THE RELATIONSHIP BETWEEN HIGH SCHOOL SPORT PARTICIPATION, SPORT LEADERSHIP EXPERIENCES AND TRANSFORMATIONAL LEADERSHIP IN ARMY ROTC CADETS

By

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A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

Kinesiology – Doctor of Philosophy

2017

ABSTRACT

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Leadership, and the development of leadership skills, have been common areas of focus in both sport and the military. However, few studies have looked at the relationship and impact of the two fields. The purpose of this study was to assess the impact of high school sport and extracurricular experiences on leadership effectiveness in the Army ROTC. This included factors such as: (a) seasons participating in high school sports, (b) seasons as a high school sport captain, (c) formal leadership training opportunities, and (d) extracurricular activity participation in high school. Participants were current ROTC cadets at Mid-Western universities. They completed online surveys including the Student Leadership Practices Inventory, demographics, sport history, and ROTC grades. Participants included 282 male and female cadets ages 18-32 (M = 20.2). A series of ANOVAs and correlations were run on a variety of data collected. Factors shown to impact leadership effectiveness in the ROTC include seasons as a captain and years in the ROTC. Sport participation and formal leadership training were not related to leadership effectiveness. No correlations were reported between the SLPI and measures used by the ROTC to assess leadership.

This dissertation is dedicated to William Pacelli.
I am sorry you weren't here to officially call me doctor.

ACKNOWLEDGEMENTS

This research was supported by a Dissertation Fellowship from the College of Education at Michigan State University.

Dr. Dan Gould: Thank you for taking a chance on me as an advisee, and letting me step out and explore an area of research outside the typical realm of ISYS. Your mentorship and support has allowed me to grow not only as an academic, but as a person as well. Don't worry, I'm still working on that sense of humor!

Dr. Larry Lauer: Thank you for giving me opportunities to see what applied sport psychology looks like outside an academic setting. Your mentorship, as well as friendship, has meant so much to me over the years.

Dr. Marty Ewing: Thank you for being such a positive influence on my academic career. You always made me feel welcome, and never hesitated to take time to help me with anything I was dealing with. For that I am truly grateful.

Dr. Michael Leahy: Thank you for your contributions to this dissertation committee. Your unique perspectives and different take on the research questions helped to make this a stronger study. Thank you for your patience and continued support in this process.

ROTC Community: Thank you to the cadre and cadets in all the participating ROTC programs for taking the time to share your experiences with me and the academic community. Special thanks to the MSU ROTC program, who provided invaluable information about the structure and processes of an ROTC program, specifically Jim Rouse and Tom Stanley.

Family and Friends: To my family and friends who have patiently supported me through this journey, especially Dana Voelker and Ryan Flett, thank you for never giving up on me and

pushing me to be the best “me” I can be, even when I didn’t believe in myself. From providing feedback and advice to helping me stick to my schedules, I couldn’t have done this without you.

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CHAPTER I

INTRODUCTION

"All my life, both as a soldier and as an educator, I have been engaged in a search for a mysterious intangible. All nations seek it constantly because it is the key to greatness, sometimes to survival. That intangible is the electric and elusive quality known as leadership."
—GEN Mark Clark

"A competent leader can get efficient service from poor troops; while, on the contrary, an incapable leader can demoralize the best of troops."
—GEN John Pershing

"Leaders are made by the day–to–day practice and fine tuning of leadership talents, because leading is an art as well, is a science and best developed by application. Leaders are made by the steady acquisition of professional knowledge and by the development of 24–karat character during the course of a career."
—GEN John Wickham, Jr.

(http://www.au.af.mil/au/awc/awcgate/army/p600_65.pdf)

As noted in the above quotes, effective leadership and its development is crucial to the success and safety of the United States Armed Forces, both historically and in modern times. The idea of great men and women possessing core values, especially leadership, is found throughout literature on warfare from modern times to the ancient world. For example, Pressfield (2011) draws a link from the 'warrior ethos' of the ancient Spartan military, with their code of conduct and ethics, to skills that can be taught on a sporting field, even taking it a step further to relate these ancient values to modern day military training programs. In ancient times, as in today, groups or teams, whether on the battlefield or the athletic arena, have the goal of instilling qualities in young men and women in an effort to guide them to focus on the needs of the group above their own individual needs. These principles are at the core of military leadership, and need to be understood in order to facilitate effective leadership development. This dissertation is designed to further our understanding of military leadership and the role sport

can play in its development. However, before examining this relationship the concept of leadership must be understood.

Northouse (2009) defined leadership as "a process whereby an individual influences a group of individuals to achieve a common goal" (p. 3). Given the tremendous impact of leaders on performance, task outcomes, and their followers, it is of no surprise that leadership has been studied in a number of fields, including business, government, military, and sport. A multitude of theories, definitions, and reviews have been developed and examined relative to what leadership involves, leader development, and leader effectiveness (Northhouse, 2009). While there are a number of important leadership issues that have and continue to be studied, how leadership is developed is a critical one as it is central to all views of leaderships. Specifically, it is important that we better understand the antecedents of leadership so that practitioners know how to effectively develop it. Anecdotally, sport is believed to prepare individuals for their leadership roles in the military. However, little data exists to support this claim. Therefore, the purpose of this study is to examine the role of sport in developing leaders in the military. Transformational leadership theory will be used to inform the present study as this theoretical approach is most commonly used by contemporary military leadership researchers and has received increased attention in the sport psychology field.

Importance of Military Leadership

Military leaders are put in high risk, dangerous situations and forced to make life and death decisions on a regular basis overseas. With so much at stake, making sure the right people are in the right leadership roles is of utmost importance. As stated by Wong, Bliese, and McGurk (2003), "At the lowest level, military leadership can be the difference between life and death for many people. At the highest level, the survival of our nation relies upon the leaders in the

military" (p. 660). For these reasons, it is not surprising that leadership is identified as the major role for most military personnel (Bartone, Snook, Forsythe, Lewis, & Bullis, 2007; Bonadonna, 2009; Wong et al., 2003), and especially for those with military rank ranging from corporal to five star general. However, with so many changes in the world today, the role of the leader has changed as well (Keithly & Tritten, 1997). For example, leaders must be culturally, technically, and environmentally aware of their subordinates and the enemy (Shamir & Ben-Ari, 2000; Yudhoyano & Jalal, 2009). Therefore, training and development of leaders must not only focus on traditional leadership principles but also be adapted to focus on the need for facilitating the safety of the leader and subordinates, national security, and the promotion of a peaceful world. Recently, the development of leadership in the military has shifted from a historically hierarchical leadership structure (e.g., top-down chain of command) to transformational leadership behaviors (e.g., motivating and inspiring followers to go above and beyond their expected roles, developing a concern for others about the self, and commitment to the group or mission) (Bass 1985). With these changes, assessing the development of transformational leadership as opposed to the traditional hierarchical leadership structure is increasingly important in the military. Traditionally, sport has been viewed by many in the military as a highly effective strategy for developing leaders, although little empirical evidence exists to support this notion. Moreover, to the author's knowledge, the role that sport plays in developing transformational leadership in military leaders has never been examined. This link can be assumed to be of importance when looking at curriculum requirements for military academies such as West Point, where all cadets are required to participate in some form of organized sport.

Importance of Sport Leadership

Sport and physical activity have been identified as an optimal arena for developing leadership skills in youth participants (Martinek & Hellison, 2009). Leadership is considered a key element to a successful sports team and a vital life skill for individual athletes that should be developed through involvement in sports (Gould, Chung, Smith, & White, 2006; Gould, Hodge, Peterson, & Petlichkoff, 1987; Jones & Lavallee, 2009). In fact, leadership is seen as one of many life skills that has the potential to be developed through sport participation (Carson, 2010). Specifically, life skills have been defined as "those internal personal assets, characteristics and skills such as goal setting, emotional control, self-esteem and hard work ethic that can be facilitated or developed in sport and are transferred for use in non-sport settings" (Gould & Carson, 2008, p. 60). Sport and extracurricular activities have been identified as potential vehicles for development of life skills in several different studies (Eccles & Barber, 1999; Eccles, Barber, Stone, & Hunt, 2003; D.M. Hansen & Larson, 2007; D. M. Hansen, Larson, & Dworkin, 2003; R. W. Larson, Hansen, & Moneta, 2006). For example, when compared to youth who do not participate in sport, participation in sport has been associated with the development of important life skills such as initiative, emotional control, and teamwork.

A growing body of literature suggests that leadership may be developed through sport participation, especially for those young people who experience formal and informal leadership experiences (e.g., Todd & Kent, 2004; Voelker, Gould, & Crawford, 2011). Unfortunately, evidence shows that high school sport captains are often not given clearly defined roles and receive little training on how to be an effective leader (Voelker, Gould, & Crawford, 2011). On a more encouraging note, some coaches have been shown to be very effective and intentional in developing leadership in team captains (Gould, Voelker, & Crawford, 2011) but even these

coaches do not engage in many of the intentional practices positive youth development experts contend are necessary for leadership development. A key question, then, is what role does the captaincy experience play in leadership development and, if leadership is developed through sports participation, does it successfully transfer beyond sport to other life settings. For example, are athletes who are captains and who had exposure to leadership training through youth sport better prepared for their military leadership experiences?

The Link Between Military Leadership and Sport

Understanding what factors influence the development of leadership may be particularly important for the Army ROTC. Specifically, the Army ROTC provides scholarships for over half of their cadets. However, in today's difficult economic times, funds are limited. If certain skill sets or extracurricular activities (like sports participation) can prepare cadets to be more effective leaders, who will in turn be better prepared to lead our nation's military, those young people should be more heavily recruited or potential applicants be encouraged to take part in sport. More scholarships should be made available for this population, who may become more effective leaders than those without early training or exposure to leadership positions. Some ROTC programs already take sport participation into consideration when providing scholarships but there is no research basis in the literature to this point speaking to that topic. By providing empirical evidence for these assumptions, military personnel can capitalize on the youth sport experience when developing good leaders in the Reserve Officer Training Corps (ROTC). Beyond recruiting cadets who have previous leadership experiences, awareness of a cadet's strengths and weaknesses in leadership positions can be utilized by ROTC cadre and program directors. Much of the military leadership research to date focuses on military academies (Looney, Robinson Kurpuis, & Lucart, 2004; Rice, Yoder, Adams, Priest, & Prince, 1984),

however, the majority of officers come from ROTC programs at standard civilian universities. Therefore, a greater focus of research should be on ROTC cadets.

Sport has often been seen as an important vehicle for developing military leaders. While military leadership has been linked to several other areas of study, research has only recently begun to address the link between leadership in sport and its relationship to leadership in the military (Griffes, Whitley, & Gould, unpublished manuscript). Similarities between sport and the military have been identified, (Tenenbaum, Edmonds, & Eccles, 2008; Ward, Farrow, Harris, Williams, & Eccles, 2008; Williams, Ericsson, Ward, & Eccles, 2008) including the need for participants in both settings to work in teams or in the physical aspects and mental skills required for both fields. Recent exploratory studies demonstrate the possibility for transfer of leadership skills learned in youth sport to participation in the Army ROTC (Griffes et al., unpublished manuscript). Specifically, interviews with ROTC cadets revealed that the majority believed that previous sport leadership experiences facilitated their military leadership and leadership training. However, whether sport participation or sport leadership experiences impact military leadership effectiveness has not been empirically examined in any large scale study.

In addition to the military, youth sport researchers and practitioners can benefit from this research as well. Researchers examining the role of sport in life skill development focus on examining what psychosocial attributes and skills such as confidence, teamwork, and leadership can be learned through sport and under what conditions they are learned. Positive youth development through sport has been a growing area of sport psychological research and makes claims that sport participation teaches life skills that may transfer to other aspects of a young person's life including future success (Gould & Carson, 2008). This study would examine such claims. A key issue discussed by investigators in this area is the importance of transferring any

skills learned in sport to other life domains (Gould & Carson, 2008), but to date little research has been done linking life skills in sport to a military setting (Griffes et al., unpublished manuscript). Awareness of long term life skills benefits arising from youth sport participation can assist sport programmers and practitioners when developing life skill or positive youth development programs, such as The First Tee (Weiss, 2006) and Project Effort (Martinek, Schilling, & Johnson, 2001) by providing examples of the transfer of leadership skills learned in sport to a new field. Results could show that sport is an asset for national security, not only by producing fit young people but by demonstrating that leadership and other psychosocial life skills learned through youth sports participation transfer to later life success.

Purpose

The purpose of this study is to assess the role that sport participation in general and sport leadership experiences in particular play as antecedents of leadership effectiveness in the Army ROTC. Specifically, antecedents to be evaluated in this study will include a cadet's history of sport participation and his or her sport captaincy experience and the influence of these antecedents on ROTC leadership effectiveness. Effective leadership in ROTC is based on competencies in several major categories on leadership, which have been subdivided into subcategories of Values, (e.g., loyalty, duty, respect, selfless service, honor, integrity, and personal courage), Attributes (e.g., mental, physical, and emotional), and Skills (e.g., conceptual, interpersonal, technical, and tactical). In addition, because in all likelihood other activities beyond sport participation and leadership may influence ROTC leadership success, this study will also explore the relationship between non sport formal leadership training experiences and other extracurricular activities involvement in high school and ROTC leadership effectiveness. A study by Bartone et al. (2007) with West Point cadets showed a relationship between

participation in high school extracurricular activities and positive psychosocial development in freshmen and sophomores..

This research is informed by the transformational model of leadership, which is the model the United States Army has adopted for its leadership development training program. Transformational leadership has been defined as being focused on inspiring followers to exceed expectations (Burns, 1978). By encouraging subordinates to work beyond their expectations and standards, followers are found to give more effort than in situations where they are working for a reward or to avoid punishment. This model results in a stronger commitment to the needs of the group, and increased performance by subordinates.

Hypotheses and Research Questions

The following research questions and associated hypotheses will be tested:

Research Question 1. Is there a relationship between the extent of high school extracurricular activity participation and leadership experience?

H1: Cadets who participated in high school sports will have higher leadership effectiveness scores than cadets who did not participate in high school sports.

H2: Cadets who participated in a larger number of high school sports will have higher leadership effectiveness scores than cadets who did not participate in high school sport, or participated in a limited number of high school sports.

Research Question 2. Is there a relationship between the extent of high school sports participation/captaincy experience and ROTC leadership effectiveness?

H3: Cadets who were high school sport captains will have higher leadership effectiveness scores than cadets who were not high school sport captains and cadets who were not sport participants.

H4: Captains who received formal leadership training in high school sport will have higher leadership effectiveness scores than those participants who did not receive formal leadership training, cadets who were not high school sport captains, and cadets who were not sport participants.

Research Question 3. What, if any, factors influence the high school sport participation/ captaincy experience and ROTC leadership effectiveness relationship?

H 5: Participants who have greater levels of extracurricular activity participation in high school will have higher leadership effectiveness.

Research Question 4. What is the joint influence of the extent of high school sports and extracurricular activity participation and captaincy experience and ROTC leadership effectiveness?

H 6: ROTC leadership effectiveness will be greater in cadets who had formal leadership training at the high school level, and participated in formal leadership training.

Exploratory Research Questions

Exploratory research questions to be addressed include:

Research Question 5. What levels of transformational leadership do ROTC cadets demonstrate? Does this vary by year in school? Is it correlated to academic achievement in ROTC courses?

H 7: The role of athletic experiences (i.e., sport participation, captaincy, formal leadership training) will have a larger impact on leader effectiveness for cadets in their first or second year of ROTC as compared to cadets in their third and fourth year.

Research Question 6. Is the sport participation ROTC leadership relationship the same for cadets in Years 1, 2, 3, and 4 of ROTC training?

