

LEADERSHIP DEVELOPMENT FOR WOMEN IN MILITARY SCHOOLS:
A MIXED METHODS STUDY OF AUTHENTIC LEADERSHIP

A Dissertation
by
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Submitted to the School of Graduate Studies
at Appalachian State University
in partial fulfillment of the requirements for the degree of
DOCTOR OF EDUCATION

May 2023
Educational Leadership Doctoral Program
Reich College of Education

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Abstract

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The purpose of this mixed methods study is to investigate perceptions of leadership among women alumni from military colleges and schools, to measure if and how their leadership development training while students in these schools influenced their personal leadership experiences after graduation. The researcher conducted a Leadership Development for Women Graduates of Military Schools Survey with women alumni of one Senior Military College and one secondary military school and a Leadership Development School Demographic Survey with key leadership of traditional military colleges and schools that run a 24-hour, co-educational, holistic military program for all its students. Using the Authentic Leadership framework, the researcher sought to determine women's outcomes regarding self-efficacy, hierarchical versus systemic thinking, and individual perceptions of leadership development outcomes among women alumni of military colleges and schools.

Keywords: Military colleges, military schools, leadership development, women, authentic leadership, self-efficacy

Acknowledgments

First, I would like to extend a special thanks my committee chair, Dr. Jennifer McGee, for her consistent support and willingness to take on my project amongst her many other duties. Her time, knowledge, and guidance in crafting the quantitative aspects of this project were particularly invaluable. I would also like to thank my other committee members, Dr. William Gummerson and Dr. Steve Wall for their support and knowledge in the military school aspects and theoretical underpinnings of this research project.

Additionally, I would like to thank my husband, Patrick, as well as my family and friends who supported me throughout my doctoral journey. The Educational Leadership directors, Dr. Miller and Dr. Osmond, as well as my cohort classmates like Tim Wilkinson, also played integral parts in helping me move through every stage of this process. I could not have completed this achievement without their consistent encouragement and support.

Finally, I would like to thank all the women alumni respondents to this study's survey. They are the heart of my research, and it would not exist without their willingness to help. I also want to thank the military school leaders who completed the school demographic survey because their participation and support added context and perspective that enhanced the overall research. A special thanks is due to COL Ray Rottman and the Association of Military Colleges and Schools of the United States, as well, for their support with contacts and other resources that helped further this research.

Dedication

This dissertation project is dedicated to all the women that have attended or graduated from military schools around the United States in the past 50 years. They are some of the toughest and finest women I know and have enhanced the programs of each of these schools through their grit, leadership, and character.

Table of Contents

Abstract.....	i
Acknowledgments	ii
Dedication.....	iii
List of Tables	viii
List of Figures.....	ix
List of Abbreviations	x
Chapter One: Introduction	1
Authentic Leadership Development.....	2
Women’s Leadership Development in Colleges.....	4
Women’s Leadership Development in Schools	7
Leadership Development in Military Schools.....	9
<i>Military Colleges</i>	9
<i>Secondary Military Schools</i>	10
<i>Theoretical Foundation of Military Schools</i>	12
<i>Adversative Education</i>	13
Women and Military Schools.....	15
Measuring Leadership Development Effectiveness for Women in Military Schools.....	17
Problem Statement	20
Purpose Statement.....	21
Context and Significance of the Study	22
Variables.....	22

Assumptions	23
Delimitations and Limitations	23
Definitions of Key Terms.....	25
Conclusion.....	26
Chapter Two: Literature Review	28
Types of Leadership Development	28
Leadership Development Research.....	30
<i>Increased Opportunities for Women</i>	32
<i>Leadership Development in College Students</i>	34
<i>Leadership Development in Adolescents</i>	36
Leadership Development in Military Schools.....	39
<i>Leadership Development Structure in Military Schools</i>	39
<i>Adversative Education Model</i>	41
Measuring Leadership Development Effectiveness in Military Schools	44
Critique of Military Education Leadership Development Efforts.....	45
Potential Benefits of Military School Leadership Development for Women	47
Conclusion.....	49
Chapter Three: Methodology	50
Research Questions	50
Study Design	51
Role of the Researcher and Ethical Issues	52
Recruitment of the Sample.....	52

Participants	55
Data Collection.....	56
<i>Pilot Study</i>	57
<i>Leadership Development School Demographic Survey</i>	57
<i>Leadership Development for Women Graduates of Military Schools Survey</i>	58
Data Analysis	62
Validity.....	67
Conclusion.....	68
Chapter Four: Results	69
Leadership Development School Demographic Survey Results.....	70
Leadership Development for Women Graduates of Military Schools Survey.....	72
<i>Research Question One</i>	73
<i>Research Question Two</i>	75
<i>Research Question Three</i>	82
<i>Research Question Four</i>	83
Conclusion.....	90
Chapter Five: Conclusions.....	92
Self-Efficacy.....	93
Authentic Leadership	94
Leadership Potential.....	97
Women Graduates’ Perceptions	98
Key Leader Perspectives	100

Addressing the Gaps.....	102
Limitations	103
Implications.....	104
Recommendations for Future Research	105
Potential Significance and Contributions.....	106
Conclusion.....	107
References.....	109
Appendix A.....	119
Appendix B.....	120
Appendix C.....	124
Appendix D.....	125
Appendix E	126
Appendix F	128
Appendix G.....	132
Vita.....	134

List of Tables

Table 1: Leadership Development for Women Graduates of Military Schools Survey	
Demographics	56
Table 2: School Demographics from Key Leaders.....	71
Table 3: CSES Scores by Category	74
Table 4: One Sample <i>t</i> -Test for CSES	75
Table 5: LABS-III Scores by Category and Scale	77
Table 6: One Sample <i>t</i> -Test for LABS-III Hierarchical Thinking Scale Scores	79
Table 7: One Sample <i>t</i> -Test for LABS-III Systemic Thinking Scale Scores	80
Table 8: One Sample <i>t</i> -Test for LABS-III Hierarchical Thinking Female Scores	81
Table 9: One Sample <i>t</i> -Test for LABS-III Systemic Thinking Female Scores	82
Table 10: Spearman's Rho (ρ) Correlation Between Holding Leadership Roles.....	83

List of Figures

Figure 1: Types of Adversative Education	85
Figure 2: Impact of Adversative Education	86
Figure 3: Leadership Development Outcomes	87
Figure 4: Perspective Then and Now	90

List of Abbreviations

Abbreviation	Definition
ANOVA	Analysis of Variance
CSES	Core Self-Evaluations Scale
FFA	Future Farmers of America
JMC	Junior Military College
LABS-III	Leadership Attitudes and Beliefs Scale-III
MAMEM	Modern American Military Education Model
OCS	Officer Candidate School
ROTC/JROTC	Reserve Officers' Training Corps/Junior Reserve Officers' Training Corps
SCM	Social Change Model
SMC	Senior Military College
STEM	Science, Technology, Engineering, and Math
TAMEM	Traditional American Military Education Model
VMI	Virginia Military Institute

Chapter One: Introduction

Researchers have spent decades attempting to understand and measure leadership, as well as the effectiveness of leadership development programs (Antonakis & Day, 2018). Part of the challenge lies in the changing landscape of what leadership is and what constitutes successful leadership in the last century (Antonakis & Day, 2018). What is clear is that employers desire leadership capacity in employees (Arnold et al., 2000). Increasingly, colleges and schools seek to develop leadership potential through incorporating leadership development programs in and out of the classroom so college students and adolescents will acquire the skills they need to successfully navigate the professional world (Barch et al., 2012; Dugan & Komives, 2007; McNae, 2015; Rehm, 2014; Whitehead, 2009; Zimmerman-Oster & Burkhardt, 1999). Such development, depending on type and scale, achieves varying degrees of success and can be difficult to measure, particularly for outcomes (Zimmerman-Oster & Burkhardt, 1999). Ultimately, leadership development programs must link outcomes data with programming goals to validate their impact on students.

As leadership development programming evolved to support the linkage of program goals and outcomes, an important subset of evaluation emerged in understanding how women navigate leadership development. Unfortunately, regardless of women's advancements in all fields, several societal barriers to women in leadership exist, demonstrated by the fact that "women occupy less than a fifth of senior leadership positions across the public and private sectors" (Rhode, 2016, p. 2). Barriers include family-life responsibilities like childcare, implicit biases against women in particular positions, and reduced access to valuable business connections disproportionately facilitated among men (Antonakis & Day, 2018; Rhode, 2016). Because of these challenges, researchers are

advocating for increased attention to the development of women's leadership capacity and skills (Boatwright & Egidio, 2003; Hoyt & Kennedy, 2008; McNae, 2015; Mullen & Tuten, 2004; Perdue, 2017; Rhode, 2016; Rosch et al., 2014, 2017; Shepherd & Horner, 2010; Shim, 2013; Wielkiewicz et al., 2012).

This chapter discusses leadership development for women in colleges and schools, the various types of military school options, and how military schools address leadership development for women. It then outlines a mixed methods study analyzing the perceived outcomes of leadership development training for women graduates of military colleges and schools.

Authentic Leadership Development

Leaders and leadership are defined in many ways. Van Linden and Fertman (1998) defined leaders as people “who think for themselves, communicate their thoughts and feelings to others, and help others understand and act on their own beliefs; they influence others in an ethical and socially responsible way” (p. 17). Antonakis and Day (2018) acknowledged researchers fail to agree on any single definition of leadership. Part of the disagreement on definitions stems from whether leaders are born or made, and if made, how leadership skills can be developed in individuals, groups, or organizations (Avolio, 2005). Antonakis and Day (2018) traced the development of leadership conceptions throughout the twentieth century up to the present, defining several schools of thought, including trait-based, behavioral, and relational leadership. Since the 1980s, the bulk of leadership research has focused on the New Leadership School, encompassing several theories of leadership development, including transformational, transactional, laissez-faire, authentic, spiritual, servant, and more (Antonakis & Day, 2018). These theories comprise the greater paradigm of

postindustrial leadership, a belief that leaders are made and that leaders operate within and without traditional hierarchical positions (Shim, 2013). These leadership theories will be discussed in depth in Chapter Two, but as the focus of this research study is authentic leadership, a short description is given below.

The hallmark of authentic leadership is its inclusion of subordinates in decision-making. Whitehead (2009) defined an authentic leader as:

One who: (1) is self-aware, humble, always seeking improvement, aware of those being led and looks out for the welfare of others; (2) fosters high degrees of trust by building an ethical and moral framework; and (3) is committed to organizational success within the construct of social values. (p. 850)

Jordan (2021c) described authentic leadership as a mission- and people-focused middle ground that does not require the leader to embody all strengths needed for leadership when initially undertaking positional leadership. This style of leadership is particularly useful in college and school leadership development programs because students are developing many skills while in school, not least those involving leadership (Kiersch & Peters, 2017).

In considering various leadership theoretical frameworks like authentic leadership, several researchers uncovered possible differences in women's conceptions of leadership, such as Hoyt and Kennedy (2008) who posited men and women differ in their approaches to leadership, with women showing more success with modern frameworks of leadership, such as those found in the transformational or authentic leadership models. Shim (2013) took this thinking a step further by describing these frameworks as inculcating typical feminine values. Lewis (2020) said, "women tend to be more relational, prefer participative leadership, and are more transformational than men" (p. 307). Van Linden and Fertman (1998) attributed

these tendencies to women caring more about meeting others' needs, versus men who focus more on avoiding harm to others.

Women's Leadership Development in Colleges

A common place for leadership development programs is found on college and university campuses, and several studies address their theoretical framework, effectiveness, and outcomes data as they relate to women (Boatwright & Egidio, 2003; Dugan & Komives, 2007; Rosch et al., 2014, 2017; Shim, 2013; Wielkiewicz et al., 2012). Higher education appears to be a rich training ground for women, since more than half of college graduates are women (Looney, 2021). Such large enrollment numbers enhance the need to research leadership development and women, and several studies of undergraduates test for gender distinctions (Boatwright & Egidio, 2003; Dugan & Komives, 2007; Rosch et al., 2014, 2017; Shim, 2013; Wielkiewicz et al., 2012).

Rosch et al. (2014) found that men focus more on skills like communication and time-management, whereas women focus on traits like confidence and initiative, and to a lesser extent behaviors like encouraging group success in articulating their leadership goals. Wielkiewicz et al. (2012) reflected that women's leadership beliefs reveal systemic, or collaborative styles, while men's tend to reflect hierarchical, or traditional conceptions. Boatwright and Egidio (2003) suggested that college women's leadership conceptions are more unique because they have not yet been exposed to the realities of the traditional, hierarchical corporate world. Due to existing differences, Shim (2013) suggested leadership development programs should focus on postindustrial leadership frameworks since their tenets reflect leadership values women gravitate toward.

Despite differences, the move to these modern leadership styles suggests women's increased presence in traditionally male environments may serve to enhance the leadership development of males by modeling these desirable traits on a peer level (Hoyt & Kennedy, 2008; Lewis; 2020; Shim, 2013; Van Linden & Fertman, 1998). In actuality, Lewis (2020) asserted that women struggle with authentic leadership when faced with traditionally male contexts, meaning they battle being themselves in these environments. To address this difficulty, it is important to understand leadership predictors. One major predictor of leadership ability is self-efficacy, or a person's belief that they can accomplish tasks (Bandura, 1977, p. 193). Huszco and Endres (2017) studied college students, asserting gender significantly impacts self-efficacy, with males outscoring females. They attributed this to the fact that leadership effectiveness is often tied to masculine traits, although women are often expected to exhibit both feminine and masculine traits to be viewed as effective leaders (Huszco & Endres, 2017).

Women's levels of self-efficacy can significantly impact their leadership trajectories in the short- and long-term since it may cause them to alter choices around involvement in leadership and leadership development training (Haber-Curran et al., 2018). Huszco and Endres (2017) found that embodying "openness to experience" can help women better navigate the male-dominated spaces of leadership and recommended including training around this trait within leadership development programming.

Even though recent decades show increased interest in leadership development, Rosch et al. (2017) cited research suggesting this work has yet to change college women's thinking about their leadership capacity. They continued by asserting that this lack of self-efficacy also applies to work environments later in life. Haber-Curran et al. (2018) contended

that self-efficacy is tied to feelings of imposter syndrome, “whereby they doubt themselves, underestimate their abilities, and essentially feel like a fraud or imposter, even when they have past experiences and skillsets that suggest they will be successful” (p. 298). Their quantitative study of college women and recent graduates, found that four factors most impacted women’s self-efficacy, including initiative, facilitating change, developing relationships, and managing conflict, with three of the four factors dealing with engagement of others (Haber-Curran et al., 2018). Haber-Curran et al. (2018) argued for leadership development focused on relational leadership concepts, as well as teaching women to effectively combine relational and transactional leadership behaviors that women tend to struggle with in a world still grappling with long-established leadership frameworks and traditional women’s roles.

Dugan’s and Komives’s (2007) national study of college students found that women struggle more with self-confidence compared to men and suggested that self-efficacy is a key factor for leadership development training in women. Rosch et al. (2017) additionally highlighted the importance of self-efficacy for women, determining women typically had less self-efficacy and leadership skills at the start of the LeaderShape program studied, but their biggest long-term gains came in leader self-efficacy, suggesting targeted leadership development in these areas is beneficial for college women. Boatwright and Egidio (2003) ultimately suggested that women need affirmation in their postindustrial conceptions of leadership but that they should also be exposed to the traditional constructs they may inevitably face so their leadership aspirations remain untempered over time.

Women's Leadership Development in Schools

Adolescent women's leadership tendencies mirror those found on the college level. Mullen & Tuten (2004) conducted a case study of students and teachers, noting the maturity of female students compared to males, as well as their propensity for cooperative group learning in school. According to one teacher, "the cooperative learning groups in her class allowed students to test the reins of leadership within a protected environment" (Mullen & Tuten, 2004, p. 305). With the lower rates of self-efficacy cited among young women, these "safe" opportunities to develop leadership may be beneficial (Shapiro et al., 2015). Although Mullen and Tuten (2004) found that young women occupy more leadership roles than in the past, these roles continue to reflect societal norms for gender roles.

Van Linden and Fertman (1998) asserted that women struggle with leadership development in adolescence due to both gender stereotyping and a general lack of self-esteem and self-efficacy compared to males. Hoyt and Kennedy (2008) noted several possible outcomes for lack of self-efficacy, stating that young women "develop depression, eating disorders, and other manifestations of psychological distress" at higher rates than young men (p. 203). To better understand girls' conceptions of themselves and feminine perspectives of leadership, Hoyt and Kennedy (2008) developed a qualitative study of adolescent girls in a feminist-based, transformational leader development program, finding that participation in the program broadened the girls' views on female leadership capacity. They argued the importance of such feminist-based approaches in giving voice and confidence to young women that might otherwise be stifled by traditional, hierarchical structures of leadership (Hoyt & Kennedy, 2008).

In studying adolescent women's conceptions of leadership, McNae (2015) conducted a qualitative narrative study, recommending that a shared-leadership model between adults and students is effective in engaging adolescents in the leadership development process. McNae (2015) cited leadership development programs as crucial to women's future leadership potential, particularly focusing on the value of pushing young women to articulate leadership possibilities, rather than concentrating on areas they need to improve, suggesting this will build their leadership capacity and motivation overall.

Shapiro et al. (2015) used Social Role Theory and Social Cognitive Career Theory to develop a quantitative measure of how adolescent boys, girls, and girls enrolled in the single-sex leadership development program, Girl Scouts of America, view future career goals for themselves and those of the opposite sex, as well as confidence levels. Surveys of middle school students found that girls often choose male-dominated careers for themselves, but not at as high a rate as boys choose them. Surprisingly, adolescent girls' confidence levels were higher than boys' across all areas, and those of Girl Scouts were even higher (Shapiro et al., 2015).

Shapiro et al. (2015) framed their research in the context of a noted breakdown in leadership trajectories for women over time, called the "leaky pipeline," despite the favorable data of young women's academic performance, degree attainment, and large population within the workforce (Shapiro et al., 2015, p. 3). Shapiro et al. (2015) concluded that adolescence is a critical time to develop young women through exposure to traditionally male-dominated STEM (Science, Technology, Engineering, and Math) fields, as well as, to develop their leadership skills to plug the "leaky pipeline" to upper leadership positions down the road.

Leadership Development in Military Schools

One unique avenue to leadership development for women is found in military schools, which entered the United States' educational system in 1802, with hundreds operating through the years with a foundational mission of developing leaders, whether in the armed forces or civilian world, and amidst a holistic education that integrates all aspects of student development (Coulter, 2017; Gignilliat, 1916). Although several societal shifts impacted military schools over the years, the Vietnam era's negative attitudes toward the military particularly threatened their existence. Of the 95 remaining in 2020, several types exist on both the postsecondary and secondary levels and are discussed below (Coulter, 2021).

Military Colleges

Post-secondary military school options include military academies, senior military colleges, and junior military colleges. The military academies' primary goal is preparing men and women to become officers in the various armed service branches as seen in mission statements like the one at West Point, saying, "to educate, train, and inspire the Corps of Cadets so that each graduate is a commissioned leader of character committed to the values of Duty, Honor, Country and prepared for a career of professional excellence and service to the Nation as an officer in the United States Army" (United States Military Academy, n.d.). Military academies are premier academic institutions focused on STEM education with extremely selective acceptance rates rivaling those of Ivy League institutions (Tate, 2021).

Senior military colleges (SMCs) embody two types, including those found on larger civilian campuses like Texas A&M and Virginia Tech, and programs like The Citadel, the Military College of South Carolina, and Virginia Military Institute (VMI) where all students

participate in the Corps of Cadets (Coulter, 2017). SMCs do not require students to join the military when they graduate, as reflected in their more general mission statements, such as that of The Citadel, “to educate and prepare graduates to become principled leaders in all walks of life by instilling the core values of The Citadel in a challenging intellectual environment” (The Citadel, n.d.). Most SMCs include multiple Reserve Officer Training Corps (ROTC) options, including the Army, Navy, Air Force, and Marines, as opposed to the academies that each represent a particular branch of the military (Coulter, 2017).

Finally, military junior colleges (JMCs), or two-year programs, focus on early commissioning for officers, preparing students to complete bachelor’s degrees in a four-year ROTC program, or to earn a two-year degree in a structured and supportive environment (Coulter, 2017). For example, Marion Military Institute’s mission “educates and develops cadets as future leaders through an immersive experiential military environment which integrates intellectual, leadership, character and physical development in order to prepare them for success in four-year colleges, U.S. service academies, and in military and civilian careers” (Marion Military Institute, n.d.).

Secondary Military Schools

Several variations of secondary military schools exist, including public and charter programs; preparatory day schools or dual programs; and traditional boarding military programs. Public charter programs are the most recent type, with the first of a recent wave opening in 1999 in Chicago, Illinois, called Chicago Military Academy (Coulter, 2021). Public charter programs are funded by state and federal monies, require no tuition, and only operate during day hours for local students with no boarding options (Coulter, 2017).

Preparatory school programs or dual programs tend to place less weight on the traditional military structure and more emphasis on leadership, personal growth, and academic development. For example, Saint Thomas Academy “is a place where boys harness their greatest intellectual, athletic, spiritual and leadership potential. Here, they can explore and become the young men they are meant to be. It’s the origin of a life-changing bond of brotherhood your son will carry with him for life” (Saint Thomas Academy, 2018). Culver Academies offers a dual program with a boys’ military school and a girls’ preparatory school, housed on the same campus, and its mission statement includes no mention of the military aspect of the school (Culver Academies, n.d.). These programs require tuition and may offer boarding and/or day school options.

