership education

and community service (which are both included in blocks that significantly contribute to the variance in LSE) do not predict LSE *above and beyond* the SCM values.

As described above in the discussion of academic classification, this seems related to the relationship between these experiences and the SCM values. In this instance, leadership education is positively correlated with the three individual values of the social change model ($r = .15$ consciousness of self, $.19$ commitment, $.19$ congruence; $p = .000$) and community service is also positively correlated with the three individual values ($r = .13$ consciousness of self, $.15$ commitment, $.16$ congruence; $p = .000$). Greater participation in short-term educational experiences and community service is associated with higher values in the individual values of the SCM. As the LID theory and research by Blackwell (2004) have already suggested, college experiences affect leadership development (or the development of a more transformational approach to leadership). Given this theory, college experiences should be correlated with the values of the SCM, which in fact they are. Since the relationship between leadership education and community service is no longer significant when the SCM values are present, it indicates that the SCM values might mediate the relationship between college experiences and leadership self-efficacy. This relationship should be tested in future research. Given these relationships, it should not be assumed that leadership education and community service have no effect on leadership self-efficacy.

Leadership education. In fact, leadership education does contribute to the overall variance in leadership self-efficacy in the final regression model even though none of the variables (short, moderate, and long-term) remain significant in the final model. Since Endress' (2000) results found leadership education a significant predictor of leadership

self-efficacy, and studies of leadership of college students have consistently found leadership education important to the development of leadership (Astin & Cress, 1998, Cress et al, 2001, Moriarty & Kezar, 2000), it is worth additional investigation of the relationship between leadership education and leadership self-efficacy for students in military education programs.

Leadership training. The set of variables that made up the construct of leadership training included mentoring and athletic participation did not contribute to the variance in leadership self-efficacy as expected. This finding is puzzling given that Bandura (1986, 1997) stated that vicarious experiences and verbal persuasion influenced self-efficacy in general. It was expected that both vicarious experiences and verbal persuasion would be provided by others, especially those in a mentoring situation who could share experiences and provide encouragement toward leadership. Athletic participation was also expected to contribute to verbal persuasion which would influence efficacy. It may be that the measures used in the current study did not capture the dimensions of leadership training that would be most significant for students in military programs. For instance, had the variables been directly related to the military culture such as mentoring by a cadre member or participation in drill, maybe the components would have been more meaningful for the participants. This same logic seems to apply for internships, a leadership experience, typically referred to as summer training or field exercises. It might also be that the differences between military education programs' action-oriented approach and the academia's education-oriented approach might actually be significant with regards to leadership self-efficacy as suggested by Shambach (2006).

Leadership experiences. Leadership experiences did contribute to the final model accounting for 1% of the variance in leadership self-efficacy. Holding a leadership position did contribute to leadership self-efficacy above and beyond the experiences entered into the model ($p < .01$). Kezar & Moriarty found similar results localized to white males in their study. It seems that holding a leadership position does contribute to leadership self-efficacy for students who participate in military programs as well. It might be that students who participate in military education programs find value in the leadership position because they are cognizant of the military structure and their future as military officers. Even if individuals approach the leadership position with a more transformational perspective, the opportunity provides them with a leadership experience which could help them feel more confident in the leadership process.

Social Change Values and Leadership Self-Efficacy

According to the correlation analysis performed to understand the relationship between the individual, group and community values of the social change model and leadership self-efficacy, there is a positive relationship between the two so that as one varies, so does the other. For a majority of the variables, a strong relationship existed between the SCM values and leadership self-efficacy. In the hierarchical linear regression analysis, all three blocks (individual, group, community) were significant in predicting leadership self-efficacy. In fact, consciousness of self was the best predictor, beyond the leadership self-efficacy quasi-pre-test, accounting for 15% of the variance in leadership self-efficacy.

Given that consciousness of self was such a strong predictor of leadership self-efficacy in the model may indicate a relationship with identity development. Identity has

been noted by student development theorists as the core developmental issue facing college students (Chickering & Reisser, 1993). The consciousness of self scale asked individuals to indicate their agreement with several questions related to knowing one's personality, articulating priorities, and practicing self-reflection; all of which are concerned with one's psychosocial development (See Appendix B). In addition, previous research has indicated that greater complexity in leadership identity development resulted in a more transformational approach to leadership (Komives et al., 2006) and socially responsible leadership is a form of transformational leadership.

However, the findings with regards to the social change model values should be interpreted with caution as the scales may not be robust enough to measure differences. According to Wampold and Freund (1987) if two predictors correlate highly, none (or at best one) will demonstrate a significant unique contribution to the predication of the dependent variable. It seems that the situation they described is present in the current study. When all three blocks are entered in the final model, consciousness of self, which is entered first, assumes most of the variance. Citizenship, which is entered in the final block, also indicates significance but the beta (.000) indicates that the variable contributes very little to the predication value. These findings are perplexing as all three blocks significantly contribute to the overall predication model but few of the variables in the blocks are significant. Pedhazur (1997) indicates that these findings may be a result of collinearity among the variables as "the squared multiple correlation of the dependent variable is significant but none of the regression coefficients is statistically significant" (p. 303). (It is important to point out that regression diagnostics revealed no serious threat to multicollinearity, but the high correlation among the SCM can still not be

ignored.) This occurs because the squared multiple correlation provides information about whether the regression coefficient is statistically significant (different from zero) while the test of a single regression coefficient indicates whether it is statistically significant while partialing out all the other variables. This finding questions whether the different scales are actually measuring independent constructs or if they are measuring a single construct, socially responsible leadership.

In general, socially responsible leadership as measured by the final three blocks contributes 16% to the variance in leadership self-efficacy. This finding alone indicates that a socially responsible leadership perspective is significantly related to leadership self-efficacy for students who are in military programs.

Limitations

There are several limitations to the findings in the present study. First, the MSL dataset which was used for the study may have been too general to understand all the nuances of military education programs. For instance, the military training variables of mentoring did not include military officers as possible mentors, and leadership lab or drill may have been a more appropriate variable than athletic participation. There may have also been differences among individual participation in military programs themselves as found in Blackwell's (2004) study. Different levels of participation (ROTC scholarship, non-scholarship, and Corps of Cadets) were not identified in the MSL, so they could not be controlled for in the conceptual model.

The identification of institutions who participated in the MSL was based upon a protocol that would provide the most breadth about leadership at different institutions as Carnegie classification was used to choose schools for participation in the study. This

structure, however, may not have been the best for understanding military education programs. While no institution was oversampled in the current study (see Appendix C), the sample included respondents from a senior military institution, host institutions and schools with agreements at local institutions. The ability to control based upon these characteristics may have been useful. For instance, a student who is a member of the Corps of Cadets at a senior military institution would be expected to experience the college environment differently than a student who is attending a community college and participating at a local host institution as the Corps of Cadets program would be a more saturated, residential experience. The differences in the ways that students experience the military program might be expected to influence their leadership self-efficacy.

In general, this study defined military education programs broadly and provides a more macro level analysis of leadership self-efficacy for students who participate in military education programs. In addition, those who responded indicated participating in a military education program while in college. The survey did not collect information that would describe the amount or depth of exposure to military programs (for instance, one semester, versus four years). A more precise micro level analysis of military education programs may produce different results.

