A COMPARATIVE STUDY OF SELF-PERCEIVED LEADERSHIP SKILLS

IN COEDUCATIONAL, MALE-ONLY, AND FEMALE-ONLY

EDUCATIONAL SETTINGS

A Dissertation

by

MICHAEL E. CAUDLE

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Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Approved by:

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ABSTRACT

A Comparative Study of Self-Perceived Leadership Skills in Coeducational,

Male-Only, and Female-Only Educational Settings. (December 2007)

Michael E. Caudle, B.B.A., Texas A&M University;

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Chair of Advisory Committee: Dr. Richard Cummins

The purpose of this quasi-experimental study was to examine the effect that a gender-specific classroom had on men's and women's self-perceived leadership abilities as compared to coeducational classrooms where the students were studying leadership together. The sample for the study comprised 81 junior and senior students enrolled in a survey leadership course (ALED 340) in the College of Agriculture and Life Sciences, Department of Agricultural Leadership, Education, and Communications during the Spring 2007 semester at Texas A&M University. The students were assigned to one of five leadership laboratory sections; three sections were traditional coeducational, one was all-male, and one was all-female.

During the last week of the course, the students voluntarily participated in a Leadership Skills Inventory survey that asked them to rate their self-perceptions of their leadership skills. The instrument used the post-then design method that asked for their perceptions prior to beginning the course and their perceptions at the conclusion of the course. The data were analyzed using SPSS version 14.0.

Results of the study showed statistically significantly higher self-perceptions of leadership skills abilities for those students who participated in the gender-specific laboratory sections. The all-male section's self-perceptions were statistically significantly higher than both the males in the coeducational sections and the coeducational sections as a whole. The all-female section's self-perceptions were statistically significantly higher than the coeducational sections as a whole. The study also revealed that leadership experience in organizations and activities in high school and college prior to enrolling in a college-level leadership course statistically significantly improves self-perceptions of leadership skills ability. Results of this study agree with many research studies that support single-sex schooling and education.

DEDICATION

I give my highest praise to my Lord, Jesus Christ, without whose own sacrifice and love, I would be nothing. I love you above all else!

Pat – You have been my faithful partner for the past 40 years in all things, big and small. You are the love of my life, and you are my best friend always. I love you!

Greg and Angela – Thanks to you both for standing by "Pop" and "Dad" during this sometimes difficult time. Your encouragement was always felt. I love you!

Dad – You remain my Earthly hero as a WWII U.S. Navy veteran of the Pacific campaign at Tarawa and Saipan and as a great Dad. Thanks, Dad. I love you!

Mom – You have always rooted me on in any endeavor, and this was no exception. Every child should be so fortunate to have a Mother like you. Thanks, Mom. I love you!

Mimmie and Granddad Caudle, and Momma Doll and Daddy Paul Gimble, – May you know in Heaven that you helped mold me in ways you never got to see. I love you!

Grandchildren – For my grandchildren, present and future, I hope that this endeavor will serve as inspiration for you to never stop learning and to become all you can be in this lifetime. The future rests with you. Dare to make a difference. I love you!

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CHAPTER I

INTRODUCTION

History

Throughout much of the history of the United States of America, women largely

have been expected to fulfill domestic roles in society: wife, mother, and homemaker.

That changed during America's full-scale involvement in World II. With the majority of

young men from the labor force committed overseas to the war effort in military roles,

women were given an opportunity, temporarily at least, to "fill what had typically been

male professions" (Chafe, 1991, p. 128). Women were encouraged to work as a patriotic

duty (we are familiar with the images of "Rosie the Riveter"); by the war's end, married

and single women were both just as likely to be employed (Chafe, 1991, p. 130).

The era of the 1950s was witness to a reinvigorated family life and the onset of

the Baby Boom. By this time, about twice as many women were at work as in the 1940s,

and female employment was increasing at a rate four times faster than men's. The

numbers of mothers at work leaped 400%; by 1960, nearly one-third of all women

workers were mothers of children under 18 years of age. Also in this time period, the

greatest growth in the female labor force took place among well-educated married

women from families of moderate middleclass incomes (Chafe, 1991). Perhaps the most

notable changes in women's roles came about through the rise in feminism during the

1960s and 1970s. Spurred by the Civil Rights movement, women organized for equal

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The style and format of this dissertation follow that of the *Journal of Agricultural Education*.

rights (Woloch, 1996). According to Chafe (1991), through the feminist struggle and legislation and judicial actions, employment of women finally began to change. Through policies like affirmative action, the "government in few years made more efforts to end sex discrimination than in the entirety of the nation's history" (Woloch, 1996, p. 352).

Since the 1960s and 1970s when women became a significant element of our nation's workforce, many studies have been conducted by social scientists to examine similarities and differences in the way males and females think, behave, and learn. Many of these studies concentrated on how women's learning differed from that of men, with the focus being on women. This study was designed to add to that growing knowledge base with the focus being on possible differences in attitudes about leadership for both men and women, not just women alone.

The study compared how young women in an all-female leadership education setting and young men in an all-male education setting may differ from students in a coeducational setting. If there are learning differences between the sexes when segregated, perhaps there are leadership attitudinal changes as well. Therefore, the crux of this study was the following: Does the educational setting, coeducational or same gender classrooms, for leadership instruction, using the same curriculum, lead to a change in leadership attitudes?

Background of the Study

Many issues have been researched, written about, lectured on, debated, and argued regarding differences between males and females. Some noteworthy topics have been: (a) Barriers and Opportunities, (b) Leadership Traits and Styles, (c) Differences

Between the Sexes, (d) Thinking and Learning, and (e) Single-Gender Versus

Coeducational Schooling.

Regarding this study, it is helpful to review pertinent literature from a select field

of experts, researchers, and writers in order to set the tone. A cursory discussion of the

first three topics is provided here to help set the stage for the heart of study. The fourth

and fifth topics, Thinking and Learning and Single-Gender Versus Coeducational

Schooling, are discussed in detail in Chapter II.

Barriers and Opportunities

As women continue to slowly rise in their roles as business leaders, it is evident

that they continue to face paradigms of organizations that were formed with masculine

characteristics. Even though the obstacles for women who are characteristic of most

organizations have decreased since the 1980s, there remain, for instance, the way leaders

are recruited and selected (through personal networks) and evaluated (using policies

rooted in male norms like authoritarian style control and task accomplishment). "These

obstacles in effect manifest a subtle 'glass ceiling,' which is reflected by the

comparatively small number and slow progress of women reaching the corporate

boardroom and executive suite of Fortune 500 companies" (Goethals, Sorenson, &

Burns, 2004, p. 1656).

Leadership Traits and Styles

For several decades, there have been many attempts to identify and capture the

traits of leaders. There are the Great Man theories (which seem to have been captured

from the observations of men, not women, as the name implies), Trait theories,

Contingency theories, Situational theories, Behavioral theories, Participative theories,

Management (Transactional) theories, and Relationship (Transformational) theories.

Together, they form a complicated mosaic that is difficult to grasp by the uninitiated.

Catalyst (2005), an institute that conducts advisory services engagement,

corporate board searches, and large-scale research projects to help women entering the

labor force in the United States and Canada, conducted their 2005 Census of Women

Board of Directors of the Fortune 500. The research was conducted to capture current

attitudes about leadership behaviors regarding men and women. Their analyses of

numerous studies showed that women and men lead in similar ways; yet Catalyst found

that senior managers perceive sharp differences in women's and men's leadership

(Catalyst, 2005). According to their report, in the U.S. culture, people tend to associate

qualities such as friendliness, sentimentality, and caring with women, and they tend to

associate qualities such as aggressiveness, rationality, and self-confidence with men

(Catalyst, 2005). In their research, senior managers consistently rated women higher on

the stereotypical "feminine behaviors": supporting, rewarding, mentoring, networking,

consulting, team building, and inspiring. Senior managers consistently rated men higher

on the stereotypical "masculine behaviors": problem solving, influencing upward, and

delegating. The report established that stereotypic perceptions of women and men

leaders exist among senior managers in corporate America; it provided insight into the

predicaments that stereotypes create for women leaders, such as diminished

interpersonal power (Catalyst, 2005).

Differences Between the Sexes

Eccles (2005) wrote:

> Females and males in all cultures, as well as other cultural subgroups within a culture, engage in quite different activities both as children and adults. In part, these differences are likely to reflect differences in the choices to which females and males are exposed; in part, these differences reflect the impact of socio-cultural process on the development of females' and males' ability self-perceptions and (subjective task values) STVs. (p. 105)

One should not construe that males and females are totally different, however. Valian (1998) stated that social beings tend to perceive the genders as alternatives to each other, as occupying opposite and contrasting ends of a continuum. The familiar term, *opposite sex*, appears in scientific articles as well as in everyday speech. The sexes are not opposite; they are much more alike than they are different.