Finally, traditional military boarding schools operate an around-the-clock program that impacts every aspect of a student’s life through experiential learning (some of these schools offer both day school and boarding options) (Culver, 2017; Gignilliat, 1916). Traditional military schools require tuition and include all students in a comprehensive military leadership program (Jordan, 2021b). Cadets in these programs often spend more time with school personnel than their families, advocating a “whole” cadet experience. For example, the mission statement at Oak Ridge Military Academy says:

We seek to provide a diverse educational environment that encourages academic excellence, rewards self-discipline, and develops leadership potential. The structured military environment reinforces the mission and adds a transformative set of skills and values that can be applied throughout life. (Oak Ridge Military Academy, 2021)

Theoretical Foundation of Military Schools

Although each type of military school serves different populations, the foundational goal of facilitating leadership development is common to all. Military schools offer a unique and comprehensive opportunity to develop leadership in college students and adolescents (Jordan, 2021b). These schools inherently believe leadership can be taught and all of them run leadership programs with similar elements that holistically address leadership development in its students versus their peers in other contexts (Jordan, 2021b). Tate (2021) cited the successful integration of all aspects of military schools, including academics, military leadership, and athletics as working together to build effective leaders, thus setting military schools apart from their educational peers.

An evolution in military school methodology has developed over the years alongside the theoretical changes in leadership development and teaching overall. Jordan (2021b) discussed this evolution of military school theoretical models, beginning with West Point's Thayer Method and the Traditional American Military Education Model (TAMEM) to his proposed Modern American Military Education Model (MAMEM). The Thayer Method, developed by Sylvanus Thayer, an early superintendent of West Point, created a highly structured educational and leadership development environment focused on developing military officers through strict accountability, discipline, and order (Jordan 2021b). Jordan (2021b) explained that the Thayer Method formed the basis for the TAMEM, delineating that the major difference between the TAMEM and the MAMEM rests in a focus on assimilation versus formation, respectively, with formation being the "individual inculcation of certain intellectual, social, moral, and behavioral values to cadets as worth acquiring and living by on their own terms" (p. 124). Where the TAMEM seeks to force development through a strict

environment with or without intentional individual buy-in, the MAMEM instead focuses on the formation, or “dynamic process of willing integration” of character, discipline, leadership, and respect through an environment that encompasses academic excellence, ethical leadership, and physical wellness (Jordan, 2021b, p. 124).

Adversative Education

Another element common to military schools both in the traditional and modern models is adversative education. Adversative educational elements include leadership development activities that utilize physically and mentally stressful programming to achieve developmental goals. Examples of adversative elements include first-year systems found in many undergraduate military programs, such as plebe, knob, or rat systems, and new cadet training found in many secondary military schools. Do and Samuels (2021) described adversative education during the United States Air Force Academy’s Basic Cadet Training as “deliberately introducing emotional and psychological stress to create a mindset conducive to institutional values” (p. 27). Although stated goals may vary across schools, the purpose behind these elements is to inculcate new students to how military schools operate, as well as to teach a fundamental element of good leadership which is followership within the hierarchical rank structure.

Other examples include cadre/OCS (Officer Candidate School) or additional strenuous processes to achieve rank, although not all students will participate in these activities. A recruitment brochure from Oak Ridge Military Academy describes its Cadre/OCS program as follows:

The first half of the training cycle consists of strenuous physical activities designed to test the candidate’s determination and perseverance. The second half of training

consists of leadership instruction in the classroom. Candidates are taught the importance of exceeding the standard and leading by example” (Oak Ridge Military Academy, n.d.).

The process for achieving rank varies significantly across schools but is meant to test students for leadership potential so the best candidates can be placed in various positions of student leadership.

Finally, most military schools embrace punishment systems meant to affect desired behaviors of obedience or compliance. Gignilliat (1916) covered the need for disciplinary structures in depth, sharing that while military school discipline often attracts an inaccurate reform school reputation, it instead “inculcates a real and permanent respect for authority” through a system of rewards and punishments (p. 63). Again, while these methods vary across schools, they are meant to encourage students to do the right things because they are right by discouraging undesired behaviors.

The most structured and rigorous adversative education models are found on the postsecondary level. Students at these schools elect to attend these programs as adults, choosing to challenge themselves to build character, leadership, and confidence. Secondary schools may employ some of these elements but do so more mildly and strategically since they are dealing with adolescents who may or may not elect to attend military school. New student training is therefore minor in comparison to many postsecondary first-year experiences, seeking mainly to teach the basic elements of military knowledge such as rank structures, commands, and drill and ceremony (Oak Ridge Military Academy, n.d.). Programs to achieve rank are voluntary, attracting students motivated to test their mental and physical stamina. Therefore, disciplinary structures are the only truly adversative elements

many students face in secondary schools, and these create much more defined and diversified means of addressing behavior than found in other educational environments.

Women and Military Schools

The more recent history of many military colleges and schools includes women and girls. Starting in the 1970s, many military schools adopted co-education, and Coulter (2017) noted this move reflected a desire to increase the shrinking enrollments resulting from the anti-military sentiments of the Vietnam era and mirrored the growing numbers of women in the military. Some colleges and schools shifted to co-education voluntarily through the years, while others like The Citadel and VMI did so at the behest of the nation's courts in the mid-1990s (Perdue, 2017). The Citadel's and VMI's lawyers argued fundamental gender differences made military schools a poor environment for women (Epstein, 1998). Not all supported the gender argument, and Macaulay (2011) noted Citadel graduate Kenneth McKensie's argument at the time that gender socialization did not make adversative programming unsuitable to all women, suggesting "that gender roles were taught and, in some measure, imposed on members of society" (p. 199). Ultimately, the Supreme Court ruled in favor of integration at VMI, with Ruth Bader Ginsberg stating, "Neither the goal of producing citizen soldiers nor VMI's implementing methodology is inherently unsuitable to women. And the school's impressive record producing leaders has made admission desirable to some women" ("United States, Petitioner," 1996, as cited in Schaller, 2005, p. 18). While The Citadel and VMI traversed legal and societal pressures on a national stage that riveted the news media, some schools like Oak Ridge Military Academy and Norwich University made the transition much earlier without major fanfare (Coulter, 2017).

Although 50 years have passed since women's admittance to these schools began, their enrollment percentages remain small, so the question of motives for women to enroll arise. Jacob (2011) surveyed some of the first women to enter military colleges and service academies, finding that they reflected similar factors driving most aspiring college students, basing enrollment on factors like the challenge offered by these schools, the opportunity to achieve career goals, and parental pride. On the other hand, Schaller (2005) noted that few women are attracted to harsh military environments. Erin Claunch, one of the first graduates of VMI, reflected, "If you come here, you have to know what you're getting into and tell yourself you're not going to quit" (as cited in Rossellini & Marcus, 2000, p. 46). The need for such attitudes no doubt discourages most women from enrolling in these schools.

Although not all women attendees of military colleges and schools face large degrees of discrimination, their small numbers naturally expose women to isolation. Schloesser (2010) noted how women are spread throughout the Corps of Cadets at West Point, and their small numbers, especially in the early years, meant they had to work to maintain bonds of support for one another.

Deciding to enroll in a military school is one thing, but women seeking leadership positions in these schools can present additional challenges because as Cooper (as cited in Perdue, 2017) contended, men can feel threatened by women succeeding when utilizing traditionally male behaviors. This is especially the case in many military colleges and schools, where traditional gender roles and long-established hierarchical leadership structures hinder the full integration of women in these contexts (Boyce & Herd, 2003; Lewis, 2020; Perdue, 2017). Regardless, several firsts in military college leadership helped establish the place of women in these schools, from Kristen Baker, the first woman to lead West Point's

Corps in 1989, to Sarah Zorn, the first to lead The Citadel's Corps in 2018, and Kasey Meredith, the first to lead VMI's Corps in 2021 (7News, 2021; Associated Press, 1989; The Citadel, 2018).

Measuring Leadership Development Effectiveness for Women in Military Schools

Aside from enrollment declines due to Vietnam-era anti-war sentiment, the women's equality movement of the 1960s and 1970s and the introduction of Title IX in 1972 also facilitated women's inclusion in military colleges and schools (Coulter, 2017; National Archives, n.d.). The shift to co-education created effective integration challenges for these schools, resulting in a need to consider how women navigate leadership, especially in such male-dominated environments, and whether a military school education meets the needs of women and girls (Boyce & Herd, 2003; Lewis, 2020; Perdue, 2017). Despite 50 years of inclusion, women represent a minority in these colleges and schools with populations of between about 10 and 40 percent in those which moved to co-education (some privately operated military schools remain all-male), representing a critical need to address issues of leadership development for college and adolescent women (Coulter, 2021).

Very little attention was understandably paid to women and military schools before their integration, given societal norms and the slow process of fully integrating women into the military (Coulter, 2017; Gignilliat, 1916; USO, 2022; Women in the Army, n.d.). Gignilliat (1916) shared a singular advocacy for military instruction in co-educational schools from a survey participant, but how women might be included and to what extent was not articulated. Coulter (2017) noted potential evidence of women in military schools prior to the 1970s but without enough proof to definitively demonstrate such a possibility. Of the schools that adopted co-education since the 1970s, limited research exists addressing

women's leadership development. Virtually all the existing studies are found in military colleges, especially within the academies.

As previously explained, women in military schools face issues of navigating male-dominated environments and traditional, hierarchical constraints. Key to determining the leadership outcomes of these environments for women, and how military institutions might better support women, is considering common factors affecting women, such as their self-efficacy and tendency toward authentic forms of leadership. Some researchers have attempted to test these ideas in military schools, but the research is extremely limited.

Lewis (2020) found, in the first women-only qualitative study of West Point women's leadership, that participants had mixed feelings of their experiences, due in large part because of sexism and misogyny experienced during their time as cadets. Participants expressed inconsistency on whether their time as cadets strengthened or weakened their overall self-efficacy, and many expressed challenges of balancing their innate proclivity for transformational or relational leadership styles with the traditional, hierarchical, and transactional leadership espoused at West Point. Lewis (2020) noted that the military has incorporated more collaborative approaches to leadership in recent years but urged that much more research needs to be done to understand West Point women's leadership experiences over time, as well as in other military contexts to see how these organizations can better serve the leadership development of college women in their ranks.

A few studies focused on gender differences (Boyce and Herd, 2003; Perdue, 2017; Shepherd and Horner; 2010). Perdue (2017) conducted an empirical study on the correlation between responses of male and female cadets at VMI in their views on leadership characteristics and whether leadership was better suited to men or women. She discussed the

tumultuous battle to integrate women into VMI, as well as the challenges faced by the minority of women enrolled, and with the survey results reflecting traditional gender roles and biases, she argued this thinking was harmful to women's leadership development.

Boyce and Herd (2003) also addressed gender role stereotypes by conducting quantitative surveys using the Schein 92-item Descriptive Index to determine whether gender role stereotypes exist among male and female cadets at the United States Air Force Academy, and whether certain circumstances promote or mitigate these stereotypes. They hypothesized that these stereotypes would be stronger in a military environment versus a civilian environment (Boyce & Herd, 2003). Results proved true for men, but not women, although successful female cadet leaders described effective leaders as exhibiting characteristics associated with both men and women (Boyce & Herd, 2003). Perhaps the most troubling finding of Boyce's and Herd's (2003) study was that men's male-dominated conceptions of leadership were perpetuated over time, rather than being mitigated by experience with women in leadership positions, suggesting a need for gender-based content in leadership development programs.

Shepherd and Horner (2010) conducted a larger, cross-sectional, and longitudinal study of students at military service academies and colleges to determine the effectiveness of four indicators in leadership development programs over four years. Their quantitative analysis of company ranking, leadership course grades, grade point average, and varsity athletic participation sought to determine the outcomes measure of aptitude for commission grade (Shepherd & Horner, 2010). The results of their regression analysis revealed that company, or peer, ranking and grade point average had the largest correlation to the aptitude for commission grade (Shepherd & Horner, 2010). Although more generally focused,

Shepherd and Horner (2010) found that while women had similar results to men, athletic participation negatively impacted commission grade, a fact they potentially attributed to the overly masculine societal perception given to women-athletes. This finding is particularly interesting considering Schaller's (2005) study of positive recruiting and retention efforts among women athletes at VMI.

Jordan (2021c) conducted a qualitative study of high school students in a private military school and a public high school to determine whether significant differences between adolescent and adult conceptions of leadership exist. Finding differences indeed exist, with alignment of men with transformational leadership ideals and women with servant leadership ideals, Jordan (2021c) suggested authentic leadership as the middle-ground, appealing to boys' and girls' leadership proclivities. Jordan (2021c) ultimately argued that the framework of authentic leadership fits the MAMEM of "shared-governance" noted earlier, and motivation of cadets to embody the tenets military schools stand for, as well as meets the needs of adolescents' developing leadership traits (Jordan, 2021b).

Problem Statement

Although some leadership development studies exist in military colleges, most are limited to military academies, whose students represent an elite group of college students, and few address leadership development in women. Additionally, of those addressing women, few are quantitative in nature or focus on outcomes of leadership development programming once students graduate. There were no empirical studies focused on the secondary level addressing leadership development outcomes for women. This dearth of research represents a significant gap in articulating the benefit of the modern holistic military school leadership development programming for women even though 50 years have passed

since women were first admitted to these schools. Additionally, as leadership development theory has developed to include post-industrial concepts like Authentic Leadership, and as the military school theoretical framework evolves from the TAMEM to the more authentic and relational MAMEM, the need to evaluate these concepts both quantitatively and qualitatively becomes necessary.

Purpose Statement

The purpose of this study is to investigate the perceptions of leadership among women alumni from military institutions to measure if and how leadership development training influenced their leadership outcomes after graduation. The researcher sought to address the following research questions along with their subsequent hypotheses:

1. Do female graduates from military colleges and schools report higher-than-average levels of self-efficacy according to the Core Self-Evaluation Scale (CSES)?

H₀: There is no difference in the self-efficacy of female military school graduates and overall averages.

2. Using the Leadership Attitudes and Beliefs Scale (LABS-III), do women alumni of military colleges and schools exhibit higher levels of hierarchical or systemic (Authentic) thinking regarding leadership?

H₀: There is no difference in the overall averages of hierarchical versus systematic thinking in female military school graduates.

3. Does performing leadership roles while attending military school positively correlate to holding leadership roles during a woman's career?

H₀: There is no difference between the likelihood of holding leadership positions during a career for women that held leadership roles while in military schools.

4. What are the positive outcomes of the military school experience according to female alumni perspectives?

Context and Significance of the Study

For the purposes of this study, the researcher focused on outcomes from traditional 24-hour, co-educational military college and school programs where all students participate in the Corps of Cadets' holistic leadership development programming. While the researcher conducted a Leadership Development School Demographic Survey of key leadership from eight schools in this category, the study focused on a Leadership Development for Women Graduates of Military Schools Survey conducted with women alumni from one SMC and one secondary military school.

This study is consequential because it represents the first of its kind, especially on the adolescent level. It will open many opportunities for future research. The goal of the research is to understand the leadership development outcomes of women alumni from military colleges and schools to articulate how well these programs incorporate and serve women, and how they might be improved if necessary.

Variables

Four groups of variables exist in the present study. The first is self-efficacy and is measured by the Core Self-Evaluations Scale (CSES) (Judge et al., 2003). The second group of variables is associated with Authentic Leadership and includes hierarchical thinking versus systemic thinking. Authentic Leadership is measured through use of the Leadership Attitudes and Beliefs Scale-III (LABS-III) (Wielkiewicz, 2000). The third group involves

leadership roles including the independent variable of performing leadership roles while in military school and the dependent variable of holding leadership roles during a career. The final group of dependent variables focuses on women's own perceptions of leadership outcomes. It will be operationally defined by coded open-ended survey responses.

Assumptions

Several assumptions exist within the research study. The major assumption of this study is the truthfulness of survey responses for demographic questions, the CSES, and the LABS-III. Self-reported scales are a common form of assessment within psychological research and are valuable in determining outcomes data for leadership development when utilizing peer- or supervisor- assessments would be difficult (Salters-Pedneault, 2020).

It is assumed that participants read and understood the directions and questions presented. Their accurate answers are vital to the accuracy and validity of survey results and subsequent data analysis of leadership development outcomes for women in military colleges and schools.

Delimitations and Limitations

Some delimitations exist for this study. First, participants in this study must be graduates of the SMC and secondary military school included in the study. The researcher vetted participants by utilizing alumni records from both schools to verify graduation years. Another limiting factor includes the use of a specific subset of military colleges and schools, those that are traditional 24-hour, co-educational military college and school programs where all students participate in the Corps of Cadets' holistic leadership development programming. A wider study of military colleges and schools may lead to different conclusions about leadership development outcomes for women alumni.

Limitations for this study include operational definitions of traditional military schools and the theoretical understanding of their leadership development programs. The researcher's definition of traditional military schools may vary from that of others since the word "traditional" may be construed by others as the age of institutions or the status of single-sex institutions since they represent the make-up of military colleges and schools for the bulk of their history.

The theoretical understanding of military school programs also potentially represents a point of contention. Not all may agree that military schools have shifted from the TAMEM to the MAMEM and that their leadership development models best represent the tenets of authentic leadership (Jordan, 2021c). These are fairly new ideas within the military education field and have not been widely tested.

Further, a few of the demographic questions, and in particular, the open-ended questions represent a possible limitation. Validity relies on women's accurate responses about their leadership experiences in a military school and during their career. Respondents' perceptions of outcomes from the military school experience are also reliant on honesty and require the ability of women alumni to accurately connect outcomes of their military school experience to their life and leadership experiences after graduation.

A final limitation is that women in military colleges and schools represent a small subset of enrollment and an even smaller subset of all college women and adolescent girls. Those initially interested in this research likely represent a small group of practitioners working in these schools and the prospective, current, and former students of these institutions. This limitation does not present a major issue since leadership development

practitioners in other contexts should consider this research as it represents holistic leadership development programming that may be applied in other colleges and schools.

Definitions of Key Terms

The purpose of this study is to investigate perceptions of leadership among women alumni from military institutions to measure if and how the leadership development training received influenced their leadership outcomes after graduation. For the purposes of this research, several terms are operationally defined as follows:

- Traditional Military Colleges and Schools: These are colleges and schools that run a 24-hour, co-educational, holistic military program for all its students.
- Self-Efficacy: Self-efficacy is defined as “the conviction that one can successfully execute the behavior required to produce...outcomes” (Bandura, 1977, p. 193).
- Authentic Leadership: Whitehead (2009) defines an authentic leader as “one who: (1) is self-aware, humble, always seeking improvement, aware of those being led and looks out for the welfare of others; (2) fosters high degrees of trust by building an ethical and moral framework; and (3) is committed to organizational success within the construct of social values” (p. 850).
- Hierarchical Thinking: This “suggests organizations should be organized in a stable hierarchical manner with power and control focused in the upper levels of the hierarchy” (Wielkiewicz, 2000, p. 341).
- Systemic Thinking: This “reflect[s] an ability to relate a variety of ideas and concepts to organizational success, such as ethics, the need for cooperation of all individuals to help the organization accomplish goals, the need for long-

term thinking, and the need for organizational learning” (Wielkiewicz, 2000, p. 341).

- **Military School Leadership:** This is operationally defined as having held a ranked position within the Corps of Cadets or an official leadership position within a club, sport, or other activity.
- **Career Leadership:** This is operationally defined as having held an official leadership position identifiable within an individual’s career field.
- **Adversative Education:** Adversative education is operationally defined as leadership development elements that utilize physically and mentally stressful activities to achieve goals- i.e., new recruit training like plebe, knob, rat systems, cadre/OCS or other strenuous processes to achieve rank, or punishment systems meant to affect desired behaviors.

Conclusion

The purpose of this study is to investigate perceptions of leadership among women alumni from military institutions to measure how leadership development training influenced their leadership outcomes after graduation. Very little research on women’s leadership perceptions in military schools has been completed outside of the military academies, and those studies are not an accurate predictor for other military schools since they represent an elite group of students. Even less research has focused on determining women’s leadership outcomes.

Authentic leadership is a collaborative form of leadership that calls on leaders to create an environment of trust that encourages systemic thinking in organizations. The MAMEM utilizes the holistic nature of its leadership development programs to develop

leaders over time whether in official positions of leadership or not. It also creates a safe and collaborative leadership learning environment. Utilizing the Authentic Leadership framework and the proposed MAMEM for military schools, the researcher developed a survey to test self-efficacy, hierarchical thinking versus systemic thinking, leadership before and after graduation, and individual perceptions of leadership development outcomes of military school programming. The survey includes the CSES and LABS-III scales to aid in the validity of the study. This study is the first of its kind and contributes to the understanding of women's leadership development in military schools.

Chapter Two: Literature Review

The purpose of this study is to understand leadership development outcomes among women alumni of military colleges and schools. To this end, the researcher tested for levels of self-efficacy, authentic leadership traits, correlations between student and career leadership, and individual perceptions of leadership development outcomes after graduating from these schools. This chapter will synthesize and analyze the research and measurement within leadership development, particularly in colleges and schools. It will then consider leadership development research and measurement in military colleges and schools, particularly for women.