Limitations of the Study

Limitations of this study include: (a) the self-report survey methodology, and (b) the retrospective nature of the study. Due to social desirability, cadets may alter responses to appear as a more effective leader. Recalling sport leadership experiences and training received may be difficult for cadets, particularly those who have been removed from high school sports for several years. However, participants will be provided ample time to complete the surveys, allowing them the opportunity to reflect on their experiences.

CHAPTER II

REVIEW OF LITERATURE

Introduction

Given the purposes of this study, several areas of research need to be understood. These include (a) leadership and the transformational view of leadership; (b) military leadership and current views of military leadership development; (c) antecedents of leadership development (in general and in the military); (d) The role that sport plays in developing life skills, particularly leadership; and (e) measurement of leadership effectiveness as well as the measurement of sport participation and leadership experience.

Leadership Defined

Although leadership has been defined in many ways, for the purposes of this review, Northouse's (2009) definition of leadership will be used. Northouse (2009) defines leadership as "a process whereby an individual influences a group of individuals to achieve a common goal" (p. 3). Jago (1982) separated leadership into two different constructs, both a process of directing and coordinating groups, and a property, or the characteristics of the leader. Therefore, leadership should be viewed as a dynamic, holistic skill involving much more than simply the traits of the leader.

Adolescent vs. adult leadership. Much of the early research on leadership focused on an adult-centered approach, ignoring leadership development in youth and adolescents. Adult leadership tends to focus on what leaders should be or look like, as opposed to how they can be developed (Murphy & Johnson, 2011). MacNeil (2006) recognized different needs, practices, and styles of adult leaders compared to youth leaders. Leadership development for youth needs

to take a broad approach, addressing the individual needs of the youth leaders, the leadership context they will take part in, and the opportunities available for youth leaders to share a voice, influence others, or make decisions. Youth leadership development programs must address physical and emotional changes in adolescents, with an understanding of the developmental changes young people are going through (van Linden & Fertman, 1998). In their developmental model of leadership, Murphy and Johnson (2011) consider early influences such as genetics, temperament, and gender, along with parenting styles and early learning experience (e.g., education, sports, and practice) as factors that impact adult leadership effectiveness.

Reichard et al. (2011) reported limited impact of adult leadership development programs on teaching leadership skills, based on longitudinal research over a span of 12 years, however, youth development programs have shown success in development and transfer of skills, as children and adolescents are more malleable. Adolescents have opportunities to learn leadership skills during their teenage years that are not available to adults. Murphy and Johnson (2011) report adolescents are in situations where they can organize complex projects, motivate team members, develop organization skills needed for after school jobs or activities, and work with others during after school jobs or activities. Undergraduate students participating in leadership roles reported learning several skills, including organization, planning and delegation, problem solving and decision making, being a good mentor/role model/motivator, how to be an effective communicator, how to work with others, and how to give and receive feedback (Murphy & Johnson, 2011). Skills such as balancing academic, personal, and professional roles are experiences found mainly in youth leadership roles as opposed to adult leadership (Hall, Forrester, & Borsz, 2008). Exposure to these experiences are thought to increase leadership skills in adulthood.

Specifically looking at adolescent leadership, social support and social status were highly related to youth being identified as leaders by their peers (Ward & Ellis, 2008). Following Self-Determination Theory, Ward, Lundberg, Ellis, and Berrett (2010) reported youth tended to follow peer leaders who provided autonomy, relatedness, and competence, with competence having the largest effect on followership. Based on these findings, the role of adolescent leadership may be more focused on social needs as opposed to task goals of adult leadership. It is important to recognize that peer leaders are not always positive leaders, social needs can be filled in negative ways as well. These concepts need to be taken into consideration by practitioners when creating leadership development programs.

In summary, leadership research in adults has a different focus than leadership in adolescence. While some concepts may transfer, it is important for researchers to recognize developmental as well as situational differences between the two populations.

Transformational View of Leadership

While many theoretical bases exist for leadership development, the focus of this dissertation is on transformational leadership, as this leadership development style has been adopted by the US Army in the core curriculum for officer training. Burns (1978) defined transformational leadership as having a focus on inspiring followers to exceed expectations, which leads to a strong commitment to the needs of the group. With this leadership style, subordinates put the needs of the group before the needs of the individual. Transformational leaders inspire their subordinates to improve themselves as a whole by making each person feel important to the group, which can improve the group as a whole. This definition can be expanded to focus on the effect of the leader, and his or her ability to impact the values of the subordinates (Kark, Shamir, & Chen, 2003). Common characteristics of transformational leaders

include acting as a role model, demonstrating concern for the well-being of the subordinates, inspiring subordinates through challenging their abilities and intellectual capacity (Charbonneau, Barling, & Kelloway, 2001). The support and inspiration demonstrated through transformational leadership encourages subordinates to achieve more than the followers may have originally thought possible (Schaubroeck, Lam, & Cha, 2007). This leadership style can be contrasted to transactional leadership, where followers perform clearly laid out duties in exchange for a reward of some sort. Bass (1999) expanded on these definitions to create a continuum of leadership styles ranging from transformational to transactional to nonleadership, or a laissez-faire leadership approach. Transformational leadership can be broken down into four major dimensions (Bass, 1999). The first dimension is inspirational motivation, in which leaders present strong, unified goals for the group to work towards together. The second dimension is idealized influence, where leaders develop loyalty in their subordinates by showing care and concern for the individual, as well as demonstrating high standards and expectations for the subordinates. Intellectual stimulation is the third dimension, where leaders encourage subordinates to think about problems creatively and challenge norms. The fourth dimension is individualized consideration, where leaders recognize improvements and successes in subordinates. Transactional behaviors can be classified based on contingent reward, active management-by-exception (e.g., enforcing rules after an error), and passive management-by-exception (e.g., a hands off approach until assistance is requested). Transactional leaders may be effective in the moment, but long term behavior changes in subordinates may not occur (Brymer & Gray, 2006). In one longitudinal study, transformational leadership was shown to result in increased performance after five years (Keller, 2006). Transformational leadership has been shown to be beneficial to not only performance, but follower satisfaction (Rowald, 2007).

Based on positive outcomes associated with transformational leadership (Bono & Judge, 2004), developing leaders through the transformational model of leadership may be more beneficial for subordinate performance. These findings have been observed in a variety of situations, including sport (Rowold, 2006), educational settings (Harvey, Royal, Stout, & Ratings., 2003), and the military (Hardy et al., 2010). The effectiveness of transformational leadership may be highlighted more in situations where original thought and innovation are required for the success of the group or outcome, as noted by Keller (2006). Beyond performance outcomes, transformational leadership has been linked to follower well-being (Nielsen, Randall, Yarker, & Brenner, 2008), particularly if the subordinate has a good sense of role clarity and finds meaning in the task at hand. The follower or subordinate plays a large role in transformational leadership. For transformational leadership to be effective, followers must identify with the leader, as well as the group as a whole, which leads to a sense of empowerment for the subordinate (Kark, Shamir, & Chen, 2003).

Personality traits such as agreeableness, positive affectivity, and emotional recognition were linked more often with transformational leadership behaviors (Rubin, Munz, & Bommer, 2005). Bono and Judge (2004) reported extraversion as having the strongest relationship to transformational leadership behaviors. These traits can transfer from adolescence to adulthood, as demonstrated by Reichard et al. (2011). While personality can be a predictor of leadership style (Hogan & Kaiser, 2005), it is well documented that leadership styles, such as a transformational leadership approach, can be taught, where leaders learn to incorporate certain behaviors into their leadership style (Barling, Loughlin, & Kelloway, 2002). Brown and Moshavi (2005) suggested that emotional intelligence is a factor in the effective application of a transformational leadership style. Feedback and supportive assistance are also important

components to successful leadership development (Palus, Horth, Selvin, & Pulley, 2003). Higher levels of moral reasoning in leaders has also been related to a transformational leadership style (Turner, Barling, Epitropaki, Butcher, & Milner, 2002).

To summarize, a transformational leadership approach can have long term positive effects on the overall performance and well-being of a group of subordinates, more so than a transactional style of leadership. While some traits are typically associated with transformational leadership, this style can be taught to leaders with the goal of inspiring their subordinates.

Military Leadership and Current Views of Military Leader Development

Importance of leadership in the military. As leadership is such an important aspect of military safety and success, there is a plethora of literature focused on military-specific leadership. As Wong et al. (2003) stated, "leadership and the military are practically inseparable" (p. 675). Military leadership success is exemplified in the variety of fields who have adopted similar leadership development strategies, including business (Cohen, 1992), scientific laboratories (Boe, 2006), academia (Reineck, 2009), the police force, (McNally, Gerras, & Bullis, 1996), and the medical field (Bonadonna, 2009; Frank, 2008). The application of military leadership, however, has not yet been applied to a sport setting.

Leaders in the military need to deal with a complex environment, one that is not found in several other situations. Military leaders make decisions on a daily basis that impact the lives of their subordinates, in locations they may not be familiar with. To deal with these complex situations, leaders must possess qualities such as flexibility, cultural awareness, cognitive complexity, openness, broad perspective, and ability to handle uncertainty (Larsson et al., 2006).

Therefore, development of effective leaders is crucial for military officers, as is demonstrated in the following sections.

Development of leadership in the military. The United States Military is most known for its success in developing leadership skills in its officers. Traditions of hierarchy and leader/subordinate expectations lay a framework for leadership development (Wong et al., 2003). This structure allows for mentorship to occur between new officers and veterans (Hu, Wang, Sun, & Chen, 2008). Mentorship among military populations has shown to increase commitment to a military career, leadership ability, and psychosocial satisfaction. When clarifying the leader development process in the military, Larsson et al. (2006) recognized the impact of positive role models on developing a professional military identity in young officers, particularly in challenging officers and demonstrating the proper way to act as a leader. Leader growth and development is divided into two sections. Internally, officers must feel secure in their role. Externally, taking on leadership roles and being empowered to lead results in higher levels of leader development (Larsson et al., 2006).

Transformational Leadership in the Military.

Much of the current leadership development training in the military follows a transformational leadership style (Bradley, Nicol, & Charbonneau, 2002; Wong et al., 2003), or what some refer to as charismatic leadership (Keithly & Tritten, 1997). Major characteristics found in transformational leaders include self-identity, courage, belief in followers, value-driven personalities, focus on lifelong learning, the capability to deal with ambiguity or uncertainty, and a vision for change. In the military, these characteristics are summarized in three components: vision, support, and challenge, in an attempt to make transformational leadership fit more clearly in a military model of leadership (Army Leadership Development Program Handbook, 2002). In

a leadership intervention, Hardy et al. (2010) taught a variety of skills, including goal setting, observation of behavior, giving motivational and developmental feedback, and asking effective questions in an effort to develop transformational leadership skills in recruited cadets. In depth training focusing on the tenets of vision, support, and challenge, three basic components of both military leadership and transformational leadership, were delivered to cadets over a period of 15 weeks. Results showed an increase in cadet ratings in categories of individual consideration, acceptance of group goals, teamwork, and contingent reward. These findings supported the effectiveness of transformational leadership development in a military setting. Transformational leadership in the military is also related to teamwork, positive affect (Boies & Howell, 2009), and extra effort of subordinates (Stadelmann, 2010). Leaders in military settings who display transformational behaviors such as displaying care for the welfare of the subordinate, inspiring by leading from the front, and helping followers feel they are a part of a larger group or mission, can increase performance in military settings (Hannah, Uhl-Bien, Avolio, & Cavarretta, 2009). However, much of this research is theoretical in nature, and has not been fully tested in the extreme settings found often in the military.

Several personality characteristics have been identified as being effective in a military setting. Bradley et al. (2002) identified dominance, internal locus of control, and energy level as being associated with higher levels of leader effectiveness. Extraversion was linked to leader effectiveness in ROTC cadets (Thomas, Dickson, & Bliese, 2001). Early academic success and extracurricular participation was found to predict leader effectiveness in West Point cadets (Bartone et al., 2007); however, psychosocial development as reported by Military Development and Cadet Performance Reports were not linked to these early experiences. Thunholm (2009) found that military leaders tend to have higher natural decision making styles, and were often

more decisive, action oriented, and forceful than their subordinates. Leaders tended to score lower in procrastination and delayed decision making, careful and systematic processing of decisions, and dependency on guidance from others. White and Shullman (2010) suggested that more effective leaders are better equipped to make decisions in ambiguous environments, where there is an element of uncertainty. In high risk situations where decisions must be made at a moment's notice, these skills are of utmost importance. It is interesting to note that while the military promotes a transformational leadership model, some of the previously mentioned traits or behaviors, specifically dominance and forcefulness, do not seem to fit with a transformational model. It is important, then, to look more carefully at not just what the military believes itself to be developing relative to a more to transformational leadership, but at what the leaders are actually doing in the field.

In summary, military leadership may require different needs than leadership in civilian settings. Awareness of the needs of military populations has led the military to adopt a transformational model of leadership development, focusing on the needs of the subordinates.

Army ROTC leadership training program. McNally et al. (1996) assessed the leadership curriculum at West Point, reporting the importance of application of leadership knowledge. Cadets first learn leadership theory in a classroom setting, followed by application of this training in the field. Much of the leadership theory in the military focuses on transformational leadership. Applied to the military, transformational leadership focuses on helping leader's to influence and inspire subordinates to go above and beyond what is asked or expected and, in turn, to achieve common mission goals. Transformational leadership has been shown to increase the performance of subordinates and often the desire to succeed (Boies & Howell, 2009). While the major outcome goals are similar in Army ROTC programs to those at

military colleges such as West Point, the approach is different, as cadets in ROTC attend standard colleges or universities, and do not have as much of a military focus in their academic programs. Little research has been done on ROTC programs, assessing their effectiveness in preparing cadets to be military leaders. Instead, much of the focus of previous research is on military academies such as West Point (e.g., Bartone et al., 2007; Yudhoyano & Jalal, 2009). This is disheartening, as in 1990, the Army graduated 931 officers from West Point, and 7,785 from ROTC programs (Officer commissioning programs: More oversight and coordination needed", 1992). Over 600 ROTC programs are located at various colleges and university throughout the United States. The cost of educating a cadet through ROTC is less expensive, approximately $40,000 to $70,000 in total, than at a military academy such as West Point, with an estimated cost ranging from $197,000 up to nearly $300,000. Having a better understanding of the curriculum effectiveness, as well as improved recruiting practices, of ROTC programs could save the Department of Defense (DOD) millions of dollars annually.

Development and training methods. ROTC leadership development is defined as "a continuous process of training, assessment and feedback with the goal of instilling and enhancing desirable behavior in military organizational managers" ("Army Leadership Development Program Handbook", 2002, p. 3"). The program consists of classroom learning, hands on field training, structured leadership opportunities, and ongoing assessments and evaluations. Training is set up in a standardized method, with a focus on individual needs; enough flexibility is allowed to provide for specific needs of each cadet. Mentorship, both peer and instructor, is a large part of the ROTC leadership development process. Hu et al. (2008) highlight the value of mentorship in leadership development in military settings, reporting cadets feeling higher levels of psychosocial well-being and career satisfaction. Mentors or role models, whether formal or

informal, can assist young cadets or officers in creating a military identity, as well as providing opportunities to see a significant role model do something properly prior to attempting the task themselves (Larsson et al., 2006).