Second, the measures of leadership self-efficacy (both quasi-pre-test and post-test) were incorporated into the survey at one time, instead of longitudinally. Rohs (1999, 2002) found that the if/then approach to self reported data provides a more accurate assessment of change than a true pre-test, post-test design. This is because individuals will tend to overrate their abilities during the pre-test and therefore findings at the post-test may be understated. It appears that the quasi-pre-test/post-test design in the

current study may still be influenced by some level of social desirability at least as it relates to gender differences. In the final model, gender, (or being male) is positively associated with leadership self-efficacy. Prior research has found that men tend to rate their leadership abilities higher than women (Astin, 1993; Kezar & Moriarty, 2003). While the design may have reduced overestimation at the pre-test, it does not appear to have overcome the tendency for men overrating their efficacy or women to underrate their efficacy.

A final limitation is related to the social change model and the individual, group and community values of the model. These were used to understand the leadership perspectives of students who participate in military education programs. However, the data analysis indicates that, even though assumptions of multicollinearity were not violated, the scales were likely measuring one, instead of seven different constructs. Given the fact that the SCM was chosen for this study because the three values of the model provide a framework for understanding leadership in military education programs which is consistent with the underlying developmental process that occurs in the programs, this level of specificity was not reached in the present study because of the highly correlated nature of the SCM scales used in this study. At best, this research indicates that socially responsible leadership is a leadership perspective that has a positive relationship with leadership self-efficacy for students in military education programs.

Implications

The present study provides useful information about the outcomes of military education programs. The results of the statistical analyses reveal that students in military

programs differ from other students in terms of leadership self-efficacy outcomes. In other words, military students report greater efficacy in leadership than other college students. This finding has an important implication for military education programs as this leadership gain supports the view that military education programs are more than simply a recruiting tool for the armed services. The college environment and a socially responsible leadership perspective (an intermediate outcome) significantly contributed to the predictability of leadership self-efficacy for these students indicating that college experiences influenced leadership self-efficacy. The findings should also be important to college leadership educators as it provides evidence that students who participate in military education programs report greater leadership self-efficacy than the general college student population. As Schroeder (1998) suggests, military education programs could serve as an example of a value-based, teamwork focused, accountability-centered leadership program for higher education.

This study failed to support the relationship between leadership training activities and leadership self-efficacy. Leadership training in military education programs is typically conducted through leadership laboratory. Leadership laboratory includes educational and physical components and is one of the primary means that the values of the military are transmitted to individuals who participate in the program. It was expected that the mentoring provided by senior military officers and other students would be related to greater efficacy in leadership for students in this program. This non-significant finding tends to support one of the long standing contentions made by academia that this component of military education programs lacks academic rigor. While leadership laboratory once held college credit, credit was withdrawn on many

college campuses after the Vietnam War as the training components were not regarded as rigorous enough to carry academic credit (Neiberg, 2000). The lack of significance even prior to the intermediate outcomes, calls into question the value of mentoring and athletic participation as related to leadership self-efficacy. However, one of the limitations of this study's *ex post facto* research design is with items designed for the general college student population versus a military specific population. It could very well be that more precise measurements including variables related to the leadership laboratory may have led to different findings. In addition, the data did not allow for different levels of participation (i.e. Corps of Cadets, ROTC scholarship, etc.) to be accounted for, which previous research has found related to leadership perspective (Blackwell, 2004). The conclusion that can be drawn from this research is that the experiences that are provided in the general college environment such as mentoring and athletic participation do not contribute significantly to the leadership self-efficacy of students in military programs. A micro level analysis of specific military program components (leadership lab, mentoring by cadre and senior military officers) may provide a more in-depth analysis of leadership training within military programs.

Another implication of this finding is that military education programs should take full advantage of the university environment as a leadership laboratory. The original purpose for military programs on college campuses was to instill a citizen-soldier ethic within the military (Neiberg, 2000). The fact that these general college experiences do not enhance leadership self-efficacy may indicate that military program officials should take better advantage of university resources and experiences as a way to promote leadership self-efficacy for those who are involved in military programs. Since

leadership training is a means through which the military instills leadership virtues and values within the future officership, creating partnerships with student affairs and academic programs can help instill the values of citizens within the military.

University officials should also be concerned with this finding. As has been previously indicated, students in military education programs do feel more efficacious in their leadership participation than other college students. The fact that these general college experiences are not significantly related to leadership self-efficacy should provide the university with cause to become more interactive, versus removed from the experiences of these students. Instead of isolated experiences that do not influence leadership self-efficacy, military program officials and university officials should work in collaboration with one another in order to integrate the college experiences of military students within a leadership framework. In addition, since Fincher (2008) did not find a relationship between mentoring and leadership self-efficacy for students with a disability, those who provide mentoring opportunities should investigate ways to make the experiences more meaningful for college students and ways to influence students' confidence to participate in leadership.

The study also adds to the research on leadership self-efficacy and particularly to an individual's appraisals of leadership self-efficacy. Bandura (1986, 1997) discussed four antecedents to self-efficacy (mastery experiences, vicarious experience, verbal persuasion and physiological state). In this study, the leadership self-efficacy quasi-pre-test was the best predictor of future leadership self-efficacy (measured as the criterion variable in the present study). This indicates that, consistent with prior research, previous experiences are still the best predictor of future leadership self-efficacy. Practically, the

implication is that individuals who enter college and military education programs with more leadership self-efficacy will tend to complete the experience with even more leadership efficacy, as well. (Again, it is important to point out that this study was cross-sectional in nature, meaning that the study's pre-test was assessed at the same time as the post-test, which could be suggested to be a less-than-accurate way to assess previous self-efficacy.)

However, it would be hasty for military program officials to consider an evaluation of leadership self-efficacy alone as a program admission criterion or for commissioning. In relation to self appraisal of leadership self-efficacy, this study revealed that women tend to rate their leadership self-efficacy lower than males in the study. As women tend not to rate their efficacy toward leadership as highly as their male counterparts, they may be unfairly judged in selection processes if this were used as a significant selection criteria in which men and women were compared against each other.

Holding a leadership position and community service participation were college experiences identified in the model that also provided opportunities for mastery experiences. Ultimately, this supports the purpose of the social change model of leadership development in that leadership is directed toward change. Either through participation in service or as a positional leader, individuals participated directly in the leadership process. These direct experiences show promise for influencing the efficacy of individuals. The types of experiences that intentionally provide opportunities for individuals to participate in leadership should be purposefully sought out and included within military education programs.

One of the biggest surprises of this research was the lack of a relationship between mentoring and leadership self-efficacy. Bandura (1986, 1997) identified both vicarious experiences and verbal persuasion as sources of influence of an individual's appraisals of efficacy. Therefore, it was expected that mentoring would provide opportunities for others to share their leadership experiences and provide encouragement in leadership endeavors that would influence leadership self-efficacy. One might argue that mastery experiences are more powerful than vicarious experiences and verbal persuasion and therefore account for more of the variance in leadership self-efficacy. However, mentoring was even non-significant prior to leadership experiences being added to the analysis. This finding is, therefore, contrary to previous research on self-efficacy. As mentioned above, better ways of integrating the college experience within the military education program should be explored in order to take full advantage of leadership laboratory provided by the full college experience.