Types of Leadership Development

Van Linden and Fertman (1998) defined leaders as people “who think for themselves, communicate their thoughts and feelings to others, and help others understand and act on their own beliefs; they influence others in an ethical and socially responsible way” (p. 17). Leadership development theory spans several theoretical frameworks, with current scholarship focusing on those grouped in the New Leadership School of the postindustrial leadership paradigm, including transformational, transactional, laissez-faire, authentic, spiritual, servant, and more (Antonakis & Day, 2018; Shim, 2013).

Transformational leadership emerged as a more recent favorite among many scholars and leadership development programs because it not only focuses on the acts of leadership but encourages the leader to directly engage with those under their authority (Hay, 2006; Van Linden & Fertman, 1998). Hay (2006) posited that organizations practicing transformational leadership garner higher buy-in from subordinates. In contrast, Van Linden and Fertman (1998) defined the difference between transactional and transformational leadership as

“doing leadership tasks versus being a leader,” (p. 9) respectively. Transactional leadership is often found in traditional, hierarchical environments and focuses most on the leader’s skills in interacting with their subordinates (Van Linden & Fertman, 1998). Hay (2006) supported modern arguments for a mixture of transformational and transactional leadership as best.

Both transformational and transactional leadership require leaders to be integrally involved in subordinates’ activities. However, laissez-faire leadership means “a hands-off approach by a leader [that] can allow employees to feel respected and autonomous” (Yang, 2015, p. 1247). Yang (2015) acknowledged that many view this style of leadership as the antithesis of leadership but posited instead that there are effective attributes of laissez-faire leadership, such as allowing subordinates to exercise more innovation and feeling more trusted by their leadership.

Authentic leadership, on the other hand, includes subordinates in decision-making without the hands-off approach of laissez-faire leadership. As defined in Chapter One, Authentic leaders are self-aware, trustworthy, and culturally responsive in engendering organizational success (Whitehead, 2009). Additionally, authentic leadership is a dynamic process, not requiring leaders to embody the necessary traits from the start (Jordan, 2021c). Kiersch and Peters (2017) described the authentic leadership model as including the four dimensions of self-awareness, unbiased processing, authentic behavior, and authentic relational orientation. These dimensions have been tested using tools like the Authentic Leadership Inventory (Kiersch & Peters, 2017).

Spiritual and servant leadership, among others, are smaller subsets of leadership development in the research. For Deal (2008), spiritual leaders focus on the “why” of work and “making a difference.” Servant leadership, however, denotes a focus on the development

of others through people-focused traits and leading by example (McMahone, 2012). While some research focuses on these subsets, the tenets of these and other leadership types are often covered in aspects of transformational leadership (Hay, 2006; Rosch et al., 2017).

Antonakis and Day (2018) critiqued the subsets of leadership theory like authentic and servant leadership for their outcomes descriptors, arguing “the nature of what is measured should be exogenous with respect to the outcomes it is supposed to cause” (p. 68). This is an unrealistic view because businesses and educational consumers want outcomes; they want to know what they are investing in has expressed value. Although these subsets correlate with transformational leadership, they more carefully define the ideal of leaders in a modern context focused on results (Kiersch & Peters, 2017).

Leadership Development Research

Several studies addressed the efficacy of leadership development frameworks (Arnold et al., 2000; Hannah & Avolio, 2010; Hay, 2006; Huszczo & Endres, 2017; Shim, 2013). Hay (2006) cited the Multifactor Leadership Questionnaire as the most common quantitative means for measuring both transformational and transactional leadership by dividing leadership traits into four areas of effective transformational leadership, including idealized influence, individualized consideration, inspirational motivation, and intellectual stimulation that act interdependently to produce exceptional leadership performance. This tool combines self-, peer-, and supervisor- evaluations to measure an individual’s leadership (Hay, 2006).

Arnold et al. (2000) created another tool for measuring leadership traits to see if a difference exists between traditional leadership traits and empowered leadership. Using the Empowering Leadership Questionnaire (ELQ), the researchers compared traditional, hierarchical business leadership with more modern transformational and horizontal team-

based leadership, measuring key aspects of empowered leadership identified during interviews with leaders in a variety of businesses (Arnold et al., 2000). After running correlational analyses of Likert surveys, they compared the results with equal analyses of a proven Managerial Practices Survey based on traditional, or transactional, leadership measures. Arnold et al. (2000) determined that significant differences do exist in the leadership measures required in empowered team leadership environments where power is spread throughout the organization versus traditional, hierarchical environments where the power is focused in upper levels of leadership and suggested the need for the ELQ in analyzing these flatter organizational structures.

Other studies took analysis a step further by disaggregating data by gender to see whether differences emerge in leadership capacity depending on leadership type or context. For example, the Social Change Leadership Model (SCM) has been used with college students through self-reported leadership traits to find that women score higher on most of the SCM values, while others found conflicting data (Shim, 2013). As a result, Shim (2013) tested whether women and men differ in leadership capacities over time through surveys given one year apart and corroborated the earlier data of higher scores for women.

Huszczo and Endres (2017) used Core Self-Evaluations and the Big Five personality traits to measure the key components of individuals' leadership self-efficacy with the relative importance analysis method. They argued that self-efficacy is a crucial factor in men and women entering leadership development programs (Huszczo & Endres, 2017). Perhaps the most important finding of their research is that "openness to experience" plays a major role in women's self-efficacy in leadership (Huszczo & Endres, 2017).

Although some studies suggested differences in leadership capacity, Rhode (2016) contested these findings, citing extensive research to the contrary. She instead cited leadership styles, not capacity, with accounting for gender differences while additionally positing that gender bias and stereotypes serve to perpetuate perceived distinctions (Rhode, 2016). Whitehead (2009) also cautioned organizations to make sure their chosen leadership development programs do not perpetuate stereotypes or traditional leadership constructs.

Other researchers focused less on gender or racial differences and more on traits necessary for effective leadership. In considering how to effectively develop leadership traits like self-efficacy, Hannah and Avolio (2010) researched what elements accelerate leadership development, and found that interest, goals, and developmental efficacy play a role. Although interest and goals lie mostly with students, they argued developmental self-efficacy can be taught through a leadership program (Hannah & Avolio, 2010).

Increased Opportunities for Women

Two major accomplishments expanded employment opportunities and educational opportunities for women, leading to their subsequent inclusion in leadership development efforts. The Equal Pay Act of 1963 officially ended wage discrimination based on sex, and Title IX of the Educational Amendments of 1972, stated, “No person in the U.S. shall, on the basis of sex, be excluded from participation in, or denied the benefits of, or be subjected to discrimination under any educational program or activity receiving federal aid” (The United States Department of Justice, 2015). Title IX opened many opportunities for women and girls in a variety of activities, with the most impact felt in athletics, both on the college and secondary levels (Schaller, 2005). According to Schaller (2005) athletics are a major recruiting tool for military colleges in drawing women to these unique collegiate

environments, but he also noted the mixed results of those efforts, citing positives like national recognition for the school and lower female attrition rates, and negatives like the need for a large percentage of women to participate in collegiate sports to maintain male sports and Division I status.

Advances in women's rights also impacted the military. These advances included Lyndon B. Johnson's opening of promotions to women in units that included men in 1972, Bill Clinton's removal of the "Risk Rule" that barred women from "direct ground combat," and the 2013 pronouncement lifting the ban on women in all combat roles (USO, 2022). The 1972 promotional expansion created part of the onus for opening military academies to women, with West Point leading the way in 1976 after the signing of the Defense Authorization Bill of 1976 (Coulter, 2017; Schloesser, 2010).

Aside from sweeping policies, several individual women paved the way for others by taking major leadership positions in business, politics, and the military, such as Katherine Graham, the first female Fortune 500 CEO in 1972 (History, 2021). Multiple firsts in politics include Sandra Day O'Connor as the first female justice to the Supreme Court in 1981, Madeleine Albright as the first female Secretary of State in 1997, and Kamala Harris as the first female Vice President in 2021 (History, 2021). The first two female Brigadier Generals were promoted in 1970, the first female became a helicopter pilot in 1974, and the first woman led a platoon in combat in Panama in 1989 (Women in the Army, n.d.).

The increase of women in all fields led organizations to address leadership development and gender in a variety of ways. Day et al. (2021) shared that some organizations utilized identity-conscious programs, or programs tailored to women and their unique strengths and challenges. Others completely integrated groups, ignoring the impact of

innate or societal differences (Day et al., 2021). Day et al. (2021) instead argued that some group-specific training may be needed but not solely for the minority group, and that the bulk of training should be done among all participants to enhance the collaborative understanding across all groups.

Leadership Development in College Students

Since college students are closest to entering the world of employment where they will be expected to demonstrate leadership capacity, higher education is a logical starting place for leadership preparation. Dugan and Komives (2007) praised the attention colleges and universities have given to leadership development in the last few decades, and conducted a national study to identify trends, needs, and outcomes to improve the impact of these programs moving forward. Using the SCM, they developed a Multi-Institutional Study tool, finding several key factors influenced college students' development, including personality traits, prior leadership experience, gender, and mentoring, among others, and that these factors also accounted for the rates of change (Dugan and Komives, 2007). Dugan and Komives (2007) made several suggestions for improving the effectiveness of leadership development programs to better prepare students for the future, including encouraging all students to get involved in at least one campus organization, developing all students instead of focusing on positional leaders, encouraging mentoring, and creating special interest groups to serve certain demographics' unique developmental needs.

For colleges to effectively work with students to develop their leadership abilities, they need to identify where students fall on a leadership development scale as incoming freshmen. Wielkiewicz et al. (2012) attempted to assess the developmental stage of college students regarding leadership when they initially enroll, using the Leadership Identity

Development Model's six stages. They asserted first-year college students are likely in stage three, "Leader Identified," and that leadership development training will take them to stage four, "Leader Differentiated." Using the Leadership Attitudes and Beliefs Scale, the Leadership Tensions Scale, and the Mini-IPIP Scales (personality-focused scale) to determine the leadership beliefs of first-year college students, the results confirmed the hypotheses of Wielkiewicz et al. (2012) that men and women tended to enter college at stages two, "Exploration/Engagement," and three, while women's systemic conceptions of leadership evinced more characteristics of stage four.

Even with increased attention, higher education programs lack cohesive findings on their programs' overall effectiveness, especially over time. The wide range of program types, lengths, and goals accounts for some of this discrepancy. Additionally, most studies conducted analyses of one or a few colleges, thus failing to achieve transferability to higher education as a whole (Barch et al., 2012; Rosch et al., 2017; Zimmerman-Oster & Burkhardt, 1999). Shim (2013) further critiqued higher education for their lack of adjusting to the shift from an industrial to a postindustrial society, and their lack of empirical analysis of leadership development program effectiveness.

Several studies sought to address this dearth of outcomes data (Barch et al., 2012; Rosch et al., 2017; Zimmerman-Oster and Burkhardt, 1999). Barch et al. (2012) used the Student Leader Fellowship Program (SLFP) at Michigan University to conduct longitudinal research on leadership development outcomes data. Although founded earlier, the SLFP is like the SCM created by the Higher Education Research Institute in 1996 (Barch et al., 2012). The SLFP involves teaching, mentoring, workshops, internships, and retreats to build leadership skills in college students over a two-year period. By combining quantitative and

qualitative methods for measuring program effectiveness, Barch et al. (2012) were able to utilize a “pragmatic approach,” in choosing suitable methods. As such, they used pre- and post-program inventories, and final reflection papers to determine how students’ leadership conceptions grew, as well as the effect size of outcomes variables over the two-year period, finding that students indeed made significant growth (Barch et al., 2012).

Rosch et al. (2017) conducted similar quantitative outcomes research based on the impact of a one-time leadership retreat called LeaderShape Institute by conducting a pre- and post-test, and a follow-up survey a few months after the retreat. They combined several quantitative leadership scales to measure self-efficacy, skill, and motivation, disaggregating data by gender and race. Using a growth-curve analysis, Rosch et al. (2017) found that all students made gains during the retreat that tapered off to some extent after a few months.

Zimmerman-Oster and Burkhardt (1999) conducted a previous outcomes study through the W.K. Kellogg Foundation that involved a wide range of college students across institutions, measuring impact through institutional surveys, short-term outcomes through LeaderShape like those tested by Rosch et al. (2017), and long-term outcomes using the SCM as noted by Barch et al. (2012). Zimmerman-Oster and Burkhardt (1999) found, consistent with later studies, that college leadership development programs indeed improve students’ leadership capacity.

Leadership Development in Adolescents

Aside from the growth and impact of leadership development programs in higher education, growing emphasis on similar programs for adolescents has also emerged (Rehm, 2014). A leading source of information, Van Linden and Fertman (1998) took an in-depth look at adolescent leadership development in their book, *Youth Leadership*. They asserted

that all adolescents have leadership potential, and because leadership development begins at a young age, schools should begin training young people in the skills and attributes associated with transactional and transformational leadership. Van Linden and Fertman (1998) situated adolescent leadership development in an understanding of the developmental changes taking place in the teen years. They stated that any leadership development program should include an understanding of teens' inherent idealism, desire for independence, and identity formation, as well as the ability for young leaders to exhibit positive and negative leadership through its associated developmental stages of awareness, interaction, and mastery of leadership (Van Linden & Fertman, 1998). A robust leadership development program is key for adolescents because it pushes young people to think about and practice leadership at a younger age, providing them an edge over time, and giving them a safe space to experience failure (Van Linden & Fertman, 1998).

Van Linden and Fertman (1998) studied adolescent leadership through transformational and transactional leadership frameworks, but Whitehead (2009) studied it through the lens of authentic leadership. He suggested authentic leadership should be the foundation of adolescent leadership development since it has proven positive outcomes (Whitehead, 2009). Whitehead (2009) argued that while most leadership development studies emphasize adult leadership, a focus is necessary in adolescent leadership development since such development begins during adolescence. He explained that leadership development is impacted by gender and ethnicity, although in practice, he asserted that few differences exist (Whitehead, 2009). Whitehead (2009) then discussed examples of leadership development programs in secondary schools, such as the Junior Reserve Officer's Training Corps (JROTC) and The National FFA Organization (also known as Future Farmers of America or

FFA), stating that although effective, they lacked comprehensiveness or full integration into schools, and only impacted those students that elect to participate in schools where these programs happen to be offered.

Another limited area of adolescent leadership development exists in gifted and talented programs for children and adolescents (Shaunessy & Karnes, 2004). Shaunessy and Karnes (2004) admitted that although federally mandated to include leadership training in their curriculum, few did, so they suggested several teacher-based and student-based instruments for measuring capacity and growth in students, such as The Scales for Rating Behavioral Characteristics of Superior Students-Revised and the Myers-Briggs Type Indicator. The need to propose instruments for measuring leadership suggests a lack of overall program development and evaluation, in addition to a limited institutional scope of leadership development for academically superior students.

The research listed above suggests that colleges and schools in general have yet to develop a comprehensive program for leadership development. Rehm (2014) considered several models for student leadership training both on the adolescent and college levels, critiquing all for combining true leadership development aspects with competencies required of all students, whether leaders or not. Instead, he proposed the Practitioner's Model for High School Student Leadership Development focused on practical experiences of leadership through understanding the self, exposure to leadership best practices, and building self-efficacy (Rehm, 2014). Rehm's (2014) model may be an effective tool in colleges or secondary schools but remained untested in his research.

Leadership Development in Military Schools

As stated in Chapter One, military schools entered the United States' educational system in 1802, and hundreds have operated through the years with a foundational mission of developing leaders, whether in the armed forces or civilian world, through a holistic education that integrates all aspects of student development (Coulter, 2017; Gignilliat, 1916). Of those remaining, several types exist on both the postsecondary and secondary levels.

Leadership Development Structure in Military Schools

Despite the various types of military schools, certain common aspects and tenets exist in all. Channing (2020) found through survey data of educational professionals that leadership can best be learned through activities, such as, experiential learning and mentorship, and argued for the critical benefit of experiential learning in leadership development programs. Graff and Murray (2021) argued this is one of the reasons why a military school education is effective; the experiential leadership model found in these schools supports the holistic approach championed by these schools. Gignilliat (1916) expressed the necessity of leadership development over a hundred years ago, arguing all young men need intentional development to learn effective leadership skills. This suggests that from the beginning, military school leadership understood the importance of experiential preparation in developing young men for leadership.

Tate (2021) focused on the leadership development models of the service academies to argue for the effectiveness of intentional leadership development that takes students through experiential stages, such as, moving from followership to commissioning in the armed forces as officers. He credited Day (as cited in Tate, 2021) as critical to understanding the theoretical framework behind leadership programs in the service academies by describing

his focus on growing the individual's understanding of their duty to others over time (Tate, 2021).

Looking to secondary programs, Jordan (2021a) posited that military school education is particularly suited to adolescent boys because of their relational nature that learns best through active engagement in experiential opportunities found in the leadership development structure of these schools. He credited the individual attention and mentoring, as well as peer and promotional assessment structures with the formation of adolescent leaders (Jordan, 2021a). Although military schools often have a cold and restrictive reputation, Jordan (2021a) argued today's military schools strive to be student-run leadership models with adult oversight and development, creating a positive and relational structure.

This structure reflects the shift from the TAMEM to the MAMEM proposed by Jordan (2021b) and described in Chapter One. Graff and Murray (2021) also described the modern military school model, explaining that it combines four critical elements to educational success— “cooperation, competition, equity, and excellence,” hallmarks of postindustrial leadership development programs (p. 246). Where Whitehead (2009) critiqued leadership development programs typically found in secondary schools, like JROTC and FFA, for their incomprehensive impact, modern military schools due to their small nature and “whole” cadet missions, fully integrate all students into the leadership development process in multiple ways and across disciplines. Additionally, as opposed to larger student bodies found in public schools or bigger colleges and universities where programming constraints disproportionately focus development on existing leaders, modern military schools provide opportunities for students typically excluded from leadership opportunities to realize their capacity for leadership (Whitehead, 2009).

Adversative Education Model

The adversative educational model found in these schools as discussed in Chapter One, is rarely covered in the literature. Most of the existing research emerged during VMI's legal battle to bar women's enrollment. Since their inception, VMI utilized this model that invokes "physical rigor, mental stress, absolute equality of treatment, absence of privacy, minute regulation of behavior, and indoctrination in desirable values" to affect their leadership development aims with male cadets (United States v. Virginia, 1991, as quoted in Yablonski, 1993, p. 1452). VMI attempted to argue this adversative model would be fundamentally changed, and in essence destroyed, by the presence of women due to issues like differences in physical standards and the need for privacy between the sexes (Yablonski, 1993). Although the state of Virginia endeavored to avoid coeducation by creating a women's program at the Virginia Women's Institute for Leadership, touted as a comparable single-sex program, the Supreme Court ultimately ruled Virginia violated the Fourteenth Amendment's Equal Protection Clause because it failed to meet the court's standard of heightened scrutiny, viewing the two publicly funded programs as inherently unequal (Oyez, n.d.).

The adversative education model must be monitored closely to reach desired effects but can be difficult for administrators to manage in many cadet-driven military schools. Staff oversight is not a 24-hour possibility in most schools, so students may instead use adversative elements to justify hazing or abuse of power. Therefore, some scholars have critiqued the adversative model as harmful (Bayard de Volo & Hall, 2015; Do & Samuels, 2021; Faludi, 2000). Bayard de Volo and Hall (2015) argued this harm through the lens of gender relations at the United States Air Force Academy after a 2003 scandal involving the

alleged sexual assault of 61 women. They explained through retrospective participant observation that “the complementary nature of these three institutional features of adversative education, unit cohesion, and assessment” worked together to prevent women from reporting sexual harassment or assault, or for those reports to be taken seriously (Bayard de Volo & Hall, 2015, p. 883).

Do and Samuels (2021) furthered this research at the United States Air Force Academy by acknowledging the school’s work in creating inclusive policies while noting through focus groups and interviews that perpetual gender biases still exist. They call this system the “Masculine-Warrior Paradigm” and noted that “to compete with men and be taken seriously, women must ‘have their shit together,’ adapt to the hierarchy, and relate to men as ‘honorary males’” (Do & Samuels, 2021, p. 29). Do and Samuels (2015) conclude that the school’s culture ultimately undermines efforts by the administration to change attitudes through policy.

Macaulay (2011), a Citadel graduate, wrote a book detailing The Citadel’s history, uncovering many ups and downs that included the evolution of the Fourth Class System, the Citadel’s first-year adversative system. During a 1972 institutional review, a committee touted the purpose of the Fourth Class System in creating the “Citadel Man” and building character, but also noted that abuses of the system threatened The Citadel’s future, offering several suggestions for reform. While administrators instituted some reforms, Macaulay (2011) goes on to note the continued challenges faced by the school to address hazing and other abuses with varied success, not least those surrounding the admission of women in the 1990s.

