

LEADERSHIP SCHEMAS: THE INFLUENCE OF ORGANIZATIONAL CONTEXT ON  
IMPLICIT LEADERSHIP THEORIES

by

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## **Abstract**

This mixed-methods study consisted of two phases. First, interviews were conducted with ROTC instructors responsible for organizational socialization of newcomers to the U.S. Army and U.S. Air Force. This data shaped surveys given to organizational newcomers in phase II, which measured organizational culture and cognitive leadership schemas. It was hypothesized that implicit leadership theories (ILTs) would reflect respective organizational cultures. Although this was supported in the qualitative results from Phase I, it was not supported in the quantitative results from Phase II. However, analyses showed that leadership is still perceived as a masculine role in both the U.S. Army and U.S. Air Force, as was hypothesized. It was also hypothesized that leaders in line occupations would be seen as better leaders than leaders in staff occupations. This was supported for the Air Force sample, but not the Army sample. During the interviews, ROTC instructors asserted that male and female leaders were equally capable, and that line and staff leaders were equally capable. However, questioning revealed that organizational stereotypes still defined the quintessential leader as a male in a line occupation, although females had more opportunities to fill those key occupations in the Air Force than in the Army, at the time of this study. This discrepancy, along with the discrepancies in results between the qualitative and quantitative data, indicate that organizational culture has perhaps changed at the levels of visible artifacts and espoused values with respect to diversity, but has not yet changed at the fundamental level of basic assumptions.

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## **Dedication**

To David: ο συζυγος μου; אהוב

## **Chapter 1 - Introduction**

This research had its genesis in the Iraq and Afghanistan conflicts. Returning U.S. military personnel shared with the author anecdotes, which were typically negative, of their deployment experiences working for a supervisor from a different branch of service (e.g., an Air Force member directly reporting to an Army supervisor). Despite being from the same country and the same parent organization (the Department of Defense), members from different branches of the American armed forces did not appear to be “seeing eye-to-eye”. These anecdotes lead to the formation of a hypothesis that the different branches of service have distinct organizational cultures, which, in turn, shape their members’ cognitive schemas (including leadership schemas), leading to different member behaviors and expectations in each organization. It was further hypothesized that the resultant clashes of assumptions when members from different organizations worked together lead to the expressed unmet expectations, communication difficulties, decreased efficiency, and frustration. Given the increasingly interoperational nature of modern warfare, the effect of organizational culture upon members’ leadership schemas appears to be an area in which meaningful research can be conducted. In the words of one Air Force officer, “the realities of armed conflict in today’s world make the integration of individual service capabilities a matter of success or failure, life or death” (Furr, 1991). At a fundamental level, these capabilities must include interpersonal capabilities. The primary purpose of this study is to compare the organizational culture perceptions and implicit leadership theories of members from two branches of the U.S. Armed Forces in order to empirically assess cultural differences and probe whether organizational culture influences members’ leadership schemas. Not only does this research contribute to the advancement of theoretical knowledge by exploring

the effects of organizational culture on cognitive leadership schemas, it has implications for applied purposes as well. If differences in members' cognitive schemas (including leadership schemas) due to organizational culture can be shown, then interventions can be considered in order to improve the joint interoperability of the various branches of the armed services.

It is not surprising that the various branches of the U.S. armed forces would have distinct organizational cultures. Although the conceptual study of culture began at the macro-level, with researchers attributing patterns of individual differences and similarities to national cultures (Hofstede, 1976; Hofstede & McCrae, 2004), researchers and practitioners have acknowledged that cultures are not monolithic. In particular, organizational researchers found national culture insufficient to explain variations between and within organizations in a given society, which led to the development of organizational culture research (Schein, 1990). According to Schein (1984, 1990), organizational culture can be analyzed at three levels: visible artifacts, values, and basic assumptions. Visible artifacts can be used to describe the "how" and "what" of a culture, but not necessarily the "why". Values are hard to observe directly, and often represent only the manifest or espoused values of a culture. Basic assumptions, on the other hand, are often unconscious, but "actually determine how group members perceive, think, and feel" (Schein, 1984, p. 3). Therefore, in order to truly understand a culture, one must examine the group's underlying assumptions. These basic assumptions are learned responses that originate as values. Schein does not ascribe a moral aspect to values; he defines them as motivational and cognitive processes that are the reasons for behaviors. These values generate behaviors, and as these behaviors are reinforced, they become automatic responses. Much like driving a car, these behaviors are carried out on an unconscious level, and are seldom questioned.

Taken together, these basic assumptions create a cultural paradigm, or organizational culture. Schein (1984) defined organizational culture as:

The pattern of basic assumptions that a given group has invented, discovered, or developed in learning to cope with its problems of external adaptation and internal integration, and that have worked well enough to be considered valid, and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems. (p. 3)

And this is the operationalization that was used for the current study. Furthermore, a given organizational culture can be strong or weak. Schein (1984) attributed the strength of an organizational culture to two factors: the homogeneity and stability of group membership, and the duration and intensity of group shared experiences. However, once established, a strong organizational culture can survive high turnover at lower ranks through the strong socialization of organizational newcomers, “as, for example, in elite military groups” (Schein, 1984, p.7), if the dominant coalition or leadership remains stable.

Organizational socialization is the process by which organizational newcomers are taught what the organization considers to be acceptable (and unacceptable) beliefs, standards, and behaviors (Van Maanen & Schein, 1979). Through this process, patterns of thought and behavior are passed from generation to generation of organizational members within a workplace. Although organizational socialization has been studied since the 1970’s, to date no research appears to have been conducted on the effects of organizational socialization on members’ cognitive leadership schemas, which are mental prototypes individuals use to categorize criteria and expectations for a given category such as leadership (Kenney, Blascovich, & Shaver, 1994). This study is an initial attempt to bridge the gap between organizational

socialization research and research regarding organizational members' cognitive systems, such as cognitive scripts and cognitive schemas, which underpin their perceptions of leadership. These cognitive systems determine how information is interpreted, organized, and stored, but they also control behaviors and performance (Lord & Kernan, 1987). Thus, they affect individuals' interpretations of others' leadership behaviors as well as their perceptions of how they themselves should act as leaders.

## **Chapter 2 - Phase I: Qualitative Research**

This was a mixed methods study, which consisted of two phases of research, and began with qualitative research consisting of semi-structured interviews of Reserve Officer Training Corps (ROTC) faculty members. ROTC instructors were selected because interviewing socialization agents such as new members' supervisors can lead to the identification of important areas of an organization's culture (Schein, 1984). ROTC is currently the largest officer accession program for both the Army (USA, n.d. b) and the Air Force (USAF, 2013), and its instructors are primarily responsible for the socialization of the officer candidates (organizational newcomers) into the particular branch of the armed forces they represent. The duty of ROTC instructors is to prepare officer candidates at colleges and universities across the United States to become commissioned officers who are educated in the history, mission, and tactics of their chosen branch of service, and are ready to lead subordinates in accomplishing the mission.

The qualitative phase of the research was developmental, as it was intended to help define the parameters of the subsequent quantitative research (Klenke, 2008). In an attempt to reduce the number of variables in the experimental design, the qualitative research was intended to determine which two of three leader characteristics (branch of service, type of occupation, or leader gender) were the most salient in defining organizational leadership schemas in the US Air Force and US Army. Qualitative research was particularly useful for this study because focus on context is one of the core elements of qualitative research (Klenke, 2008), and the purpose of the study was to examine the influence of organizational context on leadership schemas. Thus, the interviews facilitated an explication of the different dimensions of context. Furthermore, unlike

a questionnaire, which is structured by the researcher, interviews are useful for determining how the participants construe reality (Rynes et al., 1991), in this case, their organization's culture.

### ***Organizational Culture***

The organizational cultures of the Air Force and the Army are heavily influenced by their respective missions, but these missions are very different. The US Air Force's mission is "to fly, fight, and win... in air, space, and cyberspace" (United States Air Force [USAF], 2011, ellipses in the original). The US Army's mission is "to fight and win our Nation's wars by providing prompt, sustained land dominance across the full range of military operations and spectrum of conflict in support of combatant commanders" (United States Army [USA], 2011b). In air, space, and cyber-space warfare, the tasks are such that airmen can frequently best accomplish them individually, or in small teams. However, land warfare is typically much more personnel-intensive, requiring much larger numbers of soldiers, and requiring them to work in a cooperative, closely coordinated manner. One F-16 fighter aircraft with a crew of one pilot can accomplish an Air Force tasking, whereas the smallest Army unit is a squad, which typically consists of nine to ten soldiers. These differences in missions and organizational structures are important factors influencing not only the organizational cultures of these two organizations, but, according to contingency theories of leadership, also the styles of leadership that will be effective in each context.

Contingency theories of leadership focus on the effects of situational factors upon leadership effectiveness. One of the best-known contingency theories of leadership is House's (1971) path-goal theory of leader effectiveness, which posits that effective leaders utilize behaviors that complement followers' abilities and environments, and compensate for deficiencies. This leads to increased follower satisfaction and increased performance (House,



1996). Differences in environmental contingency factors and subordinate contingency factors between the United States Army and the United States Air Force, according to path-goal theory (House, 1971), would moderate which leader behaviors are successful in each organization. For example, directive leadership is likely to be redundant among subordinates with high ability or with considerable experience, such as Air Force pilots, but would lead to greater subordinate satisfaction when tasks are ambiguous or stressful, such as might be found in Army combat operations (Robbins, 2000). Thus, the defining mission of each branch determines which styles of leadership or leader behaviors are more successful in that organization, which would, in turn, influence organizational leadership schemas.

### ***Gender Roles***

The primary missions of each organization have also had gender implications that have influenced Air Force and Army organizational culture. The terms “line” and “staff” historically have been used in the U.S. Armed Forces to distinguish between occupations that directly accomplish the missions (line) and occupations that support the accomplishment of the missions (staff). Historically, women were precluded from direct combat occupations within the military. For example, when women were admitted to regular military status in the United States following World War II, they were prohibited from flying aircraft engaged in combat and from being assigned to ships engaged in combat (Public Law 80-625, 1948). For many years restricted to administrative and support occupations such as switchboard operators, clerks, or nursing, women have only recently been permitted to have line occupations. The Army began training women as helicopter pilots in 1974, and the Air Force admitted women to pilot training in 1976 (Wilson, 2006). However, women were still excluded from flying in combat, which precluded them from flying many of the aircraft and missions in each branch of service. This

restriction was not lifted until 1993 (S.3114, 1992), when Secretary of Defense Les Aspin directed that combat aircraft and noncombatant ships be opened to women (Keenan, 2008). In 2011, the official Army recruitment website's job search page had search discriminators such as active duty/reserve, enlisted/officer, and "only jobs open to women" (USA, 2011a). When that box was checked, 83 occupations were returned as search results; of these, approximately ten could be considered line occupations. Men had three more options: Armor, Infantry, and Special Forces – all very significant line occupations. Since the armed forces fundamentally define themselves as war fighters (Janowitz, 1971), being excluded from directly fighting a war casts women as "other" – unable to meet the definition. Furthermore, restriction from certain career fields limited the number of opportunities for advancement open to women. Any billet (position) that required a combat qualification or capability was prohibited to women, meaning there were fewer positions for which they could compete, while all positions were open to men.

Exclusion from line positions is not the only inherent cultural bias against women in these organizations. For many years, women were trained separately from men in the armed forces. Although, beginning in 1948, women could join the Regular Army rather than a Women's Auxiliary, they were still segregated as part of the Women's Army Corps (WAC). A separate Women's Army Corps Training Center at Camp Lee, Virginia, and later a Women's Army Corps School at Ft. McClellan, Alabama, trained female enlisted personnel and officers until after the Vietnam War (USA, n.d. a). In September of 1972, women were admitted to the Army Reserve Officers Training Program, wherein they would receive officer training at civilian universities alongside their male counterparts (USA, n.d. a). And in 1976, women were admitted to the service academies, as a result of legislation passed the previous fall (Public Law 94-106, 1975). In 1977, Army enlisted basic training became permanently gender integrated, after an

initial trial the previous year (USA, n.d. a). The Women's Army Corps was disestablished on October 20, 1978 (Public Law 95-485, 1978). Likewise, in the Air Force, women were part of a separate Women's Air Force (WAF) until 1976. But Air Force training for women was not as geographically segregated as that of the Army. In 1956, a WAF section was established for Air Force ROTC, such that women received WAF ROTC training at 10 participating civilian universities – separate but parallel training (Lockwood, 2012). This WAF ROTC program produced only seven new WAF officers, was declared unsuccessful, and was closed in July of 1960 (Frank, 2013). In 1969, women were integrated into (men's) Air Force ROTC training at four select universities, which expanded to a national scope in 1970 (USAF ROTC, 2013), and the first female officer was commissioned through Air Force ROTC in 1971 (USAF, 2013). By 1972, women were participating in Air Force ROTC at 156 universities throughout the United States (Frank, 2013). Air Force women underwent separate basic training, but it was located at the same installation as male basic training – Lackland AFB, TX. Gender integration of Air Force basic training began in 1976. Based upon this history of segregation, it is reasonable to ask whether leadership schemas in the U.S. armed forces are gendered or gender-neutral.

### ***Leader Occupation***

As alluded to previously, traditionally the armed forces have distinguished between “line” and “staff” occupations. In the military, the distinction between “line” specialization and “staff” specialization dates back to the Prussian Army of the early 1800's. After demoralizing defeats by Napoleon's Army in several battles in 1806, particularly the battles of Jena and Auerstädt, the Prussian Army underwent a reformation (Strachan, 2007). Part of the reformation consisted of the formation of a cadre of officers specifically educated and trained to serve as staff officers to the Generals. Officers began to be designated as either “line” or “staff” officers,

although there could be some interchange of experiences. This organizational structure persists to the modern day, and also has been adopted by civilian businesses (Church & Waclawski, 2001). Although staff officers were often respected for their strategic thinking capabilities, line officers were typically romanticized for their roles in the conduct of battles. It was hypothesized that this bias still exists in the current US Armed Forces.

### ***Research Questions***

Phase I of this research was intended to generate empirically testable hypotheses for use in Phase II. Thus, the interviews were designed to gather data that would assist in empirically evaluating whether differences exist in U.S. Army organizational culture and U.S. Air Force organizational culture, as had been purported anecdotally previously. Furthermore, the interviews were designed to sample experienced Army and Air Force members' cognitive leadership schemas, in order to assess whether these schemas contained elements based upon leader branch of service, leader occupation, or leader gender. This would contribute to determining whether Army leadership schemas differ from Air Force leadership schemas, and whether any differences in leadership schemas reflect differences in organizational cultures. The broad questions were whether Army and Air Force cultural schemas would reflect organizational differences when compared, and whether Army and Air Force leadership schemas would reflect organizational differences when compared. A more specific question pertaining to organizational culture was whether Army and Air Force organizational culture schemas would differ in ways that reflected the differences in the organizations' respective missions. More specific questions regarding leadership schemas were whether Air Force or Army leadership schemas distinguished between leaders from the same branch of service or leaders from other branches of service, whether Air Force or Army leadership schemas distinguished between

leaders with line occupations and leaders with staff occupations, whether Air Force or Army leadership schemas were gendered or gender-neutral, and whether Air Force and Army officers' conceptualizations of a prototypical leader's traits and behaviors agreed or differed.