Finally, the research provides implications for the connection between college impact and student development research. A socially responsible leadership perspective was significantly related to leadership self-efficacy above all other variables in the study except prior leadership self-efficacy. This alone should cause leadership educators in military programs to consider the impact of a socially responsible leadership framework for leadership development, and provides evidence to support Shambach's (2006) conclusion that the SCM provides promise as a leadership framework for college military education programs. Several studies have been conducted that have investigated the relationship between college experiences and socially responsible leadership, via the SCM (Dugan, 2006b; Dugan & Haber, 2007; Haber, 2006; Komives & Owen, 2007;

Morrison, 2000; Outcalt & Faris, 1999; Rubin, 2000; Smist, 2006). Purposefully, designing the components of military education programs with the experiences that influence socially responsible leadership in mind could provide a greater impact on leadership self-efficacy for the students involved in the programs.

Future Directions for Research

This study provides one of few research studies that have attempted to investigate leadership self-efficacy as an outcome of the college experience (Endress, 2000; Fincher, 2008). More research is needed that attempts to understand the antecedents of leadership self-efficacy and specifically the role of mastery experiences, vicarious experiences, verbal persuasion and physiological state. If self-referent thought truly is the mediator between knowledge and action as Bandura (1982) suggests, then how one comes to think about his/her leadership abilities is important to the practice of leadership.

Leadership identity development is another construct that measures how one thinks of himself or herself as a leader. Given the relationship between consciousness of self and leadership self-efficacy, future research should investigate the relationship between identity development, transformational leadership, and leadership self-efficacy further.

Based upon the hierarchical multiple regression analysis and the changes that occurred when the values of socially responsible leadership were taken into consideration, there is a need to examine the mediating effects of socially responsible leadership on leadership self-efficacy. This could be conducted with a path analysis or structural equation modeling that explores the direct and indirect relationships among the variables based upon previous research. However, because leadership self-efficacy is a

new construct in the study of leadership, the theory to support the paths for the directionality of relationships may still be too thin to establish a theoretical model.

While the SRLS-2 provided the instrument through which socially responsible leadership was measured in this study, at best it was able to provide an omnibus test of socially responsible leadership versus multiple independent scales. The SCM should be tested empirically to determine if seven separate constructs truly exist. Even Tyree's (1998) dissertation in which the original SRLS was designed indicated that raters had difficulty distinguishing between the seven constructs of the model. Perhaps a single construct that represents socially responsible leadership is the best measure or perhaps an additional instrument could be designed where the components of socially responsible leadership are better differentiated.

As mentioned previously in this chapter, the findings of this research provide a macro-level analysis of participation in military education programs at a very broad level. As a follow-up to this study, research that investigates the more specific components of military programs would provide more insight into campus specific programs and/or different types of military program participation. Additional background characteristics should be included in future research that would account for prior military experience or exposure such as participating in JROTC or family's military background. In addition, experiences related to previous leadership experiences (such as those in question 9 of the MSL, see Appendix A) should be added to future research. The measures of college experience should also be more closely related to the terminology used in military education programs such as mentoring by a cadre member or participating in a field experience.

An exploration of college military programs themselves could be undertaken with the use of qualitative research, possibly through ethnography. As ethnographies provide insight into the culture of the group an analysis of this type could insight into the unique aspects of military culture concerning norms, behaviors, and language of the program and how individuals come to think about themselves in terms of the leadership process. This research would be particularly useful given the lack of research related specifically to college programs.

Chapter Summary

The current study examined the relationship between college experiences and socially responsible leadership with leadership self-efficacy for students who participate in military education programs. This study applied the social change model for leadership development as the theoretical lens through which a socially responsible leadership process was understood in these programs. In addition, a college impact model was applied to the design of the study in order to understand the relationship between involvement measures and leadership self-efficacy, an outcome of military education programs.

The results of this *ex post facto* study indicate significant differences between students who participate in military education programs and other college students. Military students indicated greater efficacy for leadership even when differences in background were accounted for. The conceptual model designed for this study to understand leadership self-efficacy for military students was able to explain 49% of the variance in the criterion variable. Several factors significantly contributed to leadership self-efficacy, including demographic characteristics (gender, race), a leadership self-

efficacy quasi-pre-test, academic classification (senior), leadership experiences, and socially responsible leadership (individual, group, and community values of the SCM). The study provided support for leadership self-efficacy as an outcome for students who participate in military education programs, and the use of socially responsible leadership as a means to understand leadership self-efficacy for this population. The study also identified areas of the campus environment that might be incorporated and developed further within military education programs in order to take full advantage of the college environment.

Appendix A: Multi-Institutional Study of Leadership Student Survey (MSL-SS)

NOTE:
 This is a paper and pencil version of what will be presented as an on-line web survey. Skip patterns will automatically take the respondent to the appropriate section. Shaded sections/items will be used in split samples and will not be asked of all participants.

COLLEGE INFORMATION

1. Did you begin college at your current institution or elsewhere? (Choose One)

- Started here
- Started elsewhere

2. Thinking about this academic term, how would you characterize your enrollment? (Choose One)

- Full-Time
- Less than Full-Time

3. What is your current class level? (Choose One)

- First year/freshman
- Sophomore
- Junior
- Senior
- Graduate student
- Other

4. Are you currently working OFF CAMPUS?
 (Circle one) YES NO

If NO skip to #5

4a. Approximately how many hours do you work off campus in a typical 7 day week?

4b. In your primary off campus position, how frequently do you: (Circle one for each item)

- | | |
|---------------|----------------|
| 1 = Never | 3 = Often |
| 2 = Sometimes | 4 = Very Often |

- | | | | | |
|--|---|---|---|---|
| Perform repetitive tasks..... | 1 | 2 | 3 | 4 |
| Consider options before making decisions..... | 1 | 2 | 3 | 4 |
| Perform structured tasks..... | 1 | 2 | 3 | 4 |
| Have the authority to change the way some things are done..... | 1 | 2 | 3 | 4 |
| Coordinate the work of others..... | 1 | 2 | 3 | 4 |
| Work with others on a team..... | 1 | 2 | 3 | 4 |

5. Are you currently working ON CAMPUS?
 (Circle one) YES NO

If NO skip to #6

5a. Approximately how many hours do you work on campus in a typical 7 day week?

5b. In your primary position, how frequently do you:
 (Circle one for each item)

- | | |
|---------------|----------------|
| 1 = Never | 3 = Often |
| 2 = Sometimes | 4 = Very Often |

- | | | | | |
|--|---|---|---|---|
| Perform repetitive tasks..... | 1 | 2 | 3 | 4 |
| Consider options before making decisions..... | 1 | 2 | 3 | 4 |
| Perform structured tasks..... | 1 | 2 | 3 | 4 |
| Have the authority to change the way some things are done..... | 1 | 2 | 3 | 4 |
| Coordinate the work of others..... | 1 | 2 | 3 | 4 |
| Work with others on a team..... | 1 | 2 | 3 | 4 |

6. In an average academic term, do you engage in any community service?
 YES NO

If NO skip to #7

In an average academic term, approximately how many hours do you engage in community service? (circle one for each category).

- | | | | | | |
|---|-----|------|-------|-------|-------------|
| <u>As part of a class</u> | | | | | |
| 0 | 1-5 | 6-10 | 11-15 | 16-20 | 21-25 26-30 |
| <u>With a student organization</u> | | | | | |
| 0 | 1-5 | 6-10 | 11-15 | 16-20 | 21-25 26-30 |
| <u>As part of a work study experience</u> | | | | | |
| 0 | 1-5 | 6-10 | 11-15 | 16-20 | 21-25 26-30 |
| <u>On your own</u> | | | | | |
| 0 | 1-5 | 6-10 | 11-15 | 16-20 | 21-25 26-30 |

7. Check all the following activities you engaged in during your college experience.

- Studied abroad
- Experienced a practicum, internship, field experience, co-op experience, or clinical experience
- Participated in a learning community or some other formal program where groups of students take two or more classes together.
- Enrolled in a culminating senior experience (capstone course, thesis etc.)