An outspoken critic of The Citadel's culture and their handling of the move to coeducation was Faludi (2000). She outlined the admission of Shannon Faulkner, the first female to matriculate to the school, and the media frenzy surrounding her brief tenure as a cadet. Faludi (2000) outlined the goals of The Citadel in combining the "rigors of barracks living, harsh discipline, and drill, to turn boys into 'Whole Men,'" (p.116) arguing through cadet interviews that many imbued only the worst of masculinity through their misogynistic language and behaviors both on- and off-campus. She said:

The media and women represented the same threat. The boys came to the Citadel to escape the prying eye of a punitive world. They could not, they felt, be themselves as long as they were exposed to the female gaze. (Faludi, 2000, p. 124)

She suggested Citadel men only resented coeducation because of a desire to hide locker-room-style talk and pseudo-homosexual or effeminate behaviors they would be forced to hide around women. Additionally, she contended, as well as Macaulay (2011) that the adversative Fourth Class System so central to The Citadel's culture of the time had not always existed and had even been dismantled during the World War II era because it interfered with war preparation efforts.

Although arguments against adversative education are strong, particularly when viewed by outsiders, the stated goals of these programs, such as building followership, camaraderie, and perseverance promote these programs if implemented effectively. Again, most true adversative programming is found on the postsecondary level since students are adults that ostensibly chose such rigorous programming.

Measuring Leadership Development Effectiveness in Military Schools

In researching military schools, historical or theoretical research is limited since it represents a narrow subset of education and leadership development. However, research shows students in military programs have higher self-efficacy rates than civilian students, and several studies sought to highlight the many advantages of military colleges and schools (Gignilliat's, 1916; Jordan, 2021c; Lewis, 2020; Schaefer et al., 2021).

Perhaps one of the earliest extensive historical and theoretical studies of military colleges and schools is found in the Gignilliat's (1916) *Arms and the Boy: Military Training in Schools and Colleges*. He utilized surveys of leadership in various military programs around the country to argue the benefits of military education and leadership training, although he rarely used the term leadership in his book (Gignilliat, 1916). Gignilliat (1916) ultimately relied on arguments for the comprehensive programming, popularity, and the resulting long list of influential military and civic leaders as proof of military schools' leadership development outcomes.

One West Point study looked at leadership development over time, aggregating for gender and other diversity measures (Schaefer et al., 2021). Using grades in the three core areas of academics, military, and physicality, as well as evaluations from self-assessments, peers, and instructors to determine the latent growth curve modeling, the results suggested improvement over time for cadets struggling in these areas, and that military scores have a significant impact on success in other domains of the school (Schaefer et al., 2021). Schaefer et al. (2021) acknowledged that systematic differences in male and female experiences, especially in male-dominated domains, limits the impact of the data while highlighting the need for increased focus on women and other marginalized groups.

Lewis (2020) focused solely on women as noted in Chapter One, reflecting on the development of leadership research studies at West Point, and asserting they developed from post-positivist, male-centered quantitative studies focused on achievement or demographic traits to more sociological research correlating personality traits to leadership potential. Her qualitative study found that gender impacted women's leadership experiences, although they felt generally positive about their development and training and described them in terms of leadership types like transformational or authentic (Lewis, 2020).

Studies on adolescent leadership development in military schools are extremely limited, but Jordan's (2021c) qualitative study described in Chapter One found significant differences between adolescent and adult conceptions of leadership but suggested an authentic leadership development model is best in working with adolescents in military schools because it navigates the needs of each gender, as well as the dichotomy between adults and adolescents.

Critique of Military Education Leadership Development Efforts

Overall, military colleges and schools do an excellent job of providing experiential leadership development training as seen in their extended history of existence and long list of accomplished graduates (Coulter, 2017; Gignilliat, 1916). Unfortunately, the research body, especially in empirical terms, is limited in analyzing the impact during and after enrolling in these programs. In recent years, the Association of Military Colleges and Schools of the United States (AMCSUS) conducted a major push for military schools to collaborate and support the future relevance and sustainability of its members (AMCSUS, 2022). One result of this push is the *Handbook of Research on Character and Leadership Development in Military Schools*, which covered a range of academic research on issues pertaining to these

schools. Few chapters involved a quantitative study, but many offered valuable insight into the purpose and theoretical nature of leadership development and education in military schools and are cited throughout this research (Ryan & Weekes, 2021). Although several schools' key leadership contributed both on the secondary and postsecondary levels, much more work needs to be done, especially on the secondary level to both qualify and quantify how military schools improve leadership outcomes for its students.

The only subsection of military schools where research is more abundant is among the service academies, particularly at West Point (Lewis, 2020; Schaefer et al., 2021). Unfortunately, military academies fail to offer a complete understanding of military schools' leadership development effectiveness because their students represent an elite group of college students, while most traditional military schools serve students from a wide array of academic and leadership backgrounds (Tate, 2021).

Leadership studies among adolescents in military schools is even rarer within the already limited research on adolescent leadership development. Some of this is likely due to the challenges of performing research on secondary school students because of access to relevant research or Institutional Review Board requirements and procuring parental permission, as well as the weaker alumni bases that may exist among secondary schools which would be needed in testing outcomes. The small number of secondary military schools remaining, with many focused on day-to-day operations or even survival, also may impact research efforts (Coulter, 2017).

In general, due to the limited nature of military school research, both colleges and schools have struggled to measure outcomes data of leadership development outside of noting the many civilian and military leaders that attended or graduated from these schools.

This is consistent with the research studies listed throughout this study where the transferability of longitudinal outcomes data is sparse. To truly articulate the effectiveness of military schools, and particularly that of their unique leadership development programs, much more research needs to be done overall. Specifically, these schools need to measure themselves against tenets of postindustrial leadership frameworks both during and after enrolling in these programs, as well as disaggregating data by gender and minority status to account for any distinctive trends among those groups. Once a body of research exists, these schools can better compare themselves with students in civilian colleges and schools to demonstrate the full relevancy of comprehensive military leadership development programs.

Potential Benefits of Military School Leadership Development for Women

Regardless of the dearth of literature pertaining to women in leadership development programs in military colleges and schools, there are several findings discussed in this research suggesting the benefit of these programs for women and girls. The first of these findings relates to the postindustrial conceptions of leadership becoming more commonplace in military schools in which women and girls thrive (Hoyt & Kennedy, 2008; Lewis, 2020; Shim, 2013). Although fraught with mixed results over the years, increased attention and intentionality within these modern leadership frameworks can only serve to benefit women in military schools' ranks (Lewis, 2020).

The second finding benefitting women involves the comprehensive programming found in modern military schools due to their small nature and “whole” cadet missions, fully integrating all students into the leadership development process in multiple ways across academic, military, and athletic disciplines (Tate, 2021). Modern military schools provide opportunities for students typically excluded from leadership opportunities to realize their

capacity for leadership, a critique of most civilian leadership development programming (Jordan, 2021b; Mullen & Tuten, 2004; Whitehead, 2009). Such experiential learning sets military schools apart, developing the specific needs of women like self-efficacy and motivation (Channing, 2020; Graff & Murray, 2021).

A third finding deals with the ability for military schools to develop the self-efficacy and motivation cited as key for women (Huszczo & Endres, 2017; Rehm, 2014; Rosch et al., 2017). Military school enrollment represents these women's "openness to experience" that Huszczo and Endres (2017) say plays a major role in women's self-efficacy in leadership. Women's focused development in a military school context can avoid the negative impact low self-efficacy can have on their leadership trajectories in the short and long-term (Haber-Curran et al., 2018).

The final finding supporting the benefit of military schools for women's leadership development is found in the experience acquired through a male-dominated context. Several studies suggested the need for women to learn skills in navigating these male-dominated contexts (Boatwright and Egidio, 2003; Haber-Curran et al., 2018; Schaller, 2005; Shapiro et al., 2015; Shepherd & Horner, 2010; Wielkiewicz et al., 2012). Military colleges and schools are perfectly suited to accomplish this goal, especially if they consider gender's influence within their leadership development programs, and they can plug the "leaky pipeline" to upper leadership positions down the road through the merging of postindustrial conceptions of leadership and the traditional, hierarchical constructs generally associated with military environments (Shapiro et al., 2015).

Conclusion

This chapter explained the theoretical framework of leadership development and how it has been measured over the last few decades. It contextualized the postindustrial paradigm, through defining various forms of leadership like transformational, transactional, and authentic, among others, currently pervasive in the scholarship. Several studies of leadership development utilized a variety of quantitative and qualitative tools to measure different leadership traits necessary for effective leadership or the benefit of leadership development programs. Then, by focusing on colleges and adolescents, the research suggests the earlier leadership development begins, the more effective it will be.

Military schools and colleges represent a standard for leadership development, but a dearth of research makes proving their long-term impact difficult aside from noting distinguished graduates. Some leadership development research has been done on the college level, but few studies address women, and most studies are found in military academies. The researcher found only one study addressing gender differences in leadership on the adolescent level. The admittance of women into almost all fields, and their 50 years of inclusion in military schools, begs the need for focused research on women's leadership development outcomes in military colleges and schools. Since military schools represent a long-established standard for leadership development, it is imperative that more research is done in these contexts not only to improve the experiences of women in these schools, but to improve female leadership development across colleges and schools in general. As more women join the ranks of graduates from military colleges and schools, and as more research addresses the challenges specific to women in leadership positions, the more impact military leadership development programs will have during and after women's enrollment.

Chapter Three: Methodology

To investigate the perceptions of leadership among women alumni from military institutions, and to measure how the leadership development training received influenced their leadership outcomes after graduation, the researcher conducted a mixed methods study utilizing surveys. The following chapter discusses the methodological specifics of the study.

Research Questions

The researcher sought to address the following research questions along with their subsequent hypotheses:

1. Do female graduates from military colleges and schools report higher-than-average levels of self-efficacy according to the Core Self-Evaluation Scale (CSES)?

H₀: There is no difference in the self-efficacy of female military school graduates and overall averages.

2. Using the Leadership Attitudes and Beliefs Scale (LABS-III), do women alumni of military colleges and schools exhibit higher levels of Hierarchical or Systemic (Authentic) Thinking regarding leadership?

H₀: There is no difference in the overall averages of Hierarchical versus Systematic Thinking in female military school graduates.

3. Does performing leadership roles while attending military school positively correlate to holding leadership roles during a woman's career?

H₀: There is no difference between the likelihood of holding leadership positions during a career for women that held leadership roles while in military schools.

4. What are the positive outcomes of the military school experience according to female alumni perspectives?

Study Design

The researcher used an ex post facto, quasi-experimental research design for this study (Harris et al., 2004). Such a study mimics a true experimental design but is not randomized in choosing its participants (Harris et al., 2004). The study participants could not be effectively randomized because they included two defined groups of women alumni. Results also reflect outcomes perceptions ranging from one to 50 years since graduation.

This study likewise employed a convergent mixed methods design to expand upon the findings of the quantitative research questions. Mixed methods research combines quantitative and qualitative elements to “[draw] interpretations based on the combined strengths of both sets of data” (Creswell, 2015, as quoted in Merriam & Tisdell, 2016, p. 45). This study is convergent because data were collected simultaneously, and quantitative research represents the bulk of the study as is true with many mixed methods studies where one form of research dominates (Merriam & Tisdell, 2016). While many argue whether quantitative and qualitative research can effectively be mixed due to their epistemological assumptions, Ridenour and Newman (2008) argue that the two are not a dichotomy, but a continuum that holistically conceptualizes research results. Therefore, mixed methods research has enjoyed increased attention and validation among scholars in recent years (Ridenour & Newman, 2008; Merriam & Tisdell, 2016).

Role of the Researcher and Ethical Issues

Because this mixed methods study was conducted through anonymous survey collection, the researcher's role was minimal beyond the recruitment of participants, and through answering any participant questions about the surveys.

Although the researcher's role is limited, it is important to note her positionality to the research. The researcher is a graduate of a Senior Military College (SMC) and has spent her career working for a secondary military school. Supporting the place of women in these schools is extremely important to the researcher and has potential to bias her views on their leadership development. To avoid this, the researcher sought validated quantitative scales to analyze alumni women's leadership development outcomes and created a coding process for open-ended responses to lend accuracy and validity to the study.

Recruitment of the Sample

There were two components in the data collection for this study, and each had two unique sets of participants. Considering the variety of military colleges and schools in existence, this study included an operationally defined group of traditional military schools that run a 24-hour, co-educational, holistic military program for all its students. Once the pilot study, detailed below, was completed and the survey tools and communication processes were validated, the researcher began recruiting participants for the two surveys in the fall of 2022 (see Appendix A).

Two SMCs, three Junior Military Colleges (JMC)s, and three secondary military schools were asked to participate in the *Leadership Development School Demographic Survey* concerning their school leadership practices (see Appendix E). The demographic survey is discussed in more detail below.

Each school received an email to at least one individual, although most received emails for multiple individuals based on the researcher's access to contact information of key leaders like presidents, commandants, and academic deans. The researcher sent an invitation letter and school survey link to 25 key leadership of the eight colleges and schools included in the study, utilizing school websites and the researcher's membership in a military school organization called the Association of Military Colleges and Schools of the United States (AMCSUS) to obtain contact information. The goal for the response rate of the *Leadership Development School Demographic Survey* was 50% out of up to 25 possible participants. The researcher kept the survey open for three months to encourage the minimum number of school leaders to respond.

Periodic reminder emails were sent, but responses were few. The lack of responses was anticipated since employees of military schools are busy, may have doubted the survey's anonymity, or felt uncomfortable responding to a researcher they did not know. Because of this, the researcher did not make the *Leadership Development School Demographic Survey* an integral part of the study, but rather used it to lend context to the overall research.

To recruit participants for the *Leadership Development for Women Graduates of Military Schools Survey* (see Appendix F), the researcher created a sample of women alumni from one SMC and one secondary military school where the researcher has access to the women alumni bases. The SMC included in this study is a publicly funded, liberal arts institution on the east coast of the United States. Women were admitted to the institution in the mid-1990s and have held all major positions within the school's military leadership structure. The secondary military school studied is a historical military school serving middle and high school students on the east coast of the United States. Women were admitted to this

school in the early 1970s and have held all major positions within the school's military leadership structure.

Both schools include all their students in the Corps of Cadets, exposing all to the leadership development programming taught throughout enrollment. The researcher planned to recruit at least 50 participants from each school for an overall minimum 100-participant semi-random sample, representing an overall response rate of 60-70% of those contacted, to aid in validity and generalizability of survey results (Coladarci & Cobb, 2014). The sample is semi-random because the researcher did not know which women alumni would agree to participate, but her access to alumni from each school is based on established relationships and access to social media groups in which these women belong. A 100-participant sample is adequate for the study due to the limited numbers of women alumni from both schools (Coladarci & Cobb, 2014). For example, the researcher generated a list of all female alumni from the study's secondary school that included 314 women. Enlisting 50 participants from that number equals about 16% of the full female alumni base.

To recruit, the researcher relied on social media groups and friendships, as well as alumni contact databases with each institution to invite participants. Ultimately, while the researcher sent some emails to women alumni and key school leadership, she relied most heavily on the Facebook application to enlist participants. Many women alumni from the study's SMC are members of a private Facebook group for women alumni that the researcher could easily post the recruitment materials to while maintaining the privacy of her personal contact information. Similarly, many women alumni of the study's secondary school are members of a private Facebook group for alumni and friends of the school. The researcher chose not to openly post to that group due to the mixture of individuals, instead using the

group to identify and privately message women alumni via the Facebook Messenger application. The researcher kept the survey open for two months until she reached the minimum number of participants for each institution. To encourage the expediting of responses, the researcher sent periodic reminder messages or emails to potential survey participants.

In all invitations for both surveys, the researcher included the invitation letter and the survey link (see Appendix G). The survey format allowed participants to view and complete the survey via a computer or other digital devices, such as a cell phone.

No incentives were offered for completion of either survey, but potential apprehension in completing each survey was reduced through its anonymity since no personally identifiable information was collected.

Participants

When the *Leadership Development School Demographic Survey* was closed, the researcher received seven valid responses, representing a 28% response rate. Of the seven responses, four noted they worked in a secondary school, two worked in JMCs, and one worked in a SMC.

When the *Leadership Development for Women Graduates of Military Schools Survey* was closed, 122 women had completed the survey in part, including 55 undergraduate school (SMC) women and 50 secondary school women that answered the question asking which type of school they had attended (see Table 1). The other 17 women did not notate which type of school they attended. Women also had the choice to notate that they attended both types of schools. Only three chose that option, so the researcher recoded their responses as “secondary school” because their leadership development training began on the secondary

level. The researcher also recoded some women’s type of school because it was clear from items, such as the graduation year or the language used in the free-response questions, that they could not have attended the type of school selected. This included recoding 12 responses to “secondary school” and two to “undergraduate school (SMC).” This recoding aided in the data analysis process.

Table 1

Leadership Development for Women Graduates of Military Schools Survey Demographics

Surveys Collected	<i>N</i>
Valid Surveys Collected	122
Undergraduate (SMC) Surveys	55
Secondary School Surveys	47
Attended Both School Types	3
Unknown	17
Invalid Surveys Collected	10
Total Surveys Collected	132

Data Collection

As highlighted above, two surveys were deployed to two unique samples to collect data to answer the research questions in this study. Those two surveys were: the *Leadership Development School Demographic Survey* and the *Leadership Development for Women Graduates of Military Schools Survey*. Both were conducted online using the Qualtrics survey tool.

Pilot Study

In preparation for the study, the researcher applied for and received approval of the study with the Institutional Review Board (IRB) (see Appendix B). Once the proposal and IRB application were approved, the researcher conducted a pilot study of five women alumni and two key leaders of the schools included in the study including the researcher herself. She recruited the participants for the pilot study from contacts she has within each alumni base and from relationships with key leaders. This pilot study helped validate the survey tools themselves, as well as the processes for communicating the survey invitations before they were used for the full study. The researcher made a minor necessary adjustment after the pilot study's conclusion to the "adversative education" definition listed in the surveys. The pilot study revealed that respondents did not understand the terminology since it is an infrequently used concept that is most commonly found in the research surrounding the legal battles at VMI and The Citadel over moving to co-education in the 1990s. Results from the pilot study were included in the overall results and analyses discussed in Chapter Four.

Leadership Development School Demographic Survey

Key school leadership from two 4-year SMCs, three 2-year JMCs, and three secondary military schools were invited to complete a 10-item *Leadership Development School Demographic Survey*. The goal of this survey was to better understand the makeup of traditional military school programs described in this research study and to lend context to the responses of women alumni of these schools. The survey included basic demographic questions to better understand the school's history and current structure and three open-ended questions to identify the leadership development model and perceptions of women's leadership development in that college or school (see Appendix E). Twenty-five key

leadership, such as each school's president, commandant, and academic dean, were invited to participate and this resulted in one or multiple surveys from each institution. Multiple surveys were welcome since key leadership may have varying perceptions of the leadership development programming utilized in their school.

Leadership Development for Women Graduates of Military Schools Survey

The *Leadership Development for Women Graduates of Military Schools Survey* is a 55-item survey comprised of two published scales and researcher-created demographic questions (see Appendix F). Many scales have been used to test leadership development in colleges and schools, but in this study, the researcher utilized two specific scales to test for self-efficacy and authentic leadership traits in military school women (Judge et al., 2003; Wielkiewicz, 2000). The published scales, the CSES (Judge et al., 2003) and LABS-III (Wielkiewicz, 2000), are described below and comprise the first 12 and 28 questions respectively. The final 15 questions were developed by the researcher to identify demographic and perceptions data about respondents. The demographic data was used to categorize survey responses into groupings of (1) all women respondents, (2) secondary women graduates, (3) undergraduate (SMC) women graduates, and (4) women that held leadership "Almost Always" while students. The data also identified possible correlations in the data analysis process. The open-ended perception questions were utilized to identify additional information of note to the study about outcomes perceptions that otherwise would not be shared in the controlled scales discussed above.

Core-Self-Evaluations Scale (CSES). Judge et al. (2003) developed the CSES to test four overarching psychological traits, including self-esteem, generalized self-efficacy, neuroticism, and locus of control through a direct measure. They defined generalized self-

efficacy as “how well one can perform across a variety of situations” (Judge et al., 2003, p. 303). To test the uniqueness of the CSES, Judge et al. (2003) compared it to the Big Five personality traits, finding similarities, but noted essential differences. They used four samples to test the reliability and validity of the CSES, cutting the scale from a possible 65 items to 12 that best fit the four overarching criteria listed above (Judge et al., 2003). Based on the four samples, none of which were disaggregated for gender, Judge et al. (2003) found a mean score of 3.87 with a standard deviation of .53 on the five-point Likert scale ranging from (1) Strongly Disagree to (5) Strongly Agree with six of the items being reverse-scored. Judge et al. (2003) found coefficient alpha (α) reliability to average .84, significant convergent validity between the CSES and core traits tested, as well as incremental validity for these traits. Ultimately, they concluded the CSES was reliable and valid regardless of positive correlations with some Big Five traits because “the CSES measures the commonality among the core traits, rather than the specific-factor variance attributable to the core traits themselves” (Judge et al., 2003, p. 324). The CSES is a free resource that can be used without permission (see Appendix C).

The researcher chose this self-efficacy scale as opposed to leadership self-efficacy scales found in other studies to investigate outcomes of military school alumni because it was short and not all women alumni of these schools may have participated in leadership roles. The CSES results can be applied regardless of a woman’s leadership experience and helps in comparisons between the women alumni of military schools in this study and non-military school participants examined in the Judge et al. (2003) study.