## **Method**

### ***Participants***

The interview participants were five officers drawn from Air Force and Army Reserve Officer Training Corps (ROTC) instructors at one midwestern university. Two of three Air Force ROTC instructors were interviewed (male = 100%). There was one female Air Force ROTC instructor assigned to this location, but she was deployed overseas during this timeframe. Three of seven Army ROTC instructors were interviewed (male = 100%). In order to protect participant anonymity, no delineation will be made between active duty, reserve, National Guard, or retired participants. There were no female Army ROTC instructors at this location. In order to limit the number of study variables, no enlisted-ranked instructors were interviewed. Participation in each phase of the research was voluntary, and all participants were treated in accordance with the "Ethical Principles of Psychologists and Code of Conduct" (American Psychological Association, 2002).

### ***Measures***

The interviews were conducted using a standard set of questions, which were asked of each interviewee (see Appendix A). Each interview was recorded using a Sony ICD-PX312 digital voice recorder, and transcribed using Express Scribe (NCH Software, n.d.).

### *Design and Procedure*

The Air Force and Army ROTC Detachment Commanders at a midwestern university were asked to provide one officer-ranked participant from each of the primary line/staff occupational categories (Air Force = rated [line] and non-rated [staff]; Army = Combat Arms [line], Combat Support [line/staff], and Combat Services Support [staff]). Because officers and non-commissioned officers (NCOs) have different professional education programs and career experiences, which would introduce new variables to the study, no NCO-ranked (enlisted) instructors were interviewed.

Data regarding the instructors' leadership scripts, schemas, and implicit performance theories, as well as organizational culture data, was collected through the use of focused interviews. The interviews were conducted as Level 3 interviews, according to Huffcutt & Arthur's (1994) four levels of interview question standardization, meaning that the interviewer conducted all five semi-structured, focused interviews using a standard set of questions, but asked follow-up probes that varied in response to the information shared by each interviewee. Interviewer standardization was achieved by having the same interviewer conduct all five interviews. Each interview was scheduled for one hour, plus 30 minutes of administrative time. After the interviews were transcribed, each participant was given the opportunity to review his transcript for accuracy of representation of his ideas and responses, and all of the participants were debriefed.

### *Analysis*

The interviews were recorded, transcribed verbatim, and analyzed using NVivo9 (QSR International, 2010). This analysis was conducted primarily as descriptive research, by utilizing a deductive approach to refine the parameters of the subsequent quantitative research,

particularly as pertains to the leadership schemas. However, there was also an aspect of exploratory research, in which the transcripts were analyzed utilizing an inductive approach to identify themes in the participants' culture and leadership schemas. After the transcripts were entered into NVivo9, they were analyzed for responses regarding the three leadership independent variables: leader branch of service, leader occupation, and leader gender. They were also analyzed to determine which themes emerged regarding leader behaviors or characteristics, and which themes emerged regarding organizational culture.

### ***Organizational Culture***

The transcripts registered differences in Army and Air Force cognitive schemas that were consonant with differences in the organizations' respective missions. For example, when asked the differences between Air Force and Army leadership styles, an Army Reserve Officer Training Corps [ROTC] instructor said, "A lotta times Army officers are a little more harsh in their language [and] behavior because they have to lead their men and women through harsher situations". Whereas an Air Force ROTC instructor answered:

[The] Air Force style of leadership is more collaborative. ...As a leader in the Air Force, I find that we *empower* our airmen to do quite a bit. We give them the proper tools in order to do certain things; whereas, in the Army, that empowerment for that private or for that specialist may not be there.

Every one of the interviews identified differences in the Army and the Air Force cognitive schemas, and distinctions between the Army and the Air Force as organizations. For example, one Army ROTC instructor said:

The Army has that...reputation, I mean, rough, tough. We can live with the *bugs* -with the *bugs* and the mud - without the [air conditioning], livin' on the ground, and, you know, basically, just live like animals. ...I guess *that's* why we're the toughest. We're willing to go out there, fight, and *die*. [Some Army soldiers] will look at the Air Force and go, "Well, those guys never do that. They go back to their air-conditioned rooms, watch cable TV, and, you know, they're not like us."

Whereas, an Air Force ROTC instructor responded:

Our approach is definitely different. "Our approach" meaning that we, the Air Force, may take a more cerebral approach to it - which I think is good - taking a second look, getting some additional opinions on it. ...[The Air Force] being...more technically based, [with] quite a few programs within our jobs, that probably drives a lot of that aspect; whereas, the Army is: they have their role, they know that they're an infantryman, and they're gonna be a great infantryman. It's not their job to make a practice that's been done for hundreds of years better. It's their job to carry it out.

In order to probe the underlying assumptions level of culture, the instructors were asked about organizational stereotypes. When asked what stereotypes he had heard about Air Force members, one Army officer said, "I've heard terms like wimp". The same officer, asked about Air Force stereotypes of Army, said, "I've heard they're dumb. It takes their sergeant to teach 'em how to spell their own name. They have to read comic books to teach 'em how to disassemble and reassemble their weapons." He continued, "I love hearin' the two stereotypes, 'cuz I can listen to both and just laugh." When asked why, he asserted:

A lot of it's stupid. It really is. Now, I've met airmen that didn't even know how to *carry* an M-16 [rifle]. I've met soldiers that, yeah, I guess you could say really did live



up to that Air Force stereotype. But, I think in the end, when it came down to it – and I can honestly say this – if we were both alongside each other in a fight, I think that tradition that we have of maintaining the line, staying in the fight, whether it's Air Force or Army, both sides would do it. They would engage the enemy; they wouldn't run away from a fight.

Thus, despite perceived differences between the organizations, this officer also recognized that the organizations had significant similarities of purpose, which was also echoed in the interviews of every other participant. Each expressed the sentiment that, like siblings, their similarities were more important than their differences, and when threatened, they would close ranks against the common enemy.

### ***Leader Branch of Service***

Certain cultural differences between branches of service in leadership definitions and leadership stereotypes emerged from the qualitative research. One of the primary themes that emerged was the responsibility of a leader to accomplish the mission while taking care of the people under his or her command. But there were organizational differences in the ways “taking care of one's people” was defined. The Army instructors emphasized physical caretaking behaviors such as preparing troops to survive in combat and enduring hardships alongside their people, whereas the Air Force instructors emphasized more intellectual and emotional caretaking behaviors, such as delegating authority, mentoring, and gathering input from subordinates during the decision-making process. One Army instructor explained taking care of his people like this:

[Being a Platoon Leader is the best job you'll ever have, because] when you're out, and you're *cold* and you're hungry and you're nasty, and you're out in the back of a Deuce and a Half, freezin' cold, but you're all out there – with all of your soldiers ...it's just a

blast...That's what the Army's all about...being down there with your soldiers, helping them in any way you can.

But an Air Force instructor described taking care of his people like this:

[As opposed to the Army style of leadership,] the Air Force style of leadership is more collaborative...a leader in the Air Force may have the luxury, the ability to delegate *some* things...as a leader in the Air Force, I find that we *empower* our airmen to do quite a bit...That's a culture thing within the Air Force – we expect quite a bit out of our airmen. We invest a lot of money into their training, being a very technically savvy force...I think Air Force leadership really incorporates a lot of the management principles...That's part of taking care of people. Obviously, you don't manage people; you *lead* people. But you manage things that take care of them as a person.

All of the Army instructors interviewed emphasized taking care of their people's physical needs, whereas all of the Air Force instructors interviewed talked about taking care of their people's cognitive needs. Perhaps because a significantly greater percentage of the Army's current missions involve direct physical danger, Army leadership spends the greatest amount of its time on meeting the physiological, safety, and belonging needs of the troops. Similarly, because most Air Force missions are more removed from immediate physical danger, it appears that Air Force leadership is able to focus more attention on meeting the esteem and self-actualization needs of airmen. This is one possible explanation for this observed cultural leadership difference between these two organizations. Regardless of its causal factors, an obvious cultural leadership difference did emerge from these interviews, despite the two organizations both being armed services in the same country.

Cultural differences also were expressed with respect to leader characteristics. Army leaders were perceived as louder, and sometimes more coarse, by both Air Force and Army members. An Air Force officer said, “In the Army, they are brute force. They yell a lot more than we do, in the Air Force...They yell a lot. It’s who yells the loudest and the most, generally wins the argument, not necessarily who has the better argument or who can articulate the best.” An Army officer noted that Air Force officers were “probably a little less gruff” and “sometimes a little more polished” than Army officers, and attributed the differences to the environment. The Army officer quoted in the introduction, who said, “A lotta times Army officers are a little more harsh in their language [and] behavior because they have to lead their men and women through harsher situations”, explained:

I just think it’s all based upon the type of environment they’re in. ...When an [Air Force Security Police member] can come in to the [air conditioning] some times, off the flight line, a young infantryman is still *living* in there – in the heat. And he’s gonna be out there for another two, three weeks, living like that. And sometimes morale drops, and you’ll see an Army officer, an Army NCO...sometimes they’ll drive a boot in their butt [metaphorically speaking], and a few harsh words’ll come out, and [the young infantryman will] get their head back on straight and get their head back in the game. I think it’s *completely* necessary to get them home alive.

The bottom line, to the Army cadre, was life or death. A good Army leader does whatever it takes to keep his or her troops alive, and values their lives above his or her own. One Army officer flatly stated, “A good leader...has to put soldiers, subordinates, in front of themselves...to the point that your subordinates need to know that, if the situation comes to this, you’d be willing to give your life for them”.

### ***Leader Occupation***

The interviews explored both the espoused values and the underlying assumptions levels of culture. Analysis of the transcripts supported that Army leadership schemas did differ from Air Force leadership schemas, and that these differences in leadership schemas did reflect differences in organizational cultures. As one Army Officer explained:

Throughout, I would say, the history of warfare...when people think of ‘soldiers’ and ‘warriors’, they think infantry...The infantryman is still our...meat and potatoes, in the Army...because it doesn’t matter how much we *destroy* it, you know, *annihilate* it, it’s still – someone needs to stand on that ground and *hold* it.

However, there did appear to be a discrepancy between espoused values and basic assumptions. When questioned, all of the officers (Army and Air Force) stated that line officers and staff officers were equally capable as leaders. When asked, “When you think about an ideal leader, does it matter whether they’re Combat Arms, Combat Support, or Combat Service Support?”, one Army officer responded:

No. I mean, a leader is a leader. There are leaders in Combat Support, leaders in Combat Arms, leaders in Combat Service Support. Each role has a mission, and the guys who are, you know, down range, being shot at, they need to know that they’re gonna be fed, [have] bullets - [that] bullets and beans are gonna be provided for ‘em, and you need a competent leader in those areas as well. So, I mean, across the board, you need good leadership, or something falls through the cracks, and...bad things happen.

But when they were asked about leader stereotypes, an organizational preference for line leaders emerged. In response to the question, “When you were a cadet, or a young officer, was there a stereotype of an Air Force leader?”, an Air Force officer remembered:

In my community...the leaders were the *pilots*. ...They [held] the positions in the leadership – the wing commanders, the group commanders, the squadron commanders. The generals in the Air Force, if you look across the board...80% of them were previous aviators. And so, the stereotype was, the path to that leadership success, if that was your definition of success, was that you had to go through the aviation track somewhere...And I would even say the subset, the culture of that would be the *fighter* pilots.

In turn, in response to the question, “Does the Army...have a stereotype of what a good leader is, or looks like?”, an Army officer stated:

It’s gonna be an infantryman who’s an Army Ranger, Rhodes Scholar, 4.0 GPA, 300 APFT...jump out of an airplane without a parachute on, land on his feet...the perfect family man...fearless in battle...can motivate others to be like him...is able to say the right thing at the right time, always, – can think on his toes...Really, I think they’re looking for the perfect human being.

Though not specifically identifying it as such, these officers seemed to be acutely aware of a discrepancy between their branch’s espoused values of equality and teamwork, and a basic cultural assumption that line officers were preferenced for leadership positions. Though the previous Army officer found line and staff leaders equivalent, another Army officer, when asked the same question framed in the context of stereotypes, “So, in the Army, you have Combat Arms, and Combat Support, and Combat Services Support. Which of those three the leader is trained in, does that matter when we’re talking about [an Army] ‘poster child’?”, responded “Well, I’ll call it as it is. Combat Arms. They are...the poster child.” And the Air Force officer cited above continued:

The fighter *mafia* was runnin' the *Air Force*! And, to get into that club, you gotta be one of those people... That's where the political correctness part of all this equation comes in, in my opinion. 'But we're a TEAM. And the pilot can't do their job without the maintainer, without the fueler, without the doctor makin' sure he's medically *fit*, without the person in the...MPF makin' sure the paperwork's all squared away'. So they continued to preach 'team', but when you looked at the actual results...based on promotions and selections and so on...it didn't *appear* that way.

In summary, at the espoused values level of culture, the instructors described the modern Army and modern Air Force as being egalitarian organizations, in which leadership is not defined by leader occupation. But at the underlying assumptions level, the historical definitions of Army and Air Force leaders as line officers such as infantrymen and fighter pilots still prevailed.

### ***Leader Gender***

Officers from both the Army and the Air Force averred that there were no differences between male and female military leaders at the espoused values organizational culture level. Said one Air Force officer, "I think we've gotten to a certain point that [leader gender] doesn't *matter* any more. The credibility's there for both genders." Another Air Force officer stated:

In my opinion, [leader gender] doesn't matter. [When I joined, in 1985], women were *there*, but they weren't allowed in many of the jobs. And now, a lot of those jobs have opened up. And so now they *can* be there. They can be right next to me on the...plane...They can be the person in the front [of the plane], person in the back [of the plane], squadron commander, squadron Ops O [Operations Officer – second in command, in charge of day-to-day operations], doesn't matter...doesn't make a difference to me.

Likewise, Army officers said gender didn't matter to effective leadership. Several officers cited examples of effective female leaders with whom they had worked, and one officer pointed out that the highest ranked cadet in his class, based partially upon peer ratings, was female.

However, when discussing stereotypes, basic cultural assumptions that disadvantaged female leaders emerged, as in the following dialog regarding a stereotypical good Army leader:

Interviewer: "Is Ranger training open to women?"

Army officer: "No. No, it's not."

Interviewer: "Ok. So, in this stereotypical image, we're talking about a male."

Army officer:

I would say there's two standards...The perfect *female* officer - of course, physically fit. Again, she would have to place her subordinates before herself. She would have to be a complete *genius* in her career field. Fearless. And still be willing to accomplish...all the Hooah schools that the Army will allow her to be in. So, therefore, she can't be in *Ranger* school; she'd best be Airborne qualified, Air Assault qualified, if she can do it, go to Sapper school...So, I guess, the standard's a *little* different? But, yet, we still asked pretty much the same thing out of our female officers.

Similarly, in continuing the previous conversation about Air Force leadership stereotypes, the interviewer asked:

So, in that era, what if you were a member of the out-group? What if you were not *rated*, or what if you were *female*, and females weren't, you know, *eligible* to be fighter pilots, in that era...Did that affect how they were perceived as a leader?