Assessment of leadership. ROTC cadets have several opportunities to receive evaluations of their leadership performances throughout their years of training. These evaluations can be self-assessments, peer evaluations, and cadre or instructor evaluations. Evaluation is a cyclical process, as depicted in Figure 1:

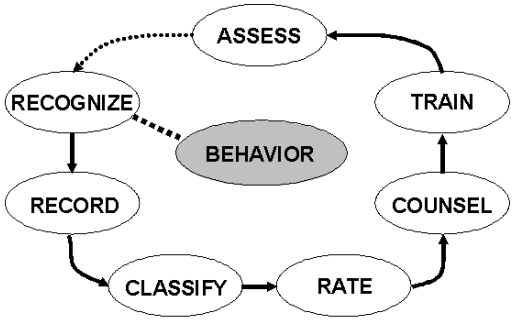

Figure 1: ROTC Cycle of Assessment

Assessment of leadership skills focus on the major categories of military leadership, which have been divided into subcategories of Values, (e.g., loyalty, duty, respect, selfless service, honor, integrity, and personal courage), Attributes (e.g., mental, physical, and emotional), and Skills (e.g.,conceptual, interpersonal, technical, and tactical). Actions are also assessed, which are divided into the following subcategories: Influencing Actions (e.g., influencing actions, communication, decision making, and motivating), Operating Actions (e.g., planning/preparing, executing, and assessing), and Improving Actions (e.g., developing, building, and learning). Assessments can occur formally through provided evaluation forms, or informally through communications with peer mentors and cadre. These evaluations, referred to as After Action Reviews (AAR) allow for reflection on performance. This system emphasizes a

360 degree evaluation, where all participants have an opportunity to provide feedback. These assessment categories and processes, while not specifically identified as transformational, overlap in several areas with the key concepts of transformational leadership (Bass, 1999).

Leadership in high stress / high risk situations. Leadership in high risk or high stress situations is under-researched, as conducting studies in these environments could impact the safety of the researchers as well as participants. This small body of research which has been conducted focused on the role of the leaders in extreme events or contexts. Hannah et al. (2009) defined extreme contexts as those which have potential for physical harm, consequences are considered unbearable by the members involved, and exceed the members abilities or capacity to prevent the extreme situation from occurring. Extreme contexts are often found in military settings.

While situational context is important in general leadership, it is even more so in high risk situations, as challenges faced can increase the levels of stress in both leaders and followers. (Campbell, Hannah, & Matthews, 2010). Effective leadership is also more crucial in these situations (Yammarino, Mumford, Connelly, & Dionne, 2010). Subordinates' trust in their leaders (Sweeney, 2010) plays a major role in military combat situations, which assists subordinates make sense of the actions required of them (Baran & Scott, 2010). Leader self-efficacy is also of high importance in high risk situations (Samuels, Foster, & Lindsay, 2010).

In Yammarino et al. (2010)'s multilevel leadership model, effective leadership in high risk situations require (a) shared mental models (e.g., shared vision or goals); (b) a creative leader; (c) leader affect management; (d) team climate centered around positivity and cohesiveness, and (e) a successful outcome or performance. Challenges to effective leadership

occur when (a) there is an overload of work for the leader or individuals, (b) there are high levels of stress at individual or group levels, or (c) there is conflict between individuals in the group.

Challenges in developing leadership in the military revolve around the lack of situational training that can be provided for officers. While technology has assisted in providing simulation training (Williams et al., 2008), the high levels of stress and danger that occur in actual combat situations are difficult to replicate in training settings. Technological advances also allow high ranking military personnel to lead from afar, distancing themselves from the dangers of combat, but also distancing them from their subordinates (Wong et al., 2003). This separation can have a negative influence on the bonds and trust between leader and subordinate.

In summary, researchers must take into consideration the role of the situation in leadership development and effectiveness, particularly in high risk settings such as the military, as greater incidences of risk or physical harm can have an impact on the role of the leader.

Antecedents of Leadership

Many researchers have attempted to identify antecedents of leadership, or early life experiences that could prepare someone to be a more effective leader in later life. Guerin et al. (2011) conducted the first longitudinal study identifying personality characteristics of youth and adolescents, in an attempt to identify leadership behavior in adulthood. Extraversion, or the ability to have positive interpersonal interactions, in adolescence led to more leadership opportunities and qualities, particularly transformational leadership, in adulthood. Adolescents who were assertive, active, cheerful, and searched for excitement reported higher transformational leadership scores as adults. Children who are more open to new people and experiences are more likely to develop social skills that increase leadership abilities as adults. These behaviors or attitudes can be seen as early as 3 years of age (Blank, 1986). Reichard et al. (2011) reported high school leaders tend to prefer charismatic leadership styles, with a focus on

socio-emotional qualities. Family experiences such as birth order can impact leadership roles as well, as Newman and Taylor (1994) reported more political figures are firstborn males, similar to findings by Sandler and Scalia (1975) with female firstborns.

Skills learned in childhood can transfer not only across the lifespan, but to some other life activities as well (Park, Arvey, & Tong, 2011). Specifically, leaders in high school athletics reported participating in more leadership roles as adults. Other extracurricular activities where leadership roles were held in high school, such as drama, church, and charity clubs also increased the likelihood of taking on a leadership role later in life. This suggests that behaviors learned in childhood become patterns that will follow throughout adulthood. These findings support youth development programs' efforts to teach leadership and life skills in adolescence. Programs such as The Youth Leader Corps (Martinek & Schilling, 2003) use Hellison's (1995) Personal and Social Responsibility Model to teach leadership to underserved youth, and have shown promising results. These studies will be expanded on later in this dissertation.

While after school activities can facilitate leadership development, one cannot assume these skills will develop automatically. Taking on a lead role is important in leadership development, due to more responsibilities and more immersion and investment in the activity, allowing for more opportunities to learn. However, this position can also lead to more negative developmental experiences if stress levels are too high and not dealt with effectively (D.M. Hansen & Larson, 2007). Knifsend and Graham (2011) reported that, while youth leaders typically have higher academic success, engagement, and sense of belonging in school, participation in too many activities can have negative consequences. Challenges with being overinvolved in extracurricular activities include lack of time to devote to academics, limited engagement in class due to being overworked, and a limited sense of belonging. Youth in

leadership roles can learn to deal with the variety of demands of being a leader, including task, role, and time demands (Wood, Larson, & Brown, 2009), as well as emotional control, anger management, and interpersonal skills (Larson & Brown, 2007).

While understanding the construct of leadership is of utmost interest to researchers, the ability to develop leadership skills is just as important, particularly for leadership development practitioners. When developing leadership skills, Riggio (2008) suggested taking an individualized approach as opposed to a universal, one-size-fits-all motto of leadership. It is important to understand the motivations, readiness, and needs of potential leaders. Before someone is truly able to become a leader, he or she must be aware of their strengths and weaknesses as a leader. Creating a leadership self-identity is also necessary for developing leadership skills (Murphy & Johnson, 2011).

Programs focusing on leadership development must address the needs of the subordinates as well as the situational differences that may be faced as a leader. Vroom and Jago (2007) recognized three situational variables in leadership development and effectiveness. First, the organization of the group, often attributed to leader effectiveness, can be impacted by situations out of control of the leader. Secondly, leaders behave differently in different situations. Finally, outcomes or consequences are influenced by the situation. Taking the situation into consideration, leadership development programs must stress flexibility of leadership styles and prepare leaders for the plethora of situations they may face. Matching instructor to trainee can impact the development of leadership skills (Boyce, Jackson, & Neal, 2010). Conditions such as commonality, compatibility, and credibility influenced the effectiveness of a leadership development program. Trainees must have good rapport with their instructors, trust them, and feel that the instructor is committed to teaching leadership skills.

Based on these findings, leadership and life skills development programs have opportunities to effectively impact leadership development in youth participants. The mere involvement in extracurricular activities, however, is not enough to see this development. A life skill development focus must exist to see true improvements. While certain personality characteristics play a role in leadership development, conscious efforts to develop leadership skills must be made for true development to take place.

The Role of Sport In Developing Life Skills, Particularly Leadership

Sport and life skill development research. To understand leadership as a life skill, it is important to identify exactly what life skills are. Life skills have been defined as "those internal personal assets, characteristics and skills such as goal setting, emotional control, self-esteem and hard work ethic that can be facilitated or developed in sport and are transferred for use in nonsport settings" (Gould & Carson, 2008, p. 60). Sport and extracurricular activities have been identified as potential vehicles for development of life skills in several different studies (Eccles & Barber, 1999; Eccles et al., 2003; Hansen & Larson, 2007; Hansen et al., 2003; Larson et al., 2006). As seen in the leadership literature, these skills do not develop automatically; purposeful training and development of life skills are necessary for learning and transfer to occur (Danish, 2002). Youth may not have an awareness of the skills they are learning, and how they transfer to other areas of life (Danish, Petitpas, & Hale, 1993).

Leadership has been identified as an important life skill, thus the transfer of leadership skills is of interest as well, focusing on how early experiences impact leadership later in life. Guerin et al. (2011) suggested that early childhood experiences, as well as high levels of extraversion as an adolescent, can lead to higher levels of leadership potential as an adult. Involving children in opportunities to improve psychosocial development could have positive influences on successes later in life. Park et al. (2011) supported these claims, recognizing the

transfer of leadership skills in adolescent activities such as sports across domains and stages of life. Specifically, between 20 and 26% of reported leadership behaviors may be influenced by previous leadership experiences. These findings support an interactional model of leadership, where both the situation and personal characteristics play a role in leadership success.

Research on life skill development has a direct impact for professional practice. Building off the life skill literature, Gass (1985) developed recommendations for complete development and transfer of life skills, one of which involves having youth participate in a variety of activities, where skills are shared across a variety of contextual situations. Opportunities to transfer skills in safe, monitored settings will allow for learning, along with receiving guidance and feedback from supervisors. Reflection of skills learned is also vital to the life skill development process. Development of life skills can be effective through purposeful lessons in a variety of areas, particularly sport. In summary, through active involvement in life skill focused activities at a young age, youth can develop life skills that may transfer to adulthood.

Sport Participation and Leadership Development.

Due to opportunities to learn rules, principles, and values of leadership in sport settings that can transfer to other walks of life, sport is a prime setting for developing leadership skills (Rayburn, Goetz, & Osman, 2001). Much of the general psychology leadership research can apply to a sport setting, however, two theoretical models have emerged from the body of literature on leadership in sport psychology. Focusing on the coach as a leader in sport, Smoll and Smith (1989) developed the cognitive-mediational model looking at the coach as a leader. This models attests that "subordinates' reactions to leader behaviors are mediated by cognitive and affective processes, including perception and recall of the leader's behaviors, and that these mediational factors need to be taken into account" (p 1532). Athletes respond differently based

on their perceptions of the coach's behaviors as a leader. The multidimensional model of leadership (Chelladurai & Saleh, 1978) recognized the effectiveness of the leader relates to the needs of the followers, as well as the situation. Three leader behaviors are addressed: required behavior, or what is expected of the leader; preferred behavior, or what the subordinates need; and actual behavior, what the leader actually does. Athlete satisfaction and performance increases as these three areas merge and become the same. Riemer and Chelladurai (1995) applied this theory in a study conducted with football players. Results showed athlete satisfaction was related to social support and positive feedback. Perceived leadership behaviors related more to athlete satisfaction than preferred leadership of athletes. Case (1998) attempted to apply Leader-Member Exchange Theory, which focuses on role development in a group and how that role impacts relationships between leaders and followers, to a sport setting in an effort to better understand the relationship between coaches and starters versus nonstarters. Identifying starters as the "in group" and nonstarters as the "out group", in-group athletes scored higher on leadership ability than the out-group, possibly because of their relationships with the coach. Similar to these findings, team and peer leaders are typically starters (Loughead, Hardy, & Eys, 2006). Due to the team or group aspect of sport, several opportunities may arise for leadership development. To summarize, leadership in sport may be impacted by interactions with a coach, whether actual or perceived. These interactions can lead an athlete to feel greater levels of involvement and satisfaction with their sport experience, which may result in greater leadership roles as athletes.

Development of leadership in sport. As previously stated, sport has been identified as a vehicle for developing leadership skills (Eccles & Barber, 1999; Eccles et al., 2003; D.M. Hansen & Larson, 2007; D. M. Hansen et al., 2003; R. W. Larson et al., 2006). When comparing

athletes to non-athletes in high school, Dobosz and Beaty (1999) reported that those students who participated in athletics demonstrated higher leadership ability than students who did not participate in organized sports. Martinek and Hellison (2009) created a developmental model of youth leadership, with several stages including (a) learning to take responsibility; (b) leadership awareness; (c) cross-age leadership; and (d) self-actualized leadership. This model was developed based upon a five-stage responsibility model for youth (Hellison, 1995). The five stages in this model include: Level 1: Respecting rights and feelings of others; Level 2: Participation and effort; Level 3: Self-directions; Level 4: Helping others and leadership; and Level 5: Transferring what has been learned. Based on this model, then, before taking on leadership roles, youth need to learn responsibility for themselves. This model could apply to sport settings, when training captains to be leaders.

Research in this area has a direct impact on professional practice for those working with young athletes. When developing leadership skills in athletes, Grandzol, Perlis, and Draina (2010) made several recommendations for improving leadership in all athletes, as opposed to a select few. These include assigning specific responsibilities to each athlete, based on his or her skills and abilities, involving athletes in decision making opportunities in planning and training, and creating an environment where challenges and communication are supported. Interviews with coaches identified as developing effective captains showed that proactive approaches to leadership development can be useful in teaching leadership to high school captains. Suggested practices include: continuous, open communication with captains, providing feedback and reinforcement, conducting meetings between coaches and captains, providing formal leadership training initiatives, and explaining concepts relevant to the captain's role as a leader (Gould,

Voelker, & Griffes, 2013). Based on these findings, it can be concluded that through active practices involving hands on learning, sport can be a vehicle for leadership development.

Role of captains. Many of the research studies on the role of sport captains have been qualitative in nature. Voelker et al. (2011) interviewed former high school sport captains to ascertain what roles and responsibilities they had on their teams. Participants reported organizational duties such as leading stretches or calling the coin toss, setting examples on and off the field, being a motivator for teammates, developing teammate relationships, and being supportive, as their main duties. Challenges arose, however, as captains often reported receiving little or no formal training in leadership, or clarification as to what their role as a captain was. Canadian collegiate athletes reported differences in their behaviors from those of their peers, including working harder than their peers in an attempt to improve skills and being good role models, and developing relationships with the entire team as opposed to playing favorites or taking part in cliques (Wright & Côté, 2003). Dupuis, Bloom, and Loughead (2006) identified the main roles of collegiate ice hockey players as serving as a liaison between coaches, other team members, and referees, acting as a mentor through positive modeling (e.g., promptness, work ethic), and taking on organizational responsibilities (e.g., helping the coach plan the off-season, representing the team at special gatherings, talking to the media, sponsors, and fans, and organizing team meetings and fundraising events). In a study by D. J. Vincer, Baker, Loughead, and Monroe-Chandler (2007), leaders were reported to require certain behaviors including communication, having a positive attitude, being respectful, leading by example, and discipline. In summary, researchers have begun to study the role sport captains play on their teams, with studies being conducted with both adults and youth. These duties range from the mundane (e.g., call coin toss at the start of a contest) to the more complex (e.g., serve as a liaison to one's

coach). While these duties are important because they have identified some of the specific duties captains fulfill, little research has been conducted to examine how young people are prepared to take on these duties. In fact, the one study asking this question has found that most captains receive little training to prepare them for these roles. It appears, then, that young people learn the roles and duties of a captain via trial and error or from other life experiences.

Importance of leadership on team success. As previously stated, leadership has been identified as a key element to a successful sports team (Gould et al., 2006; Gould et al., 1987; Jones & Lavallee, 2009). Leadership can impact group cohesion on teams, which in turn leads to more effective performances. Vincer and Loughead (2010) found that team cohesion was positively related to leaders who scored high in areas of training and instruction and social support, while autocratic behavior of the leaders was negatively related to team cohesion. Earlier studies reported similar findings, but behaviors such as democratic behavior, positive feedback, and avoiding autocratic decision making are linked to task cohesion, as well (Shields, Gardner, Bredemeier, & Bostro, 1997). Intrinsic motivation was linked to transformational leadership behaviors in sport as well (Charbonneau, Barling, & Kelloway, 2001).