Leadership Attitudes and Beliefs Scale-III (LABS-III). Wielkiewicz (2000)

developed the LABS-III to create a tool for measuring alternative leadership styles in college students. He conducted a large study of two colleges to test the reliability and validity of the LABS-R, an earlier version consisting of 86 items answered with a five-factor Likert scale. Cutting the scale to 28 items, the LABS-III is made up of two distinct scales: the 14-item Systemic Thinking scale and the 14-item Hierarchical Thinking scale (Wielkiewicz, 2000). The total score on each scale is 70 with the Likert scale ranging from (1) Strongly Agree to (5) Strongly Disagree, meaning lower scores on each scale suggest higher rates of either Hierarchical or Systemic thinking (Wielkiewicz, 2000). Those scoring lower on the Hierarchical Thinking scale believe organizations should be hierarchical with power focused within top leadership levels, while lower scores on the Systemic Thinking scale suggest a flatter and more cooperative conception of organizational leadership (Wielkiewicz, 2000).

Wielkiewicz (2000) found men scored lower on the Hierarchical Thinking scale with mean scores of 40.57 versus 43.64 for women, while women scored lower on the Systemic Thinking scale with mean scores of 26.57 versus 28.35 for men. The overall scale mean for the Hierarchical Thinking scale was 42.33 ($SD = 7.33$), and the overall scale mean for the Systemic Thinking scale was 27.41 ($SD = 6.55$), suggesting both men and women agreed more with systemic styles of leadership (Wielkiewicz, 2000). Wielkiewicz (2000) tested scale validity finding the coefficient alpha (α) for the Hierarchical Scale to be .84 and for the Systemic Scale to be .87, showing high internal consistency. The average inter-item correlation (M_r) was .27 for Hierarchical Thinking and .35 for Systemic Thinking, both within the ideal range (Wielkiewicz, 2000). Wielkiewicz (2000) therefore found their scale to be reliable and valid, arguing systemic organizations are more successful long-term because

of their adaptability to internal and external challenges. The LABS-III is a free resource that can be used without permission (see Appendix D).

The researcher chose this scale since it reflects both the traditional hierarchical nature of military colleges and schools, as well as the more modern conceptions of leadership like Authentic Leadership through its Systemic Thinking scale. This scale helped the researcher to investigate the impact of military schools on women's conceptions of leadership after graduation.

Open-Ended Items. The final 15 survey questions of the *Leadership Development for Women Graduates of Military Schools Survey* were developed by the researcher to identify demographic and perceptions data about respondents (see Appendix F). Of the 15 questions, the researcher asked four open-ended questions. The researcher utilized the QDA Miner Lite software to code open-ended responses, and the researcher read responses to each of four questions, coding them for common themes and language. The questions are listed below, and their coding schemes are discussed in more detail in the data analysis section:

1. Did your military school utilize adversative education elements (leadership development elements that utilize physically and mentally stressful activities to achieve goals- i.e., new recruit training like plebe, knob, rat systems, cadre/OCS or other strenuous processes to achieve rank, punishment systems meant to affect desired behaviors)? If so, please list examples of these elements.
2. How did the adversative elements impact your leadership development?
3. What were the most valuable outcomes of your leadership development experience in military school?

4. What did you think about these outcomes when you first graduated? What do you think about them now?

The researcher utilized open-ended survey questions in the present study for a couple of reasons. First, the researcher knew the quantitative scales could only tell part of the story of military school women's outcomes after graduation. Additionally, this group of women represents such a unique group that including their perceptions in their own words would help those unfamiliar with this sector of education to better understand the research results.

Data Analysis

Data analysis techniques for this study are based on the survey tools utilized and research questions found at the beginning of this chapter. The researcher used SPSS (Statistical Package for the Social Sciences) Version 28 to conduct some statistical procedures, while hand-calculating others since the researcher did not have access to the control data sets in the original studies for the CSES (Judge et al., 2003) and LABS-III (Wielkiewicz, 2000). The researcher first cleaned the data to remove errors. For example, 10 *Leadership Development School Demographic Surveys* were collected, but some respondents simply opened and closed the survey or only answered the consent question. As a result, three surveys were thrown out, leaving seven valid responses. Likewise, 132 *Leadership Development for Women Graduates of Military Schools Surveys* were collected, but ten surveys were thrown out since no usable data existed.

The researcher then ran a test of descriptive statistics, such as frequency, measures of central tendency like mean and standard deviation, and stem-and-leaf plots to identify outliers and any other factors that may impact data reliability (Coladarci & Cobb, 2014). On both the CSES and LABS-III scales, a couple of scale items showed significant outliers. On

the CSES, secondary women graduates had seven outliers on Item 5, and 14 on Item 8. Undergraduate (SMC) women showed six outliers for Item 9. For the LABS-III, secondary women graduates had 10 outliers for Item 8. Undergraduate (SMC) women showed seven outliers for Item 7, six for Item 18, six for Item 27, and eight for Item 28. The researcher elected not to remove outliers when running her data since the overall effect of these scale items on the scale means was likely small and the small, but diverse nature of the survey sample along with the Likert-style responses makes outliers more likely. Additionally, the outlier responses to scale items reflect the diversity of experiences found among women graduates at these schools.

Once data reliability was determined, the researcher began analyzing the data based on this study's research questions. The first research question is based on the CSES (Judge et al., 2003) results to find whether female graduates from military colleges and schools report higher-than-average levels of self-efficacy. The researcher conducted a one-sample *t*-test to compare self-efficacy score means for (1) all the women in the study, (2) the mean for SMC women alumni only, (3) the mean for the secondary school's women alumni only, (4) the mean for women that held leadership "Almost Always," and (5) the scale mean as determined in the Judge et al. (2003) study that validated the CSES (Coladarci & Cobb, 2014). The researcher sought to determine if levels of self-efficacy differed for each of the four groups tested, and particularly whether self-efficacy varies for women alumni of military schools. The researcher utilized *t*-values, *p*-values, and Cohen's *d* to determine whether differences were statistically significant and whether effect sizes were significant (Coladarci & Cobb, 2014).

The same tests were conducted for research question two, using the LABS-III (Wielkiewicz, 2000) to determine whether women alumni of military colleges and schools exhibited higher levels of Hierarchical or Systemic Thinking regarding leadership and how those means compared to the control study mean scores. In this case, the same study groups' means were compared for the Hierarchical Thinking scale and the Systemic Thinking scale to see if significant differences exist for women. The control group comprised two separate groups, including scale score means and female score means as determined in the Wielkiewicz (2000) study that validated the LABS-III. Two questions are addressed as part of research question two using this scale. The first is whether women in military schools differ in their mean scores versus the scale means or women's means in the Wielkiewicz (2000) study. The second is whether women in military schools show more Hierarchical or Systemic Thinking overall.

For the third research question, to determine whether performing leadership roles while attending military school positively correlates to holding leadership roles during a woman's career, the researcher ran a correlation analysis using the Spearman's rho (ρ) test. The researcher chose this test since it accounts for the ordinal responses of these survey questions (Statistics Solutions, 2023). Using the independent variable of holding or not holding leadership roles while enrolled at a military school, and the dependent variable of holding or not holding leadership roles during a woman's career, the researcher ran a Spearman's rho (ρ) correlation analysis to determine whether a statistically significant positive correlation exists to associate holding leadership while in a military school with a higher likelihood of holding leadership roles during a woman's career. A scale of $r_s = 0$ to \pm

1 determines the association of the variables, with zero representing no relationship between the variables (Statistics Solutions, 2023).

The final research question is based on the open-ended survey questions identifying what positive outcomes of the military school experience exist according to female alumni perspectives. The survey included four questions to lend context to this research question. The first two deal with adversative education and its impact on women alumni, and the second two focus on leadership development outcomes, as well as perspectives at the time of graduation versus now. Once all surveys were completed, the researcher coded responses for common terms or themes using the QDA Miner Lite software as discussed below. This axial coding process reflects grounded theory where data analysis and theory development take place after the data is collected (Statistics How To, 2023). Frequency distributions were created for each of the four free-response questions to see which outcomes were most common among respondents and are found in Chapter Four. The coding scheme for each question included the following:

1. Did your military school utilize adversative education elements (leadership development elements that utilize physically and mentally stressful activities to achieve goals- i.e. new recruit training like plebe, knob, rat systems, cadre/OCS or other strenuous processes to achieve rank, punishment systems meant to affect desired behaviors)? If so, please list examples of these elements.

Codes:

- 1st Year Collegiate System
- Disciplinary Methods
- Cadre/OCS (Officer Candidate School) Training
- Recruit Training
- Other

2. How did the adversative elements impact your leadership development?

Codes:

- Mental Strength
- Personal Responsibility/Time Management
- Excel Under Pressure
- Confidence
- Resilience/Perseverance/Grit
- Leader/Follower/Team Dynamics
- Recognize Poor Leadership
- Shaped Me
- Gender Discrimination
- Other Impacts
- No Impact

3. What were the most valuable outcomes of your leadership development experience in military school?

Codes:

- Confidence
- Leader/Follower/Team Dynamics
- Recognize Poor Leadership
- Leadership Values
- Navigating Male-Dominated Environment
- Resilience/Perseverance/Grit
- Developing Others
- Self-Discipline
- Achievement Orientation
- Friendships/Connections
- Other Outcomes
- No Outcome

4. What did you think about these outcomes when you first graduated? What do you think about them now?

Codes:

- Disillusionment
- Appreciative
- Unique Experience
- Shaped Me
- No Change
- Delayed Appreciation
- Navigation of Male-Dominated Environments
- Unknown

The *Leadership Development School Demographic Survey* included three open-ended questions. These responses were not coded using the QDA Miner Lite software since the researcher received so few responses. Instead, she identified common themes through responses exported from Qualtrics to Microsoft Excel and discussed those in Chapter Four.

Validity

The present study was not tested against a non-military control group as part of this study, and no pretest for leadership perceptions before enrolling in a military school was given since all participants are already alumni that had completed a military school program. To aid in validity, the researcher instead compared the data across the two military schools in the study since they are nonequivalent in that one is a SMC and one is a secondary school, and neither are tied together by formal agreements or officially ascribe to the same leadership programming. Additionally, the researcher utilized comparison data from previous studies that validated the proposed instruments included in the study to compare overall averages for statistical significance (Judge et al., 2003; Wielkiewicz, 2000).

The data collection and analysis processes outlined in this chapter allow the study to be replicated, and for its results to transfer to other possible research. The researcher made

every effort to achieve accuracy in statistical testing and to avoid bias in interpreting results so that results could reliably be used to better understand women's leadership development outcomes perceptions as alumni of military schools, leading to improvements of leadership development programming and building a foundation for future research.

The researcher kept all data secure within the Qualtrics survey tool, SPSS, and personally secured Microsoft Excel sheets. Beyond cleaning data for errors and recoding women that attended both types of schools to "secondary school" attendees, no other changes were made to the data.

Conclusion

This chapter outlined the present study analyzing leadership development outcomes for women alumni of military schools. The study utilized a *Leadership Development School Demographic Survey* for key leadership of eight military colleges and schools and received contextual information of four secondary schools, two 2-year JMCs, and one 4-year SMC for a total of 7 valid survey responses. The *Leadership Development for Women Graduates of Military Schools Survey* included women alumni of one SMC and one secondary military school. Through including the Core Self-Evaluation Scale (CSES) (Judge et al., 2003), the Leadership Attitudes and Beliefs Scale-III (LABS-III) (Wielkiewicz, 2000), and researcher developed demographic and perceptions questions, the researcher procured the outcomes of 122 women graduates. The results of these surveys are discussed in Chapter Four.

Chapter Four: Results

The purpose of this study is to investigate perceptions of leadership development outcomes among women alumni from military institutions to measure if and how leadership development training influenced their leadership outcomes after graduation. The researcher sought to address the following research questions along with their subsequent hypotheses:

1. Do female graduates from military colleges and schools report higher-than-average levels of self-efficacy according to the Core Self-Evaluation Scale (CSES)?

H₀: There is no difference in the self-efficacy of female military school graduates and overall averages.

2. Using the Leadership Attitudes and Beliefs Scale (LABS-III), do women alumni of military colleges and schools exhibit higher levels of Hierarchical or Systemic (Authentic) Thinking regarding leadership?

H₀: There is no difference in the overall averages of Hierarchical versus Systematic Thinking in female military school graduates.

3. Does performing leadership roles while attending military school positively correlate to holding leadership roles during a woman's career?

H₀: There is no difference between the likelihood of holding leadership positions during a career for women that held leadership roles while in military schools.

4. What are the positive outcomes of the military school experience according to female alumni perspectives?

Leadership Development School Demographic Survey Results

The *Leadership Development School Demographic Survey* received seven valid responses. Of these, four noted they worked in a secondary school, two worked in a two-year Junior Military College (JMC), and one worked in a four-year Senior Military College (SMC). Responses to this survey did not reach the goal of 50% participation out of the 25 participant invitations sent. As seen in Table 2, the researcher evaluated the seven responses, and they included schools that were all founded in the 1800s and had adopted coeducation between 1970 and 1997. Each school ranged in size from less than 250 to 2000 students, with female enrollments between 11 - 40 %. Female leadership in these school ranged from 40 - 75% of the overall female enrollment. The researcher relied on respondent accuracy for all these statistics since she was unable to verify answers due to survey anonymity.

Table 2*School Demographics from Key Leaders*

	School Type	Year Founded	Coeducation Year	School Size	Female Enrollment	Percent of Female Leadership
1	Secondary	1852	1972	< 250	21 - 40%	51 - 75%
2	Secondary	1852	1972	< 250	21 - 40%	51 - 75%
3	Secondary	1899	1970	< 250	21 - 40%	21 - 30%
4	Secondary	1892	1974	251 - 500	21 - 40%	41 - 50%
5	2-Year MJC	1891	1977	501 - 1500	21 - 40%	51 - 75%
6	2-Year MJC	1842	1971	251 - 500	21 - 40%	41 - 50%
7	4-Year SMC	1842	1997	1501 - 2000	11 - 20%	11 - 20%

Note. Demographics are based on respondent knowledge and could not be verified by the researcher.

Among open-ended responses, no common leadership development model emerged, although some mentioned alignment with ROTC/JROTC structures being a significant part of leadership development programming. Most respondents noted adversative education elements like those listed by alumni respondents in Figure 1.

The final open-ended survey question on this survey asked if differences existed between leadership development for men and women. Most noted that no differences existed in the application of leadership development programming. In practice, some noted women filled leadership positions at higher rates than male cadets, and especially among secondary schools, women proved to be more mature with quicker and better aptitude for leadership. One respondent said, “Operationally, there are few differences since all cadets go through the

same activities to achieve leadership. In practice, female cadets tend to be more mature and organized than males, so if interested, they take to leadership more easily.” Another stated, “At the preparatory school level Female Leaders usually develop faster than their male counterparts...Female leaders tend to be more attuned with self-awareness, and influence.” A postsecondary respondent noted, “Females account for 25% of our corps but slightly over 50% of our leadership. Females are more likely to take an active role in leadership and have higher GPAs than males.”

Some also noted the perception that women needed to work harder to achieve leadership positions than men. For example, a postsecondary respondent shared, “We don't see distinct gender differences in leadership development. We do see differences, or at least the perception, that females feel the need to work harder/smarter in order to be placed into a leadership position.”

Leadership Development for Women Graduates of Military Schools Survey

The *Leadership Development for Women Graduates of Military Schools Survey* conducted in this study collected 122 valid responses. Of these, 50 noted they graduated from a secondary military school, and 55 noted that they attended an undergraduate school, or SMC. Three respondents noted they attended both types of institutions, but their responses were recoded to attending a secondary military school as discussed in Chapter Three. Some respondents only completed the CSES scale, while others only completed the CSES and LABS-III scales. The researcher retained these semi- complete responses in the survey analysis, and that accounts for the differences in sample sizes for each research question. Respondents were allowed to opt out of any questions except the survey consent question. With the number of respondents, the researcher met the survey respondent goal for each

school of 50 participants. Below are the results of the survey based on each of the four research questions.

Research Question One

In testing whether female graduates from military colleges and schools reported higher-than-average levels of self-efficacy according to the Core Self-Evaluation Scale (CSES) (Judge et al., 2003), the researcher divided and tested the data in five groups. These groups included: (1) all women graduates that completed the CSES, (2) those that attended the secondary military school, (3) those that attended the undergraduate military school, and (4) those that noted they held leadership positions “Almost Always” during their attendance at these schools, testing them against (5) the mean CSES scale scores found in Judge et al. (2003) study that developed the CSES scale and tested its validity. The CSES scale means were not differentiated based on gender. Groups two and three come from a survey question asking what type of school they attended, whether secondary, undergraduate (SMC), or both. Group four resulted from an ordinal survey question asking how often they held leadership positions during their time as a student. The researcher chose to include only the response “Almost Always,” the most frequent leadership option, in the groupings for self-efficacy because these students would have the highest rates of leadership development experience. Leadership development was associated with higher self-efficacy in the literature discussed in Chapters One and Two (Dugan & Komives, 2007; Haber-Curran et al., 2018; Huszycz & Endres, 2017; Rosch et al.; 2017).

The descriptive statistics for each group that completed the CSES can be found in Table 3 below. The sample sizes reflect how many respondents completed the CSES survey questions, as well as those that notated whether they attended a particular type of military

school. All means were lower than the mean found in the Judge et al. (2003) study except in the case of women graduates that held leadership positions “Almost Always.” The women that “Almost Always” held leadership as students met but did not exceed the mean of the Judge et al. (2003) study.

Table 3

CSES Scores by Category

Group	<i>N</i>	<i>M</i>	<i>SD</i>
All Graduates	122	3.74	0.96
Secondary ^a	50	3.76	1.00
Undergraduate ^a	55	3.74	0.88
Almost Always Leader ^b	41	3.87	0.90
Control Group (Judge et al., 2003)	1051	3.87	0.53

Note. Total sample sizes vary across all groups except the control group due to missing data in some surveys.

^aTotal sample size of groups two and three together was 105.

^bTotal sample size for how often leadership was held equaled 102.

After conducting a one-sample *t*-test that compared the mean scores for each survey group to those found in the Judge et al. (2003) study, the null hypothesis (H_0) for research question one was retained (see Table 4). Though all averages were lower than the mean found in the original study except in the case of women graduates that held leadership positions “Almost Always,” none of the differences were statistically significant using $\alpha = .05$. Effect sizes using Cohen’s *d* were also not significant.

Table 4*One Sample t-Test for CSES*

Group	<i>t</i>	<i>df</i>	<i>p</i>	Mean Difference	95% CI for Mean Difference		Cohen's <i>d</i>
					Lower	Upper	
All Women	-1.62	121	0.10	-0.13	3.29	3.92	-0.17
Secondary	-0.78	49	0.43	-0.11	3.43	4.09	-0.14
Undergraduate	-1.18	54	0.24	-0.13	3.43	4.05	-0.18
Almost Always Leader	0.00	40	1.00	0.00	3.54	4.2	0.00

Research Question Two

Using the Leadership Attitudes and Beliefs Scale (LABS-III) (Wielkiewicz, 2000), the researcher tested whether women alumni of military colleges and schools exhibited higher levels of Hierarchical Thinking or Systemic Thinking (associated with Authentic Leadership) regarding leadership than the mean scores found in the Wielkiewicz (2000) study that developed the scale and tested its validity. The researcher tested the data of (1) all survey participants, (2) those that attended the secondary military school, (3) those that attended the undergraduate military school, and (4) those that noted they held leadership positions “Almost Always” during their attendance at these schools against the (5) mean Wielkiewicz (2000) LABS-III scores for the Hierarchical Thinking scale and the Systemic Thinking scale. For every grouping, women graduates showed lower mean scores than the LABS-III control scores on both scales in all but one instance, that being the Hierarchical Thinking score for the public university tested in the Wielkiewicz (2000) study (see Table 5). The two school types listed in Table 5 include a Representative Sample which included “two private,

Catholic, single-sex, liberal arts campuses,” and a Public University from the Midwest (Wielkiewicz, 2000, p. 337). As discussed in Chapter Three, lower scores equal higher agreement with either scale.

Table 5*LABS-III Scores by Category and Scale*

Group	Scale						
	Hierarchical Thinking			Systemic Thinking			
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	
All Graduates	109	40.13	13.35	109	22.83	8.79	
Secondary ^a	50	38.68	13.70	50	22.24	8.68	
Undergraduate ^a	55	41.26	11.96	55	23.01	8.82	
Almost Always Leader ^b	41	40.22	13.40	41	21.54	8.60	
Control Groups (Wielkiewicz, 2000)							
	Scale ^c		42.33	7.33		27.41	6.55
	Gender						
	Male	243	40.57	6.12	243	28.35	6.77
	Female	309	43.64	7.37	309	26.57	6.12
	School Type						
	Rep. Sample	552	42.30	7.67	552	27.36	6.47
	Pub. Un.	102	39.34	10.17	102	24.34	6.61

Note. Total sample sizes vary across all groups except the control group due to missing data in some surveys.

^aTotal sample size of groups two and three together was 105.

^bTotal sample size for how often leadership was held equaled 102.

^cThere was no sample size listed for the scale means in the Wielkiewicz (2000) study.