To which the Air Force officer responded:

I don't think it affected how they were *perceived* as a leader. But I just think that, probably the *chances* of them being able to go on those paths to that, let's say, four-star rank, was *infinitely* harder, or more challenging.

When this research was conducted, 99% of Air Force career specialties were open to women, whereas 66% of Army career specialties were open to women (Parrish, 2012). Thus, women were excluded from a third of Army occupations, and they were the occupations that stereotypically define the Army mission. One Army officer noted:

I think, for a cadet – at least on the Army side of the house – the...command philosophy is: if you can lead a squad, or a platoon, doing light infantry tactics...then you've got the basic fundamentals of leadership. But, that being said, I think a lot of the Army cadets will look at [an] *Infantry* officer as, 'that is the *peak*, the best of the best'...So...when they think of the ideal leader, yeah, if they're gonna look at the Infantry side, they're gonna see just a male role model.

As was the case for leader occupation, there was also a discrepancy between espoused values and underlying assumptions regarding leader gender. At the espoused values level of culture, the instructors described the modern Army and modern Air Force as being egalitarian organizations, in which leadership was not defined by leader gender. But at the underlying assumptions level, the historical male-gendered definitions of Army and Air Force leaders still prevailed.

### ***Discussion***

The broad research questions were whether Army and Air Force cultural schemas would reflect organizational differences when compared, and whether Army and Air Force leadership schemas would reflect organizational differences when compared. The interview transcripts established that Army and Air Force members' cognitive schemas of organizational culture and



leadership did reflect distinct organizational cultures. The Army organizational culture stereotypes were that Soldiers were tough frontline warriors who conducted warfare while grappling with the elements (cold, heat, dirt, mud, etc.), the wildlife (including insects), the local population, and supply issues, all of which affected troop morale. In comparison, the Air Force was perceived as less fit, less tough, pampered, and far removed from the frontlines. On the other hand, the Air Force organizational culture stereotypes were that Airmen were intelligent, highly trained masters of technology who could take the fight to the enemy remotely, through air, space, and cyber space. The Air Force perception was that the Army had to work harder because they couldn't work smarter. Army cognitive leadership schemas showed that Army leaders were conceptualized as more concerned with their followers' physical needs, whereas Air Force leadership schemas showed that Air Force leaders were conceptualized as more concerned with their followers' cognitive needs. Both Air Force and Army schemas depicted Army leaders as more authoritarian, and Air Force leaders as more democratic. The officers described these differences as being attributable to the differences in organizational missions, which directly answers the secondary organizational culture research question by confirming that Army and Air Force organizational culture schemas do differ in ways that reflect the differences in the organizations' respective missions.

When the participants described leader prototypes, the prototypical leader in the Army was an infantryman with a Ranger tab, whereas the prototypical leader in the Air Force was a fighter pilot with a Weapons School patch. These specialties, infantry and aviation, require very different task skills and leadership skills. These results reinforce that Army and Air Force leadership schemas do reflect organizational differences when compared. However, infantry and aviation are both line occupations. Although Air Force and Army members' leadership schemas

did not distinguish between line leaders and staff leaders at the espoused values level of organizational culture, they did show an awareness of an organizational preference for line leaders at the underlying assumptions level of organizational culture. This answers the secondary research question of whether Air Force or Army leadership schemas distinguish between leaders with line occupations and leaders with staff occupations. Despite the fact that each of the interviewees averred that there is no distinction between line and staff leaders, and that each is equally capable of leadership, they all acknowledged that institutional stereotypes favored line leaders. This was true for both the Army and the Air Force. Currently, in the Air Force, 55% of female officers are line officers and 45% are staff officers, whereas 85% of male officers are line officers and 15% are staff officers (USAF Personnel Center, 2013).

Similarly, Army and Air Force members' leadership schemas did distinguish between same-branch and other-branch leaders, but no preference was expressed at the espoused values level between same-branch and other-branch leaders. This is possibly due to the fact that only one of the Air Force officers in this sample had directly experienced a cross-branch leadership situation, and none of the Army officers in this sample had directly experienced a cross-branch leadership situation. Additionally, while Army and Air Force members' leadership schemas did not distinguish between male and female leaders at the espoused values level, members again showed awareness of a preference at the underlying assumptions level of organizational culture. In the Army, the prototypical leader was explicitly male, as only males are permitted to be infantrymen. This specialty is still closed to women, as is Ranger training. Therefore, women are incapable of meeting the Army leader prototype. In the Air Force, however, women have been permitted to be fighter pilots since 1993, and they are also eligible to attend Weapons School. Thus women *are* capable of meeting the Air Force leader prototype. However, women

currently comprise only 5% of the entire U.S. Air Force pilot force, 725 out of 14,426 (USAF Personnel Center, 2013), meaning there are few who are fighter pilots – in 2003 there were only 46 female fighter pilots (Aviles, 2003). Therefore, it is highly unlikely that women will meet the Air Force leader prototype of being a fighter pilot who has also graduated from highly competitive Weapons School training. Thus, although these instructors professed that men and women are equal in the armed forces, and equally capable of leadership, the reality is that female officer candidates graduate from training and confront strongly male-gendered organizational leader prototypes, limited opportunities to achieve the organizational measures of success, and an organizational culture that still preferences men at the underlying level of assumptions, or “taken-for-granted values” (Schein, 1984). In other words, the cultural paradigm still favors males.

In addition to exploring these research questions, one of the research objectives was to reduce the quantitative design that would be utilized in Phase II by determining which two of three leader characteristics (gender, occupation, or branch of service) were the most significant. However, there was no consensus across branches of service: the Air Force instructors unequivocally stated that gender was no longer a significant characteristic of leadership schemas, whereas the Army instructors stated that gender “shouldn’t matter”, but requested that the variable be included, in order to measure cadets’ perceptions. Therefore, the Phase II quantitative design included all three leader characteristic independent variables.

Phase I affirmed that it was likely the different branches of service do have distinct organizational cultures, which, in turn, shape their members’ cognitive schemas (including leadership schemas), leading to different member behaviors and expectations in each organization. This hypothesis would be operationalized and quantitatively tested in Phase II.

### *Limitations*

This sample consisted of only white male interviewees. Therefore, results may not be representative of female or minority Army or Air Force members. Future research should include interviews with female and minority organizational members. Additionally, this sample contained only one member from each category. Future research should increase the number of participants in each category.

All of the interviews were conducted by the same female interviewer. This may have affected the interviews because the male interviewees may have felt uncomfortable discussing certain perceptions or stereotypes with a female interviewer, whom they may have viewed as more of an organizational outsider than a male civilian interviewer, due to the fact that the military is a very male-gendered organization (Furia, 2009). However, this effect appeared to have been at least partly offset by the fact that the interviewer was a veteran.

## **Chapter 3 - Phase II: Quantitative Research**

The second phase of the study utilized the results from the qualitative interviews in Phase I to shape a quantitative survey, which was administered to US Army and US Air Force ROTC students at the same midwestern university as the instructors who were interviewed in Phase I. Based on feedback from the instructors, the survey was constructed to capture Army officer candidates' and Air Force officer candidates' perceptions of only their own branch of service, as it was the instructors' opinion that the candidates had insufficient education or experience to have well-formed cognitive schemas of other branches of service. Instead, organizational differences would be measured by comparing the Army and Air Force survey results. The survey consisted of demographic questions, an organizational culture scale, a profile of a hypothetical leader, and an implicit leadership theories scale. In addition to being college students, ROTC officer candidates are organizational newcomers who are in the process of being socialized into their respective organizations, the U.S. Army and the U.S. Air Force. Part of the process of organizational socialization is transmitting sanctioned beliefs, or motivational and cognitive processes that are the reasons for behaviors, to organizational newcomers (Schein, 1984). It was hypothesized that some of these beliefs would have to do with leadership templates, or schemas about what a good leader "looks like" in a given context. The ROTC cadets were surveyed to determine whether their implicit leadership theories reflected the beliefs that were expressed by their instructors, which were assumed to be representative of organizational beliefs. The survey results were then analyzed to ascertain whether the implicit leadership theories, or cognitive leadership schemas, of Army officer candidates varied from those of Air Force officer candidates, and whether the results demonstrated any differences

which might be representative of organizational cultural influences due to organizational socialization.

### ***Implicit Leadership Theories***

Implicit leadership theories (ILTs) represent individuals' cognitive leadership schemas, which specify traits and behaviors that followers expect from leaders (Epitropaki & Martin, 2004; Kenney et al., 1994). Leadership schemas are one of many various types of role schemas, which are normative expectations of behaviors or characteristics associated with a specific role (Kenney et al., 1994). Individuals use these schemas to interpret and make sense of observed leader behaviors. It is believed that individuals form cognitive leadership schemas, or leadership prototypes, through socialization, interpersonal interactions, and prior experiences with leaders (Epitropaki & Martin, 2005). Once formed, these expectations and beliefs about the "ideal leader" serve as standards against which one compares one's actual leaders and as templates for shaping one's own behavior as a leader (Lord & Maher, 1991). Although it is suspected that an individual's ILTs form in the early stages of their professional career, and then remain fairly stable thereafter, research exploring ILT formation has not yet been conducted (Epitropaki & Martin, 2004).

Since it is suspected that individuals' ILTs are partially formed through socialization (Epitropaki & Martin, 2005), it is further hypothesized that organizational socialization would play a role in the formation of members' leadership schemas. Van Maanen & Schein (1979) originated a typology of socialization tactics, consisting of six bipolar continuum tactics, which Jones (1986) later classified into two types of socialization, Individualized and Institutionalized. Individualized Socialization represents the less-structured end of the socialization continuum, and consists of individual, informal, random, variable, disjunctive, and divestiture socialization

tactics, which “encourage newcomers to question the status quo and develop their own approaches to their roles” (Ashforth et al., 1998, p. 899). At the more structured end of the continuum of each of these six tactics are collective, formal, sequential, fixed, serial, and investiture socialization tactics, which “encourage newcomers to passively accept established roles, thereby reproducing the status quo” (Ashforth et al., 1998, p. 899). This structured, formalized type of socialization, which consists of common initiation and learning experiences (Allen & Meyer, 1990), is labeled “Institutionalized Socialization” (Jones, 1986). One of the most extreme examples of institutionalized socialization occurs in the military (Jones, 1986), where newcomers enter as a cohort and proceed through very structured training that includes instruction on how to dress, how to eat, how to live, and even whom to date. Individuals who join the military experience a powerful institutionalized socialization that includes specific information about the individual’s identity, role, and conduct. Part of this institutional socialization also includes information about the organization’s definitions, beliefs, and standards of leadership and leadership behaviors (e.g., USA, 2012; USAFA, 1984). For these reasons, the military is an ideal organization in which to study the role of organizational influence on individuals’ ILTs.

### ***Gender Roles***

In contrast to organizational socialization, which has been studied in a military context, very little research has been conducted on military leadership gender differences (Morgan, 2004). This is a puzzling oversight, since the military is a very unique context in which to study leadership gender differences. One reason it is a unique context is that the military has been declared “probably the most nontraditional of all career fields for women” (Finch, 1994, p.1). Delineation of various probable reasons for this phenomenon are beyond the scope of this study,

but one author has described the organizational design of the military as a power structure based on male traits (Oakley, 2000). Another reason is the military in general, and military leaders in particular, are defined as having agentic attributes, such as assertiveness, aggression, independence, or self-sufficiency (Eagly & Karau, 2002), whereas women's gender roles are defined by communal characteristics. Since the military is a male-gendered organization, and military leadership roles have historically been based on male-gendered models (Youngman, 2001), there are interesting research questions to be explored regarding military leadership gender differences.

One of these questions is whether military members' leadership schemas are gendered or gender-neutral. Research has supported a role congruity theory of prejudice against women leaders due to the "incongruity that many people perceive between the characteristics of women and the requirements of leader roles" (Eagly & Karau, 2002, p.574). According to this research, women are perceived to be more communal or democratic, whereas men are perceived to be more agentic, or autocratic and directive (Eagly et al., 1992). Historically, leadership has been defined as a masculine, agentic role (c.f., "Think Manager, Think Male", Schein & Davidson, 1993; also, Eagly & Johnson, 1990; Heilman, 2001). Furthermore, leadership has historically been defined as transactional, such that: "It has been customary to see leadership as a method of getting subordinates to meet job requirements by handing out rewards or punishments" (Bass, 1985, p. 26). Definition of leadership as agentic has been problematic for female leaders, since there are societal expectations for men and women's behavior, which are known as gender roles or social roles (Eagly, 1987). Historically, male gender roles are defined by agentic behaviors such as assertiveness, independence, and confidence, and female gender roles are defined by communal behaviors such as helpfulness, kindness, and concern for the welfare of others (Scott



& Brown, 2006). Therefore women experience conflicting behavioral expectations when filling leadership roles. This is known as the role congruency theory of prejudice toward female leaders (Eagly & Karau, 2002). Given the historical tradition of the military as a masculine occupation, and the predominance in western culture of the definition of the role of leader as a masculine, agentic role, it has been posited that stereotypes persist in the U.S armed forces that women are less qualified than men for military leadership positions, because they are perceived to possess less of the attributes associated with leadership (Boyce & Herd, 2003). This research explored whether military cognitive leadership schemas were gendered or gender-neutral by including in the survey identical profiles of hypothetical military leaders that varied by gender, to test whether ROTC cadets' implicit leadership theories varied by leader gender.

### *Hypotheses*

Since the instructors' interviews in Phase I demonstrated organizational differences in cultural and leadership cognitive schemas, it was hypothesized that U.S. Air Force and U.S. Army cadets' organizational culture schemas and ILTs would demonstrate organizational differences, and that their leadership cognitive schemas would reflect organizational stereotypes regarding leaders' occupations and gender. Because leadership schemas are thought to be a tool for organizational sense making (Weick, 1995) that organizational members use to understand and respond to leaders' behaviors (Poole et al., 1989), and because organizational socialization includes information about the organization's definitions, beliefs, and standards of leadership and leadership behaviors, it was hypothesized that Air Force and Army cadets' leadership schemas would differ from each other, in ways that would reflect organizational differences. Due to enduring organizational leader prototypes defining leaders as line officers in the Army (such as Generals Bradley, Patton, and Pershing) and Air Force (such as Generals Arnold,

Doolittle, and Mitchell), it was hypothesized that Army and Air Force cadets' leadership schemas would show a preference for leaders with line occupations. And due to the historically male-gendered culture of the armed forces, and the "think manager, think male" paradigm (Schein & Davidson, 1993), it was hypothesized that Air Force and Army cadets' leadership schemas would be male-gendered, rather than gender-neutral. Specifically, the research hypotheses for Phase II were as follows:

H1: Air Force and Army cadets' organizational culture schemas will differ in ways that are distinct to the cadets' respective branch of service.

H2: Air Force and Army cadets' leadership schemas will differ in ways that are distinct to the cadets' respective branch of service.

H3a: Air Force cadets' leadership schemas will distinguish between leaders with line occupations and leaders with staff occupations, and show a preference for line leaders.