Benefits of being a leader in sport. Many personal benefits can be gained by taking on a leadership role in sport. As reported by Grandzol et al. (2010), athletic participation alone does not influence leadership development, but taking on the role of leader or captain provides opportunities to learn leadership skills and practice them in a team setting. Using the Student Leadership Practices Inventory (SLPI), five categories of leadership were rated, including: Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, and Encourage the Heart. Through self-report, 160 athletes, both captains and team members assessed their leadership skills at the beginning and the end of the season, approximately 10-12

weeks apart. Throughout a single season, scores for captains at the collegiate level increased in all five areas, whereas non-captain scores remained the same, except for an increase in Inspire a Shared Vision.

To summarize the research in this area, the development of leadership skills is possible and probable in a sport setting, as long as certain characteristics are purposefully developed. Simply participating in a sport program is not enough, a concerted effort to structure the environment to foster leadership development, as well as taking on a leadership role, is needed to see optimal leadership development. This development is beneficial not only for team success but for individual development as well.

The Measurement of Leadership and Leadership Development

When assessing leadership, a number of areas must be addressed such as the behaviors displayed by the leader, antecedents to that behavior, and the outcome of the leadership behavior (Davis & Luthans, 1979). No one measure seems to assess all these aspects so measures focus on certain aspects of leadership. The effects of leadership styles or behaviors, for example, are most often the focus of research studies. Transformational leadership has been found to influence general team effectiveness (Burke et al., 2006), team performance, team potency, and collectivism (Schaubroeck, Lam, & Cha, 2007), subordinate well-being, (Nielsen et al., 2008), personal and social identification with the leader, follower dependence (Kark et al., 2003), and follower empowerment at both the team and individual level, (Burke et al., 2006; Chen, Kirkman, Kanfer, Allen, & Rosen, 2007). Leaders who appeared to followers as prototypical of the group were often rated as more effective (Fielding & Hogg, 1997). Perceptions of followers, or how they experience the leader's style, may have more of an impact on follower behaviors than actual leader behaviors, however (Nielsen et al., 2008). Keller (2006) suggested followers

may play an even larger role in leadership, as substitutes for leadership such as subordinate ability or intrinsic motivation may impact outcomes or group success as well.

When assessing leadership effectiveness, outcomes are not the only factors to consider. Links between leadership styles and personality traits should also be addressed. Zaccaro (2007) claims a person's traits and attributes in combination with each other, as opposed to individually, will predict leadership effectiveness. These traits are stable and will result in leadership roles in a variety of situations, although they can be altered or developed through life experiences and formal training programs. Turner et al. (2002) found that managerial leaders with high levels of moral reasoning tended to display more transformational leadership behaviors. Leader emergence and effectiveness were associated with higher levels of intelligence, dominance, self-efficacy, dominance, and self-monitoring (Foti & Hauenstein, 2007). Leaders who were able to accurately identify emotions of others based on facial expressions and had higher affect scores rated higher in transformational leadership ratings (Rubin et al., 2005). Transformational leadership was highly associated with extraverted personality types (Bono & Judge, 2004), with correlations between transformational leadership and personality categories of conscientiousness, agreeableness, and openness to experience, as found in the Big Five Personality Types. Agreeableness and extraversion were predictive of transformational leadership in Rubin et al.'s (2005) study as well. Controlling for these personality traits, leader efficacy, and motivation to lead (MTL) led to more effective leadership ratings by subordinates (Hendricks & Payne, 2007).

When measuring leadership, researchers must take into consideration several different areas, including personality traits, follower reactions, and group or performance outcomes. Leadership behaviors (e.g., transformational versus transactional leadership) must be considered

as well. A holistic approach to leadership development is necessary to glean a complete understanding of the construct of leadership.

Gaps in the Literature.

Despite the vast body of literature on general leadership, there are still several gaps that need to be filled. Researchers have made strides in understanding the complexities of leadership, but a clear, agreed upon definition still does not exist, which makes studying this topic difficult. Best practices for how to develop leadership are still debated as well. There seem to be as many theories or definitions as there are researchers to study leadership (Jago, 1982). Questions still exist as to the transferability of leadership effectiveness in different situations. These areas include asking if leadership is universal or context specific, if different leadership styles are more effective in different situations or with different groups of subordinates, and if leadership skills are stable across contexts (Avolio, 2007). One area that needs the most clarification when addressing leadership development is identifying antecedents, or early life experiences, that might prepare young people to be more effective leaders in adulthood. By identifying antecedents to leadership effectiveness, practitioners can begin to teach leadership at a younger age, as well as identify potential leaders in adulthood. This is even more important in military settings, where the role of leaders is increased due to higher levels of stress and risk than are found in the general population. The use of transformational leadership in military settings needs to be clarified as well. The military claims to promote and develop a transformational leadership style, however some soldiers have reported a lack of clear mission or vision, a lack of recognition for performance, not feeling like part of a team, and feeling as if he or she is easily replaced, simply a number in a group (Fry, Vitucci, & Cedillo, 2005). The inspirational goals of transformational leadership attempts to replace these feelings with a sense of inspiration and

transformation, but this cannot happen if the leaders are not demonstrating transformational leadership.

Study Purposes

The purpose of this dissertation is to assess high school sport and extracurricular activities as antecedents to leadership effectiveness, particularly transformational leadership, in the Army ROTC. In doing so, more information may come to light in regards to early sport experiences and their impact on future leadership skills, the transferability of leadership from sport to other arenas, and a closer look at how transformational leadership is being developed and assessed in the military. By taking a closer look at the assessment procedures in the ROTC, characteristics related to transformational leadership will be related to other validated leadership measures to get a better understanding of the relationship between ROTC leadership development models and transformational leadership.

CHAPTER III

METHODS

Participants

Approval for this study was granted by the Institutional Review Board at the researcher's university. Participants included 340 ROTC undergraduate students participating in Army ROTC, drawn from eight Midwestern university-based programs. To be included as participants, volunteers had to be enrolled in the ROTC program at their school at the time of data collection. They ranged in age from 18 to 32 and represented all years of study in the undergraduate degree educational process. Cadets were both male and female, were scholarship cadets, non-scholarship cadets, or contracted with the Simultaneous Member Program (SMP) with the Michigan National Guard, and participated in a variety of extracurricular experiences in high school (sport participant, non-sport participant, team captain, member of after school clubs, student government, etc.).

Procedures

Army ROTC programs were identified through the assistance of cadre (Army ROTC professors) at a Midwestern university's ROTC program. Programs were selected based on their size, location, and recruitment requirements in order to access information from cadets with a variety of training experiences. Attempts were made to include a variety of programs with diverse resources and training experiences for the cadets, such as number of cadets to act as subordinates, and outdoor training space. Initial contact was made with program directors via an email describing the study, its purposes, and potential benefits to the program.

Participation in the study was voluntary and all eligible cadets at each institution contacted were asked to volunteer. Informed consent was obtained before data was collected.

Cadets completed the surveys online using a confidential and secure website. Surveys were also completed in a private location without involvement from ROTC cadre or program directors. Participants were informed in writing that their participation was voluntary, that they could skip any question they did not feel comfortable answering, and that they could terminate participation in the study at any time without repercussions from the ROTC. Due to the data collection process, response rate cannot be reported. Complete rosters of ROTC cadets in each participating program was not provided to the researcher, so the percentage of participants completing the survey is unknown.

Instrumentation

This study used self-report surveys to examine the relationship between the key variables of concern. Participants were given a set of measures to assess peer leadership effectiveness and a demographics questionnaire. Survey materials are available in Appendix B.

Demographics. Participants completed a demographics questionnaire, which was pilot tested with both current and former ROTC cadets for proper wording in a military setting. Questions addressed background information such as age, gender, sport experience, extracurricular activities at the high school and college level, leadership training experiences, and roles in the ROTC. Cadets provided information about their leadership evaluations from the ROTC as well. Variables assessed included: (a) sport participation, (b) captaincy experience, (c) formal captaincy leadership training, (d) type of sport played, (e) starting status, (f) extracurricular activity participation, (g) extracurricular activity leadership, and (h) formal extracurricular activity leadership training. Based on the responses, three indices were calculated: a captaincy experience index by recording all official and unofficial leadership roles taken through sports programming, an extracurricular activity experience index by identifying all

extracurricular activities each cadet was involved in, and a leadership index documenting all official and unofficial leadership training received.

Leadership effectiveness. Three measures of leadership effectiveness were calculated: the Student Leadership Practices Inventory (SLPI; Posner, 2010), ROTC GPA, and ROTC Field GPA. Each are described below.

SLPI. The SLPI was used to assess leader effectiveness in the cadets and is contained in Appendix B. It was selected due to its specific application for college age students, which is an important consideration due to clearly documented differences between adult and adolescent leadership, as noted previously, as well as its application to diverse populations. This scale was designed as a self-assessment leadership effectiveness for youth leaders. The SLPI is a 30-question scale, where participants rate the frequency of behaviors or actions they engage in. Scoring is assessed on a 5-point Likert scale, with 1 = rarely or seldom, and 5 = very frequently. The scale is divided into five subscales, or leadership practices: Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, and Encourage the Heart. The psychometric properties of the SLPI have been previously documented, with strong internal consistent. Cronbach's alpha scores of .68 to .79 have been reported across the five subcategories (Posner, 2010). The SLPI was developed from the Leadership Practices Inventory (LPI) for use with college age students. A factor analysis reported high internal and external reliability for each effectiveness score, as well as high correlations with the single-item global effectiveness scale (Posner & Brodsky, 1992). The SLPI has been validated across many populations, to account for a variety of potential demographic variables, including age, gender, education, major of study, experience in leadership roles, and involvement in fraternities or sororities. Consistent relationships with a variety of measures have been demonstrated. The

SLPI appears to be robust and independent from the variety of demographics previously mentioned (Posner, 2004). While the SLPI has not been used in a military setting, Reineck (2009) used the Leadership Practices Inventory's five leadership practices to address military leadership success, focusing on the same subscales as found in the SLPI. The SLPI has been used to evaluate male and female high school and college students age 18-31 (Posner, 2010). While most studies used the SLPI in the original, intended format as directed by the manual, reporting the mean scores of each of the five sub-scales, some studies (Pierce, Havens, Poehlitz, & Ferris, 2012; Wisner, 2011) reported data as a whole scale score. Due to the nature of the data for the current study, and the high Cronbach alphas reported, the SLPI was used as a whole scale, without subscales. Specific data regarding Cronbach alphas is reported later in the Methods section.

ROTC and Field GPAs. ROTC GPA outcome data were based on participants' self-reports of grade point averages in their ROTC courses in the last semester. While not specifically measuring leadership skills directly, a major component of ROTC coursework is leadership development. Leadership scores were more directly rated through their ROTC field experiences. Participants also provided leadership ratings / scores from their field experiences. Field experience scores could be N, (Not Satisfactory), S, (Satisfactory), or E, (Excellent). To make this variable more comparable to the ROTC GPA scores, ratings of E were converted into 4-point scores; ratings of S were converted into 2-point ratings; and scores of N were given no points. For example, a participant who reported two E (8-points), three S (6-points), and two N, would receive a Field GPA score of 2.0 (14 points across 7 experience scores). These scores are representative of a variety of attributes (e.g. respect, selfless service, honor, integrity) and competencies (e.g. leads by example, communicates, extends influence) that have been identified

by the Army ROTC as vital components to effective leadership. They align well with transformational leadership, and therefore will be used to demonstrate transformational leadership effectiveness in the current study.

Data Analyses

The investigator used The Statistical Package for Social Sciences (SPSS) software to perform all statistical analyses. First, descriptive statistics on all measures, tests of normality, and correlations between all measures were calculated. Cronbach's alpha coefficients were then calculated on all scales and subscales to determine reliability of each measure used in this study. Research Question 1 [*Is there a relationship between the extent of high school extracurricular activity participation and leadership experience?*] was analyzed using one-way ANOVAs, assessing the impact of sport participation on SLPI scores and ROTC Field GPA. Research Question 2 [*Is there a relationship between the extent of high school sports participation/captaincy experience and ROTC leadership effectiveness?*] was analyzed using a regression assessing the relationship between seasons of captaincy and formal leadership training and SLPI scores or ROTC Field GPA. Research Question 3 [*What, if any, factors influence the high school sport participation/ captaincy experience and ROTC leadership effectiveness relationship?*] was analyzed using one-way ANOVAs, assessing the impact of extracurricular activity involvement on SLPI scores and ROTC Field GPA. Research Question 4 [*What is the joint influence of the extent of high school sports and extracurricular activity participation and captaincy experience and ROTC leadership effectiveness?*] was examined using 2-way ANOVAs assessing the impact of sport participation, captaincy, and formal training on SLPI scores and ROTC Field GPA. Research Question 5 [*What levels of transformational leadership do ROTC cadets demonstrate? Does this vary by year in school? Is it correlated to academic achievement*

in ROTC courses?] was analyzed using a regression assessing the relationship between years in the ROTC and SLPI scores, as well as a Pearson Correlation assessing the relationship between SLPI, ROTC GPA, and ROTC Field GPA. Research Question 6 [*Is the sport participation ROTC leadership relationship the same for cadets in Years 1, 2, 3, and 4 of ROTC training?*] was analyzed using an ANOVA assessing the impact of years in the ROTC and seasons of high school sport on SLPI scores.

Treatment and Cleaning of Data

The following section presents information on how the data was cleaned and organized. Table 1 contains descriptive statistics on all predictor variables (i.e., age, gender, college level, sport participation, captaincy, leadership training, extracurricular experience, and years in ROTC). Descriptive statistic and correlations between the outcome variables are contained in Table 2. Table 3 presents the frequency of sport and extracurricular participation.

Table 1. Descriptive Statistics of Demographic Information

	Value	N	Mean	Standard Deviation
Total				
Age			20.3	1.97
Gender	Male	220	20.5	2.44
	Female	62	19.81	1.41
College Level	Freshman	90		
	Sophomore	58		
	Junior	55		
	Senior	64		

Table 1 (cont'd)

	Missing	15		
Sport Participation			6.07	3.67
	No	25		
	1-4 Seasons	95		
	5-7 Seasons	90		
	8-10 Seasons	81		
	11-17 Seasons	42		

Table 1 (cont'd)

Captaincy			1.51	2.22
	No	155		
	1-2 Seasons	109		
	3-12 Seasons	76		
Formal Leadership Training	No	179	.35	.48
	Yes	96		
Extracurricular Activity			5.85	5.79
	No	66		
	1-3 Extracurricular Activities	63		
	4-5 Extracurricular Activities	65		
	6-8 Extracurricular Activities	67		
	9 or more Extra-curricular Activities	79		
Years in ROTC	One	75		
	Two	37		
	Three	42		
	Four	34		
	Missing	94		

Table 2. Statistical Correlations for Outcome Variables

	N	Mean	S D	Correlations		
				SLPI	ROTC GPA	Field GPA
SLPI	282	4.03	.62	-		
ROTC GPA	292	3.86	.28	.033	-	
ROTC Field GPA	324	2.68	6.72	.191	-.006	

Table 3. Frequency of Sport and Extracurricular Activity Participation

	N
Sport	
Basketball	71
Baseball	47
Softball	17
Volleyball	18
Tennis	20
Equestrian	3
Ice Hockey	11
Field Hockey	1
Lacrosse	20
Swimming	31
Gymnastics	3
Cheerleading	7
Wrestling	40
Track	94
Cross Country	53
Soccer	55
Golf	11
Other	32

Table 3 (cont'd)

Extracurricular Activity	
Dance	
Band	12
Art Club	66
Choir	11
Drama Club	33
Scouts	14
YMCA	38
4H	9
Peer Court	6
Career Acts	4
Student Government	1
Honor Society	55
Religious Youth Group	103
Community Service Club	65
FFA	36
Tutoring	12
SADD	40
Yearbook	13
Chess Club	20
Newspaper	9
Language Club	11
Quiz Bowl	28

Table 3 (cont'd)

Computer Club	10
MTEA	1
JROTC	1
Jr Achievement	20
Debate Club	3
Peer Counseling	15
Other	10
	50

Missing Data and Treatment of Missing Data.