For the one-sample *t*-test, the researcher focused on comparing the study groupings to the LABS-III scale means and female means only. The null hypothesis (H_0) was rejected because there was a significant difference in the scores on both scales in almost every grouping when compared to the control groups, especially for the Systemic Thinking Scale. Women alumni respondents showed slightly higher mean agreement for Hierarchical Thinking, with some groupings being statistically significant when $p < .05$, and significantly higher Systemic Thinking agreement in every category with all groupings being statistically significant with $p < .05$. Women that served in leadership “Almost Always” showed the highest levels of agreement on both scales. Effect sizes using Cohen’s *d* remained small for the Hierarchical Thinking scale but ranged from medium to large on the Systemic Thinking scale (see Tables 6 - 9). The larger effect sizes on the Systemic Thinking scale suggest that the actual differences between each grouping of women respondents and the control groupings is significant overall.

Table 6 shows no statistically significant differences for military school women graduates on the Hierarchical Thinking scale when compared with the LABS-III scale score mean. Although the actual means for women graduates were slightly lower in every grouping, showing higher agreement with hierarchical styles of leadership, graduating from hierarchical military schools did not cause them to agree significantly more with hierarchical forms of leadership than those from other contexts.

Table 6*One Sample t-Test for LABS-III Hierarchical Thinking Scale Scores*

Group	<i>t</i>	<i>df</i>	<i>p</i>	Mean Difference	95% CI for Mean Difference		Cohen's <i>d</i>
					Lower	Upper	
All Women	-1.70	108	0.09	-2.20	37.14	43.12	-0.21
Secondary	-1.89	49	0.06	-3.65	34.05	43.31	-0.34
Undergraduate	-0.66	54	0.51	-1.07	37.42	45.10	-0.11
Almost Always Leader	-1.00	40	0.32	-2.11	33.21	47.23	-0.20

Note. Scale $M = 42.33$ with SD of 7.33.

Table 7 demonstrates that women graduates showed stronger agreement with systemic forms of leadership and that these differences were statistically significant across all groupings when compared to the LABS-III scale score mean. Women who “Almost Always” held leadership had the largest effect size of $-.77$, suggesting that even after working within hierarchical leadership positions, they maintained the strongest agreement with systemic forms of leadership.

Table 7*One Sample t-Test for LABS-III Systemic Thinking Scale Scores*

Group	<i>t</i>	<i>df</i>	<i>p</i>	Mean Difference	95% CI for Mean Difference		Cohen's <i>d</i>
					Lower	Upper	
All Women	-5.46	108	0.00***	-4.59	20.84	24.80	-0.59
Secondary	-4.23	49	0.00***	-5.17	19.32	25.16	-0.67
Undergraduate	-3.69	54	0.00***	-4.40	20.17	25.85	-0.57
Almost Always Leader	-4.38	40	0.00***	-5.87	18.30	24.78	-0.77

Note. *** $p < .001$. Scale $M = 27.41$ with SD of 6.55.

Table 8 shows whether Hierarchical Thinking Scores as compared to the LABS-III female score mean were statistically significant. The female score mean of 43.64 was higher than the LABS-III scale score mean of 42.33, suggesting that women in the Wielkiewicz (2000) study showed slightly less agreement with hierarchical forms of leadership. In the present study, there is statistical significance for the groupings of “all women alumni” and “women alumni of secondary schools” when compared to the LABS-III female scale score mean, suggesting military school women have higher levels of agreement with hierarchical forms of leadership. The effect sizes using Cohen’s *d* remained between small to medium for an overall minimal significance.

Table 8*One Sample t-Test for LABS-III Hierarchical Thinking Female Scores*

Group	<i>t</i>	<i>df</i>	<i>p</i>	Mean Difference	95% CI for Mean Difference		Cohen's <i>d</i>
					Lower	Upper	
All Women	-2.72	108	0.00***	-3.51	37.14	43.12	-0.33
Secondary	-2.56	49	0.01*	-4.96	34.05	43.31	-0.47
Undergraduate	-1.47	54	0.14	-2.38	37.42	45.10	-0.24
Almost Always Leader	-1.63	40	0.11	-3.42	33.21	47.23	-0.32

Note. * $p < .05$, ** $p < .01$, *** $p < .001$. Female $M = 43.64$ with SD of 7.37.

Table 9 shows whether the Systemic Thinking score means as compared with the LABS-III female score mean were statistically significant. All groupings of survey respondents showed statistically significant higher agreement with systemic forms of leadership than those of women outside the military school context. Using Cohen's *d*, all effect sizes were medium to large meaning that these results are significant overall. Again, the highest effect size was seen with women holding leadership "Almost Always," showing that women operating most often within hierarchical leadership positions while students held the strongest systemic thinking agreement.

Table 9*One Sample t-Test for LABS-III Systemic Thinking Female Scores*

Group	<i>t</i>	<i>df</i>	<i>p</i>	Mean Difference	95% CI for Mean Difference		Cohen's <i>d</i>
					Lower	Upper	
All Women	-4.46	108	0.00***	-3.75	20.84	24.80	-0.50
Secondary	-3.54	49	0.00***	-4.33	19.32	25.16	-0.58
Undergraduate	-2.99	54	0.00***	-3.56	20.17	25.85	-0.47
Almost Always Leader	-3.75	40	0.00***	-5.03	18.30	24.78	-0.68

Note. *** $p < .001$. Female $M = 26.57$ with SD of 6.12.

Research Question Three

To test whether performing leadership roles while attending military school positively correlated to holding leadership roles during a woman's career, the researcher conducted a Spearman's rho (ρ) correlation analysis of the ordinal survey data questions asking if the respondent held leadership while a student at military school and if they have held a leadership position during their career. Table 10 shows the null hypothesis (H_0) was rejected because there was a statistically significant positive relationship between holding leadership as a student in military school and holding a leadership role in one's career when $\alpha = .05$. While statistically significant, the degree of correlation remained weak at .23. The low degree of correlation may result from not all women pursuing careers after graduation since some opt to raise families instead. Of the ordinal responses to the question of how often a woman held leadership while a student, the means for holding leadership as a student of 2.97 and holding leadership during one's career of 3.16 show that over half of survey respondents

have held leadership roles “Often” or “Almost Always” while a student and during their careers.

Table 10

Spearman’s Rho (ρ) Correlation Between Holding Leadership Roles

Variable	1	2
1. Leadership as Student	—	
2. Leadership in Career	0.23*	—

Note. $N = 102$ (Variable 1) and 97 (Variable 2). $*p < .05$ (2-tailed).

Research Question Four

The final research question was qualitative in nature since the responses were open-ended. To determine the positive outcomes of the military school experience according to female alumni perspectives, the researcher coded respondents’ answers using the QDA Miner Lite software by grouping responses based on common terminology or themes and using the software to create frequency graphs of the response codes for each question as discussed in Chapter Three. To gauge outcomes, the researcher asked four open-ended questions. The questions were:

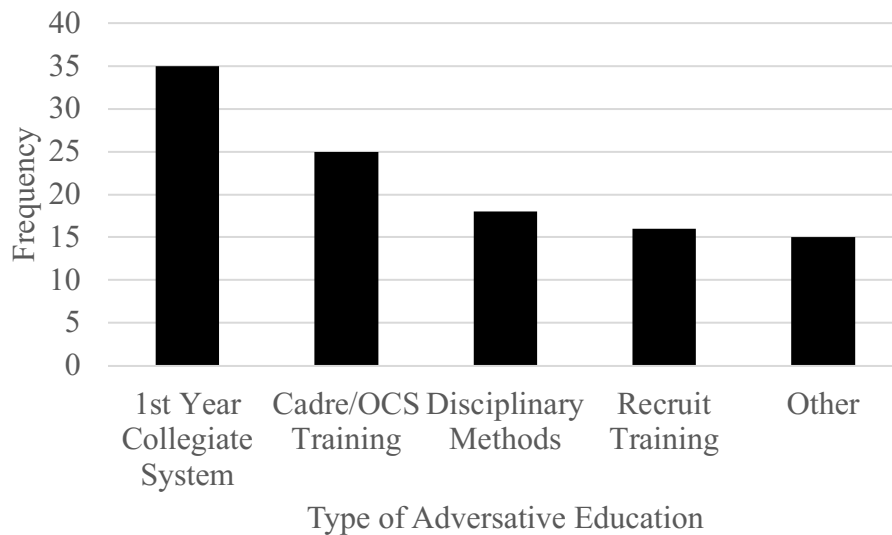
1. Did your military school utilize adversative education elements (leadership development elements that utilize physically and mentally stressful activities to achieve goals- i.e., new recruit training like plebe, knob, rat systems, cadre/OCS or other strenuous processes to achieve rank, punishment systems meant to affect desired behaviors)? If so, please list examples of these elements.

2. How did the adversative elements impact your leadership development?
3. What were the most valuable outcomes of your leadership development experience in military school?
4. What did you think about these outcomes when you first graduated? What do you think about them now?

Open-Ended Question 1. Of the 106 responses to an earlier survey question of whether their school contained adversative elements, 85.8% responded yes ($n = 91$), while 14.2% responded no or unsure ($n = 15$). Respondents that answered “Yes” were then asked to list examples of adversative elements used in their military school. The researcher then coded responses into the five categories. Figure 1 shows a bar graph highlighting the frequency of codes relevant to the type of adversative education elements in responses. These responses mirror the unique programming of each school in the study. Many respondents noted multiple examples of adversative education. The most common category was the first-year collegiate system. This likely reflects the more prescribed and longstanding programming of the undergraduate (SMC) school in the study, while the secondary school’s programming has shifted in name and application over the years.

Figure 1

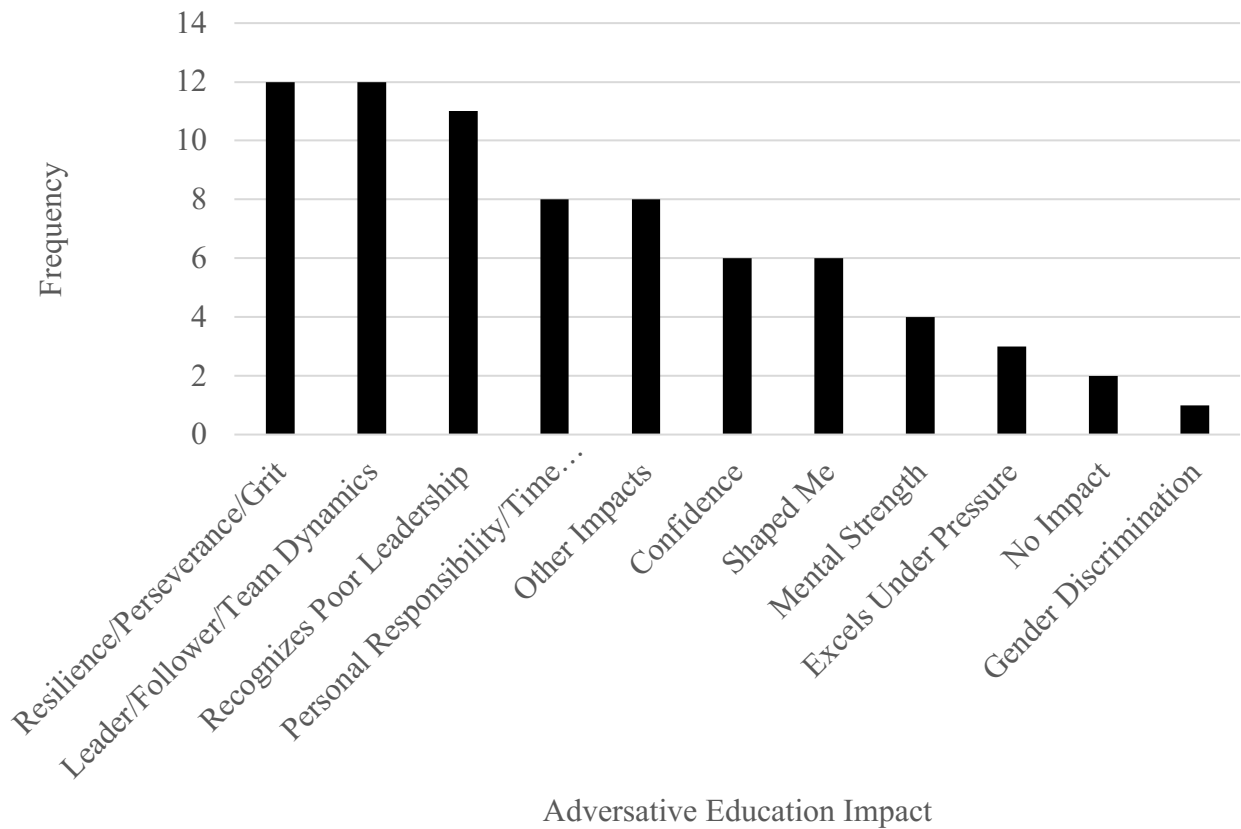
Types of Adversative Education (N = 92).



Open-Ended Question 2. Figure 2 sheds light on women graduates’ perspectives on the value of adversative education in their leadership development. The researcher categorized respondents’ answers into common themes as seen in the chart. Respondents often listed multiple impacts of adversative education. The most common categories indicated that the adversative education elements helped them to develop resilience, perseverance, and grit, with several noting that they draw on those experiences to face all life’s challenges.

Figure 2

Impact of Adversative Education (N = 92)



Note. The fourth listed Impact code above is Personal Responsibility/Time Management.

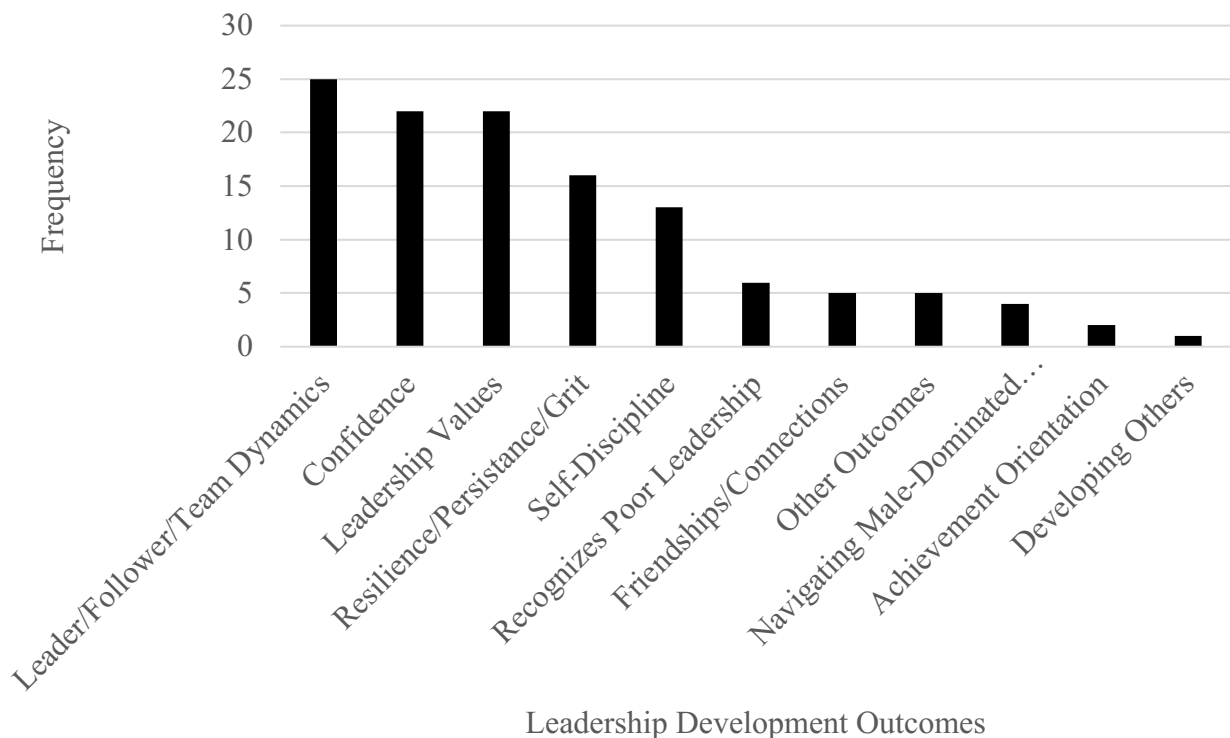
One respondent said, “They helped me develop perseverance and strengthen my own belief in myself. Pushing through showed me how to adapt to different situations.” Equally important were the lessons learned of leader, follower, and team dynamics, although nearly as many respondents noted they learned more about what not to do as a leader than they did about positive leadership. Examples of this dichotomy are seen in responses, such as, “They shaped me more than any formal leadership class could have,” or “It taught me what not to do going forward; these elements need a purpose to have positive affect. Nothing should be

done adversarially (sic) if the sole reason is simply ‘because it’s always been done that way.’” The negative responses, such as learning what not to do as a leader or facing gender discrimination were more common on the undergraduate level than the secondary level.

Open-Ended Question 3. Figure 3 below highlights more general information about leadership development outcomes. Again, the researcher coded responses into common themes, and respondents’ answers often fell into multiple themes. Most common were the lessons about leader, follower, and team dynamics, as well as various leadership values like integrity.

Figure 3

Leadership Development Outcomes (N = 92)



Note. Outcome code nine above is Navigating Male Dominated Environments.

One respondent noted:

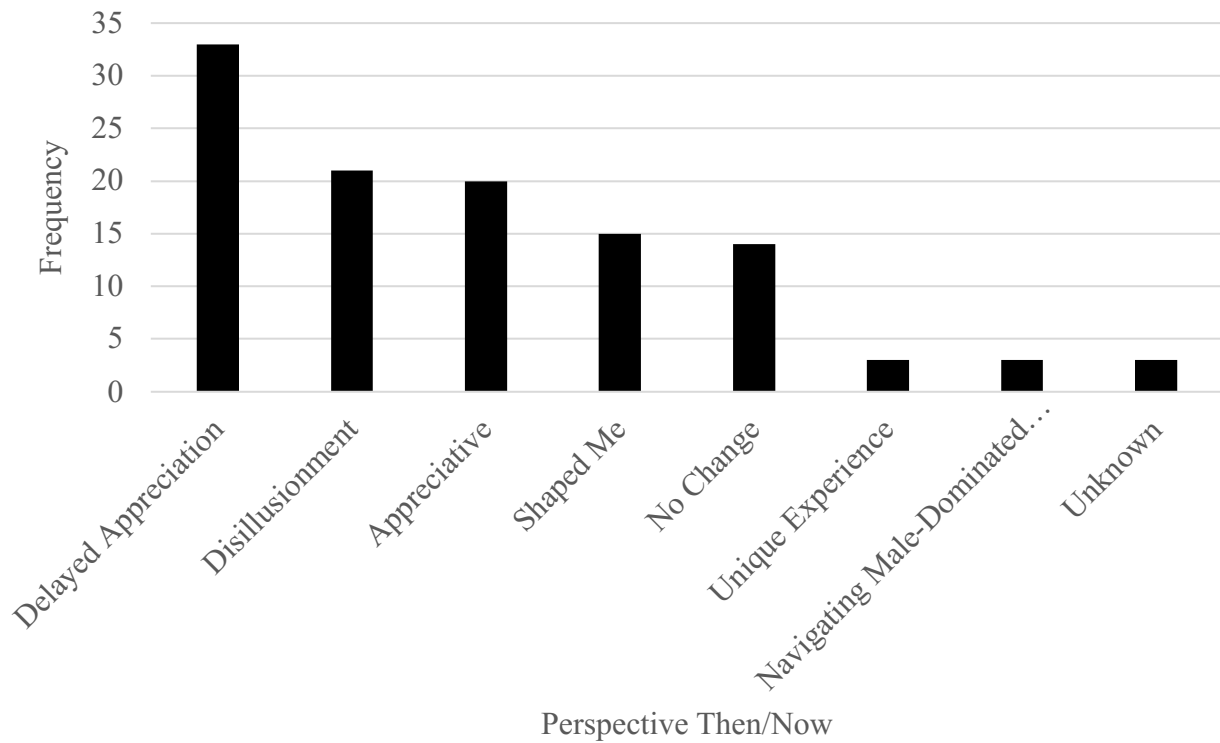
Having the ability to test my leadership styles out in military school meant I had 4 years of experience more than my peers when starting in a professional environment. I walked into adulthood knowing what type of leader I was, and more importantly, with the standards of leadership I wanted to emulate from my mentors in school.

Another key response from many women noted the positive outcome of confidence in themselves and their abilities like one respondent that said, “It made me confident that I have what it takes to get through hard things. If I could get through Cadre/OCS/recruit training, I can get through a hard interview or a presentation.” Another stated that she gained “confidence as a woman in what was at the time, a man's world.” An interesting outcome, though only noted a few times, was that of learning to navigate male-dominated environments more effectively. For example, a respondent wrote, “I learned how to not be offended by men -a skill that has helped me more in life than anything else.”

Open-Ended Question 4. Figure 4 highlights whether perspectives on outcomes changed over time for respondents. Since respondents ranged in graduation years from 1977 to 2022, it was reasonable to suspect that respondents’ perspectives might change over time. The researcher coded responses into common themes based on responses, and many respondents’ answers fit within multiple themes.

Figure 4

Perspective Then and Now (N = 92)



Note. Outcome code seven above is Navigating Male Dominated Environments.