- o None of the above

YOUR PERCEPTIONS BEFORE ENROLLING IN COLLEGE

8. Looking back to *before you started college*, how confident were you that you would be successful at the following:
(Circle one response for each.)

1 = Not at all confident 3 = Confident
2 = Somewhat confident 4 = Very confident

- Handling the challenge of college-level work.. 1 2 3 4
- Feeling as though you belong on campus..... 1 2 3 4
- Analyzing new ideas and concepts..... 1 2 3 4
- Applying something learned in class to the "real world"..... 1 2 3 4
- Enjoying the challenge of learning new material 1 2 3 4
- Appreciating new and different ideas, beliefs .. 1 2 3 4
- Leading others 1 2 3 4
- Organizing a group's tasks to accomplish a goal 1 2 3 4
- Taking initiative to improve something..... 1 2 3 4
- Working with a team on a group project 1 2 3 4

9. Looking back to *before you started college*, how often did you engage in the following activities:
(Circle one response for each.)

1 = Never 3 = Often
2 = Sometimes 4 = Very Often

- Performing volunteer work 1 2 3 4
- Participating in student clubs/ groups..... 1 2 3 4
- Participating in varsity sports 1 2 3 4
- Took leadership positions in student clubs, groups or sports 1 2 3 4
- Participating in community organizations (e.g. church youth group, scouts)..... 1 2 3 4
- Taking leadership positions in community organizations..... 1 2 3 4
- Participating in activism in any form (e.g. petitions, rally, protest)..... 1 2 3 4
- Getting to know people from backgrounds different than your own 1 2 3 4
- Learning about cultures different from your own..... 1 2 3 4

Participating in training or education that developed your leadership skills.....1 2 3 4

10. Looking back to *before you started college*, please indicate your agreement with the following items by choosing the number that most closely represented your opinion about that statement AT THAT TIME:
(Circle one response for each.)

1 = Strongly disagree 4 = Agree
2 = Disagree 5= Strongly Agree
3 = Neutral

- Hearing differences in opinions enriched my thinking1 2 3 4 5
- I had low self esteem.....1 2 3 4 5
- I worked well in changing environments 1 2 3 4 5
- I enjoyed working with others toward common goals.....1 2 3 4 5
- I held myself accountable for responsibilities I agree to1 2 3 4 5
- I worked well when I knew the collective values of a group.....1 2 3 4 5
- My behaviors reflected my beliefs1 2 3 4 5
- I valued the opportunities that allowed me to contribute to my community, 1 2 3 4 5
- I thought of myself as a leader ONLY if I was the head of a group (e.g. chair, president) ...1 2 3 4 5

11a. Before you started college, how would you describe the amount of leadership experience you have had (e.g., student clubs, performing groups, service organizations, jobs)? Please circle the appropriate number
No experience 1 2 3 4 5 Extensive experience

11b. Before you started college, how often did others give you positive feedback or encourage your leadership ability (e.g., teachers, advisors, mentors)?
Please circle the appropriate number
Never 1 2 3 4 5 frequently

11c. Before you started college, How would you have reacted to being chosen or appointed the leader of a group? Please circle the appropriate number
Very 1 2 3 4 5 very
uncomfortable comfortable

11d. Before you started college, how often did you see others be effective leaders?
Please circle the appropriate number
Never 1 2 3 4 5 frequently

11e. Before you started college, how often did you think of yourself as a leader
Please circle the appropriate number
Never 1 2 3 4 5 frequently

YOUR EXPERIENCE IN COLLEGE

12. How often have you engaged in the following activities during your college experience:
(Circle one for each item)

1 = Never 3 = Often
2 = Sometimes 4 = Very Often

Paid attention to national issues 1 2 3 4

Paid attention to global issues.....1 2 3 4

Was aware of the current issues facing the
community surrounding your institution..... 1 2 3 4

Signed a petition or sent an email about a
social or political issue..... 1 2 3 4

Bought or did not buy a product or service
because of your views about the social or
political values of the company that produces
or provides it..... 1 2 3 4

Contacted a public official, newspaper,
magazine, radio, or television talk show to
express your opinion..... 1 2 3 4

Took part in a protest, rally, march, or
demonstration..... 1 2 3 4

13. Since starting college, how often have you:

been an involved member or active participant in college organizations?

Never 1 2 3 4 5 Much of the time

held a leadership position in a college organization? (for example, serving as an officer or a club or organization, captain of an athletic team, first chair in a musical group, section editor of the newspaper, chairperson of a committee)

Never 1 2 3 4 5 Much of the time

been an involved member or active participant in an off-campus community organization (e.g. PTA, church group)?

Never 1 2 3 4 5 Much of the time

held a leadership position in a community organization? (for example, serving as an officer or a club or organization, leader in a youth group, chairperson of a committee)

Never 1 2 3 4 5 Much of the time

YOUR STUDENT GROUP INVOLVEMENTS

14. Which of the following kinds of student groups have you been involved with during college?
(Check all the categories that apply)

- Academic/ Departmental/ Professional (e.g., Pre-Law Society, an academic fraternity, Engineering Club)
- Arts/Theater/Music (e.g., Theater group, Marching Band)
- Campus-wide programming groups (e.g., program board, film series board, a multicultural programming committee)
- Cultural/ International (e.g., Black Student Union, German Club)
- Honor Society (e.g., Omicron Delta Kappa [ODK], Mortar Board, Phi Beta Kappa)
- Living-learning programs (e.g., language house, leadership floors, ecology halls)
- Leadership (e.g., Peer Leadership Program, Emerging Leaders Program)
- Media (e.g., Campus Radio, Student Newspaper)
- Military (e.g., ROTC)
- New Student Transitions (e.g., admissions ambassador, orientation advisor)
- Para professional group (e.g., Resident assistants, peer health educators)
- Political/ Advocacy (e.g., College Democrats, Students Against Sweatshops)
- Religious (e.g., Campus Crusades for Christ, Hillel)
- Service (e.g., Circle K, Alpha Phi Omega [APO])
- Culturally based fraternities and sororities (e.g., National Pan-Hellenic Council (NPHC) groups such as Alpha Phi Alpha Fraternity Inc., or Latino Greek Council groups such as Lambda Theta Alpha)
- Social fraternities or sororities (e.g. Panhellenic or Interfraternity Council groups such as Sigma Phi Epsilon or Kappa Kappa Gamma)
- Sports- Intercollegiate or Varsity (e.g., NCAA Hockey, Varsity Soccer)
- Sports- Club (e.g., Club Volleyball)

- o Sports- Leisure or Intramural (ex: Intramural flag football, Rock Climbing)
- o Special Interest (ex: Comedy Group)
- o Student governance group (ex: Student Government Association, Residence Hall Association, Interfraternity Council) **IF CHECKED go to item 14A**

14A. Were you involved in your campus-wide student government association? (Circle one) YES NO

If No, skip to item 15.

Thinking about your student government experience, indicate your level of agreement with the following items:
(Circle one response for each.)