Much of the perceived differences between men and women are culturally determined according to Bass (1990):

> Except when such male-favored characteristics as upper-body strength are required, the roles of women in society are primarily culturally determined. We are in a period of transition. Much of the cultural support is diminishing for maintaining sex differences in leadership and, more important, for maintaining different attitudes, beliefs, and values about women leaders. Equal employment legislation and U.S. Supreme Court decisions had dramatic effects, as had the movement of a majority of adult women into the full-time work force. (p. 708)

Statement of the Problem

This study was designed to address whether academic leadership instruction to junior and senior college students in a coeducational setting provides the best opportunity for the teaching and learning process, or if all-male and all-female segregated teaching and learning environments are better. More specifically, this study examined the effect that a gender-specific classroom had on men's and women's self-

perceived leadership abilities as compared to coeducational classrooms where the male and female students were studying leadership together.

There are several studies cited herein that suggested women and men learn better in segregated settings. Included in this set, among others, are: Hamilton's (1985) study of students in Jamaican schools in the mid-1980s; the University of Michigan study of graduates of Catholic single-sex versus coeducational schools (Lee & Bryk, 1986); Riordan's (1990) series of studies at the University of Rhode Island in the 1980s and early 1990s; the British Office for Standards in Education (OFSTED) study of more than 800 single-sex and coeducational schools in England in 1998 (Dean, 1998); and the U.S. Department of Education's (USDE) 2005 meta study of single-sex and coeducational schools in the United States. If the findings of these, and other, studies are true, it is also beneficial to know if self-perceived leadership abilities improve over time when the classroom experience is segregated by gender.

Purpose of the Study

The purpose of this study was to:

1. Examine the differences of self-perceived leadership skills between men and women who elected to take a collegiate leadership development course.

2. Determine if a relationship existed between previous leadership experience and self-perceived leadership skills.

3. Examine the differences of self-perceived leadership skills between women in an all-female educational setting and women in a coeducational setting.

4. Examine the differences of self-perceived leadership skills between men in an all-male educational setting and men in a coeducational setting.

5. Examine the differences of self-perceived leadership skills between men in an all-male educational setting and women in an all-female educational setting.

6. Examine the interaction between gender (male versus female) and educational settings (gender-specific setting versus co-educational setting).

Significance of the Study

If the results of this study show there is a significant difference among segregated classrooms, for males, females, or both, we might rethink how we teach leadership courses in the future. "Unless these differences are taken into account in the leadership educational setting, it is likely that not as many learners will be empowered or transformed as might otherwise be the case" (Murry, 1992, p. 225).

Definition of Terms

ALED 340: Agricultural Leadership and Development 340, Professional Leadership Development course at Texas A&M University.

Single-Gender/Single-Sex: For purposes of this study, these terms are interchangeable and mean all-male or all-female. While it would be preferable to use one or the other for the sake of simplicity, various reference sources use one or the other, or both interchangeably.

Assumptions

The following assumptions were made in the performance of this study:

1. The Leadership Skills Inventory used in this study measured self-perceived leadership skills.

2. Leadership skills were definable and measurable.

3. Leadership is a measurable phenomenon.

4. The participants assessed their leadership skills and abilities honestly and accurately.

Limitations

1. This study investigated only self-perceived leadership skills and attitudes of collegiate juniors and seniors enrolled in a leadership development course at Texas A&M University.

2. Any generalizations from this study may be limited to students enrolled in a leadership development course at Texas A&M University.

3. Self-reporting procedures may have caused surveyed students to favor a socially desirable response set.

Delimitations

This study was delimited to those students in ALED 340 at Texas A&M University who volunteered to participate in the study, without reward or favor for doing so, and without penalty or disfavor for not doing so. It is further delimited to those students who enrolled in ALED 340 in the Spring semester of 2007. Eighty-one of 118 enrolled students (69%) chose to participate and provided data for the study.

CHAPTER II

REVIEW OF LITERATURE

Introduction

As a means of preparing the reader to more fully appreciate the essence and importance of this study, background material is presented to help understand the significance of underlying learning theories, major contributing theorists to those theories, thinking and learning as it pertains to differences between the sexes, leadership perceptions, and the ongoing research and thinking concerning single-gender versus coeducational schooling. The latter topic, single-gender versus coeducational schooling, is the focus of this research study. While the initial theory discussion herein does not address gender differences or single-gender versus coeducational learning environments, the underlying theories are pertinent. They form the basis from which gender-specific research has evolved.

It is important for the reader to understand that philosophies that impact the broad area of learning theory today go back at least as far as the times of the great philosophers like Confucius, Socrates, Aristotle, and Plato. Interestingly, however, these philosophical giants were not authoritarian in their teaching styles. They "all saw learning as a process of active inquiry, not passive reception" (Connor, 1996, p. 8). Their styles were more andragogical and transformational, or student centered through inquiry and discovery as opposed to the pedagogical, transmission, and transactional formats, so prevalent in today's U.S. classrooms.

Over the centuries, teaching has evolved more into the pedagogical style, or teacher-centered and guided-learning style. Learning theory has been evolving for centuries, and, most notably, in the late 19th century and throughout the 20th century when Structuralism, Functionalism, Cognitivism, Behaviorism, Constructivism, and Humanism proponents emerged. The evolving theory process since the late 1800s, when educational psychology emerged as a separate field of study, has gradually been shifting in thought from transmission learning theories back to more transactional learning styles. In the latter half of the 20th century, andragogical styles of learning theories have re-emerged, mainly in the form of adult learning. This re-emergence of theoretical learning interest has not, however, seen a parallel transference into the typical U.S. classroom.

Modern day humanist theorists are beginning to make some inroads into current thinking about teaching methods and learning environments. We are seeing more frequent challenges to the transactional mode of learning with more acceptance of student-centered learning, albeit gradually. In more recent years, most especially in the 1990s and since, researchers have shown significant interest in studying the differences in the way males and females learn. Many of the studies have shown that in certain instances, it is advantageous to segregate learning environments into all-male and all-female as opposed to the more traditional coeducational settings.

These studies have led to controversial legislation by the Department of Education's revision of Title IX in October 2006 that allows gender-segregated learning environments to be established and to operate in our public schools and colleges (Salomone, 2007). Not surprisingly, there are strong emotions on both sides of the issue.

Many negative emotions that have been generated toward gender-segregated learning environments appear to be politically motivated or based on personal agendas, as this review of literature will reveal later.

As the reader moves through the next section, Learning Theories and the Major Theorists, it will be helpful to understand that the presentation can be more fully appreciated if a continuum is kept in mind. The theories presented represent a progressive shift from a more pedagogical and transmission epistemology (Structuralism, Functionalism, and Behaviorism) through a pedagogical and transaction epistemology (Cognitivism) to a more adragogical and transformation epistemology (Constructivism, Humanism, and other present day epistemologies). Understand that the theory continuum (Figure 1) does not equate to theory application in the classroom. Much of the Constructivist and Humanist theory remains too idealistic to be practical in an application sense due to time and space limitations in the traditional college classroom.

/---Structuralism/Functionalism -> Behaviorism -> Cognitivism -> Constructivism -> Humanism -->

/--------------------Transmission------------------------/-- Transaction--/-------------Transformation---------/

/------------------------------------Pedagogy--------------------------------/----------------Andragogy-------------/

Figure 1. Learning theory continuum.

Associated with the Learning Theory Continuum is a shift from more structured and teacher-directed learning (transmission), to a very organized and shared learning (transaction), and to a less structured, more chaotic, more relativistic learning that is mostly student directed (transformation) (Panitz, 1996). Yet, another way to think of this continuum is a shift from mere passing of knowledge from teacher to student, to shared discovery between teacher and student (with the teacher serving as a facilitator) to self-discovery where the teacher serves to help the student find a learning environment that is pertinent to that individual student. It is an overall shift from general to specific learning.

Not too many decades ago, the normal manner of teaching was expository. Today, there is growing interest in individual learning styles as ongoing research is showing that not all people learn in the same ways. There are many learning style assessments that can help students determine how they best learn. And, there are teaching methods to meet those styles. One of the most prolific research areas in education today concerns the benefits of single-sex learning environments versus coeducational learning environments. The flow of this chapter is designed to take the reader from the late 19th century "one size fits all" style of teaching and learning to the present day interest in learning environments based on a student's sex or gender.