Excluding participants. Participants were excluded if they completed less than 10% of the SLPI. This resulted in dropping 45 participants from inclusion in the final report. Other participants were eliminated because of their extremely skewed scores in self-reporting data

(seasons in HS sport N = 18, which would mean an average of 4.5 seasons of sport each year of high school). Participants were asked to report only high school sport experiences, so non-school based experiences should not be included in these numbers. The final number of participants used for the analysis was 282.

Normality / outliers. Participants who completed less than 10% of the SLPI were not included in the final sample resulting in 282 participants with usable data. None of the 282 eligible participants were outside of the $z > |3|$. The min and max z-scores based on the frequency report were -2.73 and 1.55 respectively. This indicates that there are no outliers of the SLPI. Skewness (-.416; *SE* = .145) and Kurtosis (-.170; *SE* = .289) scores indicate highly normal distributions for the SLPI. SLPI mean score was 4.03, with a 5% Trimmed Mean of 4.05. ROTC GPA (M = 3.86) has a 5% Trimmed Mean of 3.90. ROTC Field GPA (M = 2.81) has a 5% Trimmed Mean of 2.80 implying very normal distributions of data.

SLPI. The SLPI was the primary leadership measure employed in this study. Mean scores and the internal consistency of each of the five subscales as well as the total scale were calculated. However, the correlations among the five subscales were very strong, ranging from .71 to .90, with four correlations between .70-.79; five correlations between .80-.89; and one correlation at .90. Such high correlations among all of the subscales indicates redundancy in these outcome variables, to the point where the subscales should be aggregated into a single total SLPI value (Raykov & Marcoulides, 2011). The total SLPI was found to have extremely high internal consistency ($\alpha = .95$), which demonstrates that all the items included in this survey were highly consistent in what they measured. Therefore, the SLPI scores were reported as a mean score of the entire scale, rather than analyzing specific sub-scale scores. Specific correlations and can be found in table 4.

Table 4. Correlations between SLPI Sub Scales

	Total	MTW	ISV	CTP	EOA	ETH
Total Scale						
Model the Way	.952					
Inspire a Shared Vision	.946	.898				
Challenge the Process	.931	.8	.882			
Enable Others to Act	46		.707	.749		
Encourage the Heart	.850	.785	.851	.807	.741	
	.929	.859				

ROTC field experience. These scores represented the grades a participant received during hands on field training in ROTC training events related specifically to leadership. Examples of ROTC Scoring Rubrics can be found in Appendix C. Specifically, each cadet had a variety of opportunities to take on leadership roles and were assessed in this role over the period of a semester. However, cadets who have progressed more in their program will typically have more opportunities to take on leadership roles than cadets early in their program. The number of training opportunities through each ROTC program also varies, based on size and resources.

The ROTC field experience variable was created from three pieces of source data (the number of Excellent, Satisfactory, and Not Satisfactory ratings from field experiences). A total of 869 field experiences were reported across 324 participants with 45% (n = 387) being

excellent, 54% (*n* = 470) satisfactory, and 1% (*n* = 12) not satisfactory. E or Excellent scores were multiplied by 4, S or Satisfactory scores were multiplied by 2, and N or not satisfactory scores were multiplied by 0. These numbers correlate with a standard 4.0 GPA scale, where E is the equivalent of a 4.0, or A letter grade, S is the equivalent of a 2.0, or C letter grade, and N is associated with a 0.0, or F letter grade. Each of the three values were added to one another and divided by the total number of scores for each student producing a "field GPA" variable that could range from 0 to 4. This was necessary, as the number of field experiences reported by each participant varied drastically.

Sport experience. Sport experiences were calculated by tallying the number of seasons each participant participated in sport during their high school career. An inspection of Table 1 reveals that on average cadets participated in 6.07 seasons of sport during high school. These scores were divided into five levels, with Group 1 being no sport participation (N = 32), Group 2 being 1-4 seasons (N = 95), Group 3 being 5-7 seasons (N = 90), Group 4 being 8-10 seasons (N = 81), and Group 5 being 11-17 seasons (N = 42). Participants were grouped in this manner in an effort to normalize the data and provide even group size.

Captaincy. Captaincy experiences were calculated by tallying the number of seasons each participant reported as taking on the role of captain in his/her sport team during his/her high school career. These ranged from a low of 0 to a high of 12 with a mean being 1.51 (SD = 2.22). These scores were divided into three levels, with Group 1 being no captaincy experience (N = 155), Group 2 being 1-2 seasons as a captain (N = 109), and Group 3 being 3 or more seasons as a captain (N = 76).

Extracurricular activities. Extracurricular experiences were calculated by tallying the number of extracurricular activities each participant reported as taking part in during their high

school career. These scores ranges from a low of 0 to a high of 33 with an average of 5.85 (SD = 5.79). To maintain consistency with the sport participation levels, and to normalize the data nad provide relatively even group size, these scores were divided into five levels, with level 0 being no extracurricular participation (N = 66), level 1 being 1-3 extracurricular activities (N = 63) level 2 being 4-5 extracurricular activities (N = 65), level 3 being 6-8 extracurricular activities (N = 67), and level 4 being 9 or more extracurricular activities (N = 79).

Dependent variables. The three main DVs included SLPI, a 30 question Likert-style survey assessing leadership effectiveness, ROTC GPA, and ROTC Field GPA. SLPI Leadership scores were generally high (*M* = 4.02, *SD* = 0.63) on a 5 point Likert-style scale. ROTC GPA scores were self-reported scores from ROTC courses, and were generally high (M = 3.85, SD = 0.28) on a 4.0 scale. The lack of variance in the reported ROTC GPA scores prevented the use of these scores in any analysis. ROTC Field GPA scores were self-reported scores from hands on leadership training activities in the ROTC (M = 2.81, SD = 0.55) on a 4.0 scale. Each of these scores was meant to assess leadership effectiveness, however, there were no significant correlations between ROTC GPA and ROTC Field GPA in the scores when a Pearson Correlation was run. ROTC GPA and ROTC Field GPA were nearly completely uncorrelated (-.006), ROTC GPA and SLPI are nearly unrelated (.033), and ROTC Field GPA and SLPI were slightly but still non-significantly correlated (.191, p=,179). For the purposes of this study, ROTC Field GPA and SLPI were used as DVs, instead of ROTC GPA. ROTC Field GPA scores represent actual leadership activities, where ROTC GPA scores are based solely on classroom performance. This, along with the limited variance in reported ROTC GPA scores, led to the decision to exclude ROTC GPA in further analysis.

Proposed and Actual Hypotheses

Due to the nature of the data, specifically in regards to the SLPI, the analysis was not conducted exactly as previously proposed. The following table reports the proposed statistical analysis, as well as the actual analyses conducted.

Table 5. Proposed and Actual Hypotheses

Hypothesis	Proposed Analysis	Actual Analysis
H1 *Cadets who participated in high school sports will have high leadership effectiveness scores than cadets who did not participate in high school sports*		2 ANOVAs assessing SLPI and Field GPA with sport participation (Yes/No) IV = Sport Participation DV = SLPI, ROTC Field GPA
H2: *cadets who participated in the group with the highest number of high school sports will have higher leadership effectiveness scores on the SLPI than cadets who participated in moderate or low numbers of high school sport*	MANOVA assessing leadership scores and number of seasons in sport (3-level Ordinal)	2 ANOVAs assessing SLPI and ROTC Field GPA and sport participation (5-level Ordinal) IV = Sport Participation DV = SLPI, ROTC Field GPA
H3: *Cadets who were had the highest number of sport captaincy experiences in high school sport will have higher leadership effectiveness scores on the SLPI than cadets who had moderate or low number of sport captaincy experiences in high school sport.*	MANOVA assessing leadership scores and number of seasons of Captaincy (3-level Ordinal)	4 ANOVAs assessing SLPI and ROTC Field GPA with seasons of Captaincy (scale) and seasons of Captaincy (5 level Ordinal) IV = Captaincy DV = SLPI, ROTC Field GPA
H4: *Captains who received formal leadership training in high school sport will have higher leadership effectiveness scores than those participants who did not receive formal leadership training.*	MANOVA assessing Captaincy and formal leadership training and leadership scores	Regression assessing Seasons of Captaincy (Scale), number of leadership training opportunities (Scale), SLPI and ROTC Field GPA IV = Captaincy, Leadership Training DV = SLPI, ROTC Field GPA

Table 5 (cont'd)

H5: *Participants who participated in the group with the highest number of high school extracurricular activities will have higher leadership effectiveness scores on the SLPI than cadets who participated in moderate or low numbers of high school extracurricular activities*	Pearson's Correlation assessing Extracurricular activity on a scale of 0-24, and leadership scores	2 ANOVAs assessing SLPI and ROTC Field GPA and Years of Extracurricular Activity (5 level Ordinal) IV = Extracurricular Activities DV = SLPI, ROTC Field GPA
H6: *ROTC leadership effectiveness will be greater in cadets who had formal leadership training at the high school level, who had sport captaincy experience, and who were in the group with higher sport involvement than those cadets who had moderate or low sport involvement.*	Multiple Linear Regression assessing sport participation, captaincy, and formal training on leadership scores	2 3-Way ANOVAs assessing SLPI and ROTC Field GPA and sport participation (5-level Ordinal), seasons as a captain (3-level Ordinal) and formal training (Yes/No) IV = Sport Participation, Captaincy, Leadership Training DV = SLPI, ROTC Field GPA
H7 (RQ 5a): *What levels of transformational leadership do ROTC cadets* Table 5 (cont'd) *demonstrate? Does this vary be year?*	Regression assessing years in ROTC (scale) and SLPI	Regression assessing Years in ROTC (scale) and SLPI
H8 (RQ 5b): *Are levels of transformational leadership scores correlated to academic achievement in ROTC courses?*	Correlation assessing SLPI and ROTC scores	Pearson Correlation assessing SLPI, ROTC GPA, and ROTC Field GPA
H9 (RQ 6): *Is the sport participation / ROTC leadership relationship the same for cadets in years 1, 2, 3, and 4 of ROTC training?*	4 MANOVAs assessing SLPI scores, year in school, and HS sport participation	ANOVA assessing SLPI, Years in ROTC (scale 0-4) and seasons of HS sport (5-level Ordinal) IV = Sport Participation, Years in ROTC DV = SLPI

CHAPTER IV

RESULTS

Demographic Information

Two hundred eighty-two cadets provided enough usable data to be included in the analysis. The final sample included 220 males and 62 females, with an average age of 20.3 years (SD 1.971). Of the sample, 90 were freshmen, 58 sophomores, 55 juniors, 64 seniors, and 14 fifth year students. When reporting high school sport and extracurricular participation, 257 of the 282 participants reported involvement in at least one sport, 25 participants reported that they were not involved in high school athletics. A total of 245 participants reported involvement in at least one extracurricular activity, and 37 indicated that they had no involvement in extracurricular activities. When examining involvement in ROTC activities at the collegiate level, 209 participants reported that they were involved in at least one activity, while 73 reported no involvement. Information on frequency of participation in specific sports and extracurricular activities can be found in Table 3.

Descriptive Statistics and Correlations

The following section provides an overview of the descriptive statistics and correlations among dependent and independent variables. More detailed descriptive statistics for dependent variables (where descriptive statistics are split and compared across specific predictor variables) will be provided at the beginning of the results for each specific hypothesis in the subsequent sections.

Independent Variables.

The following sections address the variety of independent variables used in the study, organized by hypotheses.

Sport Participation.

The following section assesses Hypotheses 1-2, as stated below. These hypotheses examine the relationship between participation in high school sport and leadership.

Absolute sport participation and leadership. Hypothesis 1 stated that cadets who participated in high school sports would have higher leadership effectiveness scores than cadets who did not participate in high school sports. This looked at the impact of sport participation on leadership scores on a simple yes or no scale, either participants did or did not participate in high school sports. An ANOVA was run, one for the dependent variable, SLPI. Of the 282 participants, 25 reported no high school sport participation, while 257 reported some degree of high school sport participation. Mean SLPI scores for the non-sport participants was 4.01 while mean SLPI scores for high school sport participants was 4.03. The differences between the means failed to reach significance, $F(16, 265) = 1.15$, $p = 0.313$.

Due to lack of reported data on ROTC Field GPA scores and a small number of non-athletes, comparisons were not drawn in relation to Field GPA.

Based on these findings, cadets who participated in high school sports did not have higher leadership effectiveness scores than cadets who did not participate in high school sports. High school sport participation had no effect on leadership scores on the SLPI.

Incremental sport participation and leadership. Hypothesis 2 stated that cadets who participated in higher numbers of high school sports will have higher leadership effectiveness scores than cadets who participated in moderate or low numbers of high school sports. High school sport experience was divided into 5 levels of involvement, based on how many seasons the participants were involved in a team. Five groups were created (Group 1 = 0 seasons of high school sport, Group 2 = 1-4 seasons, Group 3 = 5-7 seasons, Group 4 = 8-10 seasons, and Group

5 = 11-17 seasons). Two separate ANOVAs were run, one for each dependent variable (SLPI and ROTC Field GPA) with the independent variable being high school sport participation.

ANOVA results revealed that there were no significant differences between the five groups when SLPI was used as the dependent variable F (4, 277) = .439, *p*=.781. Means and standard deviations are reported in Table 6. Interestingly, the group reporting the most high school sport involvement had the lowest mean score on the SLPI.

Table 6. Means and Standard Deviations for Sport Participation and SLPI Scores

Variables	N	Mean	S D
Group 1	25	4.01	.78
Group 2	76	4.06	.62
Group 3	73	4.03	.58
Group 4	73	4.06	.56
Group 5	35	3.91	.73

The second ANOVA was run to explore the impact of sport participation on ROTC Field GPA scores. When divided into 5 levels based on participation, no significant statistics were reported: F (4, 90) = 1.158, *p* = .335. Means and standard deviations are reported in Table 7.

Table 7. Means and Standard Deviations for Sport Participation and ROTC Field GPA Scores

Variables	N	Mean	S D
Group 1	4	2.31	.47
Group 2	27	2.88	.50
Group 3	28	2.81	.52
Group 4	27	2.77	.65
Group 5	9	2.97	.48

Based on these findings, cadets who participated in more seasons of high school sport did not have higher leadership effectiveness scores than those cadets who participated in fewer seasons of high school sport. The number of seasons cadets participated in high school sport had no relationship to the leadership scores reported on either the SLPI or ROTC Field GPA.

Captaincy and Captain/Leadership Training

The following section assessed Hypotheses 3-4. These hypotheses examined the relationship between participation in high school sport captaincy, training, and leadership. Captaincy experiences were reported in 3 levels (0 seasons, 1-2 seasons, and 3 or more seasons). Formal leadership training was reported on a yes / no scale (no formal training, 1 or more opportunities for formal training in high school). SLPI scores and ROTC Field GPA scores were dependent variables.

Captaincy experience and leadership. Hypothesis 3 stated that cadets who had higher numbers of sport captaincy experiences in high school would have higher leadership effectiveness scores than cadets who have moderate or low numbers of sport captaincy experience in high school sport. Two separate ANOVAs were run, for each dependent variable (SLPI and ROTC Field GPA) and the independent variable, captaincy experiences. Statistical significance was found when looking at the role of captaincy on a 3-level ordinal scale: $F(2, 279) = 3.509$, $p = .031$. With an eta squared of .025, this is a small effect size. Post-hoc comparisons using Tukey's HSD indicated a significant difference between Group 1 (no captaincy experience) and Group 2 (1-2 seasons of captaincy experience), however Group 3 did not significantly differ from either of the other two groups. Means and Standard Deviations are reported in Table 8.