- 1 = Strongly disagree 4 = Agree
- 2 = Disagree 5 = Strongly agree
- 3 = Neutral

I found it hard to represent my constituents' concerns..... 1 2 3 4 5

I successfully initiated change on behalf of my constituents (e.g., policy, institutional, or social) 1 2 3 4 5

My motivation for involvement was about gaining influence..... 1 2 3 4 5

My motivation for involvement was to receive recognition 1 2 3 4 5

My motivation for involvement was to help others..... 1 2 3 4 5

I have witnessed effective constituency-based efforts for change 1 2 3 4 5

Effective constituency-based efforts for change have influenced my own actions..... 1 2 3 4 5

I held a constituency-based position prior to this college SGA experience (e.g. high school or other governance group) 1 2 3 4 5

Experience with previous constituency based positions did NOT make me more effective in my college SGA work..... 1 2 3 4 5

15. At any time during your college experience, how often have you been in mentoring relationships where another person intentionally assisted your growth or connected you to opportunities for career and personal development? Indicate how many times

Student affairs staff (e.g., a student organization advisor, career counselor, the Dean of Students, or residence hall coordinator):
.....never once several many

Faculty never once several many

Employers never once several many

Community members never once several many

Other students never once several many

16. During interactions with other students outside of class, how often have you done each of the following in an average school year? (Circle one for each.)
1 = Never 3 = Often
2 = Sometimes 4 = Very Often

Talked about different lifestyles/customs.....1 2 3 4

Held discussions with students whose personal values were very different from your own.....1 2 3 4

Discussed major social issues such as peace, human rights, and justice.....1 2 3 4

Held discussions with students whose religious beliefs were very different from your own.....1 2 3 4

Discussed your views about multiculturalism and diversity.....1 2 3 4

Held discussions with students whose political opinions were very different from your own.....1 2 3 4

DEVELOPING YOUR LEADERSHIP ABILITIES

17. Since starting college, how many times have you participated in the following types of training or education that developed your leadership skills (ex: courses, Resident Assistant training, organization retreats, job training) (Circle one for each.)

17a- Short-Term Experiences (ex: individual or one-time workshops, retreats, conferences, lectures, or training)
Never once several many

17b-Moderate-Term Experiences (ex: a single course, multiple or ongoing retreats, conferences, institutes, workshops, and/or training.
Never once several many

If NEVER skip to 17c:

Did your experience involve any academic courses?
YES NO

If no, skip to 17c

a. How many leadership courses have you completed?

- b. How many other courses have you taken that contributed to your leadership abilities (e.g. ethics course, personal development courses, management courses)? *Keep in mind you might have taken such a course but it did not contribute to your leadership.*

17c- Long-Term Experiences (ex: multi-semester leadership program, leadership certificate program, leadership minor or major, emerging leaders program, living-learning program),
 Never once several many

if NEVER skip to 18

Which of the following Long-Term Activities did you experience? (check all that apply)

- Emerging or New Leaders Program
- Peer Leadership Program
- Leadership Certificate Program
- Multi-Semester Leadership Program
- Senior Leadership Capstone Experience
- Residential Living-learning leadership program
- Leadership Minor
- Leadership Major
- Other

ASSESSING LEADERSHIP DEVELOPMENT

18. Please indicate your agreement or disagreement with the following items by choosing the number that most closely represents your opinion about that statement.
 (Circle one response for each.)

For the statements that refer to a group, think of the most effective, functional group of which you have been a part. This might be a formal organization or an informal study group. For consistency, use the same group in all your responses.

- 1 = Strongly disagree 4 = Agree
- 2 = Disagree 5 = Strongly Agree
- 3 = Neutral

- I am open to others' ideas..... 1 2 3 4 5
- Creativity can come from conflict..... 1 2 3 4 5
- I value differences in others 1 2 3 4 5
- I am able to articulate my priorities..... 1 2 3 4 5
- Hearing differences in opinions enriches my thinking..... 1 2 3 4 5
- I have low self esteem 1 2 3 4 5
- I struggle when group members have ideas that are different from mine..... 1 2 3 4 5

- Transition makes me uncomfortable1 2 3 4 5
- I am usually self confident1 2 3 4 5
- I am seen as someone who works well with others1 2 3 4 5
- Greater harmony can come out of disagreement.....1 2 3 4 5
- I am comfortable initiating new ways of looking at things1 2 3 4 5
- My behaviors are congruent with my beliefs1 2 3 4 5
- I am committed to a collective purpose in those groups to which I belong1 2 3 4 5
- It is important to develop a common direction in a group in order to get anything done.....1 2 3 4 5
- I respect opinions other than my own1 2 3 4 5
- Change brings new life to an organization.....1 2 3 4 5
- The things about which I feel passionate have priority in my life.....1 2 3 4 5
- I contribute to the goals of the group1 2 3 4 5
- There is energy in doing something a new way1 2 3 4 5
- I am uncomfortable when someone disagrees with me1 2 3 4 5
- I know myself pretty well1 2 3 4 5
- I am willing to devote the time and energy to things that are important to me.....1 2 3 4 5
- I stick with others through difficult times1 2 3 4 5
- When there is a conflict between two people, one will win and the other will lose1 2 3 4 5
- Change makes me uncomfortable1 2 3 4 5
- It is important to me to act on my beliefs...1 2 3 4 5
- I am focused on my responsibilities.....1 2 3 4 5
- I can make a difference when I work with others on a task.....1 2 3 4 5
- I actively listen to what others have to say1 2 3 4 5
- I think it is important to know other people's priorities.....1 2 3 4 5

- My actions are consistent with my values..... 1 2 3 4 5
- I believe I have responsibilities to my community..... 1 2 3 4 5
- I could describe my personality..... 1 2 3 4 5
- I have helped to shape the mission of the group..... 1 2 3 4 5
- New ways of doing things frustrate me..... 1 2 3 4 5
- Common values drive an organization..... 1 2 3 4 5
- I give time to making a difference for someone else..... 1 2 3 4 5
- I work well in changing environments..... 1 2 3 4 5
- I work with others to make my communities better places..... 1 2 3 4 5
- I can describe how I am similar to other people..... 1 2 3 4 5
- I enjoy working with others toward common goals..... 1 2 3 4 5
- I am open to new ideas..... 1 2 3 4 5
- I have the power to make a difference in my community..... 1 2 3 4 5
- I look for new ways to do something..... 1 2 3 4 5
- I am willing to act for the rights of others..... 1 2 3 4 5
- I participate in activities that contribute to the common good..... 1 2 3 4 5
- Others would describe me as a cooperative group member..... 1 2 3 4 5
- I am comfortable with conflict..... 1 2 3 4 5
- I can identify the differences between positive and negative change..... 1 2 3 4 5
- I can be counted on to do my part..... 1 2 3 4 5
- Being seen as a person of integrity is important to me..... 1 2 3 4 5
- I follow through on my promises..... 1 2 3 4 5
- I hold myself accountable for responsibilities I agree to..... 1 2 3 4 5
- I believe I have a civic responsibility to the greater public..... 1 2 3 4 5
- Self-reflection is difficult for me..... 1 2 3 4 5
- Collaboration produces better results..... 1 2 3 4 5
- I know the purpose of the groups to which I belong..... 1 2 3 4 5
- I am comfortable expressing myself..... 1 2 3 4 5

- My contributions are recognized by others in the groups I belong to..... 1 2 3 4 5
- I work well when I know the collective values of a group..... 1 2 3 4 5
- I share my ideas with others..... 1 2 3 4 5
- My behaviors reflect my beliefs..... 1 2 3 4 5
- I am genuine..... 1 2 3 4 5
- I am able to trust the people with whom I work..... 1 2 3 4 5
- I value opportunities that allow me to contribute to my community..... 1 2 3 4 5
- I support what the group is trying to accomplish..... 1 2 3 4 5
- It is easy for me to be truthful..... 1 2 3 4 5

THINKING MORE ABOUT YOURSELF

19. How would you characterize your political views?

- (Mark One)
- Far left
 - Liberal
 - Middle-of-the-road
 - Conservative
 - Far right

20. In thinking about how you have changed during college, to what extent do you feel you have grown in the following areas? (Circle one response for each.)