H3b: Army cadets' leadership schemas will distinguish between leaders with line occupations and leaders with staff occupations, and show a preference for line leaders.

H4a: Air Force cadets' leadership schemas will distinguish between male leaders and female leaders, and show a preference for male leaders.

H4b: Army cadets' leadership schemas will distinguish between male leaders and female leaders, and show a preference for male leaders.

## **Method**

### ***Participants***

All of the current Army and Air Force ROTC students ( $N = 190$ ) from the same midwestern university where the Phase I research was conducted were solicited to complete an online survey. In Air Force and Army ROTC, these officer candidates are known as cadets. The

response rate was as follows: 111 of 136 Army cadets (77% male, 23% female; response rate = 82%), and 39 of 54 Air Force cadets (77% male, 23% female; response rate = 72%) completed the survey during the initial offering. The cadet gender ratio represented reflects current force composition. Women comprise 15.7% of total Army personnel (including active duty, guard, and reserve; USA, 2013), and 18.9% of active duty Air Force personnel (Air Force Personnel Center, 2013). In order to compensate for the size differential between the Army and Air Force units, the following semester all newly enrolled Air Force cadets were solicited to complete the same survey. During the second collection, 16 of 35 Air Force cadets (75% male, 25% female; response rate = 46%) completed the survey. The cumulative Air Force response rate was 62%. The total  $n = 166$  (Army = 111; Air Force = 55), and  $N = 225$  (Army = 136; Air Force = 89). The distribution of the total sample of cadets by number of years in the program was as follows: 75 = 1<sup>st</sup> year; 34 = 2<sup>nd</sup> year; 31 = 3<sup>rd</sup> year; 26 = 4 or more years. Since there were only 5 cadets with more than four years in ROTC, and there were no significant changes to the results by doing so, these cases were combined with the fourth years to create a “four or more years in ROTC” category. 26 of 166 cadets (16%) had prior military experience (previously enlisted, National Guard, etc.) Of the 26 cadets with prior military experience, half (13) had combat experience and half did not.

## ***Measures***

### ***Demographic Information***

Demographic information questions included age, gender, branch of service, length of time in ROTC, and prior military experience (see Appendix B).

### ***Organizational Culture Scale***

Organizational culture was measured using a modified version of the Ulmer-Campbell Military Culture/Climate Survey (MCCS; Dorn et al., 2000; Appendix C), which is rated on a 6-point Likert-type scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). The original survey was specifically constructed to measure military organizational climate and military organizational culture (as distinguished from non-military organizational cultures), and consisted of 99 culture and climate items. Breslin (2000) reduced the original scale to 60 items to measure only culture, removing all “climate” items (C. Breslin, personal communication, March 27, 2012). For this study, two subject matter experts (SMEs) further reduced the scale to 36 items by eliminating items that were not applicable to ROTC cadets (e.g., “I receive pay and allowances comparable to civilians with my skills”). This reduction was also intended to reduce survey fatigue by keeping the overall survey to a reasonable length. The modified organizational culture scale is still rated on a 6-point Likert-type scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*), and consists of 11 dimensions. The reliabilities for these dimensions were as follows: Traditional Values (6 items;  $\alpha = .79$ ); Discipline (3 items;  $\alpha = .68$ ); Organizational Honesty (4 items;  $\alpha = .75$ ); Commissioned Officer Leaders (3 items;  $\alpha = .85$ ); Morale (4 items;  $\alpha = .82$ ); Trust (1 item; n/a); Evaluations (1 item; n/a); Resources (2 items;  $\alpha = .53$ ); Racial/Gender Issues (5 items;  $\alpha = .68$ ); Military Roles and Missions (2 items;  $\alpha = .47$ ); and Societal Comparisons (5 items;  $\alpha = .45$ ). Sample items include: “You can ‘tell it like it is’ in our unit”; “Traditions and values mean a lot”; and “Leaders in this unit do not tolerate dishonest or unethical behavior”.

### ***Implicit Leadership Theories Scale***

Implicit Leadership Theories were measured using the 21-item Leader Characteristics Questionnaire (LCQ; Epitropaki & Martin, 2004; derived from Offermann et al., 1994; see

Appendix L), which is rated on a 9-point Likert-type scale ranging from 1 (*not at all characteristic*) to 9 (*extremely characteristic*). Since perceptions of leadership depend upon the setting (Lord, Foti, & DeVader, 1984), the LCQ is specifically constructed to represent ILTs in a work context, and consists of six dimensions (Epitropaki & Martin, 2004). The reliabilities for these dimensions in this study were as follows: Sensitivity ( $\alpha = .88$ ); Intelligence ( $\alpha = .76$ ); Dedication ( $\alpha = .83$ ); Dynamism ( $\alpha = .61$ ); Tyranny ( $\alpha = .84$ ); and Masculinity ( $\alpha = .81$ ). The component items of each dimension are: Sensitivity (3 items: understanding, sincere, helpful); Intelligence (4 items: intelligent, knowledgeable, educated, clever); Dedication (3 items: motivated, dedicated, hard-working); Dynamism (3 items: energetic, strong, dynamic); Tyranny (6 items: domineering, pushy, manipulative, loud, conceited, selfish); and Masculinity (2 items: male, masculine). Tyranny loaded onto a higher order antiprototypical dimension of effective leadership, and all of its items are intended to be reverse-scored (Epitropaki & Martin, 2004, 2005). Although Masculinity also loaded onto the higher order antiprototypical leadership dimension, and both of its component items were also supposed to be reverse-scored, it was believed that the purposes of this study would be better served by scoring these items in a straightforward manner (see limitations, this chapter). So these scores were not reversed.

The LCQ (Epitropaki & Martin, 2004) originated from a leadership lexical study that utilized undergraduate psychology students (Offermann et al., 1994), which may make it fairly applicable for this use with ROTC students, but which may mean that it is not necessarily generalizable to a broader military population, since it may lack certain leadership traits that would be considered relevant by the greater military population. After all, “the rationale for lexical studies rests on the assumption that the most meaningful personality attributes tend to become encoded in language as single-word descriptors” (Saucier & Goldberg, 2001, p. 847).

But these two populations may not speak the same language, figuratively speaking. Given that leadership is setting-specific (Lord, Foti, & DeVader, 1984), it is likely that the general military population would define leadership differently than did a sample of civilian college students. Furthermore, a military population may construe or value certain leader traits differently than does another population, as was discussed previously regarding the “Loud” trait. Finally, the assumption carried through these studies (Offermann et al., 1994; Epitropaki & Martin, 2004) that the Masculinity dimension is antiprototypical of effective leadership, and should therefore be reverse-scored, is too simplistic. In the original study, the two items comprising Masculinity, male and masculine, were generated from a leadership lexical study, with no valence attached to the words (Offermann et al., 1994). A second group of subjects was then asked to evaluate how characteristic each of the traits were of a leader, an effective leader, and a supervisor. Subsequent analyses showed Masculinity to be negatively correlated with Sensitivity (-.23); slightly negatively correlated with Intelligence (-.04), Charisma (-.05), and Dedication (-.07); and positively associated with Strength (.20), Attractiveness (.35), and Tyranny (.48) (Offermann et al., 1994). Femininity was not included in the study, presumably because it had not been generated during the lexical study. Offermann et al. (1994) offered little interpretation of these results. They did, however, acknowledge that “different cultural groups may have different conceptions of what leadership should be...For example, followers who expect leader authoritarianism may view sensitivity as a sign of weak leadership and evaluate such behavior negatively” (Offermann et al., 1994, p. 56). In building upon Offermann et al.’s study, Epitropaki & Martin (2004) accepted the premise that Masculinity is antiprototypical of effective leadership, stating that since Tyranny ( $M = 4.58$ ) and Masculinity ( $M = 3.65$ ) rated lower on the scale than the other dimensions, whose means ranged from 5.15 to 7.73, they represented

antiprototypic traits. They further supported this conclusion by citing previous studies on authoritarian and transformational leadership, respectively.

### ***Leader Scenarios***

Based upon the work of Virginia Schein (1973), Leader Scenarios (see Appendices D & E) were developed for use in conjunction with the Leader Characteristics Questionnaire (Epitropaki & Martin, 2004; see previous section) in order to capture the cadets' implicit leadership theories. Schein examined gender role stereotypes and occupational gender typing of middle management positions by using three forms of a descriptive index. The three forms contained identical descriptive terms and instructions, but one asked for a description of women in general, one asked for a description of men in general, and one asked for a description of successful middle managers. Schein's participants were asked to imagine they were about to meet a person for the first time, and the only prior knowledge they had of the person was whether they were male, female, or a successful middle manager. In order to generate similar hypothetical leader scenarios, but for a military context, during the interviews ROTC instructors were asked which two of three leader variables (branch of service, gender, or type of occupation [line/staff]) might have the greatest effect on cadets' leadership schemas. No consensus emerged on which two of these three leader variables were most significant; however, the instructors felt that cadets may not have enough knowledge to be able to evaluate leaders from other branches of service. Therefore, it was decided that Army cadets and Air Force cadets would be surveyed separately, using scenarios depicting hypothetical leaders from their own branch of service. In consultation with an Army subject matter expert and an Air Force subject matter expert, four Army and four Air Force hypothetical leader scenarios were constructed (see Appendices D & E), for a total of eight leader scenarios. For example:

Your new supervisor has been in the Army for eight years, and is a Captain. She is a Transportation Officer, with Airborne wings and Air Assault wings. She has one combat rotation as a Platoon Leader. She has a Bachelor's degree in Mechanical Engineering, a Master of Business Administration (MBA) degree, and has completed the Captains Career Course. Her official photo shows that she is fit and looks very professional in uniform. You have also heard that she scored a 280 on her APFT.

Within each branch, the four Leader Scenarios consisted of identical descriptions of military officers, varying only in regard to the leader's gender (male/female) and type of occupation (line/staff). The scenarios were also constructed to be as equivalent as possible to those of the other branch of service. In consonance with Schein's procedure, the participants in this study were given one of four branch-specific (Army/Air Force) leader scenarios, and asked to imagine they were about to meet this individual for the first time. Based upon the information presented in the scenario, the participants were asked to rate how characteristic they perceived each of a list of traits to be of the given individual, using the Leader Characteristics Questionnaire (see previous section).

### ***Design and Procedure***

An online survey was advertised by the ROTC faculty and by email, and was available to the students for 3 weeks. The cadets were randomly assigned to one of eight groups, 4 Air Force and 4 Army, and sent a link specific to that version of the survey. The survey versions were identical except for the assigned hypothetical leader scenario, and consisted of demographic information questions, the 36-item organizational culture scale, the leader scenario, and the 21-item Implicit Leadership Theories scale. In order to decrease cell size disparities, the survey was



re-administered the following school year to all new Air Force cadets. As before, the online survey was advertised by the ROTC faculty and by email; however, this time it was available to the students for 5 1/2 weeks. The cadets were randomly assigned to one of four Air Force groups, and sent a link specific to that version of the survey. Data from this collection was combined with data from the previous collection such that cadets with the same leader scenarios were grouped together.

### *Analysis*

Because this study was comparing the quantitative responses of two groups, Army and Air Force ROTC officer candidates, who also differed on other dimensions, such as gender, a series of factorial between-subjects ANOVAs were used to compare the groups' means and determine if there were any statistically significant differences between them, and to determine to which source differences among the means were attributable. Prior to analysis, the organizational culture composite score, and each organizational culture dimension, as well as the Implicit Leadership Theories (ILTs) composite score, and each ILT dimension, were examined for missing data, outliers, and fit between their distributions and the assumptions of the General Linear Model (GLM). Missing data was evaluated by group. According to Tabachnick & Fidell (2007), 5% or less of values missing does not result in serious problems, as long as the data are missing in a random pattern from a large data set. Therefore, for groups missing less than 5% of the data, the case(s) were deleted. However, for groups missing greater than 5% of the data, group mean substitution was used. In the case of groups comprised of data from both data collections, combined data group means were computed. The composite score for Organizational Culture showed a clear departure from normality, being both kurtotic and severely negatively skewed, so it was transformed using an inverse transformation ( $[New X =$

1/(K-X)]; Tabachnick & Fidell, 2007, p.89). Likewise, each of the Organizational Culture dimensions was also kurtotic and severely negatively skewed, and had to be corrected for these departures from normality through the use of inverse transformations (Tabachnick & Fidell, 2007). Analyses were run for each of the eleven dimensions, and a Bonferroni correction was applied to the results in order to reduce Type 1 error [Bonferroni  $p = .005$ ]. The composite score for ILTs met the assumptions of the GLM; however, 2 of the 6 ILT dimensions, Dedication and Intelligence, were negatively skewed, and were transformed using inverse transformations (Tabachnick & Fidell, 2007). Analyses were run for each of the six dimensions, and a Bonferroni correction was applied to the results in order to reduce Type 1 error [Bonferroni  $p = .008$ ].

## **Results**

One interesting result for Phase II was that the data differed in some respects from the data collected in Phase I. Most significantly, Phase II did not capture any significant differences in the cultural schemas of U.S. Air Force and U.S. Army ROTC cadets. There were, however, some significant differences in the cadets' leadership schemas.

### ***Organizational Culture***

In order to test for differences between Army and Air Force organizational cultures, Cadet Branch of Service and Cadet Gender were used as independent variables, for the same reasons, discussed previously, that branch of service and gender were selected as leader variables. Length of Time in ROTC was also used as an independent variable, as it was presumed that cadets would show more organizational acculturation the longer they had been members of ROTC, due to duration of socialization. Unfortunately, a 3-way ANOVA, 2 (*Cadet Branch of Service*) x 2 (*Cadet Gender*) x 2 (*Time in ROTC*), showed no significant differences

between Air Force and Army cadets' Organizational Culture scores (See Table 1). Exploring for differences between cadets with and without prior service in the armed forces yielded no significant results ( $F(1, 141) = .17, p > .05$ ). Likewise, whether a cadet had previous combat experience had no significant effect on their Organizational Culture rating ( $F(2, 138) = .20, p > .05$ ), although this demographic was quite small ( $13/166 = 8\%$ ).

### ***Organizational Culture Dimensions***

The composite scores for each dimension are shown in Table 2. Running ANOVAs for the transformed organizational culture dimensions initially showed 4 of the 11 dimensions were significant. However, after the Bonferroni correction was applied [Bonferroni  $p = .005$ ], the only significant dimension was Morale. A 2 (*Cadet Branch of Service*) x 2 (*Cadet Gender*) x 2 (*Time in ROTC*) ANOVA for Morale showed a significant main effect for Time in ROTC ( $F(3, 151) = 4.66, p = .004$ ), such that morale decreased over time (See Table 3). A Tukey's HSD post-hoc analysis showed a significant difference between first-year cadets ( $M = 5.32, SD = .75$ ) and cadets with four or more years in ROTC ( $M = 4.84, SD = 1.01$ ), such that cadets who had been in the program longer rated their organization lower on the dimension of Morale (See Figure 1). None of the interactions for Morale were significant after the Bonferroni correction.

In summary, the organizational culture analyses showed no significant differences between Army and Air Force cadets' ratings of their respective organization's culture on the Organizational Culture composite score, nor on any of the organizational culture dimensions. Thus, Hypothesis 1, which stated that Air Force and Army cadets' organizational culture schemas would differ in ways that were distinct to the cadet's branch of service, is not supported.