Table 8. Means and Standard Deviations for Captaincy Experiences and SLPI Scores

	N	Mean	S D
Group 1	128	3.93	.67
Group 2	91	4.14	.53
Group 3	63	4.07	.62

An ANOVA was run assessing the impact of the role of the captain on ROTC Field GPA. No statistical significance was found: F (7, 87) = .655, p = .710; F (2,92) = .548, p = .580 respectively. Captaincy experiences were divided into three groups: Group 1 had no captaincy experiences, Group 2 had 1-2 seasons of captaincy experience and Group 3 had three or more captaincy experiences. Means and Standard Deviations are reported in Table 9.

Table 9. Means and Standard Deviations for Captaincy Experiences and ROTC Field GPA Scores

	N	Mean	S D
Group 1	43	2.76	.53
Group 2	29	2.81	.53
Group 3	23	2.80	2.9

Based on these findings, cadets who were captains in high school sport at a moderate level (1-2 seasons) had higher leadership effectiveness scores on the SLPI than cadets who were not captains in high school sport. However, taking on the role of captain for more than two seasons had no additional effects and there was a trend for a slight decrease in leadership effectiveness scores. These findings do not hold true for ROTC Field GPA scores, however, as captaincy had no impact in those scores.

Captaincy experience, leadership training, and leadership. Hypothesis 4 stated that captains who received formal leadership training in high school sport would have higher leadership effectiveness scores than those participants who did not receive any formal leadership training. A multiple regression was run, assessing the impact of the predictor variables captaincy and formal leadership training, on the outcome variable leadership effectiveness as reported in the SLPI. A small but significant impact was found from captaincy on leadership effectiveness, $B = .048$ $p = .021$. Only 2.5% of the variance in leadership scores is accounted for by captaincy experience. While not significant, there was a slight negative relationship between formal leadership training and leadership effectiveness scores as reported by the SLPI, ($B = -.018$, $p = .698$). The resulting regression equation was SLPI = 3.97 + .16 (Captaincy Experience) + .03(Leadership Training).

The relationship between ROTC Field GPA scores, captaincy, formal leadership training was also assessed. There was no significant impact on ROTC Field GPA from participation as a captain, $B = .020$, $p = .537$, or formal leadership training, $B = .024$, $p = .744$.

Based on these findings, being a captain in high school sport is related to higher leadership scores on the SLPI, but formal leadership training in high school sport had no relationship to SLPI scores. Neither captaincy nor formal leadership training relate to higher ROTC Field GPA scores.

Sport experience, captaincy, training and leadership. Hypothesis 6 stated that leadership effectiveness would be greater in cadets who had formal leadership training at the high school level, had sport captaincy experience, and higher levels of high school sport involvement than those lower in levels of training, captaincy, and sport participation. To assess this, two 3-way ANOVAs were run, one for each dependent variable (SLPI and ROTC Field

GPA). Years of captaincy was reported as a 3-way ordinal variable, with Group 1 being no seasons as a high school sport captain (N = 78), Group 2 representing athletes with 1-2 seasons of high school sport captaincy (N = 89), and Group 3 being those participants with 3 or more seasons of high school sport captaincy (N = 63). Formal leadership training was reported in the demographics survey, where participants shared if they had leadership training opportunities in high school, and why type of opportunities they were (readings, meetings, clinics, etc). Due to the varied responses, and low number of participants reporting any form of training, this information is reported as a simple dichotomy, either yes the athlete had received formal leadership training in high school (N = 85), or no, there had been no formal leadership training in high school (145). Seasons of high school sport participation was reported as a 5-level ordinal variable, with Group 1 being no high school sport participation (N = 13), Group 2 being 1-4 seasons of high school sport (N = 57), Group 3 being 5-7 seasons of high school sport (N = 62), Group 4 being 8-10 seasons of high school sport (N = 64), and Group 5 being 11 to 17 seasons of high school sport (N = 34).

The first 3 X 2 X 3 ANOVA assessed the impact of sport involvement, captaincy, and formal leadership training on SLPI scores. No significant main effects were reported between any of the groups. The interaction between sport participation and captaincy was not statistically significant, $F (7, 205) = .857$, $p = .542$. The interaction between sport participation and formal leadership training was not statistically significant, $F (4, 205) = .812$, $p = .519$. The interaction between captaincy and formal leadership training was not statistically significant, $F(2, 205) = .899$, $p = .409$.

The second 3 X 2 X 3 ANOVA assessed the impact of sport involvement, captaincy, and formal leadership training on ROTC Field GPA scores. No significant findings were reported

between any of the groups. The interaction between sport participation and captaincy was not statistically significant, $F(5, 53) = .172$, $p = .972$. The interaction between sport participation and formal leadership training was not statistically significant, $F(3, 53) = .331$, $p = .803$. The interaction between captaincy and formal leadership training was not statistically significant, $F(2, 53) = .092$, $p = .912$.

None of the ANOVAs (using SLPI or Field GPA as dependent variables) were statistically significant. Specifically, years of captaincy, number of trainings, and years of HS sports failed to predict leadership scores on either the SLPI or ROTC Field GPA. Based on these findings, seasons of captaincy, number of formal training experiences, and seasons of high school sport participation do not individually or interactively impact leadership scores for ROTC cadets.

Extracurricular Activities.

Hypothesis 5 looked at the impact of extracurricular activities on leadership effectiveness in the ROTC. Extracurricular activities were reported as an ordinal variable, divided into five groups (Group 1 = 0 extracurricular activities, Group 2 = 1-3 years of extracurricular activities, Group 3 = 4-6 years, Group 4 =7-10 years, and Group 5 = 11 or more years). SLPI scores and ROTC Field GPA were dependent variables.

Extracurricular activities and leadership. Hypothesis 5 stated that participants who participated in higher numbers of high school extracurricular activities would have higher leadership effectiveness scores than cadets who participated in moderate or low numbers of high school extracurricular activities. Two one-way ANOVAs were run with extracurricular activity involvement serving as the independent variable and SLPI scores as the dependent variable. The first ANOVA was run to assess the impact of extracurricular activity participation in high school

on SLPI scores for ROTC cadets. There were no statistically significant differences between the five groups: F (4, 277) = .741, p = .565. Means and standard deviations are reported in table 10.

Table 10. Means and Standard Deviations for Extracurricular Activities and SLPI Scores

Table 10. Means and Standard Deviations for Extracurricular Activities and SLPI Scores

Variables	N	Mean	S D
Group 1	48	4.11	.61
Group 2	57	4.06	.69
Group 3	72	3.93	.53
Group 4	56	4.00	.69
Group 5	49	4.08	.62

The second one way ANOVA assessed the impact of extracurricular activity participation in high school using ROTC Field GPA as the dependent variable. Again, there was no statistically significant differences between the five groups and leadership scores: F (4, 257) = .541, p = .706. Means and standard deviations are reported in Table 11.

Table 11. Means and Standard Deviations for Extracurricular Activities and ROTC Field GPA Scores

Variables	N	Mean	S D
Group 1	21	2.83	.58
Group 2	22	2.63	.51
Group 3	25	2.94	.43
Group 4	15	2.87	.64
Group 5	12	2.80	.68

Based on these findings, participation in extracurricular activities in high school had no impact on leadership scores for ROTC cadets. Participation in extracurricular activities does not lead to higher leadership effectiveness scores.

ROTC Experience

The following section addresses the exploratory research Questions 5 and 6, associated with Hypotheses 7 through 9, which look at the role of ROTC training and participation on leadership effectiveness and academic success in the ROTC.

ROTC experience and leadership. Research Question 5 asked what levels of leadership scores do ROTC cadets demonstrate, and if those levels vary by year in the ROTC. To assess the first part of this question, a simple correlation was run looking at the relationship between years in ROTC and scores on the SLPI. A total of 282 participants completed the SLPI ($M = 4.03$, $SD = .62$), with 171 participants providing information on years in ROTC ($M = 2.29$, $SD = 1.19$). A significant, positive correlation was found between scores on the SLPI and years in the ROTC ($B = .087$, $p = .033$). See Table 12 for means and standard deviations. This regression shows that longer involvement in the ROTC is related to higher scores on the SLPI. Cadets who are further along in their ROTC program tend to have higher leadership effectiveness scores.

Table 12. Means and Standard Deviations for Years in ROTC and SLPI Scores

	N	Mean	S D
First Year	62	3.94	.70
Second Year	35	3.95	.56
Third Year	39	4.17	.58
Fourth Year	32	4.08	.63

Relationships among ROTC GPA, field GPA and leadership scores. The second half of Research Question 5 addresses academic success and leadership scores in the ROTC. Pearson correlations were run, assessing the relationship between the SLPI (N = 161), ROTC Field GPA (N = 51), and ROTC GPA (148) for academic courses. No significant correlations were found. ROTC GPA and ROTC Field GPA are nearly completely unrelated (-.006, p = .966). SLPI and ROTC GPA were also very unrelated (.033, p = .688). SLPI and ROTC Field GPA had a small but still non-significant correlation (.191, p = .179).

Based on these findings, leadership skills being assessed using the SLPI, ROTC Field GPA, and ROTC GPA were not significantly related. The slight relationship between ROTC Field GPA and SLPI gave the ROTC Field GPA a little more utility than the ROTC GPA, which informed the use of ROTC Field GPA as an throughout the study, as opposed to ROTC GPA.

ROTC experience, sport experience, and leadership. Hypothesis 9, from Research Question 6, asked if the sport participation / ROTC leadership relationship was the same for cadets in the different years of ROTC training. This hypothesis was based on the assumption that sport participation would be a strong predictor of leadership scores in the ROTC, and was intended to explore two big main effects with more detail and nuance. Based on the previous findings in the study, however, this may not be the case.

A two way between-subjects ANOVA was run to assess the impact of Years in ROTC (1 year: N = 59, 2 years: N = 35, 3 years: N = 36, 4 years: N = 31) and seasons of high school sport participation (5-level ordinal) on SLPI scores. Group 1 included cadets with no high school sport experience (N = 12), Group 2 included cadets with 1-4 seasons of high school sport experience (N = 43), Group 3 was 5-7 seasons (N = 45), Group 4 included cadets with 8-10 seasons (N = 42), and Group 5 included cadets with 11-17 seasons of high school sport

experience (N = 19). No main or interaction effects were significant between years in ROTC and high school sport participation, F (12, 141) = 1.20, p = .289.

Based on the findings, the relationship between high school sport participation and ROTC leadership success does not change based on the number of years a participant has been in the ROTC.

Concluding Analyses

To conclude the study and take all of the results into consideration, an additional test was conducted beyond the original hypotheses, but in line with the purpose of the study. A backwards regression was conducted using each of the primary predictors and the only salient outcome variable, total SLPI scores (N = 282, M = 4.03, SD = .62). Although many of the factors in this model were not originally identified as significant predictors when they were run in isolated, simplified tests with only one or two independent variables, they were included in this comprehensive backwards regression so that the effects of all factors on leadership scores could be studied simultaneously. Furthermore, all of the predictors were included in the one model because they all occur simultaneously in real life: ROTC experience, HS sport participation, Captaincy experience, Training, and Extracurricular participation can all effect leadership development and interact with one another. For these reasons, it was relevant to create a single model with all of the predictors as continuous variables, and then remove predictors that were not significant factors one at a time until only the most impactful predictors remained.

Specific variable descriptions include: years in ROTC (N = 169, M = 2.23, SD = 1.15), seasons of high school sport participation reported as a scale variable (N = 294, M = 6.15, SD = 3.67), years of captaincy (N = 294, M = 1.49, SD = 2.11), formal leadership training experiences

(dichotomous Yes / No, N = 238), and years of extracurricular activity participation in high school reported as a 5-level ordinal variable (N = 294, M = 2.60, SD = 1.48).

Overall, three models were run, with the first including all five predictors described above, the second included four predictors, and the third model included three predictors (two of which were significant). The R-squared values for the three models were .088, .088, and .081 respectively, showing that the overall effect sizes were relatively small, but that the more parsimonious third model accounted for only slightly less variance overall. Leadership training experience was the first variable to be removed (B = -.011, p = .923), indicating that leadership training was the weakest predictor in leadership development. In the second model, the weakest predictor was years of extra –curricular participation (B = -.035, p = .327), so it was removed before running the third model. In the third and final model, only one factor was not significant, and only barely so: seasons of HS sport participation (B = -.031, p = .077). While not found to be significant in any previous hypotheses addressed in this study, sport participation is included in the best model, as it fits better with captaincy and years in ROTC. This would have been a notable finding if it were statistically significant because it indicates that higher participation in HS sport was associated with lower leadership scores.

Variables found to be significant were seasons as a captain (B = .072, p = .018) and years in ROTC (B = .109, p = .017). The full model with all predictor variables has an adjusted R square of .081, accounting for only 8% of the variance in scores. Seasons in high school sport, extracurricular activity participation in high school, and formal leadership training did not impact leadership scores based on SLPI measures. However, experience as a captain and experience in ROTC were significant predictors of leadership.

Extra analyses were run using just data from freshmen participants as well, to remove any potential impact of ROTC training. When comparing sport participation among just freshmen, an ANOVA was run to compare SLPI scores among 5 different groups: Group 1 = 0 seasons of sport (N = 11), Group 2 = 1-4 season (N = 26), Group 3 = 5-7 seasons (N = 17), Group 4 = 8-10 season (N = 17), and Group 5 = 11-17 season (N = 11). There were no statistically significant differences between the five groups and leadership scores, $F(4, 82) = 1.32$, $p = .269$.

When comparing captaincy involvement with the freshman population, an ANOVA was run to compare SLPI scores among 5 different groups: Group 1 = no captaincy experience (N = 40), Group 2 = 1-2 seasons as a captain (N = 29), and Group 3 = 3 or more seasons as a captain (N = 13). There were no statistically significant differences between the three groups and leadership scores, $F(2, 82) = .422$, $p = 0.657$.

When comparing formal leadership training with the freshman population, an ANOVA was run to compare SLPI scores between captains who had received formal leadership training (N = 24) and those who did not receive formal leadership training (N = 45). There were no statistically significant differences between the two groups, $F(1, 69) = .02$, $p = .889$.

When comparing extracurricular involvement with the freshman population, an ANOVA was run for compare SLPI scores among 5 different groups: Group 1 = 0 activities (N = 15), Group 2 = 1-3 activities (N = 12), Group 3 = 4-5 activities (N = 10), Group 4 = 6-8 activities (N = 16), and group 5 = 9 or more activities (N = 29). There were no statistically significant differences between the 5 groups and leadership scores, $F(4, 82) = 2.169$, $p = .08$.

In conclusion, there are no statistically significant differences between SLPI scores and any of the independent variables when looking just at the freshman class. However, the sample size was quite small (N = 82).

CHAPTER V

DISCUSSION

General Summary and Overview

While most of the hypotheses were not supported in this study, several interesting results did come to light from the analyses. Looking broadly, the only variables to have an impact on leadership scores were seasons as a captain and years in the ROTC. Contrary to common beliefs, the current study showed that sport participation had no impact on leadership scores, nor did formal leadership training and extracurricular experiences. There was also no correlation noted between the SLPI, ROTC GPA, and ROTC Field GPA, all which claim to assess leadership skills. This begs the question, then, what exactly are these measures or scores assessing, or if the measures employed are valid. The following sections will address these findings, as well as practical implications, study strengths and weaknesses, and future directions for this line of research.