In an attempt to show the progression continuum of learning theories, theorists are discussed under specific theory headings. As one researches learning theory, it becomes evident that not all theorists fit neatly within one theory. In some cases, theorists have spent the majority of their careers researching and writing under a certain epistemology, only to emerge, ultimately, in another. It is not uncommon that a theorist

begins with a personal learning schema and undergoes a philosophical shift as his or her own personal knowledge grows. A classic example of this is the case of Jean Piaget who is commonly referred to as a Cognitivist (Ornstein & Levine, 1993; Schunk, 2004). However, he is just as likely to be referred to as a Radical Constructivist (Doolittle & Camp, 1999). In this case, his theory is discussed under the Constructivist heading. There are other examples such as B. F. Skinner who was a Behaviorist (Schunk, 2004) and who is credited for the emergence of the Cognitivist epistemology (Ryder, 2007). In his case, however, he did not create Cognitivism. Other theorists created it because of disagreement with his thinking that fundamentally equated man's learning and reasoning capabilities to that of animals. Skinner is discussed under the heading of Behaviorism. It is not a perfect transition presentation, but it serves to emphasize the shift in modality of learning theories.

One last comment seems pertinent at this point. The discussion of the evolution of learning theories from the late 1800s to the present does not initially address the differences in learning and thinking between male and female students, nor does it address single-gender versus coeducational schooling. The overall evolution of learning theories was done initially without regard to a student's gender. It has only been in the past two decades that the issue of single-sex learning has drawn significant attention from those who research the way in which people learn. Our traditional classroom environments currently operate based on models developed prior to the newfound interest in single-sex classrooms. A major purpose of this study was to determine if the

traditional coeducational classroom setting is the most effective way to present leadership development courses in a college classroom setting.

Learning Theories and the Major Theorists

Structuralism

Even though this particular doctrine no longer exists as a unified doctrine today, it, along with Functionalism, was a new psychology that influenced thinking about learning. Simply stated, this theory encompassed the belief that human consciousness is an area of legitimate scientific study worthy of being investigated. Proponents of this area of research believed that our minds are comprised of idea associations; they studied structure and makeup of mental processes (Schunk, 2004).

Structuralism purported that introspection, a type of self-analysis, is a form of observation, congruent with the scientific method of research. It was a unique approach to scientific research, delving into the psychological realm, and distinguishing itself from other sciences. While introspection was uniquely psychological in nature, it proved to be quite problematic and often unreliable. The study methodology required special training to determine when subjects of study were actually examining their conscious processes as opposed to phenomena interpretation. As we now know, the mind does not neatly compartmentalize information in that manner; the big flaw in this theory is that it disregarded this central aspect of the mind (Schunk, 2004).

Edward B. Titchener (1867-1927) contended that psychology, a study of the mind, should be patterned after the "physiological method." Studies of mind processes should be investigated and measured in terms of stimuli and response (Schunk, 2004), a

glimpse into future Behaviorism. Titchener's methodology and scientific research came to be known as Structuralism. He used introspection, or self-analysis, as the focus of his research. Structuralism led to an interest in Behavioral Psychology that practically dominated the U.S. psychology landscape during the first half of the 20th century (Schunk, 2004).

<div align="center">*Functionalism*</div>

Like Structuralism, this theory is no longer a unified doctrine today. It was a challenge to the Structuralist thinking because Structuralism, while it addressed the association of ideas in the mind, it did not address how these associations occurred. Functionalists were strongly influenced by Charles Darwin's studies on evolution and how mental processes helped living organisms survive and adapt to their particular environments. They were interested in understanding the functional factors of bodily structures that allow living organisms to survive, consciousness, and certain cognitive processes as "thinking, feeling, and judging" (Schunk, 2004, p. 16).

The proponents of this theory disagreed with the Structuralist theory because of how it studied consciousness through introspection. They did not agree that consciousness could be reduced to discrete elements; they believed that studying such phenomenon in isolation failed to show how living organisms survive in their environments. It was their position that the body and the mind interact, and that they do not function as separate entities.

William James (1842-1910) was an Empiricist who had a big impact on Functionalist thinking and influenced men like John Dewey (1859-1952). James did not

believe that consciousness is composed of discrete bits of information; he believed, rather, that consciousness is a continuous process of abstract thought and study. He used the term "stream of thought" to describe how our consciousness changes, from the day we are born, as we are exposed to objects and relations (Schunk, 2004, p. 16).

John Dewey (1867-1949), a University of Chicago psychology researcher, was a philosophical Pragmatist by school and tradition. He is commonly known as "The Father of Functional Psychology." Known as one who did not adhere to the thought of a source of ultimate truth or absolute truth (the belief in God), Dewey believed in a democratic form of education and schooling. Students must be free to test all ideas, beliefs, and values (Ornstein & Levine, 1993, p. 138); a student's reality was his or her own, meaning that their truth was relative, and was based on the scientific method.

While John Dewey has been misunderstood often over the years, his influence can still be seen in the U.S. education system, within schools that rely on experimentation and learning from reflective reconstruction of experiences. His learning through the problem-solving concept has been widely employed in teacher education. Teachers today who believe that education is a social activity where human behavior and character are shaped, are following the Dewey education philosophy. While his progressive education movement advocated students' freedom to learn through inquiry, it was not with aimless direction. It was not educational anarchy. He believed that schools should encourage the human values of sharing, community, cooperation, and democracy (Ornstein & Levine, 1993).

Dewey believed that schools put too much emphasis on teacher-focused learning and not enough emphasis on learner-focused learning. When education is concentrated on a teacher-focused format, student learning is based on the teacher's experiences, not their own. He espoused that student learning must include varied activities, including teacher-guided experience. He did not agree with the traditional authoritarian style of teaching (Connor, 1996). At the time Dewey was stating his philosophy, the education world was not ready to hear it. Today, much of what he spoke is used in American classrooms.

Many experts in the field of education give Dewey primary credit for outcomes-based education and standards-based education reform that emphasize critical thinking skills above memorization. Even others give him credit for playing a role in developing the theoretical roots for several forms of Constructivism, as he believed that students' learning contexts should be paired with multiple opportunities to "construct" or make meaning of their individual learning as it is initiated, progresses, and finally escalates (Parr & Edwards, 2004).

Behaviorism

Behaviorism, as a learning theory, grew out the belief by many, to include John B. Watson, that *introspection* as a basis for scientific research, was not reliable, as behavior could be observed and could become an objective science; introspection could not be observed, was subjective, and may have no basis in reality. Therefore, if consciousness could only be studied through unobservable introspection, then it should not be studied at all.

Behaviorists see motivation as a function of change in the rate, occurrence frequency, and responses to environmental stimuli and events (Pintrich & Schunk, 2002). Simply stated, Behaviorism is a philosophy of learning holding that learning occurs from repeated stimulus-response events. Reinforcement of consequences increases the likelihood that predictable behaviors will occur in the future, whereas negative consequences or punishments will reduce the likelihood of continued unwanted behaviors.

John B. Watson (1878-1958) is generally considered to be the founder and champion of modern Behaviorism, because he believed that Functionalism and introspection and associated research methods were unscientific. Since studies on introspection were unreliable because subjects reporting their experiences through this methodology could not be trusted to report their experiences accurately (was not objective), Watson believed that only objective, observable and, therefore, measurable activities could be scientifically studied (Schunk, 2004).

Edward Thorndike (1874-1949) contributed to the Behaviorism school of thought in the early 1900s with his contention that learning consists of the formation of linkages (connections) between certain stimuli and their responses through reward applications. This emphasis on pairing of stimuli with responses established the basis for verifiable observations of behaviors and not on unreliable and untenable mental constructs (Doolittle & Camp, 1999).

Thorndike's Connection Theory states that trial and error is often the means by which learning occurs. A more applicable theory to today's classroom, perhaps, is his

Law of Readiness. The principle states in effect that when a person is prepared to act, doing so is satisfying and not doing so is annoying. Applying this principle to learning, we could say that when students are ready to learn, engaging them in activities that are related to the learning can be satisfying and results in better learning. The shortcoming of Thorndike's theory to learning application is that it does not consider the cognitive processes involved (Pintrich & Schunk, 2002).

B. F. Skinner (1904-1990) is the theorist who formulated the Operant Conditioning theory that he summarized in his book, *The Behavior of Organisms* in 1938 (DeGrandpre, 2000; Karoly & Harris, 1986). His Operant Conditioning theory was based on his belief that learning is a function of or connected to changes in overt behavior that come about as the result of responses to events (stimuli) that occur in a person's environment. Different from Thorndike, Skinner believed that a living organism not only elicits responses to external stimuli, it can also emit responses (Bjork, 1993).

Albert Bandura (1925-) is a modern day (neo) Behaviorist. His social learning theory focuses on the importance of the observation and modeling of behaviors, attitudes, and emotional reactions of others. He sees social learning as a continuous interaction between cognitive, behavioral, and environmental influences. Some refer to Bandura's theory as a Social Cognitive theory. Perhaps he can be classified both as a Neo-Behaviorist and a Social Cognitivist. Regardless, his learning theory contends that motivation affects observational learning and operates primarily through things such as goal setting, self-efficacy, and outcome expectations (Schunk, 2004).