- 1 = Not grown at all 3 = Grown**
2 = Grown somewhat 4 = Grown very much

- Ability to put ideas together and to see relationships between ideas..... 1 2 3 4
- Ability to learn on your own, pursue ideas, and find information you need..... 1 2 3 4
- Ability to critically analyze ideas and information..... 1 2 3 4
- Learning more about things that are new to you..... 1 2 3 4

21. Please indicate the extent to which you agree or disagree with the following statements.

(Circle one response for each.)

- 1 = Strongly disagree 3 = Agree**
2 = Disagree 4 = Strongly agree

- Since coming to college, I have learned a great deal about other racial/ethnic groups..... 1 2 3 4

- I have gained a greater commitment to my racial/ethnic identity since coming to college.. 1 2 3 4
- My campus's commitment to diversity fosters more division among racial/ethnic groups than inter-group understanding 1 2 3 4
- Since coming to college, I have become aware of the complexities of inter-group understanding..... 1 2 3 4

THINKING ABOUT LEADERSHIP

22. How confident are you that you can be successful at the following: (Circle one response for each.)
 1 = Not at all confident 3 = Confident
 2 = Somewhat confident 4 = Very confident

- Leading others..... 1 2 3 4
- Organizing a group's tasks to accomplish a goal. 1 2 3 4
- Taking initiative to improve something 1 2 3 4
- Working with a team on a group project..... 1 2 3 4

23. To what degree do you agree with these items? (Circle one response for each.)

- 1 = Strongly disagree
- 2 = Disagree
- 3 = neither agree or disagree
- 4 = Agree
- 5 = Strongly agree

- It is the responsibility of the head of a group to make sure the job gets done 1 2 3 4 5
- A person can lead from anywhere in the organization, not just as the head of the organization 1 2 3 4 5
- I spend time mentoring other group members..... 1 2 3 4 5
- I think of myself as a leader ONLY if I am the head of a group (e.g. chair, president) 1 2 3 4 5
- Group members share the responsibility for leadership 1 2 3 4 5
- I am a person who can work effectively with others to accomplish our shared goals..... 1 2 3 4 5
- I do NOT think of myself as a leader when I am just a member of a group..... 1 2 3 4 5
- Leadership is a process all people in the group do together 1 2 3 4 5
- I feel inter-dependent with others in a group. 1 2 3 4 5
- I know I can be an effective member of any group I choose to join..... 1 2 3 4 5

Teamwork skills are important in all organizations 1 2 3 4

The head of the group is the leader and members of the group are followers 1 2 3 4

YOUR COLLEGE CLIMATE

24. Select the number that best represents your experience with your overall college climate

- | | | |
|---|---------------|---------------------------------------|
| Closed, hostile, intolerant, unfriendly | 1 2 3 4 5 6 7 | Open, inclusive, supportive, friendly |
|---|---------------|---------------------------------------|

BACKGROUND INFORMATION

25. What were your average grades in High School? (Choose One)

- A or A+
- A- or B+
- B
- B- or C+
- C
- C- or D+
- D or lower

26. Did your high school require community service for graduation? (Circle One) YES NO

27. What is your age?

28. What is your gender?

- Female
- Male
- Transgender

29. What is your sexual orientation?

- Heterosexual
- Bisexual
- Gay/Lesbian
- Rather not say

30. Indicate your citizenship and/ or generation status: (Choose One)

- Your grandparents, parents, and you were born in the U.S.
- Both of your parents AND you were born in the U.S.
- You were born in the U.S., but at least one of your parents was not
- You are a foreign born, naturalized citizen

- You are a foreign born, resident alien/ permanent resident
- You are on a student visa

31. Please indicate your racial or ethnic background. (Mark all that apply)

- White/Caucasian
- African American/Black
- American Indian/Alaska Native
- Asian American/Asian
- Native Hawaiian/Pacific Islander
- Mexican American/Chicano
- Puerto Rican
- Cuban American
- Other Latino American
- Multiracial or multiethnic
- Race/ethnicity not included above

32. Do you have a mental, emotional, or physical condition that now or in the past affects your functioning in daily activities at work, school, or home?

Yes No

if Yes Please indicate all that apply:

- Deaf/Hard of Hearing
- Blind/Visually Impairment
- Speech/language condition
- Learning Disability
- Physical or musculoskeletal (e.g. multiple sclerosis)
- Attention Deficit Disorder/ Attention Deficit Hyperactivity Disorder
- Psychiatric/Psychological condition (e.g. anxiety disorder, major depression)
- Neurological condition (e.g. brain injury, stroke)
- Medical (e.g. diabetes, severe asthma)
- Other

33. What is your current religious affiliation?
(Choose One)

- None
- Agnostic
- Atheist
- Buddhist
- Catholic
- Hindu
- Islamic
- Jewish
- Mormon
- Quaker
- Protestant (e.g. Baptist, Methodist, Presbyterian)
- Other
- Other Christian
- Rather not say

34. What is your best estimate of your grades so far in college? [Assume 4.00 = A] (Choose One)

- 3.50 – 4.00
- 3.00 – 3.49

- 2.50 – 2.99
- 2.00 – 2.49
- 1.99 or less
- No college GPA

35. What is the HIGHEST level of formal education obtained by any of your parent(s) or guardian(s)?
(Choose one)

- Less than high school diploma or GED
- High school diploma or GED
- Some college
- Associates degree
- Bachelors degree
- Masters degree
- Doctorate or professional degree (e.g., JD, MD, PhD)
- Don't know

36. What is your best estimate of your parent(s) or guardian(s) combined total income from last year? If you are independent from your parents, indicate your income.
(Choose one)

- Less than \$12,500
- \$12,500 - \$24,999
- \$25,000 – \$39,999
- \$40,000 – \$54,999
- \$55,000 - \$74,999
- \$75,000 - \$99,999
- \$100,000 - \$149,999
- \$150,000 - \$199,999
- \$200,000 and over
- Don't know
- Rather not say

37. Which of the following best describes where are you currently living while attending college? (Choose one)

- Parent/guardian or other relative home
- Other private home, apartment, or room
- College/university residence hall
- Other campus student housing
- Fraternity or sorority house
- Other