Sport Experiences in ROTC Cadets

The National Federation of State High School Associations has shown a steady increase in sport participation over the last several years (NFHS.org, 2015), currently 55.5% of all high school students participate in high school sport. This number is drastically different than the percentage reported by the population of ROTC cadets. Of the 340 participants in this study, 308 were high school athletes, or 91% of the population. Of those 308 athletes, 185, or 60%, reported taking on the role of captain for at least one season. While not determining a causal relationship between sport involvement and participation in the ROTC, this study highlights the fact that sport participants are over represented in the ROTC, with the majority of participants having some experience as a captain. This population also reported a fairly high level of

extracurricular involvement outside of sport as well, with 240, or 70%, of the participants reporting involvement in at least one year of extracurricular activity in high school.

Formal leadership training was assessed in this study by asking participants to report different types of formal leadership training they received while in high school. This could range from assigned readings, to meetings with a coach, to leadership clinics. While many studies in youth sport development boast the ability of sport to provide leadership skills, among other life skills, to its participants, most of the cadets (64%) reported never participating in any formal leadership training through their high school sport experience. Based on the lack of a significant link between formal leadership training and leadership effectiveness, those that did participate in these training programs may not have found them effective, or gained any major benefits from participation. However, this study did not specifically look at the type or quality of formal training the participants reported. Formal training reported by cadets included: meetings with coaches, assigned readings, clinics, or classes in school. Due to the variety of possibilities for leadership training, perhaps the current measure was not sensitive enough to report any benefits from specific types of leadership training programs.

It is important to mention, however, that overall scores on the SLPI, ROTC GPA, and ROTC Field GPA were generally high. These findings could be in part from the self-report nature of the study, but also could result from highly effective leadership training through the Army ROTC. This could lead to a decreased probability of finding statistical significance, as it limited the variability of the data.

Role of Leadership in Sport

Sport has often been considered a vehicle for development of many life skills, leadership included (Gould, Carson, Fifer, Lauer, & Benham, 2009; Martinek & Hellison, 2009). However,

based on the findings of this current study, there is no relationship between sport participation and leadership effectiveness scores. Whether taking a simple participant vs non-participant approach, or taking into consideration the amount of time spent in sport settings (one season versus 17), scores on leadership effectiveness measures do not differ. This follows reports made by others in leadership development research (Voelker, Gould, & Crawford, 2010) that leadership development is not automatically developed simply because of sport involvement.

This is not to say that leadership is not important in sport. The benefits of good leaders has been documented in several studies, highlighting the impact of good leaders on communication, teamwork, confidence, and self-efficacy (Gould et al, 2006; Murphy & Johnson, 2011; Nielsen et al, 2008; Riemer & Chelladurai, 1995; Vincer & Loughead, 2010). These skills, while important, are not specifically assessing the abilities of the leader. Therefore, while a leader may have an impact on a team, their ability to develop leadership skills through sport participation alone may not be as strong as some think. Before definitive conclusions can be drawn further studies with better leadership measures will need to be conducted.

Role of the Captain

While simply participating in sport was not found to be a statistically significant indicator of leadership effectiveness, taking on the role of a captain was. This finding is similar to results presented by Grandzol et al. (2010) who used the SLPI to assess leadership skills in college athletes and team captains. Those athletes who were captains saw increases in leadership skills, while athletes who were not in leadership roles did not. The current study found a statistically significant difference in leadership between noncaptains and cadets who were captains for 1-2 seasons, but not for cadets with 3 or more seasons of captaincy experience. This finding is paradox in that it is both expected and surprising. Researchers know the value of hands on

experience in leadership development and the difference between cadets with no versus 1-2 seasons of leadership experience is notable. However, the lack of significant differences between noncaptains and those who had been captains for more seasons is unexpected. One possible explanation for this is that those athletes who take on too many leadership roles, or try to do too much, are stretched too thin. Perhaps the potential for leadership development decreases when athletes are overburdened with too many responsibilities. It is also possible that significant findings are the result of low variance in reported scores.

It is interesting to note, however, that many athletes report not receiving any training or preparation for their role as a leader from their coach (Voelker, Gould, & Crawford, 2010). Therefore, something about being a captain lead to certain leadership skills being developed that other athletes did not receive. This supports the implicit view of life skills development that suggests that athletes are the agents of their own learning and not everything needs to be driven by a coach (Turnnidge, Côté, & Hancock, 2014). Further research is needed to understand how leadership development through the captaincy experience might be both implicitly and intentionally driven. It might also suggest that youth with leadership skills are drawn to captaincy positions and sport reveals leadership versus develops it.

Impact of Formal Leadership Training

While many previous studies have reported the importance of intentional, meaningful training for life skills, including leadership, to develop, the current study showed no significant relationship between formal leadership training experiences and leadership effectiveness. This finding could potentially call into question the quality of leadership programs participants were involved on prior to their time in the ROTC. It should be noted, however, that the results were based on a one item global assessment that did not take into account what type of formal training

the participants were involved in. Formal training could be considered anything from meetings with coaches, readings, or taking part in clinics. The quality of these leadership training programs were not assessed. Thus, the measure used might also be responsible for a lack of significant relationship between formal leader training and leadership effectiveness.

Few studies address the impact of leadership development programs. Gould and Voelker (2010) evaluated a leadership clinic model and found through informal assessments that training needs to be more active and hands on, where adult instructors are facilitators of discussion and activities rather than lecturers. Collaboration with peers has become a main focus of these clinics. This model follows the philosophy that leadership development is most effective with hands on, experiential learning opportunities. This concept is mirrored in other studies outside of sport assessing hands-on leadership training in outdoor settings. Huey, Smith, Thomas, and Carlson (2014) found differences in several leadership components between hands on adventure-based training experiences and more traditional classroom experiences at the US Naval Academy. Similar results were reported when looking at an outdoor recreation program (ORP), with participants reporting increases in many skills related to leadership.

Voight (2012) conducted a case study with two collegiate sports teams, conducting a leadership intervention and training program. Many increases in life skills, as opposed to actual leadership, were reported by athletes. Here, though, like many previous studies, actual leadership development was not assessed. Success was based on the fact that the team reached its competitive goals. Other leadership interventions found similar results, that participants used more leadership behaviors after participation in programs (Duguay, Loughead, & Munroe-Chandler, 2016). These studies show positive results for training in general, but do not specifically address leadership effectiveness.

As previously mentioned, one possible reason for the lack of significant findings in this study could be the training cadets received through the ROTC. Perhaps this high level training negated the impact of formal leadership training in high school. This reiterates the point that having the right kind of training is most important. An effective leadership model, along with qualified instructors and proper experiences, may have an impact on leadership development. Perhaps some of these components are missing in many of the current sport leadership development programs.

Role of Military in Leadership Training

One main finding in the current study was the significant impact of ROTC involvement on leadership effectiveness scores. Cadets who had more experience in the ROTC had higher leadership scores on the SLPI, with first year cadets reporting mean SLPI scores of 3.94, second year cadets reporting a mean score of 3.95, third year cadets reporting a mean score of 4.17, and fourth year cadets scoring 4.08 on the SLPI. It is important to note, however, that overall SLPI scores were generally very high, although normally distributed (M = 4.02, SD = 0.63) on a 5 point Likert-style scale. ROTC cadets get continual training on leadership, both in and out of the classroom, which could lead to this exceptionally high reporting of leadership effectiveness.

This finding also has an impact on the role of sport participation on leadership effectiveness. Many of the participants had three or more years of experience in the ROTC, and had several opportunities for hands on leadership training through a very well organize leadership development program. These experiences may have watered down the effect of sport participation from four to eight years earlier (a 4th year cadet who participated in sport as an underclassman in high school). However, no statistically significant findings were reported from an exploratory analysis of just freshmen from the current study.

While not formally documented, many cadre reported anecdotally in conversation that they recognize differences in abilities between their athlete and non-athlete cadets, in their interactions with others, interpersonal skills, and teamwork. Many also reported providing extra attention to these cadets, to "catch them up" in leadership abilities to their athlete counterparts. This extra attention, too, could impact leadership effectiveness scores in nonathletes, whose lack of experience from sport participation is counteracted by more in depth training upon entering the ROTC.

Application of Military Leadership Training to Sport Setting

While the purpose of this study was to assess the role of sport in leadership effectiveness in the Army ROTC, some findings have come to light from the military leadership development side that could be highly beneficial for those developing leadership skills in sport settings. As noted in the current study, ROTC cadets have fairly high scores on the SLPI, when compared to other populations ($M = 4.02$, $SD = 0.63$). Posner (2010) reported mean scores on the subscales ranging from 3.68 to 3.84 from a general population of participants completing the SLPI. High school students reported subscale means ranging from 3.41 to 3.95, with college students averaging between 3.59 and 4 on the different subscales. From the same analysis, Posner (2010) reported scores from participants claiming to have few opportunities to participate in leadership development opportunities (means ranging from 3.32 to 3.94) and those participants who had several leadership development opportunities (means ranging from 3.59 to 3.99). That difference may come from training received in ROTC leadership development programs. This study did not directly assess what is being taught in ROTC leadership courses, but more information about the specific format of the leadership development protocols could be highly beneficial to sport leadership development programs. Studies such as Zapalska, Kelley, and

Zieser's (2015) overview of the US Coast Guard Academy's leadership program and Baker's (2015) evaluation of the Army ROTC's main leadership assessment have shed some light into this process, but more needs to be done on how to apply these concepts and processes to other settings, namely sport. Common themes in both sport and the aforementioned studies include the need to hands-on learning, value of physical fitness, discipline, and teamwork. The most successful ROTC cadets were found to have the highest scores in relationship building (Baker, 2015), which is an important component in sport-based leadership development as well.

Baker's (2015) analysis most closely aligns with a major component of this current study, namely the leadership assessment system used by the Army ROTC. While focusing on one specific training event, Baker highlights the subjective nature of assessment, and importance of training for cadre. This training is necessary in sport settings as well, for those training and evaluating leadership skills in captains.

Transformational Leadership in the Army ROTC

As previously mentioned, the Army claims to have adopted a transformational leadership style for its leadership development model. However, demonstrating that model has been difficult. The assessment of leadership in the field, through the use of the ROTC Field GPA, demonstrates an alignment with transformational leadership, based on agreed upon definitions of transformational leadership. Using Burns' (1978) definition of transformational leadership, having a focus on inspiring followers to exceed expectations, which leads to a strong commitment to the needs of the group, significant overlap can be seen when looking at the ROTC assessment forms. Constructs such as Lead by Example, Create a Positive Environment, Develops Others, as well as attributes such as Honor, Integrity, Loyalty, and Duty, are assessed in both the ROTC and transformational leadership. As previously mentioned in this dissertation,

these skills are taught through classroom settings and hands on leadership development opportunities.

Strengths and Limitations

Strengths. The current study had several strengths. It represents the first study to quantitatively assess leadership in the military in relation to sport and leadership development in high school athletics and extracurricular activities. In this investigation sport and captaincy were not simply viewed as simple all or nothing dichotomy. Rather, the amounts of experiences participants were involved in, both as athletes and in leadership positions were assessed. Another strength of the study was the participant pool. The participants came from a wide variety of backgrounds and diverse ROTC programs, varying in program size and location. Being an online survey, participants were able to complete the survey in a space and time that is comfortable and convenient to them.

Limitations. As is the case with all survey research a limitation of this study was the self-report nature, which required participants to report honestly on their leadership skills. There is no reason to believe that they did not respond honestly but there is also no way to know for sure. Social desirability may have played a role in the high reported SLPI scores, with participants low in leadership effectiveness choosing not to participate in the survey. A lack of information on the response rate is also a challenge, as the researchers do not know how many participants actually received the survey. The retrospective nature of the study also creates a challenge, requiring participants to recall details from up to eight years prior to completing the survey. Recall bias could be occurring. Along these same lines, the impact and influence of sport experiences from up to eight years earlier may have been diminished, especially considering the importance placed on leadership development during ROTC training. The

impact of the sport experience may be smaller based on the current ROTC leadership training and hands on opportunities to demonstrate these skills. Cadets also had to recall specific information regarding their academic performance, such as GPA from ROTC courses and scores from ROTC field experiences. While there is a wide range of participants, the participants are from a convenience sample, from Midwestern ROTC programs. The surveys were also completed online, without direct contact from the lead investigator. Participants could not ask clarifying questions prior to completion of the survey, which may have led some participants to leave large portions of the survey blank. Timing of the survey is also a limitation. Cadets who completed the survey mid-semester may not have had any field leadership opportunities, which may have led to the low response rate for the ROTC Field GPA. The large amount of missing data prevented a completely comprehensive view of the data.

A major limitation of this investigation involves the assessments used. For example, the original plan was to use SLPI subscales but extremely high Cronbach alphas showed that the subscale responses could not be differentiated. Instead, the SLPI was used a whole scale. Results may have differed if the intended subscales were employed. This calls for further validation of the SLPI to ensure it is measuring what it is intended to assess. The lack of variance, and extremely high SLPI scores, could have played a role in the lack of significant findings in many of the hypotheses. The lack of variance in the ROTC GPA was also problematic and prevented it's use in this study. It should also be note that there were relative low correlations between the three measurement instruments. It is clear that considerable attention needs to be placed on leadership assessment in future studies.

The final limitation of this study recognizes the inability to determine any causal relationships, and can only determine correlations, as it was not a true experimental study. Hence, any findings are only suggestive.

Future Directions

Based on the findings in the current study, several future directions and recommendations for research have come to light. This study found that, neither sport nor formal leadership training have an impact on ROTC leadership effectiveness. It is important to note, however, that the current study only looked at the number of leadership training experiences, not the quality of program or instruction. Therefore, it may be beneficial to further examine what type of leadership training high school students in general and athletes in particular take part in. Looking at what exactly is being taught in leadership training classes, and how that information is being applied in sport and other settings is critical. Researchers may also benefit from learning more about the training process of ROTC programs, and the impact those programs have on leadership development. While Baker (2015) looked at one specific leadership assessment program, it would be helpful to have a better understanding of what is done to prepare cadets for this major assessment. If leadership skills are transferable (certainly a question for future researchers to examine), the training process should be transferable as well. Sport programs may benefit from the developmental model developed by the ROTC.

Perhaps the lack of significant results comes from the success of ROTC programs to teach leadership skills, which negates or counteracts any leadership experience athletes or non-athletes would have or be lacking from high school. Therefore, a study assessing only first or second year cadets, who would be more influenced by their high school experiences, and less impacted by ROTC training, may be beneficial.

A longitudinal study tracking high school athletes who join the ROTC in college may be necessary as well. Following an athlete's sport and leadership experiences over time could give a clearer picture of the role of sport and captaincy on leadership development, and how leadership effectiveness changes over time. This may be difficult, as not all ROTC cadets know early on in high school that they intend to join the ROTC, but even a small sample would be beneficial.

Assessing the role gender plays in leadership, particularly in a historically masculine field such as the military, may be beneficial as well. While not a direct purpose of this study, SLPI scores were assessed in relation to gender. When scores were compared using an ANOVA, females (N = 62) reported slightly higher, but nonsignificant, SLPI scores (M = 4.13, SD = .63) than males (N = 220, M = 4.0, SD = .63), $p = .013$. Gender roles in military leadership effectiveness should also be assessed from a subordinate observer perspective, as opposed to just a self-assessment.

In the future, if this study were to be replicated, researchers may want to use a survey more specific to military leadership, which could result in more variance in the findings and a clearer view of leadership effectiveness for the specific population. The surveys should also be completed at the end of a semester, after the participants have an opportunity to review their scores and assessments provided by the ROTC.

Practical Implications

The findings from this study have practical implications for sport coaches, ROTC recruiters, and researchers or practitioners working in youth leadership development. The results show clear links between captaincy and military leadership, as well as recognizing the obvious impact of ROTC leadership training on leadership skills. Therefore, these populations may

consider working together to share strategies and resources, particularly when looking at the high percentage of ROTC cadets who participate in high school sports.