### ***Implicit Leadership Theories***

A 4-way ANOVA including the variable Cadet Gender, 2 (*Leader Branch of Service*) x 2 (*Leader Occupation*) x 2 (*Leader Gender*) x 2 (*Cadet Gender*), showed a significant main effect for Leader Gender ( $F(1, 150) = 7.20, p < .01, \eta^2 = .03$ ), such that Male Leaders ( $M = 6.51, SD = .80$ ) were rated higher than Female Leaders ( $M = 6.26, SD = .77$ ) regardless of cadet gender. There were no significant interactions (See Table 4). And a 4-way ANOVA including the variable duration of cadet enrollment in ROTC, 2 (*Leader Branch of Service*) x 2 (*Leader Occupation*) x 2 (*Leader Gender*) x 2 (*Time in ROTC*), yielded a significant interaction for Leader Branch x Leader Occupation ( $F(1, 135) = 4.38, p < .05, \eta^2 = .03$ ), such that Air Force Line Leaders ( $M = 6.35, SD = .57$ ) were rated higher than Air Force Staff Leaders ( $M = 6.14, SD = .68$ ), but Army Line Leaders ( $M = 6.34, SD = .92$ ) were rated lower than Army Staff Leaders ( $M = 6.57, SD = .79$ ) (See Figure 2). There were no significant main effects (See Table 5). This result fully supports Hypothesis 3a, as Air Force cadets both distinguished between line and staff leaders, and rated line leaders more highly than staff leaders. However, it only partially supports Hypothesis 3b: Army cadets distinguished between line and staff leaders, but they rated staff leaders higher than line leaders, which was the opposite of the hypothesized result.

Next, in order to explore differences by branch of service, since Army cadets were given exclusively Army leader profiles, and Air Force cadets were given exclusively Air Force leader profiles, separate 2 (*Leader Occupation*) x 2 (*Leader Gender*) x 2 (*Cadet Gender*) ANOVAs were run for Army and Air Force. For Air Force, there was a significant main effect for Leader Gender ( $F(1, 47) = 4.16, p < .05, \eta^2 = .08$ ), such that Male Air Force Leaders ( $M = 6.45, SD = .62$ ) were rated higher than Female Air Force Leaders ( $M = 6.02, SD = .55$ ) regardless of cadet gender (See Table 6). Thus Hypothesis 4a, that Air Force cadets' leadership schemas would

distinguish between male leaders and female leaders and show a preference for male leaders, was supported.

For Army, there was a parallel significant main effect for Leader Gender ( $F(1, 103) = 4.69, p < .05, \eta^2 = .04$ ), such that Male Army Leaders ( $M = 6.55, SD = .89$ ) were rated higher than Female Army Leaders ( $M = 6.37, SD = .83$ ) (See Table 7). However, there was also a significant Leader Gender x Cadet Gender interaction ( $F(1, 103) = 5.14, p < .05, \eta^2 = .05$ ), such that Army Female Cadets rated Male Leaders ( $M = 7.04, SD = .67$ ) higher than Female Leaders ( $M = 6.08, SD = .68$ ), but Army Male Cadets rated Male Leaders ( $M = 6.39, SD = .90$ ) lower than Female Leaders ( $M = 6.45, SD = .86$ ) (See Figure 3). Therefore, Hypothesis 4b, that Army cadets' leadership schemas would distinguish between male leaders and female leaders and show a preference for male leaders, was only partially supported.

Separate 2 (*Leader Occupation*) x 2 (*Leader Gender*) x 2 (*Time in ROTC*) ANOVAs for length of time in Army and Air Force ROTC yielded no significant results. Likewise, Separate 2 (*Leader Occupation*) x 2 (*Leader Gender*) x 2 (*Prior Experience*) ANOVAs for Army and Air Force cadets with prior military experience yielded no significant results.

### ***Implicit Leadership Theories Dimensions***

In order to probe these differences between Army and Air Force ROTC cadets' leadership schemas, analyses were run for the 6 individual dimensions of ILTs: Sensitivity; Intelligence; Dedication; Dynamism; Tyranny; and Masculinity (See Table 8). A series of 3-way ANOVAs, 2 (*Leader Branch of Service*) x 2 (*Leader Occupation*) x 2 (*Leader Gender*), were run analyzing each dimension. This analysis yielded no significant effects for the dimension of Sensitivity. ANOVAs for Dynamism, Dedication, and Tyranny initially yielded significant

results, but these results did not remain significant after the Bonferroni correction was applied [Bonferroni  $p = .008$ ].

However, the ANOVA for Intelligence showed a significant interaction for Leader Branch x Leader Occupation ( $F(1, 158) = 9.34, p = .003, \eta^2 = .06$ ), such that Air Force staff officers ( $M = 7.72, SD = .74$ ) were rated slightly more intelligent than Air Force line officers ( $M = 7.64, SD = .83$ ), but Army staff officers ( $M = 8.07, SD = .71$ ) were rated much more intelligent than Army line officers ( $M = 7.55, SD = 1.24$ ). There were no significant main effects after the Bonferroni correction [Bonferroni  $p = .008$ ] (See Table 9).

The ANOVA for Masculinity showed a significant main effect for Leader Gender ( $F(1, 158) = 90.71, p < .001, \eta^2 = .37$ ), such that Male Leaders ( $M = 6.96, SD = 2.37$ ) were rated more masculine than Female Leaders ( $M = 3.78, SD = 2.22$ ) (See Table 10). There was also a significant interaction for Leader Branch x Leader Gender ( $F(1, 158) = 7.43, p = .007$  [Bonferroni  $p = .008$ ],  $\eta^2 = .05$ ), such that Male Army Leaders ( $M = 6.83, SD = 2.55$ ) were rated slightly less masculine than Male Air Force Leaders ( $M = 7.19, SD = 2.04$ ), but Female Army Leaders ( $M = 4.28, SD = 2.39$ ) were rated much more masculine than Female Air Force Leaders ( $M = 2.63, SD = 1.17$ ) (See Figure 4). A 4-way ANOVA for Masculinity, 2 (*Leader Branch of Service*) x 2 (*Leader Occupation*) x 2 (*Leader Gender*) x 2 (*Time in ROTC*), also showed a significant main effect for Leader Gender ( $F(1, 135) = 62.31, p < .001, \eta^2 = .32$ ), such that Male Leaders ( $M = 6.96, SD = 2.37$ ) were rated more masculine than Female Leaders ( $M = 3.78, SD = 2.22$ ), regardless of cadet time in ROTC (See Table 11). The main effects for Leader Branch and Time in ROTC were non significant after the Bonferroni correction. Additionally, the interaction for Leader Branch x Time in ROTC was non significant, and the interaction for Leader Occupation x Time in ROTC was non significant after the Bonferroni correction.

However, the Leader Branch x Leader Gender interaction ( $F(1, 135) = 8.73, p = .004, \eta^2 = .06$ ) remained significant after the Bonferroni correction, such that Male Air Force Leaders ( $M = 7.19, SD = 2.04$ ) were rated more masculine than Male Army Leaders ( $M = 6.83, SD = 2.55$ ), but Female Army Leaders ( $M = 4.28, SD = 2.39$ ) were rated more masculine than Female Air Force Leaders ( $M = 2.63, SD = 1.17$ ). These results were consistent with the results from the 3-way ANOVA (See Figure 4).

The dimension Masculinity consists of two items – Male and Masculine. A 2 (*Leader Branch of Service*) x 2 (*Leader Occupation*) x 2 (*Leader Gender*) ANOVA for Male yielded a significant interaction for Leader Branch x Leader Gender ( $F(1, 158) = 9.58, p = .002, \eta^2 = .06$ ), such that Male Air Force Leaders ( $M = 7.59, SD = 2.38$ ) were rated more male than Male Army Leaders ( $M = 6.78, SD = 3.14$ ), but Female Army Leaders ( $M = 3.38, SD = 3.04$ ) were rated more male than Female Air Force Leaders ( $M = 1.42, SD = 1.10$ ). It also showed a significant main effect for Leader Gender ( $F(1, 158) = 109.36, p < .001, \eta^2 = .41$ ), such that Male Leaders ( $M = 7.08, SD = 2.90$ ) were rated more male than Female Leaders ( $M = 2.79, SD = 2.75$ ) (See Table 12). As before, a Bonferroni correction was applied to account for the two items within the dimension of Masculinity [Bonferroni  $p = .03$ ].

Further exploration of these results by 4-way ANOVAs that included the variables Cadet Gender or Time in ROTC showed the same pattern of results. Although the rating of male leaders as male and female leaders as less male seems a blindingly obvious result, what is interesting is that, on a nine-point scale, with the question asking how “male” the leader was perceived, female and male leaders did not receive dichotomous scores of 1 and 9. Furthermore, a 2 (*Leader Branch of Service*) x 2 (*Leader Occupation*) x 2 (*Leader Gender*) ANOVA for the item Masculine within the dimension Masculinity yielded a significant main effect for Leader

Gender ( $F(1, 158) = 40.69, p < .001, \eta^2 = .21$ ) wherein Male Leaders ( $M = 6.85, SD = 2.18$ ) were still rated higher than Female Leaders ( $M = 4.78, SD = 2.27$ ), but the difference between their ratings was smaller, largely due to female leaders' ratings increasing (See Table 13). Thus, there was more distinction between male and female leaders on the item of maleness than there was on the item of masculinity.

In the original study, all six of the items in the Tyranny dimension were reverse-scored, as they were hypothesized to be antiprototypical of effective leader behavior (Offermann et al., 1994). However, effective leader behavior depends upon context. In several of the Phase I interviews, both Army and Air Force officers asserted that Army leaders are loud, and that perhaps loudness is necessary in some situations that Army personnel encounter. Therefore, analyses were run exploring this item separately, not reverse-scored. An Air Force 2 (*Leader Occupation*) x 2 (*Leader Gender*) ANOVA for Loud yielded no significant interactions. However, there was a significant main effect ( $F(1, 51) = 15.23, p < .001, \eta^2 = .23$ ), such that Male Leaders ( $M = 6.07, SD = 1.46$ ) were rated louder than Female Leaders ( $M = 4.54, SD = 1.42$ ), which aligns with common gender stereotypes (See Table 14). On the other hand, the Army 2 (*Leader Occupation*) x 2 (*Leader Gender*) ANOVA resulted in a significant interaction ( $F(1, 107) = 6.07, p < .05, \eta^2 = .05$ ), such that Male Staff Leaders ( $M = 6.36, SD = 1.93$ ) were louder than Male Line Leaders ( $M = 4.96, SD = 2.20$ ), but Female Line Leaders ( $M = 5.94, SD = 1.98$ ) were louder than Female Staff Leaders ( $M = 5.45, SD = 1.92$ ) (See Figure 5). There were no significant main effects (See Table 15).

Additionally, successful leader behaviors were described during the interviews that could be categorized as Pushy or Domineering. An Army 3-way ANOVA, 2 (*Leader Occupation*) x 2 (*Leader Gender*) x 2 (*Cadet Gender*), for Pushy yielded no significant effects. However, the



equivalent Air Force 3-way ANOVA for Pushy yielded a significant main effect for Leader Occupation ( $F(1, 47) = 5.32, p < .05, \eta^2 = .10$ ), such that Air Force Line Leaders ( $M = 4.97, SD = 1.68$ ) were rated as pushier than Air Force Staff Leaders ( $M = 4.12, SD = 1.99$ ). Finally, 3-way ANOVAs for Domineering, 2 (*Leader Occupation*) x 2 (*Leader Gender*) x 2 (*Cadet Gender*), for both Army and Air Force yielded no significant results.

Taken altogether, the various analyses show some differences between Air Force and Army cadets' leadership schemas. However, based solely upon this data, it is difficult to definitively claim that their leadership schemas differ in ways that are distinct to the cadets' branch of service. Therefore, Hypothesis 2, that Air Force and Army cadets' leadership schemas would differ in ways that are distinct to the cadet's branch of service, is only partially supported.

## **Discussion**

Unlike Phase I, in which Air Force and Army instructors' cultural schemas reflected organizational differences when compared, in Phase II there were no significant differences between Air Force and Army cadets' organizational culture schemas. There are several possible explanations for this result. First, it is possible that, as organizational newcomers, officer candidates are not yet fully acculturated into their respective organizations. Despite their ROTC education and training, officer candidates may lack sufficient organizational experiences to have a meaningful understanding of Army or Air Force culture. Furthermore, as college students, they have multiple identities. Not only are they ROTC cadets, they are also students of a given university, with a given academic major, who may also participate in other extracurricular activities, and may belong to other organizations, such as fraternities and sororities. Moreover, it is possible that the duration and intensity of their ROTC education and training may have been insufficient to make membership in the armed forces their primary identity. Thus, unlike the

experienced instructors interviewed in Phase I, ROTC cadets may not have a strong enough military identity to be measurable. Second, it is possible that the organizational culture scale utilized for this study was not sensitive enough to measure any potential differences between Air Force and Army cadets. That is, it is possible that there were actual differences in organizational culture schemas between Army and Air Force cadets, but this particular measure was incapable of distinguishing them. Third, Edgar Schein (1984) asserted that organizational culture could only be measured by skilled qualitative researchers. While other researchers (House et al., 2004; Hofstede, 1980) have successfully gathered a large amount of significant data measuring national cultures quantitatively, it is possible that differences were captured in Phase I, but not Phase II, due to the difference in methodology used, qualitative versus quantitative.

Another possible explanation is that the survey results did not show differences between Army and Air Force organizational cultures because the survey only tapped the second level of organizational culture, espoused values. In other words, it is likely that the survey measured cadets' perceptions of the espoused values of their organizations' cultures, not their perceptions of the underlying basic assumptions, the third level of organizational culture, which Schein (1984) posited could only be accessed through a focused inquiry conducted by an organizational outsider. It was also suggested by a colleague that the difference in results between the cadets and the instructors might be due to generational differences. To wit, it might be possible that the cadets did not accept an Army identity or an Air Force identity as their primary identity because Millennials are less likely to commit to a workplace organization long-term (according to the popular media). However, a recent meta-analysis looking at generational differences with regard to job satisfaction, organizational commitment, and intent to turnover found no meaningful differences between generations on these variables (Costanza et al., 2012).

One interesting result from the survey was that cadets who had been in ROTC longer rated their organizations lower on the organizational culture dimension of morale. This was noteworthy given that, under the leader development guidelines of ROTC, cadets should assume an increasing amount of responsibility for the conduct of the program as they progress through the program. It would be interesting to explore in a follow-up study whether this is a localized result, or whether, in general, cadets become demoralized as they progress through the program for reasons such as, possibly, their perceptions of not having as much autonomy as they had anticipated as cadet leaders, or because they are eager to graduate and assume their responsibilities as lieutenants, and no longer are motivated by their ROTC responsibilities.

In looking at leadership schemas, and specifically, the variable of leader gender, despite assertions from both Air Force and Army officers during Phase I of this study that gender no longer matters in the armed services – that the services are gender-neutral – the quantitative results demonstrated that gender is still a significant aspect of cadet implicit leadership theories. The strong significant result for leader gender shows that gender is still a significant aspect of leadership schemas, and that leadership roles are still gender-stereotyped. In this study, the cadets' leadership schemas conformed to the “think manager, think male” paradigm.