Cognitivism

The field of Cognitive Psychology is one that encompasses the study of how people's minds work, how they think, and how they learn. While there is more to education than cognition, studying how our brains function assists us in improving the way we teach and learn. With the advent of automated information systems and the constant innovations of that technology, we are more able to learn and understand how the human brain functions. Cognitivists consider learning to be a developmental process of testing our current knowledge about the world around us against new information that we encounter. Before we change our minds on how we think about something, we first consider our prior experiences, our current knowledge, and the impact that new information will have on our knowledge. Besides our experiences and knowledge, expectations are key to our learning. We constantly build on what we know (Connor, 1996).

Vital to the understanding and application of related cognitive learning theories is the idea of metacognition. Simply put, metacognition is the ability to think about how we think. In other words, it is a lifelong learning skill that helps us become better problem solvers and to monitor and control our mental processing (Connor, 1996). It is comprised of two sets of related skills. First, we must know what skills, strategies, and resources are involved with a task. Encapsulated therein are such things as determining the main idea or ideas, rehearsal of information, formation of images or associations, employment of memorization techniques, organizing materials, taking notes, and employment of test-taking techniques. Second, we must know the appropriate times to

use these skills and strategies to ensure that the task is completed satisfactorily. Development of these skills comes slowly. These abilities begin to develop in us sometime around 5, 6, or 7 years of age (Schunk, 2004).

Jean Piaget (1896-1980) was ahead of his time in terms of his thinking on learning. He was a Swiss philosopher, a natural scientist, and he was a child developmental psychologist. In the capacity of developmental psychologist, he created the Theory of Cognitive Development. In his theory, he described four cognitive development stages: sensorimotor (from birth to age 2), preoperational (ages 2 to 7), concrete operational (ages 7 to 11), and formal operational (after age 11). It is during the latter stage that children are able to form abstract reasoning. These stages usually occur in the same chronological order (Plucker, 2007).

Piaget referred to his overall theoretical framework as Genetic Epistemology because he was primarily interested in how living organisms developed knowledge. His concept of cognitive structures was primary to his theory. He contended that these structures changed through a process of adaptation (assimilation and accommodation). Cognitive development, then, was a process of interpreting events in one's environment, evaluating them, and making adjustments or accommodations to cognitive structures (schemas) in order to make sense of the surrounding environment (Plucker, 2007).

David Ausubel (1918-) is a great example of a theorist who distinguishes himself through a clearly defined set of principles that are focused around deductive reasoning. His methodology involves considerable interaction between the teacher and the student. While the teacher verbally presents a lot of material, the student is

continually prompted for responses. In order for the lessons of deduction to be effective, teachers must present their materials in a very organized manner. In order to accomplish the desired learning result, examples must be presented in diverse ways so as to help students link this new knowledge with similar content in their memories. Teachers have to break the more abstract ideas into smaller and related points (Schunk, 2004). Unlike Constructivist learning, which incorporates the building of new schemas, or mental models, this form of learning requires the student to reformat previous mental models as new knowledge is added through the deductive process.

Robert Gagne (1916-2002) was an American educational psychologist who developed the theory of Conditions for Learning. His work is sometimes mentioned as the Gagne Assumption; the assumption is that different types of learning exist. Different types of learning require different instructional conditions in order for effective learning to occur. A key trait of his philosophy is the idea of learning outcomes. In other words, the instructor must have the learning objective clearly in mind before determining the appropriate form of instruction to employ. He contended that learning is quite complex and that learners build capabilities that are manifested in different outcomes (Schunk, 2004).

During the preparation for learning, the instructor conducts introductory learning activities to introduce stimuli for materials to be learned. In the acquisition and performance segments, information gained through stimulus from the previous stage is transferred to working memory, and ultimately into long-term memory. In the final stage, transfer of learning, the newly gained information is generalized by providing the

learners an opportunity to practice skill sets under different circumstances, such as homework and review sessions (Schunk, 2004).

Constructivism

Those who became known as Constructivists, did so in large part because they disagreed with some of the basic assumptions included in Cognitivism. Three cognitivist assumptions not in agreement with constructivist epistemology follow. First, cognitivists believed that "thinking resides in the mind rather than in interaction with persons and situations" (Schunk, 2004, p. 286). Second, they believed that "processes of learning and thinking are relatively uniform across persons, and some situations foster higher-order thinking better than others" (Schunk, 2004, p. 286). And, finally, the cognitivists believed that "thinking derives from knowledge and skills developed in formal instructional settings more than on general conceptual competencies that result from one's experiences and innate abilities" (Schunk, 2004, p. 286).

In contrast to Cognitivism, Constructivism (truly an epistemology, not a theory) rejects notions that scientific truths exist and are just waiting discovery and verification. No statements can be assumed as truth, and reasonable doubt should be the norm. No theory has a lock on the truth. Constructivists construe new knowledge not as truth, but as a hypothesis, since they contend that knowledge is not imposed from outside a person; rather, truth is constructed inside a person, and their "truth" may not be someone else's truth. Because knowledge is created or produced based on people's beliefs and their own experiences, they differ from person-to-person. Therefore, all knowledge is to be

considered subjective, personal, and a product of people's own cognition (Schunk, 2004).

It should be obvious, even to a casual reader, that Constructivism brings with it some difficulties. It is challenging, if not impossible to use in individual training and in traditional classroom environments where certain truths are necessary in order to develop common levels of understanding. Constructivism training models are more appropriate for organizations that are going through change, where consortiums are created to consider new ideas about that organization's new reality on a day-to-day basis. This epistemology is not appropriate for structured learning outcomes on computer-based training platforms. In these environments of change, even the meaning of words change frequently as people wrestle with new ideas in order to stay focused on their changing mission. The rise in popularity of Chaos Theory in the 1980s brought close scrutiny to this epistemology. Learning techniques that work with constructivist environments are person-to-person dialogs and collaboration. The reason this is so is because learners are encouraged to "construct their own understanding, based on their reality, and then validate their new perspectives through social negotiations" (Connor, 1996, p. 30).

In the case of Constructivist learning, teachers are not instructors or transmitters. They are facilitators or guides. It is their role to create learning experiences wherein students will be able to process appropriate knowledge acquisition. Because social and radical Constructivists disavow the possibility of general truth, teachers' roles are to guide students to experiential awareness and socially agreed-upon meanings. Instead of

functioning as a knowledge conduit, teachers are supposed to "motivate, provide examples, discuss, facilitate, support, and challenge the students to create new schemas as the result of their learning experiences" (Doolittle & Camp, 1999, p. 9). A brief discussion of some of the significant contributors to the Constructivist thought is offered only for the sake of expanding the reader's understanding of this particular school of thought, not because of substantial significance to the primary focus of this study.

Lev Vygotsky (1896-1934) was well versed in Cognitive theory, but in reality he was a Social Constructivist. His ideas influenced the Social Contructivist approach to education. Social Constructivists give emphasis to the construction of a socially constructed, agreed-upon reality. Their epistemology falls somewhere between Cognitive Constructivists who emphasize accurate schemas, or mental constructions of reality, and Radical Constructionists who emphasize the construction of a meaningful and coherent experiential reality. It was his belief that truth did not exist inside any one person; rather, Vygotsky believed that truth is found when people who are seeking truth experience dialogue between them. Truth becomes an agreed-upon knowledge (Doolittle & Camp, 1999).

A key concept that is central to Vygotsky's theory is that of Zone of Proximal Development (ZPD). ZPD is defined as "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers." His view of learning was that of scaffolding where the teacher and the learner mediate interactions that lead to new independence at a

certain level of understanding or knowledge. The teacher is then able to remove the scaffolding, allowing the student to operate independently. So, the teacher serves as a guide and a facilitator. Collaboration and cooperation are significant factors in the Social Constructivism epistemology (Schunk, 2004).

Jerome Bruner (1915-) is a true Constructivist in that his theoretical framework is that learning, an active process, finds learners constructing new ideas and concepts based on their current and past knowledge. Whereas Cognitivists believe that mental models are merely reframed with new information, Bruner believes that new models are formed. Knowledge is created, not merely reframed. Learning is like a spiral staircase, winding ever upward. The steps in the spiral are linked to our environment, not our age. He believes that students acquire knowledge best when allowed to discover it on their own. Unlike Piaget, Bruner believes that learning can take place anytime at any age if properly instructed. Piaget believed that a child could only learn at certain levels of development (Bruner, 1983).