Many responses were outright positive in sharing their school’s impact without noting a shift over time. Respondents noted, “I value my military school experience above my college degree as that experience has served me more practically speaking than anything I’ve ever learned in school,” or “They (sic) lessons learned are still valid today, 20+ years later in my line of work,” and “This has been extremely helpful in the corporate world.”

Overall, results supported the hypothesis that perspectives would change with time as seen through the most common response that these women failed to fully grasp the positive impact of their experience until later, especially after experiencing leadership dynamics in

the civilian sector or the military. According to one respondent, “I didn’t think it was impactful until I realized I was using the skill sets acquired each day.”

Another common response, particularly among the undergraduate group, was a feeling of disillusionment with their military school experience, particularly soon after graduation as they initially entered employment. One respondent noted:

I was a little disillusioned with my experience when I first graduated because the message that opportunities would automatically open up when I graduated did not come to be. Now, I much more appreciate the lessons I learned, as well as the unique experience I endured and how that shapes my leadership now.

Many noted the causes of this disillusionment as stemming from disproportionately negative treatment as students or as alumni, as well as a feeling that their unique experience did not bring the immediate recognition in employment sectors after graduation. One said, “I resented my alma mater initially because I did not feel valued or respected largely due to gender during my time there.” Of those that noted disillusionment, though, many also remarked on the delayed appreciation of their experience like one that wrote, “When I first graduated, I still resented the misogynistic and sexist experiences I endured. Now, I think of those experiences less, and can appreciate the leadership experience more.”

Conclusion

This chapter discussed the results of two surveys administered as part of this research study to understand leadership development outcomes for women graduates of military schools. The *Leadership Development School Demographic Survey* added context to the overall research by identifying various demographic aspects of similar schools to those included in the study. The *Leadership Development for Women Graduates of Military*

Schools Survey examined women's self-efficacy using the CSES (Judge et al., 2003), and Authentic Leadership through Hierarchical Thinking and Systemic Thinking measures found in the LABS-III (Wielkiewicz, 2000). The survey also allowed the researcher to test for correlations in leadership as a student and leadership in a woman's career. Finally, the survey allowed participants to express their perceptions of leadership development outcomes. Chapter Five will discuss these results, making recommendations for future research.

Chapter Five: Conclusions

This mixed methods study investigated perceptions of leadership among women alumni from two military institutions to measure if and how leadership development training influenced their leadership outcomes after graduation. The researcher conducted two surveys, one for key leaders of traditional, coeducational military schools, and one for women alumni of a secondary and an undergraduate Senior Military College (SMC). In the *Leadership Development School Demographic Survey*, the researcher strove to understand the leadership development programming of various traditional, coeducational military schools, as well as see if school leaders perceived differences in leadership development among male and female students. The *Leadership Development for Women Graduates of Military Schools Survey* included the CSES (Judge et al., 2003) to measure self-efficacy, the LABS-III (Wielkiewicz, 2000) to measure Authentic Leadership through Hierarchical Thinking and Systemic Thinking scales, and a set of demographic questions that included four open-ended response questions to determine women graduates' perceptions of leadership development outcomes. Through this survey, the researcher tested if women alumni of military schools exhibited higher than average self-efficacy, higher than average Hierarchical and Systemic, or Authentic, conceptions of leadership, and whether holding leadership while a student correlated to holding leadership during a woman's career. Finally, the researcher sought women's perceptions of their leadership development outcomes to create a more complete picture of graduates' experiences.

The following chapter discusses both surveys' results found in Chapter Four, examines their significance to the literature on military schools and leadership development more generally, and makes recommendations for its application and possible future research.

The following section addresses the results found in this study for self-efficacy, authentic leadership, leadership correlation, and women graduates' perceptions.

Self-Efficacy

One major marker of leadership development is self-efficacy (Huszczko & Endres, 2017). Women's levels of self-efficacy significantly impact their leadership trajectories in the short- and long-term since it may cause them to alter choices around involvement in leadership and leadership development training (Haber-Curran et al., 2018). Military schools develop the self-efficacy and motivation cited as key for women (Huszczko & Endres, 2017; Rehm, 2014; Rosch et al., 2017). Women's focused development in a military school context can avoid the negative impact low self-efficacy can have on their leadership trajectories in the short- and long-term (Haber-Curran et al., 2018).

The present study confirmed that women alumni are on par with self-efficacy rates of those in other contexts overall. Women graduates in all groupings, including (1) all graduates, (2) secondary graduates, (3) undergraduates (SMC), or (4) women that held leadership "Almost Always" as students did not show statistically significant differences in self-efficacy rates according to the CSES when compared to the Judge et al. (2003) scale mean. The only grouping that met the CSES scale mean was women that held leadership "Almost Always." Although women respondents failed to exceed mean self-efficacy rates, the lack of statistical significance in difference suggests military school women's results are consistent with averages across sexes since the Judge et al. (2003) study did not disaggregate for gender, and the researcher could not make a direct comparison to women in other contexts. The research suggests women have lower self-efficacy rates overall, so it is

plausible that military school women meet or exceed average self-efficacy for women in other contexts (Huszczko & Endres, 2017).

Another consideration to the results is whether women chose these schools to build up low self-efficacy. Especially on the secondary level, many students enroll in military schools because they struggle in other school contexts, falling through the cracks academically or behaviorally, which can be associated with low self-efficacy (Jordan, 2021a). Testing self-efficacy over time may suggest women make significant increases unseen by raw outcomes data. This may account for the frequent open-ended responses where women noted that military schools built their confidence, grit, and perseverance, traits that can be associated with self-efficacy. As one respondent noted, “It made me confident that I have what it takes to get through hard things.” These responses corroborate the work of leadership development in military schools to build self-efficacy among all students, but that may be particularly beneficial for women in their ranks (Gignilliat, 1916; Graff & Murray, 2021; Jordan, 2021b; Tate, 2021).

Authentic Leadership

Van Linden and Fertman (1998) defined leaders as people “who think for themselves, communicate their thoughts and feelings to others, and help others understand and act on their own beliefs; they influence others in an ethical and socially responsible way” (p. 17). Since the 1980s, the bulk of leadership research has focused on the New Leadership School, comprising the greater paradigm of postindustrial leadership, a belief that leaders are made and that leaders operate within and without traditional hierarchical positions (Antonakis & Day, 2018; Shim, 2013).

Of these postindustrial leadership theories, Authentic Leadership encompasses some of the most recent research with its inclusion of subordinates in decision-making. Whitehead (2009) defined an authentic leader as:

One who: (1) is self-aware, humble, always seeking improvement, aware of those being led and looks out for the welfare of others; (2) fosters high degrees of trust by building an ethical and moral framework; and (3) is committed to organizational success within the construct of social values. (p. 850)

Jordan (2021c) further described Authentic Leadership as a mission- and people-focused middle ground that does not require the leader to embody all strengths needed for leadership when initially undertaking positional leadership.

Women show more success with modern frameworks like Authentic Leadership (Hoyt & Kennedy, 2008; Shim, 2013; Lewis, 2020). This study supported these earlier findings through the results of the LABS-III (Wielkiewicz, 2000) Hierarchical Thinking and Systemic Thinking scales. Military school women showed statistically significant, higher than average Systemic Thinking even when compared with women in other contexts. Whether they were taught these systems while in military school or not, the study findings suggest that military schools either are implementing Authentic Leadership constructs, or they need to start.

The LABS-III (Wielkiewicz, 2000) results testing Authentic Leadership through Hierarchical Thinking and Systemic Thinking scales represented some of the most surprising and significant findings of the study. Military schools are historically hierarchical organizations, operating through strict chains of command. Failing to follow this hierarchy can risk punishment. Jordan (2021b) discussed the evolution of military school theoretical

models from the Traditional American Military Education Model (TAMEM) to his proposed Modern American Military Education Model (MAMEM). Where the TAMEM seeks to force development through a strict environment with or without intentional individual buy-in, the MAMEM instead focuses on the formation, or “dynamic process of willing integration” of character, discipline, leadership, and respect through an environment that encompasses academic excellence, ethical leadership, and physical wellness (Jordan, 2021b, p. 124). Graff and Murray (2021) argued this is one of the reasons why a military school education is effective; the experiential leadership model found in these schools supports the holistic approach championed by these schools.

Whether a TAMEM or a MAMEM, all military schools operate within a rank structure, both among students and adult staff, that lends order and stability to these schools (Jordan 2021b). Having been trained in such environments suggests that women graduates would exhibit stronger agreement with hierarchical styles of leadership. On the contrary, these results were not significantly higher when α was set to equal .05 in almost all groupings, meaning that when compared with peers in other contexts, military school women have negligibly higher agreement with Hierarchical leadership.

What was statistically significant across all groupings was agreement with Systemic styles of leadership. Systemic leadership “reflect[s] an ability to relate a variety of ideas and concepts to organizational success, such as ethics, the need for cooperation of all individuals to help the organization accomplish goals, the need for long-term thinking, and the need for organizational learning” (Wielkiewicz, 2000, p. 341). Such styles seem contrarian to how military schools operate but reflect the research on the move to the MAMEM and the Authentic, or shared-leadership, model (Jordan, 2021c; McNae, 2015).

What is still unclear is why women graduates of military schools exhibit such high agreement with Systemic Thinking. Two possibilities emerge. Since the women respondents were graduates, and ranged from recently graduated to 50 years graduated, they may have chosen to reject the Hierarchical Thinking styles encountered while students, opting for Systemic Thinking in their careers. The open-ended responses expressing that some women learned more about what not to do as leaders may substantiate this possibility, such as “It taught me what not to do going forward; these elements need a purpose to have positive affect. Nothing should be done adversarially (sic) if the sole reason is simply ‘because it’s always been done that way.’”

Another likely reason, due to the number of women that joined the military or other hierarchical corporate organizations after graduation, is that women were taught or may have found ways to operate systemically within the established hierarchical system while students, reflecting the MAMEM that incorporates Authentic Leadership elements (Jordan, 2021c). For example, several women expressed they learned team dynamics in their leadership development experiences in military school. One said, “Teamwork...reliance on one-another, trusting your support system (peers, roommates).” Teams operate within a hierarchy while incorporating input and strengths of individuals in the team, reflecting Authentic, or Systemic, Leadership traits (Wielkiewicz et al., 2012).

Leadership Potential

The results for research question three, which was to examine whether a correlation exists between holding leadership as a student and holding leadership during a career, was positively correlated to a statistically significant degree. This affirms the research that leadership development efforts beginning in adolescence or young adulthood does help

women avoid the “leaky pipeline” (Shapiro et al., 2015, Van Linden & Fertman 1998). One respondent acknowledged this saying, “Having the ability to test my leadership styles out in military school meant I had 4 years of experience more than my peers when starting in a professional environment.”

Although positively correlated, the weak degree of correlation, $r = .23$, may not tell the full story of women graduates that pursue careers. As research suggests, barriers still exist to women in leadership, namely the desire to raise families, which continues to fall disproportionately to women (Rhode, 2016). Military school women represent this societal reality regardless of whether they pursued leadership roles as a student. Additionally, other barriers like lack of leadership opportunities in a field or corporate institutional biases favoring men, may also account for lower degrees of leadership attainment within a career. As a result, the positive correlation is meaningful, and shows that leadership development programming benefits women graduates of military schools.

Women Graduates’ Perceptions

Through four open-ended questions, women graduates shared their perspectives on adversative education and its impact, as well as their leadership development outcomes and perspectives at the time of graduation and now. The first two questions dealt with adversative education, an element of both traditional and modern military schools, particularly on the postsecondary level. Adversative educational elements include leadership development activities that utilize physically and mentally stressful programming to achieve developmental goals.

Adversative education stoked mixed reviews in the survey, with many women noting its value in developing resilience, perseverance, and grit, while others described they learned

more about what not to do as a leader than they did about positive leadership. This dichotomy was also seen in the literature on adversative education where several scholars expressed its potential harm, resulting in hazing, power abuse, the perpetuation of gender stereotyping, or sexual harassment and assault (Bayard de Volo & Hall, 2015; Do & Samuels, 2021; Faludi, 2000). Although, arguments against adversative education are strong, particularly when viewed by outsiders, the stated goals of these programs, such as building followership, camaraderie, and perseverance promote these programs if implemented effectively as expressed by survey respondents. Such mixed reviews, including those articulated in the study, suggest that when implemented well, women see its value to their leadership development, but when used to justify hazing, isolation, or abuse of power, women reject its tenets.

Of the more general leadership development outcomes, lessons about leader, follower, and team dynamics, leadership values, and confidence corroborate evidence of strong self-efficacy and Systemic Thinking tested in this study. To a lesser degree, the ability to navigate male-dominated environments supports the research by several scholars advocating for focused skill-building within these contexts as necessary for leadership success in the future (Boatwright & Egidio, 2003; Haber-Curran et al., 2018; Schaller, 2005; Shapiro et al., 2015; Shepherd & Horner, 2010; Wielkiewicz et al., 2012). Modern military schools continue to be male-dominated environments since women's enrollment numbers vary from 10 - 40% (Coulter, 2021). Several studies suggested the need for women to learn skills in navigating these male-dominated contexts (Boatwright and Egidio, 2003; Haber-Curran et al., 2018; Schaller, 2005; Shapiro et al., 2015; Shepherd & Horner, 2010; Wielkiewicz et al., 2012). Military colleges and schools are perfectly suited to accomplish

this goal, especially if they consider gender's influence within their leadership development programs, and they can plug the "leaky pipeline" to upper leadership positions down the road through the merging of postindustrial conceptions of leadership and the traditional, hierarchical constructs generally associated with military environments (Shapiro et al., 2015).

Finally, the researcher sought to understand whether perspectives on outcomes changed over time for respondents. Since respondents ranged in listed graduation years from 1977 to 2022, it was reasonable to suspect that respondents' perspectives might change over time. Most respondents expressed a growing appreciation of their military school experiences through the years. This is especially likely on the secondary level because many students are sent to military school by their parents, whether their choice or not, making it harder to see the benefits until they mature and gain life experience.

Although postsecondary students choose to attend a military college, these environments are so unique that it is reasonable to assume that expectations may be mismatched to actual experiences. Add gender dynamics to that, and the disillusionment respondents expressed makes more sense, as one noted, "When I first graduated, I still resented the misogynistic and sexist experiences I endured. Now, I think of those experiences less, and can appreciate the leadership experience more."

Key Leader Perspectives

Among open-ended responses on the *Leadership Development School Demographic Survey*, no common leadership development model emerged, although some mentioned alignment with ROTC/JROTC structures being a significant part of leadership development programming. Most respondents noted adversative education elements like those listed by

alumni respondents, but the lack of cohesion in leadership development models is problematic since it implies that even top leadership are unsure of how their leadership programming developed and how it might be updated. Additionally, an unclear leadership development foundation makes it harder to test and address changes that would make these programs more successful. Since all military schools embody specific foci within their mission and vision statements, there will be slight differences in leadership development programming. Regardless, since these schools all incorporate several similar elements, a cohesive theoretical basis should be known to all, especially among key leaders. Otherwise, a school cannot effectively meet the holistic leadership development goals of the MAMEM (Jordan, 2021b).

The final open-ended survey question asked if differences existed between leadership development for men and women. Most noted that no differences existed in the application of leadership development programming. In practice, some noted women filled leadership positions at higher rates than male cadets, and especially among secondary schools, women proved to be more mature with quicker and better aptitude for leadership. This corroborates Mullen's and Tuten's (2004) research with adolescents, noting that girls exhibit more maturity and aptitude than boys.

The high rates of female leadership participation versus their overall enrollment percentages, not only supports these claims, but also suggests strong self-efficacy and a valued place within the MAMEM (Jordan, 2021b). For example, a postsecondary respondent noted, "Females are more likely to take an active role in leadership and have higher GPAs than males." Despite this, the work of fully and effectively integrating women into military school leadership development programming continues since perceptions, such as "females

feel the need to work harder/smarter in order to be placed into a leadership position” still perpetuate.

Addressing the Gaps

The present study addressed several gaps in leadership development for women in military schools. This is the first study of its kind on the adolescent level, addressing outcomes for women graduates of secondary military schools. Virtually all current studies addressing military school women researched postsecondary women mainly within the academies.

Second, this study expanded the discussion of military school women’s self-efficacy and perceptions of effective leadership. Although the CSES (Judge et al., 2003) results did not find a statistically significant difference in self-efficacy for women graduates of military schools, much more work needs to be done to better understand this trait to find if military school women differ from women in other contexts, and whether military school women build self-efficacy over time while students in these schools. This study succeeded in showing that military school women are on par with those in other contexts as found in the Judge et al. (2003) study, suggesting military schools do not harm women’s development of self-efficacy overall.

The LABS-III (Wielkiewicz, 2000) results support earlier research encouraging the MAMEM and Authentic forms of leadership (Graff & Murray, 2021; Jordan, 2021b). While military school women have slightly higher agreement with Hierarchical forms of leadership, these findings are not statistically significant in most cases when compared with those in other contexts as studied by Wielkiewicz (2000). What is statistically significant is that across-the-board military school women have much higher rates of agreement with Systemic

forms of leadership. The highest rates of significance were found among women that held leadership as students “Almost Always.” This suggests that despite operating within the constraints of a hierarchical military system, military school women strongly gravitate to Systemic, or Authentic, forms of leadership. Thus, this study fills a necessary gap of quantifying the findings of Jordan (2021c) that the MAMEM and Authentic Leadership development best fits these schools, particularly on the adolescent level.

Both scales, as well as the correlation analysis of leadership as a student and leadership during a career begin to fill the gap of empirical research within military schools in general outside of the academies while also addressing the dearth of data assessing leadership development outcomes. This research particularly begins to fill the gap of empirical research on secondary military school women, with little research overall and none addressing women’s experiences.

Finally, the open-ended questions found in both surveys created context for women’s perceptions of leadership development outcomes and the role of adversative education in their military school experience, as well as whether school leaders felt differences existed in the leadership development experiences of men and women. These views corroborated previous research while shedding light on adversative education’s role outside of the legal battles surrounding coeducation at The Citadel and VMI.

Limitations

Some limitations exist in the present study. Primary is the limited nature of the study, covering only one secondary school and one postsecondary school (SMC). To further validate findings, the research should be replicated with other similar military schools, be

evaluated against male graduates of these schools, and potentially be compared to similar environments in non-military contexts.

Another limitation includes the lack of multiple comparison points over time. Women graduates of these schools vary in graduation dates from 1970-2022. The researcher cannot assume that all perceptions and survey responses are singularly due to their military school experience. It is reasonable to believe that other life experiences played a role in women's current leadership development orientation. To further validate findings, longitudinal studies while women are students need to be conducted to see if the leadership development experiences as students play the largest role in women's leadership orientation overall.

A final limitation exists as it relates to the correlation between holding leadership as a student and holding leadership during a career. Regardless of leadership development training, it cannot be assumed that women will seek a career or leadership after graduation. Some will opt to pursue familial duties rather than a career outside the home, thus impacting the statistical significance of the leadership correlation. Others may work in organizations with few defined leadership roles or face the continued gender disparities that exist in corporate leadership hierarchies.

Implications

Several implications emerge from the present study. The most important of these applies to practitioners working in military colleges and schools. Women clearly have a defined place in these schools after 50 years but research on their leadership development is limited. Self-efficacy rates in the present study support the goals of military schools to build such skills through leadership development programming, but more work must be done to better define how military schools develop self-efficacy levels. The LABS-III results clearly

associate women graduates with Authentic forms of leadership while working within the traditional hierarchy of military schools. Military school leaders need to explore and define their programming within this modern post-industrial framework and the MAMEM to better support the relevance of military schools in the modern educational world (Jordan, 2021b). Additionally, military schools must continue to monitor and evaluate adversative educational elements to ensure they serve their intended purposes of building positive outcomes for students.

School leaders in non-military contexts should also utilize the findings from this study to support efforts toward modern Authentic Leadership frameworks and holistic leadership development programming in all colleges and schools. This study made clear that for adult women and adolescent women, strong, experiential leadership development training supports self-efficacy, Systemic Leadership mindsets, and navigation of male-dominated contexts that positively correlates to future leadership opportunities during a woman's career.

Finally, women students or graduates, as well as those considering enrolling in military colleges or schools, should understand the potential benefits of these schools for their own leadership development. Although women in these schools have faced mixed treatment and may experience imposter-syndrome as a minority in these environments, they have clearly defined their place in these schools over the past 50 years, ultimately supporting the continued relevance and sustainability of military schools. Women alumni, in particular, should support continued efforts to improve programming for women in military schools.

Recommendations for Future Research

After conducting this study, the researcher identified several recommendations for future research. Self-efficacy needs to be studied further to see how military school women

compare with women in other contexts. Additionally, longitudinal research would identify if military school leadership development programs help female students improve self-efficacy over their time while enrolled.

Similar studies in other coeducational military schools, and longitudinal research within these schools, should also be conducted for women to identify whether their conceptions of leadership are more Systemic or Hierarchical as found in the present study. Additionally, this research should be replicated among male graduates of military schools to identify what differences exist.

The *Leadership Development for Women Graduates of Military Schools Survey* should be replicated across military schools within the traditional context described in this study, as well as across all military schools to lend further validity to findings about women's outcomes perceptions.

More robust research into the understanding of leadership development programming in military schools is recommended to better identify and define the underlying frameworks used, as well as to support a potentially common framework known to all, such as the MAMEM (Jordan, 2021b).