### ***Limitations***

This sample was drawn from a non-urban midwestern campus, and may not fully represent the national ROTC population. It would be informative to extend this study to additional ROTC campuses to account for regional differences and capture more diverse viewpoints. This study was also limited by the small available Air Force sample. Expanding this study would also increase statistical power, which might lead to several of the currently marginally significant results becoming statistically significant. Furthermore, because this

research was cross-sectional, differences in ratings between cadets in various years of the ROTC program may reflect historical (cohort) differences, rather than longitudinal differences in cadet perceptions. Future research that followed a cohort of cadets longitudinally for the duration of their ROTC training could measure individual attitude changes over time, which would more accurately capture acculturation. However, ROTC cadets are organizational newcomers, with a limited range of experiences; as such, they may not be fully socialized or acculturated even after four-plus years, and therefore may not adequately represent organizational cultural beliefs. On the other hand, they may, therefore, represent the viewpoints of the general populace, such that these results may serve as a baseline representing newcomer viewpoints prior to complete organizational acculturation, and might serve as comparative data for future research. It would be interesting to compare this data with data from more experienced military members, such as mid-career or senior military officers.

There were also limitations with the organizational culture survey measure. Due to the unique demands and constraints of military organizations (Breslin, 2000), a specialized military organizational culture scale is required. Yet, to date, the Ulmer-Campbell Military Culture/Climate Survey (MCCS; Dorn et al., 2000; Appendix C) appears to be the only organizational culture instrument to have been designed specifically for military organizations. Thus, the MCCS was utilized for this study despite its lack of validity testing. Furthermore, the reduction in items from the original 99 to the present 36 led to two of the scales consisting of only one item, and two of the scales consisting of only two items, which compromises the reliability of the measure. Of the 11 dimensions, 2 (Trust and Evaluations) could not be measured for reliability, 3 (Resources, Military Roles and Missions, and Societal Comparisons) had Cronbach's alpha values that were less than .60, and an additional 2 (Discipline and

Racial/Gender Issues) had Cronbach's alpha values that were less than .70. Thus, 7 of the 11 dimensions were not strongly reliable. This study highlights the urgent need for the design and testing of a specialized military organizational culture scale.

## **Chapter 4 - General Discussion**

### **Theoretical and Practical Implications**

According to Lord's (1985) categorization theory of leadership, "people are categorized as leaders on the basis of the perceived match between their behavior or character and the attributes of a pre-existing leader category or prototype" (Martin & Epitropaki, 2001, p. 249). If an individual's leader prototype, or schema, is influenced by the organizational context in which they work, then members of the armed forces will have leadership schemas that reflect their organization's definitions of leadership. This has significant relevance because contemporary military operations are increasingly inter-operational, meaning that the branches of the armed forces are working more and more closely together. Members from one branch of service who are working in a joint operation under a leader from another branch of service may experience a situation in which that leader does not match their leader prototypes. Therefore, they may have negative evaluations of that individual's leadership abilities due to the "culture clash" between the organizations' different leadership schemas. If it can be demonstrated that Air Force and Army ROTC have distinct organizational cultures that influence their organizational leadership schemas, and that the organizational schemas influence individuals' schemas, then future research can determine if this is also true in the wider Air Force and Army. If this is shown to be the case, then mediation programs can be created to better prepare members of the armed forces for these branch of service discrepancies in implicit leadership schemas, so that members of the armed forces who are working in joint service operations will be better equipped to serve under leaders from other branches, and can cognitively compensate for the fact that such leaders may not conform to their internal leader templates.

Because ILTs are powerful interpretive structures, they can play a crucial role in the process of leadership construction (Epitropaki & Martin, 2004). However, although ILTs have been extensively researched for their effects on followers' perceptions of, and satisfaction with, their supervisors, no research has been conducted examining the role of ILTs in leadership development. Since ILTs are used as internal templates for leadership behaviors and for evaluating the leadership performance (and possibly the leadership potential) of others (Lord & Maher, 1991), then the institutionally influenced ILTs of organizational members will have implications for organizational diversity. Additionally, if it can be demonstrated that implicit gender biases are present in Army and Air Force organizational leadership schemas, and that this influences individuals' leadership schemas, then actions can be taken to change the organizational cultures to be more inclusive and supportive of female leaders, which should lead to greater numbers of women advancing to leadership positions in these organizations.

It is possible that the discrepancy in results between the qualitative and quantitative measures of organizational culture could be that the two methods measured different levels of organizational culture. It is possible that the interviews tapped basic assumptions, the deepest level of organizational culture, whereas the surveys tapped values, the mid-level of organizational culture.

### **Directions for Future Research**

There are multiple possible avenues for follow-on research to this study. One possibility would be to increase the diversity of the sample by extending this research to ROTC units on other campuses, in other regions of the United States. Another would be to test whether socialization and acculturation were responsible for the organizational culture results by conducting similar research at the United States Air Force Academy and United States Military

Academy. Since officer candidates at the service academies are in the same age range as ROTC cadets, but undergo a stronger socialization process and are immersed in the military environment twenty-four hours a day, seven days a week, they would provide an interesting comparison group to ROTC cadets, and permit the exploration of reasons for the results of the current study. Yet another way to test for socialization and acculturation effects would be to administer the survey to mid-career Army and Air Force officers, and see whether their quantitative data were more similar to the ROTC cadets' quantitative data, or more similar to the ROTC instructors' qualitative data. Finally, since this study was cross-sectional, a follow-on longitudinal study would be very helpful to examine whether cadet attitudes vary over time as a result of organizational socialization and acculturation.

## **Conclusions**

In order to expand knowledge of leadership schemas by exploring the relationship between organizational culture and implicit leadership schemas, and to extend the research by probing how leadership schemas are formed, this study gathered qualitative data from senior and mid-career Army and Air Force officers, and quantitative data from Army and Air Force ROTC officer candidates regarding their organizational culture schemas and their leadership schemas. The interview transcripts established that Army and Air Force members' cognitive schemas of organizational culture and leadership did reflect distinct organizational cultures. In describing their organizational cultures, Army Soldiers saw themselves as tough frontline warriors who grappled with the elements, wildlife, and the local population, while Air Force Airmen saw themselves as intelligent, highly trained masters of technology who could take the fight to the enemy remotely, through air, space, and cyber space. While the officers described distinct differences between Army and Air Force organizational cultures and Army and Air Force



leadership schemas, these results were not replicated in the officer candidate sample.

Contrariwise, while the officers stated that leadership schemas were not influenced by the leader's type of occupation (line or staff) or by the leader's gender, the officer candidates' implicit leadership theories reflected differences on these variables, indicating that their leadership schemas were, in fact, influenced by these variables.

In describing leadership schemas, the officers indicated that Army leaders were conceptualized as more authoritarian, but also more concerned with their followers' physical needs, whereas Air Force leaders were conceptualized as more democratic, and more concerned with their followers' cognitive needs. These differences were attributed to the differences in the respective missions of these two organizations. This was also indicative of differences in the organizational cultures of these two organizations. Considering the variable of leader branch of service, whereas Army and Air Force officers' leadership schemas did distinguish between same-branch and other-branch leaders, they did not express a preference between same-branch and other-branch leaders. It is probable that this sample was too small to make such a distinction, particularly since the officers sampled had very limited experience with cross-branch leaders. As was expressed previously, the officer candidates were not measured on cross-branch leadership perceptions. With regards to the variable of leader occupation, although Air Force and Army officers' leadership schemas did not distinguish between line leaders and staff leaders at the espoused values level of organizational culture, they did show an awareness of an organizational preference for line leaders at the underlying assumptions level of organizational culture: the prototypical leader in the Army was an infantryman with a Ranger tab, whereas the prototypical leader in the Air Force was a fighter pilot with a Weapons School patch. Infantry and aviation are both line occupations.

And whereas these officers' leadership schemas also did not distinguish between male and female leaders at the espoused values level of organizational culture, the underlying assumptions level of organizational culture that they conveyed is still heavily gendered. The prototypical Army leader, an infantryman with a Ranger tab, holds a career specialty and an additional qualification that are still prohibited to women. The prototypical Air Force leader, a fighter pilot with a Weapons School patch, holds a career specialty and an additional qualification that are no longer prohibited to women, but which are currently held by less than 68 of the total 12,700 female Air Force officers (USAF Personnel Center, 2013). While the officers insisted that leader gender did not matter, the officer candidates' implicit leadership theories, which were designed to tap into the underlying assumptions level, significantly distinguished between male and female leaders. Male and female Air Force ROTC cadets rated male leaders significantly higher than female leaders, although the leader profiles were identical in every other respect. Female Army ROTC cadets also rated male leaders significantly higher than female leaders; however, male Army ROTC cadets rated female leaders significantly higher than male leaders. The reason for this distinction is indeterminable in the current study. One possibility is that, given that the unit had no female instructors, none of the male cadets in this sample may have ever encountered a female Army officer. This may have led to other stereotypes coming into play, such as the belief that a woman must be highly competent in order to have been successful (as depicted in the profiles) in a male-dominated career field. Future research is required to follow-up on this finding. Despite this contrary result from male Army cadets, the aggregate data still show a strong bias in favor of male leaders in the cadets' leadership schemas.

“One of the most important areas of culture is the shared consensus on who is in, who is out, and by what criteria one determines membership” (Schein, 1984, p. 11). Women were

admitted to the United States Armed Forces in 1948; however, they were not admitted as unrestricted organizational members. Due to this conditional membership, it appears as though women have never been fully accepted as organizational members. As Chairman of the Joint Chiefs of Staff General Dempsey said recently regarding sexual harassment and sexual abuse in the military: “When you have one part of the population that’s designated as warriors, and another part of the population that’s designated as something else, I think that disparity begins to establish a psychology that, in some cases, led to that environment. The more we can treat people equally, the more likely they are to treat each other equally” (Ackerman, 2013).

Espoused values in the United States armed forces have changed over the decades to be more inclusive of women and minorities. However, this research indicates that there is still discrimination at the most fundamental level of organizational culture. While progress has been made, as evidenced by the officers’ comments and by current events, it is suggested that the U.S. armed forces keep progressing until underlying assumptions have changed as well.

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## **Appendix A - Interview Question Schedule**

1. How long have you been in the Army/Air Force?
2. What is your branch/career field?
3. What was your accession source (Academy, ROTC, OCS/OTS?)
4. Phase of life at entry to military
  - a. Age/married/dependents/prior work experience
5. How long have you been teaching ROTC?
6. Level of education/area(s) of study
7. What are the characteristics of a good leader?
8. What is the Army/Air Force's definition of a good leader?
9. Do you agree or disagree with this definition?
  - a. Prompts: Does line/staff affect leadership?
  - b. Does ability to speak English have an effect? (leader's English proficiency)
  - c. Does gender matter?
  - d. Does physical fitness matter?
  - e. Does combat experience matter?
10. Have you ever worked in a joint situation with members of the Army/Air Force?
11. If so, what do you think the differences in leadership were?
  - a. Behaviors/characteristics/theory/style
12. In what ways did members from this other branch of service not match your expectations for a good leader?

13. What did they do that was unexpected? (Good or bad)
14. Did you have an opportunity to talk to them about why they did things differently?
15. If not, why do you think they did things differently?
16. Do you think those differences were individual, or was it due to branch of service differences?
17. What is the difference between the Army and the Air Force?
18. Which two of the three following leader characteristics variables (branch of service, gender, or type of occupation [line or staff]), would generate the most differences in cadet opinions about the leader?
19. Is there anything you'd like to add to our discussion?

## Appendix B - Survey Demographic Questions

1. What is your sex?
  - a. Male
  - b. Female
  
2. What is your academic major?
  
3. Is your academic major:
  - a. Technical
  - b. Non-technical
  - c. Undeclared
  
4. In which ROTC branch are you **currently** enrolled?
  - a. Air Force
  - b. Army
  
5. How many years have you been in ROTC?
  - a. One
  - b. Two
  - c. Three
  - d. Four
  - e. More than four
  
6. How old were you **when you joined** ROTC?
  
7. Do you have prior military experience?
  - a. Yes
  - b. No
  
8. If yes, how many years of prior/current service (other than ROTC) do you have?
  
9. If yes, did you **previously** serve in a different branch of service than your current ROTC branch?
  - a. Yes

b. No

10. If yes, which?

- a. Air Force
- b. Army
- c. Coast Guard
- d. Marine Corps
- e. Navy

11. Do you have combat experience?

- a. Yes
- b. No

12. Have you ever been a member of any of the following? :

- a. Air Force Junior ROTC
- b. Army Junior ROTC
- c. Navy Junior ROTC
- d. Army Cadets of America
- e. Civil Air Patrol
- f. Naval Sea Cadets
- g. None of the above

13. If yes, for how long?

14. Have your parents/step-parents served in the military?

- a. Yes
- b. No

15. If yes, for how long did they serve?

16. Did your parents/step-parents serve in the military while you were living at home, i.e., did you grow up with exposure to a military environment?

- a. Yes
- b. No

## Appendix C - Military Culture Scale

INSTRUCTIONS: Below is a scale ranging from 1 (Strongly Disagree) to 6 (Strongly Agree). Please indicate how much you disagree or agree with each statement by selecting the number under each statement that best reflects your opinion. Your responses will remain anonymous.