INDIVIDUAL CAMPUS ITEMS

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

Appendix B: SRLS-R2 Scale Items

	2006 MSL Cronbach Alpha	Military Sample
COMMUNITY		
Citizenship	0.77	0.78
<p>I believe I have responsibilities to my community.</p> <p>I give time to making a difference for someone else.</p> <p>I work with others to make my communities better places.</p> <p>I have the power to make a difference in my community.</p> <p>I am willing to act for the rights of others.</p> <p>I participate in activities that contribute to the common good.</p> <p>I believe I have a civic responsibility to the greater public.</p> <p>I value opportunities that allow me to contribute to my community.</p>		
GROUP		
Collaboration	0.82	0.82
<p>I am seen as someone who works well with others.</p> <p>I can make a difference when I work with others on a task.</p> <p>I actively listen to what others have to say.</p> <p>I enjoy working with others toward common goals.</p> <p>Others would describe me as a cooperative group member.</p> <p>Collaboration produces better results.</p> <p>My contributions are recognized by others in the groups I belong to.</p> <p>I am able to trust the people with whom I work.</p>		
Common Purpose	0.82	0.83
<p>I am committed to a collective purpose in those groups to which I belong.</p> <p>It is important to develop a common direction in a group in order to get anything done.</p> <p>I contribute to the goals of the group.</p> <p>I think it is important to know other people's priorities.</p> <p>I have helped to shape the mission of the group.</p> <p>Common values drive an organization.</p> <p>I know the purpose of the groups to which I belong.</p> <p>I work well when I know the collective values of a group.</p> <p>I support what the group is trying to accomplish</p>		

Controversy with Civility	0.77	0.76
I am open to others' ideas.		
Creativity can come from conflict.		
I value differences in others.		
Hearing differences in opinions enriches my thinking.		
I struggle when group members have ideas that are different from mine.		
Greater harmony can come out of disagreement.		
I respect opinions other than my own.		
I am uncomfortable when someone disagrees with me.		
When there is a conflict between two people, one will win and the other will lose.		
I am comfortable with conflict.		
I share my ideas with others.		
INDIVIDUAL		
Commitment	0.83	0.83
I am willing to devote time and energy to things that are important to me.		
I stick with others through the difficult times.		
I am focused on my responsibilities.		
I can be counted on to do my part.		
I follow through on my promises.		
I hold myself accountable for responsibilities I agree to.		
Congruence	0.80	0.82
My behaviors are congruent with my beliefs.		
It is important to me to act on my beliefs.		
My actions are consistent with my values.		
Being seen as a person of integrity is important to me.		
My behaviors reflect my beliefs.		
I am genuine.		
It is easy for me to be truthful.		
Consciousness of Self	0.79	0.80
I am able to articulate my priorities.		
I have a low self esteem.		
I am usually self confident.		
The things about which I feel passionate have priority in my life.		
I know myself pretty well.		
I could describe my personality.		
I can describe how I am similar to other people.		
Self-reflection is difficult for me.		
I am comfortable expressing myself.		

Appendix C: Institutional Representation

Institution	Military Sample	Non-Military Sample	%
Auburn University	50	50	3.5
Brigham Young University	39	39	2.8
California State, Northridge	15	15	1.1
California State, San Marcos	26	26	1.8
Claflin University	9	9	.6
Colorado State University	34	34	2.4
DePaul University	8	8	.6
Drake University	13	13	.9
Drexel University	32	32	2.3
Elon University	18	18	1.3
Florida International University	7	7	.5
Florida State University	24	24	1.7
Franklin College	7	7	.5
Gallaudet University	9	9	.6
George Mason University	46	46	3.3
Georgia State University	25	25	1.8
John Carroll University	38	38	2.7
Lehigh University	57	57	4.0
Marquette University	43	43	3.0
Meredith University	11	11	.8
Metro State College Of Denver	23	23	1.6
Miami University, Ohio	40	40	2.8
Monroe Community College	9	9	.6
Montgomery College	16	16	1.1
Moravian College	9	9	.6
Mount Union College	17	17	1.2
North Carolina State University	50	50	3.5
Northwestern University	10	10	.7
Oregon State University	42	42	3.0
Portland State University	20	20	1.4
Rollins	4	4	.3
Simmons	6	6	.4
St. Norbert College	20	20	1.4
SUNY Geneseo	14	14	1.0
Susquehanna	15	15	1.1
Syracuse University	22	22	1.6
Texas A&M University	92	92	6.5
Texas Women's University	19	19	1.3

University of California, Berkeley	23	23	1.6
University of Arizona	34	34	2.4
University of Arkansas	44	44	3.1
University of Illinois	43	43	3.0
University of Maryland, Baltimore County	29	29	2.1
University of Maryland, College Park	41	41	2.9
University of Maryland, Eastern Shore	11	11	.8
University of Minnesota, Twin Cities	37	37	2.6
University of Nevada, Las Vegas	17	17	1.2
University of New Hampshire	26	26	1.8
University of North Carolina, Greensboro	13	13	.9
University of North Dakota	58	58	4.1
University of Rochester	23	23	1.6
University of Tampa	75	75	5.3

Appendix D: Correlation Matrix

	LSE	GENDER	WHITE	AA	AI	APA
Leadership Self-efficacy						
Gender	-0.06 *					
White/Caucasian	0.07 **	-0.11 ***				
African American/Black	0.06 *	0.10 ***	-0.40 ***			
American Indian/Alaskan	0.01	-0.01	-0.01	0.10 ***		
Asian/Pacific Islander	-0.16 ***	-0.01	-0.44 ***	-0.07 **	0.00	
Hispanic/Latina	0.06 *	0.07 **	-0.65 ***	-0.05 *	0.04	-0.06 *
Parent's Income	0.07 *	0.01	0.22 ***	-0.17 ***	-0.11 ***	-0.08 **
Leadership Self-efficacy Quasi-Pre-Test	0.49 ***	-0.03	0.00	0.04	0.03	-0.08 **
Sophomore	0.03	0.02	-0.01	0.03	-0.03	-0.04
Junior	-0.01	-0.01	-0.01	0.00	0.00	0.01
Senior	0.09 **	-0.02	0.01	-0.01	0.02	0.02
Short-term leadership	0.26 ***	-0.02	-0.03	0.00	0.02	0.01
Moderate-term leadership	0.22 ***	-0.09 ***	-0.02	0.03	0.00	-0.01
Long-term leadership	0.15 ***	-0.11 ***	0.05 *	-0.02	0.01	-0.02
Mentor-Student Affairs	0.10 ***	0.01	-0.04	0.02	0.00	0.02
Mentor-Faculty	0.15 ***	0.04	0.00	0.02	0.01	-0.01
Mentor-Employer	0.11 ***	-0.03	-0.05 *	0.06 *	-0.02	-0.03
Mentor-Community Member	0.04	-0.04	-0.09 **	0.12 ***	0.04	0.04
Mentor-Other Student	0.14 ***	-0.01	-0.03	0.03	0.01	0.02
Athletic Participation	0.04	-0.10 ***	0.09 ***	-0.05 *	0.01	-0.08 **
Community Service	0.16 ***	0.03	0.06 *	-0.02	0.01	-0.08 **
Internship	0.07 **	0.02	0.02	-0.01	0.00	-0.02

APPENDIX D: (Cont)

Leadership Position	0.25	***	-0.09	***	0.08	**	-0.06	*	0.01	-0.02	
Consciousness of Self	0.54	***	0.05	*	0.07	**	0.04		0.00	-0.12	***
Congruence	0.49	***	0.08	**	0.10	***	-0.01		0.02	-0.12	***
Commitment	0.50	***	0.08	**	0.08	**	0.01		0.02	-0.12	***
Collaboration	0.48	***	0.06	*	0.03		0.04		0.01	-0.09	**
Common Purpose	0.51	***	0.06	**	0.07	**	-0.01		0.00	-0.10	***
Civility	0.47	***	0.08	**	0.06	*	0.02		0.02	-0.12	***
Citizenship	0.53	***	0.02		0.05	*	0.03		0.00	-0.11	***