Bruner (1983) has been a proponent of teaching to the student's level of development and varying instructional presentations depending on those levels. He is an advocate of discovery learning, not in the sense of discovering never before known information and concepts, but rather allowing students to discover things that are already known by the instructor, but not spoon-fed to them in an expository manner. By teaching them to do this, they develop the potential to discover truly new ideas and information with structured direction in their research and not simply blind luck. He believes that developing discovery skills leads to enhanced inductive reasoning (Schunk, 2004).

Humanism

Humanistic learning is certainly the highest form of andragogy, as it is focused on the individual learner and not on the content. It is specifically concerned with human potential for personal growth. People's perceptions are centered in experience. It is the Humanists' belief that all people are inherently good and that their behaviors are the result of their individual choices. It is a transformational type of learning where it is espoused that adults are open to change and continual lifelong learning. Typical of humanistic approaches to education are self-analyzing, building teams, and peer learning. The pace at which one learns is entirely up to that person. They determine what they want to learn, how they wish to learn it, and they determine the sequence and the level of performance. A person learns on his or her own through self-direction. It takes into account each person's cognitive style (the way one perceives, organizes, and retains information) (Connor, 1996). As with the Constructivist theories, this form of learning is generally not amenable for use in a traditional college learning setting. However, some of its proponents are briefly discussed for better understanding of its arguments and difficulties in its application.

Carl Rogers (1902-1987), renowned psychotherapist in practice, serves as a classic proponent of transformational learning theory as a Humanist. He is noted for his, and others' Facilitation Theory. In his opinion, the biggest and most significant change that a person can make is his or her own self-concept. Rogers encouraged learners to take responsibility for their own learning and to provide a substantial amount of the inputs for learning based on their personal insights and experiences. The most important

learning is self-evaluation leading to solving significant problems and achieving results (Dunn, 2002).

In concert with Rogers' philosophy, teachers (facilitators) should provide more response to students' feelings, use their students' ideas in learning interactions, use frequent dialogue, praise students' progress, personalize teacher presence to the student (less ritualistic), tailor the educational contents to the student's frame of reference (based on their immediate needs), and smile with the students (Huitt, 2001).

Rogers' philosophy was that any learning that can be taught to someone is of little value. It made little effect on behavior. Teachers do not impart learning on their students; in fact, teachers are merely facilitators of learning. They provide the learning environment that is conducive to helping the students determine what their learning focus and purpose is. The facilitator is, in fact, another resource. Instead of spending lots of time writing lesson plans, they should provide resources where learning and discovery can take place. The facilitators should make themselves available to the students to share their own feelings and thoughts. The facilitators should employ the use of contracts to maximize learning. The students should be given the freedom of setting up the contracts, and they should be able to determine how much of the facilitators' personal direction is needed in order to meet their learning needs. He advocated facilitation techniques such as programmed instruction, simulations, methods of inquiry, and self-evaluation as ways to provide freedom of learning, as opposed to expository methods (Pintrich & Schunk, 2002).

A critique of Rogers' philosophy of learning is that it is very difficult to apply and to be able to determine whether or not successful learning has occurred. His theory is vague with regards to the learner's growth process. The self-actualizing part of his process is not linked to goals, and that makes it difficult to measure results. This is not to say that humanistic theory is a waste of time. There is still much research that continues in this area of educational psychology. Application with meaningful and measurable results appears to be the biggest question mark at this time (Pintrich & Schunk, 2002).

Malcolm Knowles (1913-1997) is often referred to as "the Father of Adult Learning" as he popularized the term Andragogy in America as "an emerging technology for adult learning" in 1970 (Dover, n.d., p. 1). Knowles (as cited in Dover, n.d.) believed that pedagogical learning by children had become obsolescent and was not an effective means of educating adult learners. He is quoted as saying,

> The rapidly accelerating pace of change in our society has proved this doctrine to be no longer valued. Facts learned in youth have become insufficient and in many instances actually untrue; and skills learned in youth have become outmoded by new technologies. (p. 2)

Because of this, he stressed the importance of adult learning as prevention to obsolescence; this prevention opposed "the doctrine that learning is primarily a function of youth" (Dover, n.d., p. 2).

Interestingly, sometime before Knowles died, he conceded that much of Andragogy's key assumptions apply as much to children's learning as they do to adults. The one distinct difference was that children do not have the wealth of experience to draw from that adult learners do. As a result, children have fewer "pre-established beliefs than adults and thus have less to relate" (Connor, 1996, p. 10).

Other Modern Day Learning Philosophies

Modern day learning philosophers include such notables as Chris Argyris, Howard Gardner, and Robert Sternberg. Argyris is noted for his Double Loop Learning Theory. Gardner (1983) is equally known for his Theory of Multiple Intelligences. And Sternberg is well known for his Triarchic Theory. While interesting theories, they do not add substantially to the development of learning theory that is important to this study. They are mentioned only as a transition to some modern day thinking that is pertinent to understanding the ways in which males and females think and learn.

There is growing interest in the difference in brain physiologies between males and females. Researchers are beginning to account for likely reasons why children, teenagers, and young adults learn differently by sex. The results of many such studies are leading us as a nation to reevaluate how we teach males and females. While the learning theories discussed up this point do not address gender, they are just as pertinent for males as they are for females. The difference is that in some learning environments, it may be more beneficial to employ those philosophies in gender-segregated classrooms for some academic subjects.

Thinking and Learning

Women's learning differs from men, with the focus being on women in many studies. This study focuses on both women's and men's differences with respect to leadership attitudes; it compares how women in an all-female educational setting may differ from students in a coeducational setting as well as how men in an all-male educational setting may differ from students in a coeducational setting. If there are

learning differences between the sexes when segregated, perhaps there are leadership attitudinal changes as well. Therefore, the crux of this study is the following: Does the educational setting (coeducational or same sex classrooms) for leadership instruction, using the same curriculum, lead to a change in leadership attitudes? And, if so, is the change in same-sex classrooms statistically significant when compared with coeducational classrooms?

Maccoby (1990, 1998) argued that one of the biggest factors that contributes to gender differentiation begins about the age of three and that it is self-imposed. He states that by that age, children tend to seek out other children of the same gender and begin to avoid playing with children of the other gender. Further, he states that it makes no difference what gender socialization principles they have learned within their families and that it does not really matter whether it occurs in villages in developing nations or here in the United States, it happens. In all-girl and all-boy groups, their activities differ. He states that the net effect of their segregated activities is that girls and boys both experience successes and build their competencies, but in different domains.

"Social feminism argues that men and women have different experiential backgrounds that influence their way of perceiving and thinking. From birth, they encounter a variety of social experiences that shape quite differently beliefs men and women come to have" (Goethals et al., 2004, p. 1655). The term, sex, refers to the biological difference, while gender is socially constructed.

> The impact of work experience, family, and economic roles shapes the perspectives women and men have leading to differences in their approach to leadership. In contrast to liberal feminism, which seeks equality and androgyny, social feminism seeks to acquire proper recognition and appreciation for

women's achievements and values, where the genders are equal but different. (Goethals et al., 2004, p. 1655)

While feminist arguments that social experiences and culture help to form the way men and women think, there appears to be more to the equation than that. Recent research indicates that there are actual developmental sex differences in the human brain. In 1999, Harriet Hanlon and her associates at Virginia Tech examined 508 normal children ranging in age from two months to 16 years. There are striking and consistent differences in the speed at which girls' and boys' brains mature. The study revealed that they also develop differently (Hanlon, Thatcher, & Cline, 1999).

According to Hanlon et al. (1999), "it is not correct to say that boys develop along the same lines as girls, only slower" (p. 502). The areas of the brain involved in language and fine motor skills mature about six years earlier in girls than in boys. On the other hand, boys' brains develop areas involved in targeting and spatial memory about four years ahead of girls. The researchers concluded that "the areas of the brain involved in language, in spatial memory, in motor coordination, and in getting along with other people, develop in a different order, time, and rate in girls compared with boys" (Hanlon et al., 1999, p. 502).

It is fascinating to know that brain differences between males and females actually begin during gestation in pregnancy, sometime between the 18th and 26th weeks. Testosterone from newly formed male testicles is produced in substantial quantities and is comparable in concentration to young adult men. The enzymes created attach to the brain and begin a transformation. Israeli scientists, Reuwen and Anat Achiron, found that ultrasounds after 26 weeks of pregnancy can distinguish between female and male

brains (Achiron, Lipitz & Achiron, 2001). Their research *in utero* confirmed anatomical research done in 1986 by scientists who studied the brains of stillborn fetuses (DeLacoste, Holloway, & Woodward, 1986).