STRONGLY DISAGREE	DISAGREE	SLIGHTLY DISAGREE	SLIGHTLY AGREE	AGREE	STRONGLY AGREE
1	2	3	4	5	6

1. I am proud to serve.

1                      2                      3                      4                      5                      6

2. Public service should be required of all American citizens.

1                      2                      3                      4                      5                      6

3. We have a lot of teamwork going on in this unit.

1                      2                      3                      4                      5                      6

4. We have high standards of discipline in this unit.

1                      2                      3                      4                      5                      6

5. Commissioned officers set a good example.

1                      2                      3                      4                      5                      6

6. You can “tell it like it is” in our unit.

1                      2                      3                      4                      5                      6

7. This unit does not have a problem with racial discrimination.

1                      2                      3                      4                      5                      6

8. Most civilians have a great deal of respect for the armed forces.

1                      2                      3                      4                      5                      6



9. Male members of military units would carry their share of the load in wartime.

1                    2                    3                    4                    5                    6

10. It is appropriate for us to be involved in a variety of operations.

1                    2                    3                    4                    5                    6

11. This unit is provided adequate resources needed to accomplish the mission.

1                    2                    3                    4                    5                    6

12. People are treated fairly in this unit.

1                    2                    3                    4                    5                    6

13. Commissioned officers put mission and people ahead of ambition.

1                    2                    3                    4                    5                    6

14. Traditions and values mean a lot.

1                    2                    3                    4                    5                    6

15. Leaders have the authority to carry out their responsibilities.

1                    2                    3                    4                    5                    6

16. Single parents are able to carry their share of duties.

1                    2                    3                    4                    5                    6

17. If I took a prudent risk and failed, my supervisors would support me.

1                    2                    3                    4                    5                    6

18. I am prepared to put my life on the line.

1                    2                    3                    4                    5                    6

19. We have high morale in this unit.

1                    2                    3                    4                    5                    6

20. Female members of military units would carry their share of the load in wartime.

1                    2                    3                    4                    5                    6

21. New cadets come to us with the standards and values of our service.

1                    2                    3                    4                    5                    6

22. People in my hometown have a high regard for America's armed forces.

1                    2                    3                    4                    5                    6

23. Leaders in this unit do not tolerate dishonest or unethical behavior.

1                    2                    3                    4                    5                    6

24. Commissioned officers take care of their people.

1                    2                    3                    4                    5                    6

25. My leaders evaluate my performance competently and fairly.

1                    2                    3                    4                    5                    6

26. Society would be better off if it adopted military values.

1                    2                    3                    4                    5                    6

27. If I make a request, somebody will listen.

1                    2                    3                    4                    5                    6

28. The American military plays an important role in the world today.

1                    2                    3                    4                    5                    6

29. This unit does not have problems with sexual misbehavior/discrimination.

1                    2                    3                    4                    5                    6

30. I have a deep personal commitment and a strong desire to serve.

1                    2                    3                    4                    5                    6

31. Excellence in this unit is properly acknowledged and rewarded.
- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
32. The armed forces have a right to expect high standards of me.
- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
33. I socialize with civilians as well as with military friends.
- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
34. Our service is attracting high quality motivated cadets.
- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
35. Our organization is serious about honesty and integrity.
- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
36. The essential mission is to be prepared to win in combat.
- |   |   |   |   |   |  |
|---|---|---|---|---|--|
| 1 | 2 | 3 | 4 | 5 |  |
|---|---|---|---|---|--|

## Appendix D - Army Hypothetical Leader Scenarios

Imagine that you have been assigned a new immediate supervisor, and you are about to meet him or her for the first time. You have obtained, in advance, the following information from the Personnel Officer:

Your new supervisor has been in the Army for eight years, and is a Captain. **She** is a **Transportation** Officer, with Airborne wings and Air Assault wings. **She** has one combat rotation as a Platoon Leader. **She** has a Bachelor's degree in Mechanical Engineering, a Master of Business Administration (MBA) degree, and has completed the Captains Career Course. **Her** official photo shows that **she** is fit and looks very professional in uniform. You have also heard that **she** scored a 280 on **her** APFT.

Based on this description, please rate, using the questionnaire provided, how characteristic you think each of the listed traits are of this individual.

**[From this template, four Army hypothetical leader scenarios were created: one additional scenario used this “staff” job description (Transportation Officer), but had male pronouns. Two other scenarios, one with male pronouns and one with female pronouns, used a “line” job description (Field Artillery Officer). Additionally, in the Field Artillery Officer scenarios, the Bachelor's degree (BA) was changed to History, and the Master's degree (MA) was changed to Management. Apart from these variations, the scenarios were identical. These variables are bolded in the above paragraph, but were not bolded in the surveys that were distributed to the cadets.]**

## Appendix E - Air Force Hypothetical Leader Scenarios

Imagine that you have been assigned a new immediate supervisor, and you are about to meet him or her for the first time. You have obtained, in advance, the following information from the Squadron Executive Officer:

Your new supervisor has been in the Air Force for eight years, and is a Captain. **She** is a **Combat Systems Operator (CSO), instructor, and evaluator**. **Her** last duty position was Flight Commander, supervising 20 personnel. **She** has a Bachelor's degree in Electrical Engineering, a Master of Business Administration in Aviation Management (MBA-AM) degree, and has completed Squadron Officer School (SOS) in residence. **Her** official photo shows that **she** is fit and looks very professional in uniform. You have also heard that **she** scored a 91 on **her** Physical Fitness Test (PFT).

Based on this description, please rate, using the questionnaire provided, how characteristic you think each of the listed traits are of this individual.

**[From this template, four Air Force hypothetical leader scenarios were created: one additional scenario used this “line” job description (Combat Systems Operator), but had male pronouns. Two other scenarios, one with male pronouns and one with female pronouns, used a “staff” job description (Intelligence Officer). Additionally, in the Intelligence Officer scenarios, the Bachelor's degree was changed to Political Science, and the Master's degree was changed to International Relations. Apart from these variations, the scenarios were identical. These variables are bolded in the above paragraph, but were not bolded in the surveys that were distributed to the cadets.]**

## Appendix F - Leader Characteristics Questionnaire (LCQ)

INSTRUCTIONS: Below is a scale ranging from 1 (Not At All Characteristic) to 9 (Extremely Characteristic). Please indicate how characteristic you think each of the following traits is of the leader whose profile you have just read, by selecting the number under each statement that best reflects your opinion. Your responses will remain anonymous.

NOT AT ALL CHARACTERISTIC			NEITHER CHARACTERISTIC NOR UNCHARACTERISTIC			EXTREMELY CHARACTERISTIC		
1	2	3	4	5	6	7	8	9
1. Intelligent								
1	2	3	4	5	6	7	8	9
2. Dedicated								
1	2	3	4	5	6	7	8	9
3. Conceited (-)								
1	2	3	4	5	6	7	8	9
4. Understanding								
1	2	3	4	5	6	7	8	9
5. Manipulative (-)								
1	2	3	4	5	6	7	8	9
6. Strong								
1	2	3	4	5	6	7	8	9
7. Knowledgeable								
1	2	3	4	5	6	7	8	9

8. Male (-)

1            2            3            4            5            6            7            8            9

9. Hard-working

1            2            3            4            5            6            7            8            9

10. Loud (-)

1            2            3            4            5            6            7            8            9

11. Sincere

1            2            3            4            5            6            7            8            9

12. Dynamic

1            2            3            4            5            6            7            8            9

13. Selfish (-)

1            2            3            4            5            6            7            8            9

14. Educated

1            2            3            4            5            6            7            8            9

15. Masculine (-)

1            2            3            4            5            6            7            8            9

16. Motivated

1            2            3            4            5            6            7            8            9

17. Pushy (-)

1            2            3            4            5            6            7            8            9

18. Energetic

1            2            3            4            5            6            7            8            9

19. Clever

1            2            3            4            5            6            7            8            9

20. Domineering (-)

1            2            3            4            5            6            7            8            9

21. Helpful

1            2            3            4            5            6            7            8            9

Negatively keyed statements are indicated with (-).



Table 1.  
*Cadet Branch of Service (CDTBRCH) x Cadet Gender (CDTSEX) x Length of Time in ROTC (TIME) repeated-measures ANOVA on Organizational Culture*

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>
Between-Subjects Effects				
CDT BRANCH	0.02	1	0.02	0.82
CDT SEX	0.01	1	0.01	0.21
TIME IN ROTC	0.17	3	0.06	2.5
CDTBRCH * CDTSEX	0.02	1	0.02	0.87
CDTBRCH * TIME	0.11	3	0.04	1.56
CDTSEX * TIME	0.13	3	0.04	1.91
CDTBRCH * CDTSEX * TIME	0.09	2	0.05	2.02
Error	3.47	151	0.02	

R squared = .12; \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 2.

*Comparison of Army and Air Force Organizational Culture ratings by dimension*

<b>Org Culture Dimensions</b>	Army		Air Force	
	M	SD	M	SD
Traditional Values	5.35	0.65	5.48	0.40
Discipline	5.40	0.64	5.45	0.48
Org. Honesty	5.15	0.75	5.30	0.59
Officer Leaders	5.24	0.86	5.31	0.65
Morale	5.15	0.82	5.26	0.65
Trust	4.93	1.10	5.04	0.84
Evaluations	5.15	1.15	5.44	0.79
Resources	5.18	0.72	5.07	0.77
Racial/Gender Issues	5.17	0.70	5.35	0.43
Military Roles/Missions	5.23	0.77	5.45	0.48
Societal Comparisons	4.93	0.68	4.89	0.48

Table 3.  
*Cadet Branch of Service (CDTBRCH) x Cadet Gender (CDTSEX) x Length of Time in ROTC (TIME) repeated-measures ANOVA on Organizational Culture Dimension “Morale”*

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>
Between-Subjects Effects				
CDT BRANCH	0.02	1	0.02	0.35
CDT SEX	0.01	1	0.01	0.24
TIME IN ROTC	0.67	3	0.23	4.66**#
CDTBRCH * CDTSEX	0.002	1	0.002	0.03
CDTBRCH * TIME	0.22	3	0.07	1.49
CDTSEX * TIME	0.42	3	0.14	2.89*
CDTBRCH * CDTSEX * TIME	0.16	2	0.08	1.64
Error	7.28	151	0.05	

R squared = .15

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

# significant after Bonferroni correction,  $p \leq .005$ .

Table 4.  
*Leader Branch of Service (LDRBRCH) x Leader Occupation (LDROCC) x Leader Gender (LDRSEX) x Cadet Gender (CDTSEX) repeated-measures ANOVA on ILTs*

Source	SS	df	MS	F
Between-Subjects Effects				
LDR BRANCH	1.53	1	1.53	2.5
LDR OCCUPATION	0.03	1	0.03	0.04
LDR SEX	4.41	1	4.41	7.20***#
CDT SEX	0.05	1	0.05	0.81
LDRBRCH * LDROCC	0.91	1	0.91	1.49
LDRBRCH * LDRSEX	0.01	1	0.01	0.01
LDRBRCH * CDTSEX	0.07	1	0.07	0.12
LDROCC * LDRSEX	0.42	1	0.42	0.69
LDROCC * CDTSEX	0.15	1	0.15	0.24
LDRSEX * CDTSEX	1.18	1	1.18	1.93
LDRBRCH * LDROCC * LDRSEX	0.02	1	0.02	0.03
LDRBRCH * LDROCC * CDTSEX	0.05	1	0.05	0.09
LDRBRCH * LDRSEX * CDTSEX	1.42	1	1.42	2.31
LDROCC * LDRSEX * CDTSEX	0.05	1	0.05	0.09
LDRBRCH * LDROCC * LDRSEX * CDTSEX	0.26	1	0.26	0.43
Error	91.89	150	0.61	

R squared = .12

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

Table 5.  
*Leader Branch of Service (LDRBRCH) x Leader Occupation (LDROCC) x Leader Gender (LDRSEX) x Cadet Time in ROTC (TIME) repeated-measures ANOVA on ILTs*

Source	SS	df	MS	F
Between-Subjects Effects				
LDR BRANCH	1.37	1	1.37	2.2
LDR OCCUPATION	0.01	1	0.01	0.01
LDR SEX	1.02	1	1.02	1.64
TIME IN ROTC	1.72	3	0.57	0.92
LDRBRCH * LDROCC	2.73	1	2.73	4.38*
LDRBRCH * LDRSEX	0.91	1	0.91	1.46
LDRBRCH * TIME	2.16	3	0.72	1.16
LDROCC * LDRSEX	0.76	1	0.76	1.22
LDROCC * TIME	1.92	3	0.64	1.03
LDRSEX * TIME	1.6	3	0.53	0.86
LDRBRCH * LDROCC * LDRSEX	0.08	1	0.08	0.13
LDRBRCH * LDROCC * TIME	1.14	3	0.38	0.61
LDRBRCH * LDRSEX * TIME	2.04	3	0.68	1.09
LDROCC * LDRSEX * TIME	0.54	3	0.18	0.29
LDRBRCH * LDROCC * LDRSEX * TIME	0.56	2	0.28	0.45
Error	84.09	135	0.62	

R squared = .19

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

Table 6.  
*Air Force Leader Occupation (LDROCC) x Leader Gender (LDRSEX) x Cadet Gender (CDTSEX) repeated-measures ANOVA on ILTs*

Source	SS	df	MS	F
Between-Subjects Effects				
OCCUPATION	0.475	1	0.475	1.254
LDR SEX	1.578	1	1.578	4.162*
CDT SEX	0.001	1	0.001	0.002
LDROCC * LDRSEX	0.232	1	0.232	0.613
LDROCC * CDTSEX	0.146	1	0.146	0.386
LDRSEX * CDTSEX	0.004	1	0.004	0.011
LDROCC * LDRSEX * CDTSEX	0.212	1	0.212	0.559
Error	17.825	47	0.379	

R squared = .16

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

Table 7.

*Army Leader Occupation (LDROCC) x Leader Gender (LDRSEX) x Cadet Gender (CDTSEX) repeated-measures ANOVA on ILTs*

Source	SS	df	MS	F
Between-Subjects Effects				
OCCUPATION	0.45	1	0.45	0.63
LDR SEX	3.37	1	3.37	4.69*
CDT SEX	0.17	1	0.17	0.24
LDROCC * LDRSEX	0.19	1	0.19	0.27
LDROCC * CDTSEX	0.02	1	0.02	0.02
LDRSEX * CDTSEX	3.7	1	3.7	5.14*
LDROCC * LDRSEX * CDTSEX	0.06	1	0.06	0.08
Error	74.07	103	0.72	

R squared = .09

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

Table 8.