Potential Significance and Contributions

This study investigated perceptions of leadership among women alumni from military institutions to measure if and how the leadership development training received influenced their leadership outcomes after graduation. The results and conclusions from this study begin to fill a major gap in leadership development research for military colleges and schools, particularly for women. Additionally, this study will spur further research in this area as it relates to leadership development, self-efficacy, and leadership potential, among other

factors. Further, the study will help military college and school leaders better understand the needs of women in their schools, and the growing place of Authentic Leadership theory in the holistic, but traditional and hierarchical environments of military schools. Finally, aside from its impact on military schools, this study supports more holistic approaches to leadership development in non-military colleges and schools.

Conclusion

The present study examined leadership theory over the past few decades, leadership development models among college students and adolescents, as well as predictors of leadership capacity like self-efficacy. It then defined the various types of military schools, their history, and theoretical framework. Finally, the researcher investigated the development of women's leadership in society, as well as the move to coeducation and subsequent research within military schools.

The researcher then conducted an ex post facto, quasi-experimental, mixed methods study utilizing the *Leadership Development School Demographic Survey* of key leaders from similar secondary schools, JMCs, and SMCs, and the *Leadership Development for Women Graduates of Military Schools Survey* of women alumni from one undergraduate SMC and one secondary military school. Four research questions addressed women graduates' self-efficacy through the CSES (Judge et al., 2003), Authentic Leadership through the Hierarchical and Systemic Thinking scales of the LABS-III (Wielkiewicz, 2000), leadership correlations between holding leadership as a cadet and during a career, and their own leadership outcomes perceptions.

Women graduates of military schools studied exhibited self-efficacy on par with people in other contexts, statistically significant Systemic Thinking that supports the

Authentic Leadership framework, and a positive correlation of leadership potential as a student and during a subsequent career. Women's perceptions of outcomes were mixed but generally supported positive conceptions of leadership development outcomes.

Fifty years of inclusion shows women desire the holistic, experiential leadership development offered in military schools. This study supported the value of military school programming for women and girls. Although more research must be done, this study begins to fill the gap of quantitative and qualitative women's outcomes research in military schools.

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Appendix A

Dissertation Timetable

- Proposal Due- August 5, 2022
- Proposal Defense- August 24, 2022
- Pilot Study- September 2022
- Participant Recruitment and Survey Distribution- September-December 2022
- Data Analysis and Writing- January- February 2023
- Dissertation Defense- March 7, 2023

Appendix B

IRB Approval

To: Cynthia McKaughan, Jennifer McGee

Department: Curriculum & Instruction

Re: HS-23-52 - Initial: Notice of Exempt Research Determination

STUDY #: HS-23-52

STUDY TITLE: Leadership Development for Women in Military Schools: A Mixed Methods Study of Authentic Leadership

EXEMPTION DATE: September 30, 2022

EXEMPTION CATEGORY: Category 2.(i). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording).

The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects.

Research Protections staff have determined that your project constitutes research with human subjects, but that in accordance with federal regulations and University policy and procedures, the research activities described in the study materials fall into the category (or categories) stated above and are exempt from IRB review per 45 CFR 46.104.

The following changes require further review by our office, please submit a modification if you intend to change any of the following about your study:

- the addition of a funding source;
- the addition of a potential for a conflict of interest;
- a change in location of the research (i.e., country, school system, off site location);
- change in contact information for the Principal Investigator or Faculty Advisor,
- the addition of research team members (please note that additional permissions are required for non-Appalachian State University faculty, staff, or students to assist with human subjects research), or
- Changes to study procedures. If you plan to change your study procedures, you must submit a modification for further review prior to changing the study procedures.

Investigator Responsibilities: All individuals engaged in research with human participants are responsible for compliance with University policies and procedures, and IRB determinations. The Principal Investigator (PI), or Faculty Advisor if the PI is a student, is ultimately responsible for ensuring the protection of research participants; for conducting sound ethical research that complies with federal regulations, University policy and procedures; and for maintaining study records. The PI should review the IRB's list of PI responsibilities.

To Close the Study: When research procedures with human participants are completed and all subject identifiers have been destroyed, please submit a request for closure in Cayuse.

If you have any questions, please email irb@appstate.edu.

Best wishes with your research.

Important Links for Exempt Research:

ASU's Human Research Protections Program (IRB Office) website:
<https://researchprotections.appstate.edu/human-subjects>.

SOP #9 Exempt Human Subjects Research:
https://researchprotections.appstate.edu/sites/default/files/sop_9_revision_2_signed.pdf

To: Cynthia McKaughan, Jennifer McGee

Department: Curriculum & Instruction

Re: HS-23-52 - Modification: Notice of Exempt Research Determination

STUDY #: HS-23-52

STUDY TITLE: Leadership Development for Women in Military Schools: A Mixed Methods Study of Authentic Leadership

EXEMPTION DATE: November 21, 2022

EXEMPTION CATEGORY: Category 2.(i). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording).

The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects.

Research Protections staff have determined that your project constitutes research with human subjects, but that in accordance with federal regulations and University policy and procedures, the research activities described in the study materials fall into the category (or categories) stated above and are exempt from IRB review per 45 CFR 46.104.

The following changes require further review by our office, please submit a modification if you intend to change any of the following about your study:

- the addition of a funding source;
- the addition of a potential for a conflict of interest;
- a change in location of the research (i.e., country, school system, off site location);
- change in contact information for the Principal Investigator or Faculty Advisor,
- the addition of research team members (please note that additional permissions are required for non-Appalachian State University faculty, staff, or students to assist with human subjects research), or
- Changes to study procedures. If you plan to change your study procedures, you must submit a modification for further review prior to changing the study procedures.

Investigator Responsibilities: All individuals engaged in research with human participants are responsible for compliance with University policies and procedures, and IRB determinations. The Principal Investigator (PI), or Faculty Advisor if the PI is a student, is ultimately responsible for ensuring the protection of research participants; for conducting sound ethical research that complies with federal regulations, University policy and

procedures; and for maintaining study records. The PI should review the IRB's list of PI responsibilities.

To Close the Study: When research procedures with human participants are completed and all subject identifiers have been destroyed, please submit a request for closure in Cayuse.

If you have any questions, please email irb@appstate.edu.

Best wishes with your research.

Important Links for Exempt Research:

ASU's Human Research Protections Program (IRB Office) website:

<https://researchprotections.appstate.edu/human-subjects>.

SOP #9 Exempt Human Subjects Research:

https://researchprotections.appstate.edu/sites/default/files/sop_9_revision_2_signed.pdf

Appendix C

Core Self-Evaluations Scale (CSES) (Judge et al., 2003)

The Core Self-Evaluations Scale (CSES)

Instructions: Below are several statements about you with which you may agree or disagree. Using the response scale below, indicate your agreement or disagreement with each item by placing the appropriate number on the line preceding that item.

	1	2	3	4	5
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1.	___				
2.	___				
3.	___				
4.	___				
5.	___				
6.	___				
7.	___				
8.	___				
9.	___				
10.	___				
11.	___				
12.	___				

r = reverse-scored. This measure is nonproprietary (free) and may be used without permission.

Note. Judge et al. (2003), p. 315.

Appendix D

Leadership Attitudes and Beliefs Scale (LABS-III) (Wielkiewicz, 2000)

The LABS-III Items

- 1 Individuals need to take initiative to help their organization accomplish its goals.
- 2 Leadership should encourage innovation.
- 3 A leader must maintain tight control of the organization.
- 4 Everyone in an organization needs to be responsible for accomplishing organizational goals.
- 5 Leadership processes involve the participation of all organization members.
- 6 A leader must control the group or organization.
- 7 A leader should maintain complete authority.
- 8 A leader should take charge of the group.
- 9 Organizational actions should improve life for future generations.
- 10 The main task of a leader is to make the important decisions for an organization.
- 11 Leadership activities should foster discussions about the future.
- 12 Effective leadership seeks out resources needed to adapt to a changing world.
- 13 The main tasks of a leader are to make and then communicate decisions.
- 14 An effective organization develops its human resources.
- 15 It is important that a single leader emerges in a group.
- 16 Members should be completely loyal to the designated leaders of an organization.
- 17 The most important members of an organization are its leaders.
- 18 Anticipating the future is one of the most important roles of leadership processes.
- 19 Good leadership requires that ethical issues have high priority.
- 20 Successful organizations make continuous learning their highest priority.
- 21 Positional leaders deserve credit for the success of an organization
- 22 The responsibility for taking risks lies with the leaders of an organization.
- 23 Environmental preservation should be a core value of every organization.
- 24 Organizations must be ready to adapt to changes that occur outside the organization.
- 25 When an organization is in danger of failure, new leaders are needed to fix its problems.
- 26 An organization needs flexibility in order to adapt to a rapidly changing world.
- 27 Leaders are responsible for the security of organization members.
- 28 An organization should try to remain as stable as possible.

Note. Copyright 1999 by Richard M. Wielkiewicz: May be used for research without permission. Each item is rated on a scale of 1 to 5 with 1 = *Strongly Agree*; 2 = *Agree*; 3 = *Neither agree nor disagree*; 4 = *Disagree*; and 5 = *Strongly Disagree*. The Hierarchical Thinking scale consists of items 3, 6, 7, 8, 10, 13, 15, 16, 17, 21, 22, 25, 27, and 28. The remaining items make up the Systemic Thinking scale.

Note. Wielkiewicz (2000), p. 343.

Appendix E

Leadership Development School Demographic Survey

1. The following survey is meant to better understand the history and current reality of your school, especially as it relates to women and leadership development. The questions are part of a research study titled, "Leadership Development for Women in Military Schools: A Mixed Methods Study of Authentic Leadership." Your responses to the following questions will be anonymous and confidential, and will be used to provide context for women's outcomes in traditional military schools. The purpose of this mixed methods study is to investigate perceptions of leadership among women alumni from military colleges and schools, to measure if and how their leadership development training while students in these schools influenced their personal leadership experiences after graduation. There are no foreseeable risks associated with your participation in this study. Participating in this study is completely voluntary. Even if you decide to participate now, you may change your mind and stop at any time. You may choose not to answer any survey question for any reason. If you have questions about this research study, you may contact Caroline McKaughan (mckaughancc@appstate.edu). By continuing to the survey questions, I acknowledge that I am at least 18 years old, have read the above information, and agree to participate. Do you wish to proceed in completing the survey?
2. What year was your school founded?
3. What year did your school become co-educational?
4. What type of military school is yours?
 - a. 4-Year undergraduate institution
 - b. 2-year undergraduate institution
 - c. secondary school
5. What grade levels does your secondary school serve? Check all that apply.
 - a. 6th
 - b. 7th
 - c. 8th
 - d. 9th
 - e. 10th
 - f. 11th
 - g. 12th
 - h. Other
6. What is your school's average enrollment?
 - a. 0-250
 - b. 251-500
 - c. 501-1000
 - d. 1001-1500
 - e. 1501-2000
 - f. More than 2000
7. What percentage of your average total enrollment is female?

- a. 0-10%
 - b. 11-20%
 - c. 21-40%
 - d. More than 40%
8. Is your school's leadership development program based on a particular framework? If so, what is it?
- a. Yes
 - b. No
 - c. Unsure
9. Does your school engage in adversative educational elements (leadership development elements that utilize physically and mentally stressful activities to achieve goals- i.e., new recruit training like plebe, knob, rat systems, cadre/OCS or other strenuous processes to achieve rank, punishment systems meant to affect desired behaviors)? If so, please list examples of these elements.
- a. Yes _____
 - b. No
 - c. Not Sure
10. What percentage of female students serve in leadership positions on average? This can be ranked positions in the Corps of Cadets or official positions in clubs, sports, or other recognized campus organizations.
- a. 0-10%
 - b. 11-20%
 - c. 21-30%
 - d. 31-40%
 - e. 41-50%
 - f. 51-75%
 - g. More than 75%
11. What differences do you see between female leadership development and leadership development for males?

Appendix F

Leadership Develop Outcomes Survey

1. The following survey is meant to assess your perceptions of leadership development as military school graduates. The questions are part of a research study titled, "Leadership Development for Women in Military Schools: A Mixed Methods Study of Authentic Leadership." Your responses to the following questions will be anonymous and confidential, and will be used to measure women's outcomes in traditional military schools. The purpose of this mixed methods study is to investigate perceptions of leadership among women alumni from military colleges and schools, to measure if and how their leadership development training while students in these schools influenced their personal leadership experiences after graduation. There are no foreseeable risks associated with your participation in this study. Participating in this study is completely voluntary. Even if you decide to participate now, you may change your mind and stop at any time. You may choose not to answer any survey question for any reason. If you have questions about this research study, you may contact Caroline McKaughan (mckaughancc@appstate.edu). By continuing to the survey questions, I acknowledge that I am at least 18 years old, have read the above information, and agree to participate. Do you wish to proceed in completing the survey?
2. Below are several statements about you with which you may agree or disagree. Indicate your agreement or disagreement with each item by clicking the bubble that best defines your agreement or disagreement. Questions 3- 14 have the following answer choices:
 - a. Strongly Agree (5)
 - b. Agree (4)
 - c. Neutral (3)
 - d. Disagree (2)
 - e. Strongly disagree (1)
3. I am confident I get the success I deserve in life.
4. Sometimes I feel depressed.
5. When I try, I generally succeed.
6. Sometimes when I fail I feel worthless.
7. I complete tasks successfully.
8. Sometimes, I do not feel in control of my work.
9. Overall, I am satisfied with myself.
10. I am filled with doubts about my competence.
11. I determine what will happen in my life.
12. I do not feel in control of my success in my career.
13. I am capable of coping with most of my problems.
14. There are times when things look pretty bleak and hopeless to me.
15. Below are several statements about you with which you may agree or disagree. Indicate your agreement or disagreement with each item by clicking the bubble that

best defines your agreement or disagreement. Questions 16-43 have the following answer choices:

- a. Strongly Agree (1)
 - b. Agree (2)
 - c. Neither agree or disagree (3)
 - d. Disagree (4)
 - e. Strongly disagree (5)
16. Individuals need to take initiative to help their organization accomplish its goals.
 17. Leaders should encourage innovation.
 18. A leader must maintain tight control of the organization.
 19. Everyone in an organization needs to be responsible for accomplishing organizational goals.
 20. Leadership processes involve the participation of all organization members.
 21. A leader must control the group or organization.
 22. A leader should maintain complete authority.
 23. A leader should take charge of the group.
 24. Organizational actions should improve life for future generations.
 25. The main task of a leader is to make the important decisions for an organization.
 26. Leadership activities should foster discussions about the future.
 27. Effective leadership seeks out resources needed to adapt to a changing world.
 28. The main tasks of a leader are to make and then communicate decisions.
 29. An effective organization develops its human resources.
 30. It is important that a single leader emerges in a group.
 31. Members should be completely loyal to the designated leaders of an organization.
 32. The most important members of an organization are its leaders.
 33. Anticipating the future is one of the most important roles of leadership processes.
 34. Good leadership requires that ethical issues have high priority.
 35. Successful organizations make continuous learning their highest priority.
 36. Positional leaders deserve credit for the success of an organization.
 37. The responsibility for taking risks lies with the leaders of an organization.
 38. Environmental preservation should be a core value of every organization.
 39. Organizations must be ready to adapt to changes that occur outside the organization.
 40. When an organization is in danger of failure, new leaders are needed to fix its problems.
 41. An organization needs flexibility in order to adapt to a rapidly changing world.
 42. Leaders are responsible for the security of organization members.
 43. An organization should try to remain as stable as possible.
 44. The following questions are demographic in nature or are open-ended in order to understand individual perceptions of the military school leadership development experience.
 45. What type of military school did you attend?
 - a. Secondary
 - b. Undergraduate
 - c. Both

46. What year did you graduate?
47. How many years did you attend military school?
- a. 1
 - b. 2
 - c. 3
 - d. 4
 - e. 5
 - f. 6
 - g. 7
 - h. 8
 - i. More than 8
48. What is your highest level of education?
- a. High School Diploma (1)
 - b. Bachelor's Degree (2)
 - c. Master's Degree (3)
 - d. Doctorate Degree (4)
 - e. Other (5)
49. Did you hold leadership positions while in attendance?
- a. Once
 - b. Sometimes
 - c. Often
 - d. Almost Always
50. Have you held leadership positions during your career?
- a. Once
 - b. Sometimes
 - c. Often
 - d. Almost Always
 - e. n/a
51. Do you currently hold a leadership position as part of your career?
- a. Yes
 - b. No
 - c. n/a
52. To what extent do you believe military school leadership development programming developed your leadership capacity?
- a. Not at All
 - b. Very Little
 - c. Somewhat
 - d. To a Great Extent
53. To what extent do you believe military school leadership development programming developed your leadership skills?
- a. Not at All
 - b. Very Little
 - c. Somewhat
 - d. To a Great Extent

54. To what extent do you believe military school leadership development programming positively impacts your leadership positions since graduation?
- Not at All
 - Very Little
 - Somewhat
 - To a Great Extent
 - n/a
55. Did your military school utilize adversative education elements (leadership development elements that utilize physically and mentally stressful activities to achieve goals- i.e. new recruit training like plebe, knob, rat systems, cadre/OCS or other strenuous processes to achieve rank, punishment systems meant to affect desired behaviors)? If so, please list examples of these elements.
- Yes _____
 - No
 - Not Sure
56. How did the adversative elements impact your leadership development?
57. What were the most valuable outcomes of your leadership development experience in military school?
58. What did you think about these outcomes when you first graduated? What do you think about them now?

Appendix G

Recruitment Materials

Letter to Women Alumni

31 August 2022

Participant Name

Participant Email

Re: Leadership Development for Women in Military Schools: A Mixed Methods Study of Authentic Leadership by Caroline McKaughan

Dear Participant:

I am writing to let you know about an opportunity to participate in a research study about leadership development outcomes for women alumni of military schools. This study is being conducted by Caroline McKaughan at the Appalachian State University Educational Leadership Program. This study will investigate women alumni's self-efficacy, hierarchical thinking versus systemic thinking, and individual perceptions of leadership development outcomes as graduates of a military college or school.

The researcher obtained your contact information from personal contact with you, through alumni social media sites, or through contacts with other women alumni. I am writing to tell you that I believe you may be interested in an approved research study about leadership development outcomes for women alumni of military schools.

Attached is a survey link. The first question in the survey asks for your consent to participate. Survey consent and participation is anonymous. An expression of interest or a request for more information does not obligate you to participate in any study. If you would like additional information about this study, please call or email Caroline McKaughan at (678) 520-8049 or mckaughancc@appstate.edu.

Thank you for considering this research opportunity. If you wish to opt out of future communication at any time, please reply to this email expressing that request.

Thanks,

Caroline McKaughan

Letter to Key Leadership of Military Colleges and Schools

31 August 2022

Participant Name

Participant Email

Re: Leadership Development for Women in Military Schools: A Mixed Methods Study of Authentic Leadership by Caroline McKaughan

Dear Participant:

I am writing to let you know about an opportunity to participate in a research study about leadership development outcomes for women alumni of military schools. This study is being conducted by Caroline McKaughan at the Appalachian State University Educational Leadership Program. This study will investigate women alumni's self-efficacy, hierarchical thinking versus systemic thinking, and individual perceptions of leadership development outcomes as graduates of a military college or school.

The researcher obtained your contact information from personal contact with you, or through your school's website. I am writing to tell you that I believe you may be interested in an approved research study about leadership development outcomes for women alumni of military schools.

Attached is a survey link to a school demographic survey. The first question in the survey asks for your consent to participate. Survey consent and participation is anonymous. An expression of interest or a request for more information does not obligate you to participate in any study. If you would like additional information about this study, please call or email Caroline McKaughan at (678) 520-8049 or mckaughancc@appstate.edu.

Thank you for considering this research opportunity. If you wish to opt out of future communication at any time, please reply to this email expressing that request.

Thanks,

Caroline McKaughan

Vita

Caroline McKaughan was born in Fort Polk, LA, to LTC Jay N. Rudd (Ret.) and Cynthia G. Rudd. She grew up in a military family with one younger brother, Jay, moving frequently, with her father serving as an officer in the U.S. Army. She is a 2009 graduate of The Citadel, The Military College of South Carolina with a B.S. in Education with a Social Studies concentration. While a cadet, she was a member of the school's cheerleading squad and held leadership roles on the company-level for the religious department. In 2018, she received her M.A. in Liberal Studies from Duke University. Caroline has spent her 14-year career at Oak Ridge Military Academy in Oak Ridge, NC, serving in various roles including teacher, dorm parent, coach, and administrator. She currently serves as the Academic Dean.

Caroline is married to Patrick McKaughan, a Lieutenant with the Winston-Salem Police Department, a veteran of the Army Reserves, and a part-time member of the Commandant's staff at Oak Ridge Military Academy. She has twin stepsons, Nathan and Addison, current undergraduates at Appalachian State University. Caroline will also welcome a daughter to the world in June 2023.

Through her time at The Citadel and her role at Oak Ridge Military Academy, Caroline has developed a desire to study and support women's leadership development and education in military schools. She has had the distinct honor of observing the significant place women hold in these schools and how their experiences propel them into future

achievements. Caroline plans to continue this work upon graduation with her Ed.D. in Educational Leadership with a Higher Education concentration.