During most of the last decade of the 20th century and early this century, some Swiss scientists at the University of Lausanne did exhaustive study of thin slices of brain tissue from people who had just died. They used sophisticated techniques and algorithms to measure individual nerve cells and their connections in specific brain areas, most notably in the cerebral cortex. Their research showed that "fundamental gender differences exist in the structure of the human cerebral cortex" (Rabinowicz et al., 2002, p. 52). Not all areas of the brain differ, however. It is in this, the most advanced part of the brain where the differences are significant. The cerebral cortex portion of the brain is the section that receives signals from other cells in the brain (Rabinowicz et al., 2002, p. 52).

In 1991, a study by Allen and Gorski revealed noticeable structural differences in men's and women's brains. The massa intermedia of the thalamus was prevalent in women's brains and was either smaller or totally absent in men's brains. In a comparison of massa intermedia for women and the men who had one, the women's was on average 53% larger by volume. Interestingly, the men's brains were 8% larger overall (Allen & Gorski, 1991).

In 1999, Johns Hopkins researchers found asymmetries in men's brains that were not apparent in women's brains. The part of the brain known as the higher association cortex, thought to be the area of the brain responsible for the most complex operations

that affect emotion and learning, was larger in the left hemisphere of male brains. For women, there were no marked differences in that part of the brain; the association cortex for women, however, was larger on the right hemisphere (Frederikse, Lu, Aylward, Barta, & Pearlson, 1999).

A research team reported in 2000 that there are observable differences in young girls' and young boys' brain structures, after comparing brain tissues from several of each. This is especially so in babies. They stated in their research that photomicrograph differences are so obvious as to be visible to the naked eye (Cordero, Valenzuela, Torres & Rodriguez, 2000). An English report from London in 2001 concerned the examination of 465 normal adult human brains with the aid of a MRI scanner and the naked eye. They found consistently that the males' brains were asymmetrical between the two hemispheres while the females' brains were much more alike between the two hemispheres. Women have more gray matter in the neocortex while men have more gray matter in the entorhinal cortex (Good, Johnsrude, Ashburner, Friston, & Frackowiak, 2001).

According to Higgins (1991), one of the most robust paradoxes faced by teachers is the girl who, getting straight A's on her report card, feels stupid and discouraged, and the boy who barely gets B's and thinks he's brilliant. The proper way to enhance their respective learning is to encourage the girls and build them up; the teacher should give the boys reality checks and make them understand that they are not quite as brilliant as they think they are, then challenge them to do better. Researchers have consistently found that "girls are more concerned than boys are with pleasing adults, such as parents

and teachers. Most boys, on the other hand, will be less motivated to study unless the material itself interests them" (Pomerantz, Altermatt, & Saxon, 2002, p. 397).

A Yale University report in 1995 by The Yale Group showed interesting results in brain research when right-handed men and women read. The research revealed which areas of the brain are activated when people read. When women read, both frontal lobes "lit up" while in men only a small area of the left inferior frontal gyrus activated. In the case of the women, the activation was not confined to just the inferior frontal gyrus (Shaywitz & Shaywitz, 1995).

As a follow-up to The Yale Group research, Lurito asked volunteers to listen to, not read, one of John Grisham's novels. He was able to map the areas of women's and men's brains when they activated, or "lit up." His findings released in a report in 2001 revealed that men use only the left hemisphere of their brains when processing language while women clearly use both the right and left hemispheres (Phillips, Lowe, Lurito, Dzemidzic, & Matthews, 2001).

When it comes to navigational skills, men and women use different strategies that correlate to the areas of the brain that they use. Neuroscientists have determined that men and women, given navigational problems, use different areas of the brain. Women use mainly the right parietal cortex of the cerebral cortex. Men, on the other hand, primarily use the left hippocampus, not the parietal cortex. The left hippocampus is not activated in women when they attempt to navigate (Gron, Wunderlich, Spitzer, Tomczak, & Riepe, 2000).

An earlier study in 1998 by psychologists Sandstrom, Kaufman, and Huettel reported that the different strategies mentioned above are distinctly different when men and women navigate. Women tend to use visual descriptors of locations on the ground, while men will use directions and distances. Women use visible landmarks; men use more abstract concepts such as North, South, East or West along with distance (Sandstrom, Kaufman, & Huettel, 1998). Other similar experiments have been conducted using laboratory animals with similar results between male and female species.

In a 1994 report by Alan Feingold, he stated that educational psychologists have consistently reported that girls, not boys, have higher classroom learning standards. Girls tend to be more critical in evaluating their classroom performance. Boys, on the other hand, are less apt to do so. Girls outperform, academically, boys of all ages and in all subjects (Feingold, 1994).

Girls normally view evaluative feedback in the classroom from their teachers as a diagnostic of their abilities; they will tend to extend this information in a more overall picture of themselves. They will view it as a direct reflection of their self-worth. Boys do not view failures in that manner. They will tend to view them only in the context of the subject matter with which they are having difficulty. Girls will extend their failure as having disappointed the adults with them. Boys do not see evaluative feedback as being diagnostic in the first place. They are not normally as worried about pleasing adults as girls are (Pomerantz et al., 2002).

According to Shelley Taylor, a UCLA professor of psychology, girl students want a classroom to be girl-friendly. It should be safe, comfortable, and it should be a welcoming place to be. Oftentimes, this is not the case in a coeducational learning environment. When teaching subject matter, girls appreciate getting the information along with the learning context. Boys generally do not care. They are more inclined to simply want to get it over and done with. Boys, whose hearing is only about half as acute as girls' hearing, will respond better to direct confrontation from teachers than girls will. Although this technique is hardly used in today's classrooms, getting in a boy student's face, raising your voice, standing nose-to-nose with him, and being direct in asking him how he is so sure about his answers are the best way to get his attention. Boys are motivated to work harder in class when they are challenged in this manner. They also have better motivation and attention spans if the teacher moves around the classroom, asks questions, and involves boys in activities. In most classrooms today, teachers sit at the front of the classroom and talk quietly. While this technique may work well with girl students, it will generally put male students to sleep (Taylor et al., 2000).

According to Sax (2005):

Today we know that innate differences between girls and boys are profound. Not all girls are alike and not all boys are alike. But, girls and boys do differ from one another in systematic ways that should be understood and made use of, not covered up or ignored. (p. 28)

He goes on to say that girls and boys behave in different manners because "their brains are wired differently" (Sax, 2005, p. 28).

Leadership Perceptions

As women continue to slowly rise in their roles as business leaders, it is evident that they continue to face paradigms of organizations that were formed with masculine characteristics. Even though the obstacles for women that are characteristic of most organizations have decreased since the 1980s, there remain, for instance, the way leaders are recruited and selected (through personal networks) and evaluated (using policies rooted in male norms like authoritarian style control and task accomplishment). "These obstacles in effect manifest a subtle 'glass ceiling,' which is reflected by the comparatively small number and slow progress of women reaching the corporate boardroom and executive suite of Fortune 500 companies" (Goethals et al., 2004, p. 1656).

An area where women are not faring nearly as well due to public perceptions of them is in the political arena (White House Project, 2003). The White House Project researched and compiled by The Dial Group was an assessment of voter responses to images and messages of women running for executive offices. The goal of the research was to address the responses to several comparisons between males and females with regards to the traits of leadership, effectiveness, and strength. The study, after examining 400 advertisements and testing 25 of them, determined that women start out with a serious disadvantage, as voters tend to view women as less effective and tough when compared to men. There were three key findings: (a) women candidates, especially for executive office, are often judged differently and more harshly than male candidates; (b) a woman cannot be presented in the same way a man is presented and achieve the same

level of effectiveness; and, (c) appealing presentations do not necessarily lead to

impressions of effectiveness for either men or women (White House Project, 2003).

In 1970:

Brenner found, in a nationwide survey of managers, that the four traits that were
regarded as most important for an upper-management position were deemed
more likely to be found in men rather than in women. Consistent with…these
results, in a study of German students, Kruse and Wintermantel (1986) found that
in describing male leaders, the students took it for granted that the leaders would
be dominant and competitive, take risks, and be able to make decisions on their
own, but for women leaders, these traits had to be stated explicitly. The male
leader was the normative leader; the female leader had to fit with the male
schematic. (Bass, 1990, p. 711)

One scientific attempt to discover personality traits specific to men and to

women was conducted by Sandra L. Bem while on the Psychology faculty at Stanford

University in 1974. The Bem Sex Role Inventory, a list of 20 male traits, 20 female

traits, and 20 neutral traits resulted from an initial list of 400 traits. It is her belief that a

healthy combination of traits from both the masculine and feminine traits, an

androgynous combination, is best for both men and women leaders (Bem, 1974).