*Comparison of Army and Air Force leader ratings by ILT dimension*

ILT Dimensions	Army		Air Force	
	M	SD	M	SD
<b>Sensitivity</b>	<b>6.63</b>	<b>1.65</b>	<b>6.45</b>	<b>1.30</b>
Understanding	6.39	1.92	6.40	1.54
Sincere	6.58	1.79	6.13	1.50
Helpful	6.93	1.72	6.84	1.49
<b>Intelligence</b>	<b>7.80</b>	<b>1.05</b>	<b>7.68</b>	<b>0.78</b>
Intelligent	7.97	1.20	7.89	0.98
Knowledgeable	8.09	1.08	7.96	0.94
Educated	8.24	1.21	8.22	0.98
Clever	6.91	1.80	6.64	1.32
<b>Dedication</b>	<b>8.29</b>	<b>0.84</b>	<b>8.07</b>	<b>0.81</b>
Motivated	8.21	1.01	8.05	0.99
Dedicated	8.35	0.88	8.15	0.91
Hard-working	8.30	1.00	8.00	0.94
<b>Dynamism</b>	<b>7.26</b>	<b>1.09</b>	<b>6.90</b>	<b>0.86</b>
Energetic	7.19	1.55	6.55	1.30
Strong	7.96	1.06	7.49	0.94
Dynamic	6.63	1.68	6.65	1.19
<b>Tyranny</b>	<b>4.47</b>	<b>1.57</b>	<b>4.36</b>	<b>1.45</b>
Domineering	5.14	1.96	5.13	1.86
Pushy	4.62	2.07	4.56	1.83
Manipulative	3.78	2.22	3.58	2.08
Loud	5.68	2.05	5.35	1.62
Conceited	4.02	2.12	4.07	2.29
Selfish	3.55	2.12	3.49	1.87
<b>Masculinity</b>	<b>5.46</b>	<b>2.77</b>	<b>5.04</b>	<b>2.84</b>
Masculine	5.96	2.49	5.40	2.35
Male	4.95	3.51	4.67	3.63



Table 9.  
*Leader Branch of Service (LDRBRCH) x Leader Occupation (LDROCC) x Leader Gender (LDRSEX) repeated-measures ANOVA on ILT Dimension “Intelligence”*

Source	SS	df	MS	F
Between-Subjects Effects				
LDR BRANCH	0.146	1	0.146	1.629
LDR OCCUPATION	0.083	1	0.083	0.93
LDR SEX	0.506	1	0.506	5.653*
LDRBRCH * LDROCC	0.835	1	0.835	9.339**#
LDRBRCH * LDRSEX	0.342	1	0.342	3.828
LDROCC * LDRSEX	0.04	1	0.04	0.448
LDRBRCH * LDROCC * LDRSEX	0	1	0	0.002
Error	14.131	158	0.089	

R squared = .125

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

# significant after Bonferroni correction,  $p \leq .008$ .

Table 10.  
*Leader Branch of Service (LDRBRCH) x Leader Occupation (LDROCC) x Leader Gender (LDRSEX) repeated-measures ANOVA on ILT Dimension "Masculinity"*

Source	SS	df	MS	F
Between-Subjects Effects				
LDR BRANCH	14.71	1	14.71	2.87
LDR OCCUPATION	1.44	1	1.44	0.28
LDR SEX	464.3	1	464.3	90.71***#
LDRBRCH * LDROCC	2.01	1	2.01	0.39
LDRBRCH * LDRSEX	38.03	1	38.03	7.43***#
LDROCC * LDRSEX	0.35	1	0.35	0.07
LDRBRCH * LDROCC * LDRSEX	0.78	1	0.78	0.15
Error	808.7	158	5.12	

R squared = .37

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

# significant after Bonferroni correction,  $p \leq .008$ .

Table 11.  
*Leader Branch of Service (LDRBRCH) x Leader Occupation (LDROCC) x Leader Gender (LDRSEX) x Cadet Time in ROTC (TIME) ANOVA on ILT Dimension "Masculinity"*

Source	SS	df	MS	F
Between-Subjects Effects				
LDR BRANCH	28.98	1	28.98	5.75*
LDR OCCUPATION	2.42	1	2.42	0.48
LDR SEX	314.26	1	314.26	62.31***#
TIME IN ROTC	43.11	3	14.37	2.85*
LDRBRCH * LDROCC	2.47	1	2.47	0.49
LDRBRCH * LDRSEX	44.02	1	44.02	8.73***#
LDRBRCH * TIME	39.63	3	13.21	2.62
LDROCC * LDRSEX	0.43	1	0.43	0.08
LDROCC * TIME	46.09	3	15.36	3.05*
LDRSEX * TIME	3.4	3	1.13	0.23
LDRBRCH * LDROCC * LDRSEX	0.54	1	0.54	0.11
LDRBRCH * LDROCC * TIME	17.35	3	5.78	1.15
LDRBRCH * LDRSEX * TIME	19.57	3	6.52	1.29
LDROCC * LDRSEX * TIME	2.9	3	0.97	0.19
LDRBRCH * LDROCC * LDRSEX * TIME	1.41	2	0.7	0.14
Error	680.91	135	5.04	

R squared = .47

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

# significant after Bonferroni correction,  $p \leq .008$ .

Table 12.  
*Leader Branch of Service (LDRBRCH) x Leader Occupation (LDROCC) x Leader Gender (LDRSEX) ANOVA on ILT Item “Male” from ILT Dimension “Masculinity”*

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>
Between-Subjects Effects				
LDR BRANCH	11.47	1	11.47	1.49
LDR OCCUPATION	3.63	1	3.63	0.47
LDR SEX	842.76	1	842.76	109.36***#
LDRBRCH * LDROCC	6.66	1	6.66	0.86
LDRBRCH * LDRSEX	73.85	1	73.85	9.58**#
LDROCC * LDRSEX	0.4	1	0.4	0.05
LDRBRCH * LDROCC * LDRSEX	0.16	1	0.16	0.02
Error	1217.62	158	7.71	

R squared = .41

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

# significant after Bonferroni correction,  $p \leq .03$ .

Table 13.  
*Leader Branch of Service (LDRBRCH) x Leader Occupation (LDROCC) x Leader Gender (LDRSEX) ANOVA on ILT Item "Masculine" from ILT Dimension "Masculinity"*

Source	SS	df	MS	F
Between-Subjects Effects				
LDR BRANCH	18.34	1	18.34	3.77
LDR OCCUPATION	0.24	1	0.24	0.05
LDR SEX	197.82	1	197.82	40.69***#
LDRBRCH * LDROCC	0.06	1	0.06	0.01
LDRBRCH * LDRSEX	13.99	1	13.99	2.88
LDROCC * LDRSEX	3.33	1	3.33	0.69
LDRBRCH * LDROCC * LDRSEX	4.65	1	4.65	0.96
Error	768.12	158	4.86	

R squared = .23

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

# significant after Bonferroni correction,  $p \leq .03$ .

Table 14.

*Leader Occupation (LDROCC) x Leader Gender (LDRSEX) ANOVA for Air Force Leaders on ILT Item "Loud" from ILT Dimension "Tyranny"*

Source	SS	df	MS	F
Between-Subjects Effects				
LDR OCCUPATION	5.67	1	5.67	2.92
LDR SEX	29.58	1	29.58	15.23***#
LDROCC * LDRSEX	6.1	1	6.1	3.14
Error	99.04	51	1.94	

R squared = .31

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

# significant after Bonferroni correction,  $p \leq .008$ .

Table 15.

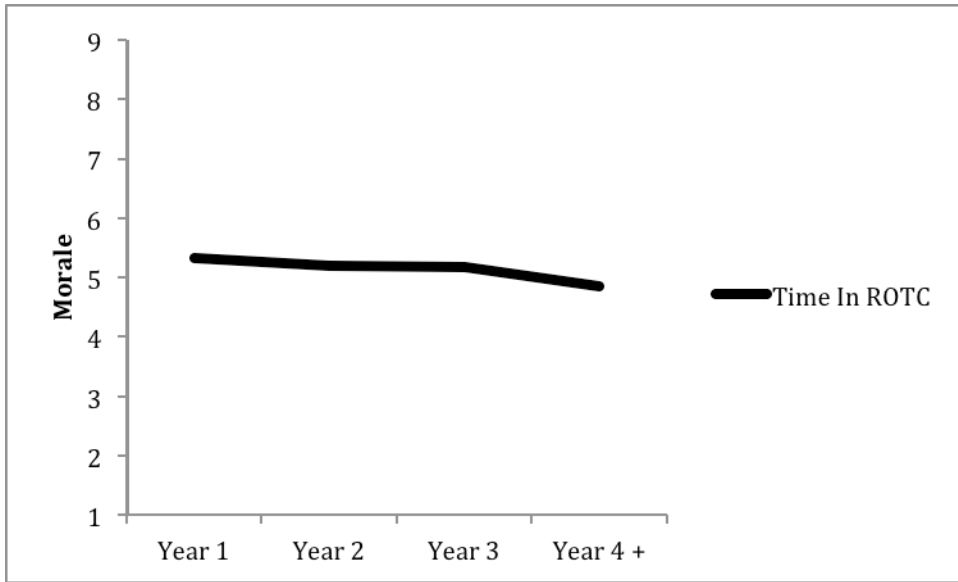
*Leader Occupation (LDROCC) x Leader Gender (LDRSEX) ANOVA for Army Leaders on ILT Item "Loud" from ILT Dimension "Tyranny"*

Source	SS	df	MS	F
Between-Subjects Effects				
LDR OCCUPATION	5.67	1	5.67	2.92
LDR SEX	29.58	1	29.58	15.23***#
LDROCC * LDRSEX	6.1	1	6.1	3.14
Error	99.04	51	1.94	

R squared = .31

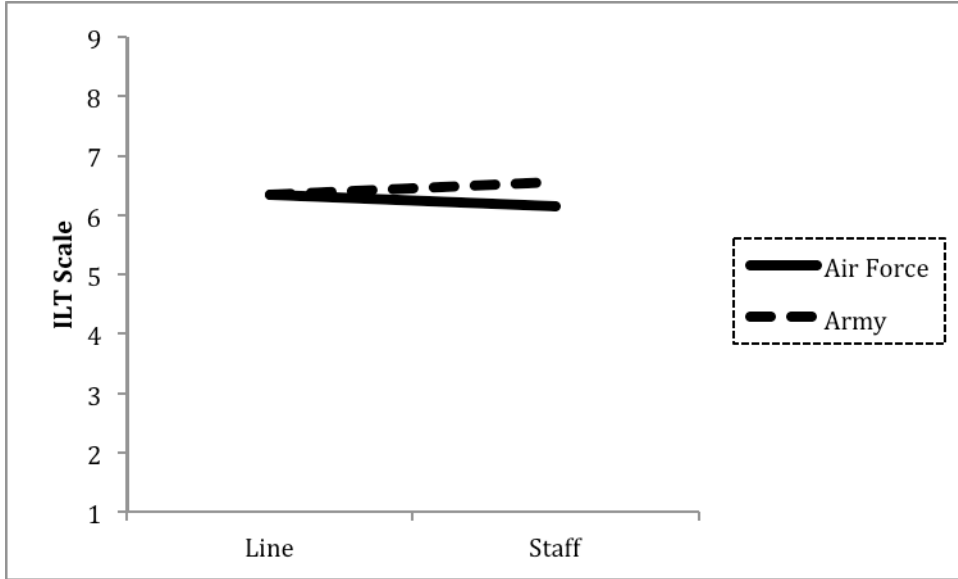
\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

# significant after Bonferroni correction,  $p \leq .008$ .

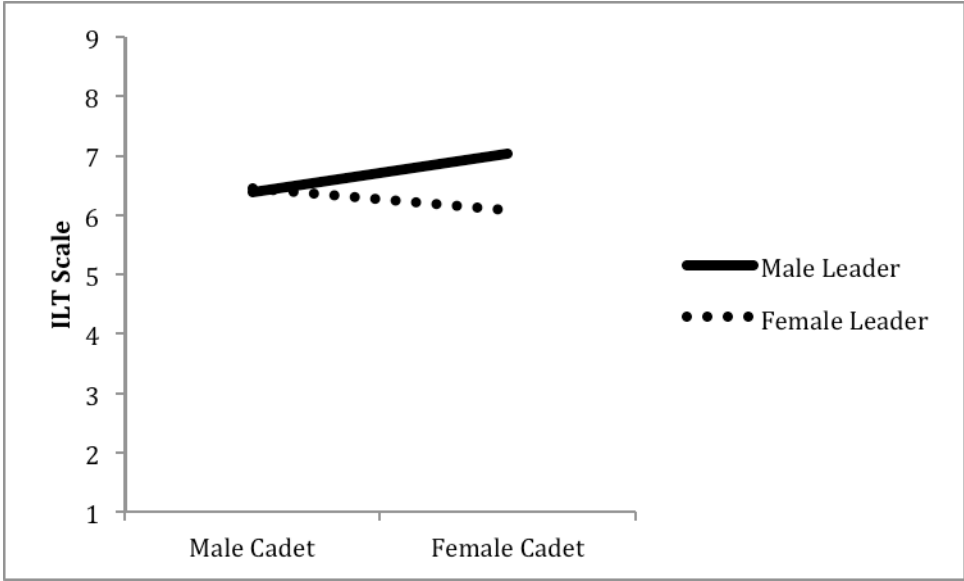


**Figure 1. Main effect of Time in ROTC on Morale dimension.**

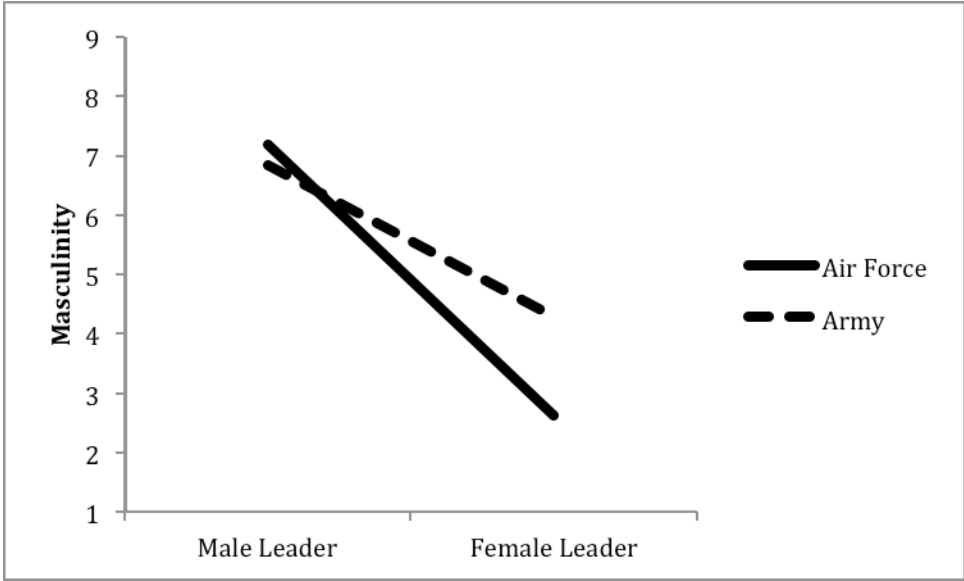




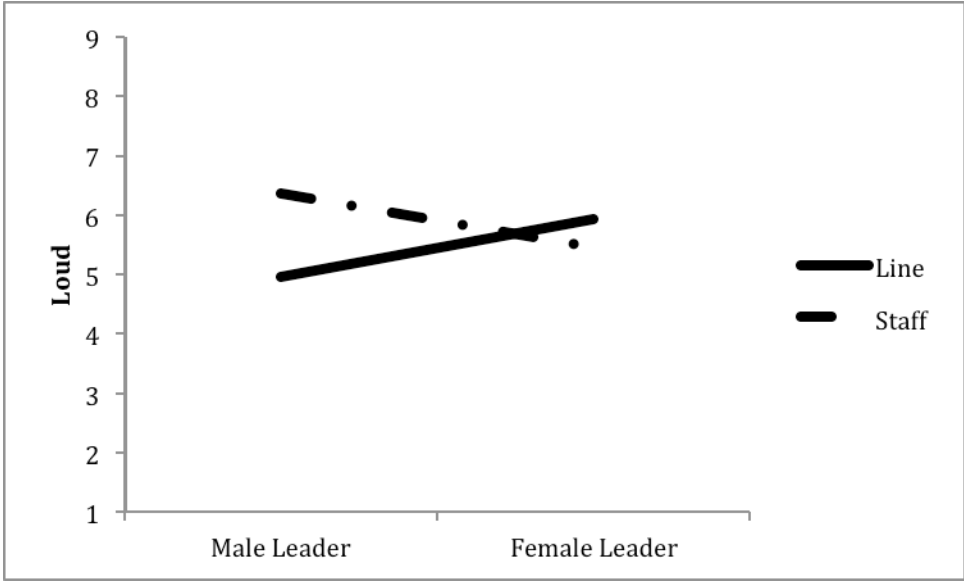
**Figure 2. ILT Leader Branch x Leader Occupation interaction (4-way ANOVA).**



**Figure 3. Army Leader Gender x Cadet Gender interaction.**



**Figure 4. Leader Branch x Leader Gender interaction for Masculinity dimension.**



**Figure 5. Army Leader Occupation x Leader Gender interaction for Loud item.**