While many coaches encourage, or even provide leadership training for their athletes and captains, that may not be enough for true development of leadership skills. Coaches need to reassess what is being taught in formal leadership training programs. Perhaps a more hands on approach to developing leadership skills would be more beneficial, to allow a more immersive experience. Coaches and youth sport developers alike can take information from military leadership programs when constructing leadership development programs.

When it comes to assessing the effectiveness of leadership development programs, researchers need to be more purposeful in assessing actual leadership development, and not just byproducts of leadership. Proper evaluation of formal leadership training programs is vital to ensure young athletes are getting the information and guidance needed to become effective leaders, both in and out of sport. As recommended by Gould and Voelker (2010), coach involvement in these leadership development programs is also of great importance.
ROTC cadre and recruiters often look to potential recruits' sport and extracurricular participation to inform their success as a leader in the military. Based on the current findings, this may not be the most effective predictor for leadership success in the military. Recruiters may be better served to provide leadership training programs with local schools and sports teams, as opposed to relying on the current leadership development strategies in these areas.

Conclusions

Based on the current study, there are clear relationships between sport and military involvement, however transferability of leadership skills may not occur simply by participating in high school sport. Deeper experiences, such as those found when taking on the role of a team

captain, are needed to develop increased levels of leadership. Formal training was also found to have no impact on leadership effectiveness scores, and most of the participants never had any formal training in leadership development through their high school sport experiences. Therefore, something about taking on the role of the captain is causing increases in leadership abilities. Involvement in ROTC training also shows clear links to increased leadership effectiveness. Both captaincy and ROTC training involve hands on experiences, where the participant is placed in situations that require leadership skills. This model of leadership development needs to be considered when practitioners are creating leadership development programs. Stronger collaboration with sport and military leadership training programs could be beneficial for both fields, to provide better leadership training at a younger age, resulting in more qualified recruits for the military.

APPENDICES

Appendix A: Consent Form

ROTC/Sport Leadership Antecedent Study

Consent Form

You are being asked to participate in a research study conducted by Dr. Daniel Gould and Katherine Griffes from Michigan State University. The purpose of this project is to better understand how previous experiences impact leadership effectiveness in the Army ROTC. . While you will not directly benefit from participating in this study, information gathered from these surveys will be used to help educate those involved in ROTC and sport leadership development, and those in the future, to improve leadership development strategies in both fields.

You are being asked to participate in this research study because you have been identified as an Army ROTC cadet in the Midwest region, who has gone through leadership training with the ROTC. **You must be 18 or older to participate in this research study.**

Participation in this study is voluntary. As part of the study, you will complete a 20-25 minute survey addressing your high school sport and extracurricular experiences, as well as your current views on your effectiveness as a leader. Your responses in the survey will remain confidential; no one except the primary investigators will have access to these responses and any results coming from the project will not have names associated with them.

Your participation in this study would be greatly appreciated. However, please know that you may withdraw from participation at any time without penalty. Furthermore, you may refuse to respond to specific questions in the interview that you feel uncomfortable answering, and you can still be part of the study. If you have any questions concerning your participation in this study, please contact the principal investigator Dr. Daniel Gould at 001 (517) 432-0175 or drgould@msu.edu. If you have questions or concerns about your role and rights as a research participant, would like to obtain information or offer input, or would like to register a complaint about this study, you may contact, anonymously if you wish, the Michigan State University's Human Research Protection Program at 517-355-2180, Fax 517-432-4503, or e-mail irb@msu.edu or regular mail at 202 Olds Hall, MSU, East Lansing, MI 48824.

By completing the survey and returning it you are voluntarily participating in this research project.

Appendix B: Questionnaires

ROTC Cadets Demographic Survey

Age_____ Gender M F Year in School: Fr So Jr Sr

College _____

Think back to your **high school** competitive sport experiences with competitive sport being defined as those having organized practices, an adult coach, and scheduled competitions (define sport). Include both school and nonschool sponsored sport. Check the boxes next to each sport you participated in during high school, as well as captain status during the season.

Sport	Years Played (1 to 4)	Captain Yes/No	Seasons as captain (1 to 4)	Starting Status (Yes/No, how many seasons)	Level played (V-varsity, JV- junior varsity, F-freshman)	Individual Athletic Honors (all conference, league title, etc)
Ex. Football	4 years	Y	1 season	Y-3 N-1	2 JV, 2 V	All conference player
Football						
Basketball						
Baseball						
Softball						
Volleyball						
Tennis						
Horseback riding						
Ice Hockey						
Field Hockey						
Lacrosse						
Swimming/Diving						
Gymnastics						

Competitive
Cheerleading

Wrestling

Track

Cross Country

Soccer

Golf

Aerobics

Weight Lifting

Cycling

Other

Other

If you were a captain, what were your responsibilities as captain?

What type of captaincy training, if any, did you receive or participate in? Circle all that apply:

None
Informal (please explain) _____
Readings about leadership and being a captain
Regular meetings with coaches
Leadership classes at school
Attend leadership clinics
Other (please explain)_____

Think back to your **high school** extracurricular experiences, both in and out of school. Please check the boxes next to each activity you participated in.

Extracurricular Activity	Years Involved	Leadership Role Y/N	Describe Role
Ex. Dance	2	Yes	Team leader, led warm ups
Dance			
Band/Orchestra			
Art Club			
Choir			
Drama Club			
Boys/girls club			
YMCA			
Scouts			
4-H			
Peer Court			
Career Acts			
Student Government			
Honor Society			
Religious youth groups			
Comm. Service Club			
FFA			
Tutoring			
Key Club			
SADD			
Yearbook chess			
Newspaper			
Language Club			

Quiz Bowl

Chess Club

History Club

Computer Club

MTEA

JROTC

Junior Achievement

Debate Club

Peer Counseling

Other

Other

*Think about your **college** sport experiences. Please check the boxes next to all activities you participate in:*

If you were in a leadership role, what were your responsibilities/duties

Sport	Yrs Played	Level (V, IM)	Starting Status	Hours of practice / week	Leadership Role Y/N
Football					
Basketball					
Baseball					
Softball					
Volleyball					
Tennis					
Horseback riding					
Ice Hockey					
Field Hockey					

Lacrosse

Swimming/Diving

Gymnastics

Cheerleading

Wrestling

Track

Cross Country

Soccer

Golf

Aerobics

Weight Lifting

Cycling

Other

What type of captaincy/leadership training, if any, did you receive or participate in? Circle all that apply:

None
Informal (please explain) _____
Readings
Meetings with coaches
Classes at school
Attend clinics
Other (please explain)_____

Think about your **college** extracurricular experiences. *Please check the boxes next to all activities you participate in:*

Extracurricular Activity	Years Involved	Leadership Role Y/N	Describe Role
Dance			
Band/Orchestra			
Art Club			
Choir			
Drama Club			
Boys/girls club			
YMCA			
Scouts			
4-H			
Peer Court			
Career Acts			
Student Government			
Honor Society			
Religious youth groups			
Comm. Service Club			
FFA			
Tutoring			
Key Club			
SADD			
Yearbook chess			
Newspaper			
Language Club			
Quiz Bowl			

Chess Club

History Club

Computer Club

MTEA

JROTC

Junior Achievement

Debate Club

Peer Counseling

Other

Other

ROTC/Military Experiences

Years in ROTC_____

Type of Contract: Scholarship SMP Noncontract

Do you participate in any ROTC extracurricular activities? Y N

If yes, please list:

Are you in a leadership role in any of these activities? Y N

If yes, please list which, as well as the role:

What is your average GPA for ROTC courses? _____

How many of each score did you get on your last ROTC leadership rating?

E_____

S_____

N_____

Below are thirty statements describing various leadership behaviors. Please read each statement carefully. The rate yourself in terms of how frequently you engage in the behaviors described. This is not a test (there are no right or wrong answers). The usefulness of the feedback from this inventory will depend on how honest you are with yourself and how frequently you actually engage in the behaviors.

Consider each statement in the context of your role in ROTC. The rating scale provides five choices. Circle the number that best applies to each statement:

1. If you RARELY or SELDOM do what is described
2. If you do what is described ONCE IN A WHILE
3. If you SOMETIMES do what is described
4. If you OFTEN do what is described
5. If you VERY FREQUENTLY or ALMOST ALWAYS do what is described

In selecting the response, be realistic about the extent to which you actually engage in the behavior. Do not answer in terms of how you would like to see yourself or in terms of what you should be doing. Answer in how you typically behave.

For example, the first statement is "I set a personal example of what I expect from other people." If you believe you do this *once in a while*, circle the number 2. If you believe you do this *often*, circle the number 4. Select and circle only one option (response number) for each statement.

Please respond to every statement. If you can't respond to a statement (or feel that it doesn't apply), circle a 1. When you have responded to all thirty statements, please turn your response sheet into the research investigator.

How frequently do you *typically* engage in the following behaviors and actions? Circle the number to the right of each statement, using the scale below, that best applies

1	2	3	4	5
Rarely/Seldom	Once in a while	Sometimes	Often	Very Frequently

1. I set a personal example of what I expect from other people `
   1 2 3 4 5
2. I look ahead and communicate what I believe will affect us in the future
   1 2 3 4 5
3. I look around for ways to develop and challenge my skills and abilities
   1 2 3 4 5
4. I foster cooperative rather than competitive relationships among people I work with
   1 2 3 4 5
5. I praise people for a job well done
   1 2 3 4 5
6. I spend time and energy making sure that people in our organization
   1 2 3 4 5 adhere to the principles and standards we have agreed on
7. I describe to other in our organization what we should be capable of accomplishing
   1 2 3 4 5
8. I look for ways that others can try out new ideas and methods
   1 2 3 4 5
9. I actively listen to diverse points of view
   1 2 3 4 5
10. I encourage others as they work on activities and programs in our organization
    1 2 3 4 5
11. I follow through on the promises and commitments I make to this organization
    1 2 3 4 5
12. I talk with others about sharing a vision of how much better the organization
    1 2 3 4 5 could be in the future
13. I keep current on events and activities that might affect our program
    1 2 3 4 5
14. I treat others with dignity and respect
15. I give people in our organization support & express appreciation for their contributions
    1 2 3 4 5
16. I find ways to get feedback about how my actions affect other people's performance
    1 2 3 4 5
17. I talk with others about how their own interests can be met boy working towards a
    1 2 3 4 5 common goal
18. When things do not go as expected, I ask "What can I learn from this experience"
    1 2 3 4 5

19. I support the decisions that other people in our organization make on their own
1 2 3 4 5
20. I make a point to publicly recognize people who show commitment to our values
1 2 3 4 5
21. I build consensus on an agreed-on set of values for our organization
1 2 3 4 5
22. I am upbeat and positive when talking about what our organization can aspire to
1 2 3 4 5 accomplish
23. I make sure we set goals and make specific plans for the projects we undertake
1 2 3 4 5
24. I give others a great deal of freedom and choices in deciding how to do their work 1 2 3 4 5
25. I find ways for us to celebrate accomplishments
1 2 3 4 5
26. I talk about the values and principles that guide my actions 1 2 3 4 5
27. I speak with conviction about the higher purpose and meaning of what we are doing
1 2 3 4 5
28. I take initiative in experimenting with the way we can do things in our organization
1 2 3 4 5
29. I provide opportunities for others to take on leadership opportunities
1 2 3 4 5
30. I make sure that people in our organization are creatively recognized for their
1 2 3 4 5 contributions

Thank You!!

Appendix C: ROTC Assessment Rubrics

Figure 2: ROTC Leadership Assessment Report

LEADERSHIP ASSESSMENT REPORT

CADET COMMAND REG 145-3
REQUIREMENTS CONTROL SYMBOL ATCC-122

PART I - Attributes *(what a leader is)*: Characteristics that are an inherent part of an individual's total core, physical, and intellectual aspects. Attributes shape how one behaves

1. Character: A person's moral and ethical qualities which give a leader motivation to do what is appropriate regardless of circumstances or consequences

ARMY VALUES (Comments mandatory in Part III for all "NO" entries)	Yes	No		Yes	No
1. LOYALTY: Bears true faith and allegiance to the U.S. Constitution, the Army, the Unit and other Soldiers					
2. DUTY: Fulfills professional, legal, and moral obligations			5. HONOR: Adherence to the Army's publicly declared code of values		
3. RESPECT: Treats others as they should be treated; promotes dignity, consideration, & fairness			6. INTEGRITY: Does what is right both legally and morally; honest in word and deed		
4. SELFLESS-SERVICE: Places welfare of others and Army priorities before self			7. PERSONAL COURAGE: Faces fear, danger, or adversity		
EMPATHY: The ability to see something from another person's point of view, to identify with and enter into another person's feelings and emotions					
WARRIOR ETHOS: I will always place the mission first; I will never accept defeat; I will never quit; I will never leave a fallen comrade					

Mark "E", "S", or "N" for each observed attribute and/or core leader competency. IMPROVE comments in Part III are mandatory when rating of "N" is indicated

2. Presence The impression that a leader makes on others, which contributes to their success in leading them; the image that a leader projects; how others perceive a leader (outward appearance, demeanor, words, and actions)

- MB **Military Bearing** E S N — Projecting a commanding presence and professional image of authority
- PF **Physically Fit** E S N — Having sound health, strength, and endurance that supports one's emotional health and conceptual abilities under stress
- CF **Confident** E S N — Projects self-confidence and certainty; demonstrates composure and poise; calm and collected; possesses self control of emotions
- RS **Resilient** E S N — Showing a tendency to recover quickly from setbacks, shock, adversity, stress or injury while maintaining a mission and organizational focus

3. Intellectual Capacity The ability to draw on the mental tendencies and resources that shape a leader's conceptual abilities and impact of effectiveness, which then are applied to one's duties and responsibilities

- MA **Mental Agility** E S N — Flexibility of mind; a tendency to anticipate or adapt to ever-changing conditions; improvisation
- SJ **Sound Judgment** E S N — Assesses situations and draws feasible conclusions; makes sound and timely decisions
- IN **Innovation** E S N — Ability to introduce something new; is original in thoughts and ideas; creative
- IP **Interpersonal Tact** E S N — Effectively interacts with others; possesses the capacity to understand personal interactions with others; awareness of how others see you
- DK **Domain Knowledge** E S N — Possessing facts, beliefs, and logical assumptions in relevant areas; technical, tactical, cultural and geopolitical knowledge

PART II - Core Leader Competencies (*what a leader does*): Works to lead others; develops themselves, their subordinates and organizations to achieve mission accomplishment

1. Leads The application of character, presence, intellect and abilities while guiding others toward a common goal and mission accomplishment

- LD **Leads Others** E S N — Motivates, inspires, and influences others to take initiative, to work toward a common purpose, to accomplish critical tasks and to achieve unit objectives
- EI **Extends Influence beyond CoC** E S N — Uses indirect means to influence others outside normal chain of command Involves diplomacy, negotiation, conflict resolution and mediation
- LE **Leads by Example** E S N — Provides the example to others; serves as a role model; maintains high standards in all aspects of behavior and character
- CO **Communicates** E S N — Clearly expresses ideas to ensure understanding, actively listens to others, and practices effective communication techniques

2. Develops Taking actions to foster team work, encourage initiative, and to accept personal responsibility, while demonstrating care

- CP **Creates a Positive Environment** E S N — Creates a positive cultural and ethical environment
- PS **Prepares Self** E S N — Self-study, self-development and becoming multi-skilled; ensures they are prepared to lead
- DO **Develops Others** E S N — Encourages and supports others to grow as individuals and teams; prepares others for success; makes the organization more versatile

3. Achieves Sets objec[illegible] focuses on mission accompli[illegible]

- GR **Gets Results** E S N — Structuring what needs to [illegible] results are consistently produced; developing and executing plans while providi[illegible] guidance and clear priorities towards missio[illegible] ent; manages the resources required for mission accomplishment

CDT CMD F[illegible] A-R Jul 09 - REPLACES ALL PREVIOUS VERSIONS

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