Masculine traits included in the Bem Androgyny Scale include: self-reliant,

defends own beliefs, independent, athletic, assertive, strong personality, forceful,

analytical, has leadership abilities, willing to take risks, makes decisions easily, self-

sufficient, dominant, masculine, willing to take a stand, aggressive, acts as a leader,

individualistic, competitive, and ambitious. Feminine traits included in the Bem

Androgyny Scale include: yielding, cheerful, shy, affectionate, flatterable, loyal,

feminine, sympathetic, sensitive to needs of others, understanding, compassionate, eager

to soothe hurt feelings, soft spoken, warm, tender, gullible, childlike, does not use harsh

language, loves children, and gentle). To arrive at this list of traits, she surveyed 444

male students and 279 female students at Stanford University, and 117 male and 77

female students from Foothill Junior College, all between the ages of 16 and 21 (Bem

1974). It is likely that the students of that decade held to a different set of values than

those of the 21st century. And, it is questionable whether those traits are valid traits or

simply stereotypes for that era as perceived by her students.

According to Bass (1990), survey data collected by Bowman, Worthy, and

Greyser in 1965 and Schein in 1973 and 1975 seemed to support beliefs that traits

commonly attributed to women made them inferior leaders.

> Women themselves tended to subscribe early on to the different stereotypes of
> managers and of women. O'Leary (1974) and McClelland (1965) both found that
> women as a group described themselves as different from or even opposite to
> men as a group on traits that are supposedly required for management. In
> confirmation, Frantzve (1979) found a positive relation between masculinity
> scores on the Bem Sex-Role Inventory and the tendency to emerge as a leader in
> 49 initially leaderless discussions in groups of men and women. (p. 712)

Lyn Turknet, founder of Turknet's Women's Initiatives, listed "ten traits women

can focus on in order to develop the strong leadership behaviors and skills necessary to

rise to power positions in the workplace" (Turknet, 2005, pp. 1-2). From her discussion

of each of the ten traits, it is easy to decipher those she considers strengths of women

and those she considers strengths of men. According to Turknet (2005), women have an

integrity advantage over men because they bring more focus to ethics and good

governance and tend to be more principle-driven. Women excel at respect for other

people. Men tend to show more courage in leadership situations, willing to take risks,

whereas women tend to be more collaborative, and that is not a strong trait for those at

the top of organizations. Women show more tolerance and willingness for change than men do.

Turknet's (2005) comparison continues as follows. Women as a whole tend to be more perfectionists, meaning they are not as likely to delegate as men are, and they may be slower to make decisions as a result. This can result in women being passed-over for promotions when timely decisions are critical to the mission. Women, who are good at multi-tasking, may have more difficulty than men in remaining focused on those things of importance in an organization. They may have more difficulty understanding the power of simplicity and communicating in the same way. Women tend to have an advantage in emotional intelligence and in reading nonverbal clues; they are good at using political savvy that can be developed into power to use for the good of the whole. They just need to get comfortable with having the power. Women are great communicators; this trait can translate into good motivation of others, building commitment and getting good ideas across. Women consistently score lower than men on self-esteem, a reflection of their level of confidence. Women, as opposed to men, in general, tend to avoid conflict rather than to embrace it (Turknet, 2005).

Catalyst (2005) an institute that conducts advisory services engagement, corporate board searches, and large-scale research projects to help women entering the labor force in the United States and Canada, conducted their 2005 Census of Women Board of Directors of the Fortune 500. The research was conducted to capture current attitudes about leadership behaviors regarding men and women. Their "analyses of numerous studies show that women and men lead in similar ways; yet, Catalyst finds

that senior managers perceive sharp differences in women's and men's leadership"

(Catalyst, 2005, p. 4). According to their report, in the U.S. culture, "people tend to

associate qualities such as friendliness, sentimentality, and caring with women," and

they "tend to associate qualities such as aggressiveness, rationality, and self-confidence

with men" (Catalyst, 2005, p. 7). In their research, senior managers consistently rated

women higher on the stereotypical "feminine behaviors": supporting, rewarding,

mentoring, networking, consulting, team building, and inspiring. Senior managers

consistently rated men higher on the stereotypical "masculine behaviors": problem

solving, influencing upward, and delegating. The report establishes that stereotypic

perceptions of women and men leaders exist among senior managers in corporate

America; it provides insight into the predicaments that stereotypes create for women

leaders, such as diminished interpersonal power (Catalyst, 2005).

Single-Gender Versus Coeducational Schooling

There have been many studies and much debate regarding the efficacy of

conducting education in single gender classrooms and campuses as compared with

traditional coeducational settings. Some studies indicate very promising outcomes in

single-gender educational settings, while others show little or no differences. While

some studies appear to be based on unbiased investigation, others appear to have a

political agenda. The topic is a controversial issue.

Marlene Hamilton conducted a study of students in Jamaica during the mid-

1980s. She found that students who attended single-gender schools outperformed

students who attended coeducational schools in almost every subject she tested (Hamilton, 1985).

Researchers at the University of Michigan compared graduates of Catholic single-gender and coeducational schools. They found that boys in the single-gender schools outperformed boys in the coeducational schools in reading, writing, and math. Girls in single-gender schools scored better than girls in coeducational schools in science and reading (Lee & Bryk, 1986).

A professor of sociology at Providence University in Rhode Island, Cornelius Riordan, published a series of studies in the 1980s and early in the 1990s. He compared short-term and long-term outcomes of graduates of single-gender and coeducational Catholic schools in the United States. In several different measures, he found that girls in single-gender schools consistently outperformed girls at coeducational schools. He found the same thing for boys (Riordan, 1990).

The American Association of University Women (AAUW) conducted a comprehensive review on the subject in 1998. Their meta study, though inconclusive, found "no evidence that single-gender education is better than coeducation" (AAUW, 1998, p. 1). However, it is their stated commitment that policymakers must look for solutions that benefit coeducational public schools. Bias in favor of coeducational settings and against single-gender settings appears likely in this meta study (AAUW, 1998).

In 1998, the British Office for Standards in Education (OFSTED) tested whether socioeconomic variables might account for superior performances by students in single-

gender schools and educational settings. Their results came from 800 single-gender and coeducational schools in England. The OFSTED discovered that the superior performances by students in single-gender schools could not be attributed to socioeconomic factors; rather, they appear to be the result of single-gender education. An additional finding was that students in single-gender schools tend to have a significantly more positive attitude toward learning overall (OFSTED, 1998).

A meta study conducted by the RMC Research Corporation for the U.S. Department of Education (USDE) in 2005 revealed that the overwhelming majority of quantitative comparative studies of single-gender versus coeducational schooling in the United States are of high school students, with a small number of elementary school students and no middle school students. In the USDE research, some, but not all of the studies showed that single-gender schools do provide positive results. Regarding the question "Are single-gender (SG) schools more effective than coeducational (CE) schools in terms of concurrent, quantifiable academic accomplishments?" there was found more positive effects of SG schools on all-subject achievement test scores than for CE schools. This applied for both males and females. According the USDE study, this supports assertions that SG schooling has positive benefits for the academic achievement of both sexes, though effects appear more pronounced and less ambiguous for females than for males. The study states that males continue to be underrepresented in this research domain.

The final question in the 2005 USDE study resulted in some meaningful insights that have a direct impact on leadership. "Are SG schools more effective than CE schools

in terms of perceptual measures of the school climate or culture that may have an impact on performance?" According to the USDE study, a school's culture or climate is a reflection of informal rules, norms and the way things work and that create the "expectations for students" that socialize them for modes of behavior. SG schools, argued by some, give females opportunities to pursue non-traditional or non-stereotypical courses of study in non-stereotypical major areas of study. The study purports that CE schools provide a more socially appealing environment, but SG students are more focused on grades, leadership, and are less interested in their looks and money. The USDE study provides some encouraging signs for single-sex learning environments.

Summary of Literature Review

This review of literature explored learning theories coinciding with the advent of Educational Psychology in the late 19th century until the present. Included in the theory continuum were the general headings of Structuralism, Functionalism, Behaviorism, Cognitivism, Constructivism, Humanism, and more modern-day learning philosophies. While the majority of the theories in the review do not pertain specifically to either male or female gender, they apply to both and still form the basis from which current research into learning differences between the sexes exists. Worldwide research over the past 20 years or so indicates there are physiological differences in the male and female brains that impact the way both genders see, hear, perceive, process information, and experience learning. It seems to point toward separate learning environments for males and females, at least in certain cases. And, there is ample research to suggest that there

are different ways that women and men tend to lead, whether perceived or real. This study focuses on segregated learning environments for leadership development and resulting attitudes toward leadership. Perhaps certain leadership learning can be enhanced if presented in segregated gender learning environments.