*p<.05, **p<.01, *** p<.001

APPENDIX D: (Cont)

	LATINA	INCOME	LSE- PRE	SOPH	JUNIOR	SENIOR
Leadership Self-efficacy						
Gender						
White/Caucasian						
African American/Black						
American Indian/Alaskan						
Asian/Pacific Islander						
Hispanic/Latina						
Parent's Income	-0.10 ***					
Leadership Self-efficacy Quasi-Pre-Test	0.03	0.08 **				
Sophomore	-0.10	0.05 *	0.04			
Junior	0.00	0.04	0.00	-0.31 ***		
Senior	-0.02	-0.08 **	-0.06 *	-0.37 ***	-0.45 ***	
Short-term leadership	-0.01	-0.02	0.16 ***	-0.02	0.05 *	0.09 **
Moderate-term leadership	0.00	0.03	0.14 ***	-0.01	0.04	0.07 **
Long-term leadership	-0.02	0.09 **	0.10 ***	0.03	0.01	0.01
Mentor-Student Affairs	0.05 *	0.02	0.05	0.00	0.00	0.00
Mentor-Faculty	-0.02	0.02	0.11 ***	-0.02	-0.03	0.10 ***
Mentor-Employer	0.03	-0.03	0.08 **	-0.02	0.01	0.11 ***
Mentor-Community Member	0.02	-0.01	0.06 *	-0.03	0.01	0.02
Mentor-Other Student	0.00	0.02	0.09 ***	0.04	-0.06 *	0.02
Athletic Participation	-0.03	0.10 ***	0.05 *	0.03	-0.03	-0.10
Community Service	0.02	0.03	0.09 ***	0.03	-0.04	0.03
Internship	-0.03	0.06 *	-0.02	-0.11 ***	0.04	0.22 ***

APPENDIX D: (Cont)

Leadership Position	-0.04	0.11 ***	0.15 ***	-0.04	0.02	0.16 ***
Consciousness of Self	0.02	0.02	0.29 ***	0.04	0.00	0.04
Congruence	0.03	-0.03	0.24 ***	0.04	-0.02	0.07 **
Commitment	0.06 *	-0.04	0.25 ***	0.07 **	-0.04	0.07 **
Collaboration	0.04 *	-0.02	0.27 ***	0.08 **	-0.07 **	0.04 *
Common Purpose	0.05 *	0.02	0.26 ***	0.05 *	-0.03	0.06 *
Civility	0.04	-0.03	0.27 ***	0.05 *	-0.01	0.06 *
Citizenship	0.04	0.00	0.33 ***	0.05 *	-0.05 *	0.05 *

*p<.05, **p<.01, *** p<.001

APPENDIX D: (Cont)

	SHORTLDR	MODLDR	LONGLDR	MENTORSA	MENTORF	MENTORE
Leadership Self-efficacy						
Gender						
White/Caucasian						
African American/Black						
American Indian/Alaskan						
Asian/Pacific Islander						
Hispanic/Latina						
Parent's Income						
Leadership Self-efficacy Quasi-Pre-Test						
Sophomore						
Junior						
Senior						
Short-term leadership						
Moderate-term leadership	0.63 ***					
Long-term leadership	0.38 ***	0.53 ***				
Mentor-Student Affairs	0.31 ***	0.30 ***	0.20 ***			
Mentor-Faculty	0.29 ***	0.24 ***	0.20 ***	0.42 ***		
Mentor-Employer	0.31 ***	0.28 ***	0.18 ***	0.27 ***	0.40 ***	
Mentor-Community Member	0.27 ***	0.29 ***	0.22 ***	0.32 ***	0.33 ***	0.44 ***
Mentor-Other Student	0.31 ***	0.26 ***	0.28 ***	0.40 ***	0.49 ***	0.31 ***
Athletic Participation	0.08 **	0.10 ***	0.11 ***	0.10 ***	0.10 ***	0.06 *
Community Service	0.21 ***	0.18 ***	0.16 ***	0.15 ***	0.10 ***	0.05 *
Internship	0.18 ***	0.19 ***	0.17 ***	0.11 ***	0.17 ***	0.18 ***

APPENDIX D: (Cont)

Leadership Position	0.37	***	0.39	***	0.37	***	0.25	***	0.25	***	0.17	***
Consciousness of Self	0.15	***	0.06	*	-0.03		-0.01		0.01	***	0.01	
Congruence	0.19	***	0.05	*	0.01		0.00		0.11	***	0.01	
Commitment	0.19	***	0.07	**	0.01		0.02		0.12	***	0.03	
Collaboration	0.24	***	0.11	***	0.03		0.11	***	0.16	***	0.07	**
Common Purpose	0.23	***	0.10	***	0.03		0.05	*	0.12	***	0.05	*
Civility	0.18	***	0.07	**	-0.02		0.01		0.12	***	0.03	
Citizenship	0.27	***	0.15	***	0.06	**	0.10	***	0.16	***	0.08	**

*p<.05, **p<.01, *** p<.001

APPENDIX D: (Cont)

	MENTORCM	MENTOROS	ATHLETIC	COMSERV	INTERN	LDRPOS
Leadership Self-efficacy						
Gender						
White/Caucasian						
African American/Black						
American Indian/Alaskan						
Asian/Pacific Islander						
Hispanic/Latina						
Parent's Income						
Leadership Self-efficacy Quasi-Pre-Test						
Sophomore						
Junior						
Senior						
Short-term leadership						
Moderate-term leadership						
Long-term leadership						
Mentor-Student Affairs						
Mentor-Faculty						
Mentor-Employer						
Mentor-Community Member						
Mentor-Other Student	0.35 ***					
Athletic Participation	0.08 **	0.15 ***				
Community Service	0.11 ***	0.16 ***	0.14 ***			
Internship	0.07 **	0.09 **	0.09 ***	0.09 **		

APPENDIX D: (Cont)

Leadership Position	0.18 ***	0.28 ***	0.17 ***	0.31 ***	0.16 ***		
Consciousness of Self	-0.05 *	0.09 ***	-0.06 *	0.13 ***	0.02	0.06 *	
Congruence	-0.04	0.11 ***	-0.06 *	0.15 ***	0.04	0.06 **	
Commitment	-0.05 *	0.15 ***	-0.07 **	0.16 ***	0.03	0.07 **	
Collaboration	0.04	0.19 ***	0.01	0.19 ***	0.05 *	0.10 ***	
Common Purpose	0.00	0.15 ***	-0.06 *	0.17 ***	0.05 *	0.11 ***	
Civility	-0.01	0.11 ***	-0.03	0.14 ***	0.03	0.05 *	
Citizenship	0.05 *	0.18 ***	0.02	0.23 ***	0.05 *	0.15 ***	

*p<.05, **p<.01, *** p<.001

APPENDIX D: (Cont)

Leadership Position										
Consciousness of Self										
Congruence	0.77	***								
Commitment	0.73	***	0.85	***						
Collaboration	0.67	***	0.78	***	0.78	***				
Common Purpose	0.72	***	0.86	***	0.84	***	0.83	***		
Civility	0.67	***	0.73	***	0.70	***	0.72	***	0.74	***
Citizenship	0.65	***	0.75	***	0.74	***	0.83	***	0.80	***

*p<.05, **p<.01, *** p<.001

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