As a closing thought to this chapter, it might be well to reflect on comments by Ann Stanton (Goldberger, Tarule, Clinchy, & Belenky, 1996, p. 40). In the book, *Knowledge, Difference, and Power*, Stanton says that the majority of teaching in our colleges is fully directed at procedural knowing, that being theory, methods, controversies, and findings in our fields of study. Stanton continues by stating that educators should not be trying to pin individuals rigidly into neat little compartments or categories. We should, instead, help them with reference to a developmental sequence find out where they are in that sequence and provide a way for them to conceptualize what direction in which they may be ready to move. There is power in a developmental such as this where there is expectation that the student is becoming a more capable and effective thinker.

CHAPTER III

METHODOLOGY

This study was designed to address whether academic leadership instruction to junior and senior college students in a coeducational setting provides the best opportunity for the teaching and learning process, or if all-male and all-female segregated teaching and learning environments are better. More specifically, this study examined the effect that a gender-specific classroom has on men's and women's self-perceived leadership abilities as compared to coeducational classrooms where the students are studying leadership together.

Research Objectives of the Study

1. Determine if there is a difference in self-perceived leadership skills between men and women who elect to take a collegiate leadership development course (ALED 340).

2. Determine if a relationship exists between previous leadership experiences and self-perceived leadership skills.

3. Determine, upon completion of a collegiate leadership course (ALED 340), if there is a difference in self-perceived leadership skills between women in an all-female educational setting and women in a coeducational setting.

4. Determine, upon completion of a collegiate leadership course (ALED 340), if there is a difference in self-perceived leadership skills between men in an all-male educational setting and men in a coeducational setting.

5. Determine if there are differences in self-perceived leadership skills between men in an all-male educational setting and women in an all-female educational setting prior to and upon completion of a collegiate academic leadership course (ALED 340).

6. Determine if there is a difference in self-perceived leadership skills of students in gender specific settings and those in coeducational settings prior to and upon completion of a collegiate academic leadership course (ALED 340).

Hypotheses

From the six objectives above, six hypotheses were formed regarding students enrolled and participating in ALED 340 leadership labs at Texas A&M University during the Spring semester of 2007:

H_{01} = There is no difference in self-perceived leadership skills between men and women who elected to take a collegiate academic leadership course (ALED 340).

H_{02} = There is no relationship between leadership experiences prior to taking an academic leadership class (ALED 340) and self-perceived leadership skills.

H_{03} = There is no difference in self-perceived leadership skills between women in an all-female educational setting and women in a coeducational setting following completion of a collegiate academic leadership course (ALED 340).

H_{04} = There is no difference in self-perceived leadership skills between men in an all-male educational setting and men in a coeducational setting following completion of a collegiate academic leadership course (ALED 340).

H_{05} = There is no difference in self-perceived leadership skills between men in an all-male educational setting and women in an all-female educational setting prior to and following a collegiate academic leadership course (ALED 340).

H_{06} = There is no difference in self-perceived leadership skills of students in gender specific settings and those in coeducational settings prior to and upon completion of a collegiate academic leadership course (ALED 340).

Research Design

The study employed the Retrospective Post-Then-Pre Design (Rockwell & Kohn, 1989) with an a priori alpha of .10. According to Pedhazur and Schmelkin (1991), in cases of relatively small sample sizes, to minimize Type II error, or failure to reject a null hypothesis when it should be rejected, an alpha level for interactions should be set between .10 and .25. The dependent variable (self-perceived leadership ability) was measured using the Leadership Skills Inventory (LSI). Townsend and Carter (1983) revised the LSI at Iowa State University in 1980. The independent variables are students' gender and educational setting (coeducational or gender-specific), with previous leadership experiences used as a covariate.

Although random assignment of students to their respective lab sections was not possible, the selection of their class section was unrelated to the study. The design is quasi experimental. The procedure follows the Retrospective Post-Then-Pre Design (Rockwell & Kohn, 1989). The sample consists of junior and senior students enrolled in a collegiate academic leadership theory course (ALED 340) at Texas A&M University presented during the Spring semester of 2007.

There are two professors who teach ALED 340, each of whom has five lab sections. The study includes the five lab sections (n = 118) of one of those two professors to ensure continuity of instruction. Two of the five lab sections, the experiment groups, were single-gender; the remaining three lab sections were coeducational labs and served as the control group. Lab section 901 (coeducational) was taught by a female graduate student assistant. Lab sections 902 (coeducational) and 903 (all-female) were taught by a second female graduate student assistant. Lab sections 904 (all-male) and 905 (coeducational) were taught by a male graduate student assistant.

Laboratory activities in all of the lab sections for the course were the same throughout. The only exception was that the two experimental lab sections (one female and one male) learned and interacted in totally segregated sections, not interacting with the members of the opposite gender. To determine if the student learning results in the course were consistent among the three lab teaching assistants, a mixed design ANOVA was run in SPSS to determine if there were any statistically significant differences.

The survey used, the Leadership Skills Inventory (LSI), measures a student's self-perceived leadership skills. The LSI consists of 28 statements describing various leadership and life skills and activities. Responses are based on a five-point Likert-type scale.

Post-Then Method

The survey instrument that was administered, the Leadership Skills Inventory, was designed to allow the surveyed students to evaluate their self-perceptions regarding their leadership skills and attitudes prior to taking a collegiate academic leadership

course (ALED 340) as compared with those same skills and attitudes after completion of the course. Consideration was initially given to using the Pre-Test Post-Test design wherein the survey would have been administered both prior to and upon completion of the course. However, there are studies that have reported that the Pre-Test Post-Test Design is a less reliable method than the Retrospective Post-Then Pre-Design method. The difficulty with administering surveys of self-perceptions using the Pre-Test Post-Test method is that the student may tend to overestimate their level of expertise on the Pre-Test. This can bias the survey results (Rockwell & Kohn, 1989; Rohs, 1999). The advantage of the Post-Then method is that the student has sufficient knowledge of the subject matter upon completion of a leadership course to more correctly assess what their level of knowledge was prior to commencement of the course.

The Post-Then design was created by Howard and Dailey (1979). Their initial design used one questionnaire with two instruments and was administered at the end of a course. Their students were asked their perceptions of leadership attitudes and skills before they had begun the course and after they had completed it. Patterned after their method, the Leadership Skills Instrument survey (Appendix A) for this study was designed for the student respondents to provide both "before" and "after" assessments for each statement pertaining to leadership attitudes and skills.

Population and Sample

The student population selected for this study consisted of junior and senior students enrolled in one of two sections of a course titled Professional Leadership and Development, Agriculture Leadership and Development (ALED) 340. This course is a

survey undergraduate leadership course in the Department of Agricultural Leadership, Education, and Communications, College of Agriculture, Texas A&M University. The enrollment for the section surveyed was 118 students. Of that number, there were 81 students (69%) who were present for the final lab sessions and who volunteered to participate in the survey. None present elected not to participate.

Prior to registration for the course by students in the Fall of 2006, the investigator coordinated with and gained permission from the department head and the course coordinator set up two of the five leadership laboratory sections as single-sex and the other three as traditional coeducational laboratory sections. The result was three coeducational, one all-male, and one all-female sections. The three coeducational sections were designed to serve as the control group, and the two single-sex laboratory sections were the two experimental sections.

ALED 340, the Course

ALED 340 is a survey undergraduate leadership course in the Department of Agricultural Leadership, Education, and Communications at Texas A&M University. Its students are juniors and seniors. The course syllabus is in Appendix B. Its stated objectives are to: analyze leadership theory and models, synthesize leadership theory as a philosophy, model leadership skills in your life, evaluate models in leadership theory, and increase written and oral communications. It is designed to assist the student in understanding the complexity of leadership, with the notion that leadership can be taught. The course's primary text is *Leadership: Theory & Practice* by Northouse.

The course was designed with its own website where announcements, assignments, and additional materials could be posted throughout the semester as necessary. It was a 13-week course that consisted of two one-hour lecture periods for all the enrolled students on Mondays and Wednesdays presented by the primary course instructor. Each Tuesday, all five laboratory sections met separately for one hour.

Throughout the course, students listened to lectures, had open discussions with the primary instructor, planned plays and skits, wrote reflection papers, conducted small group interactions and discussions, wrote peer reviews, analyzed case studies, and analyzed a prominent leader of their choice's leadership strengths and weaknesses, and analyzed the leader and follower actions of key players in a film of the students' choice. In addition to the above, each student was requested to meet with the primary instructor once during the semester as an informal way of getting to know each other.

The primary instructor and the three lab instructors met each Monday morning to review course and class objectives and to go over the plan for that week's sessions. All three lab instructors facilitated their laboratory sections with the same learning objectives for each week. The objectives were standardized for the course.

From discussions with the primary instructor and the three lab instructors plus an assessment of the course syllabus, the course appears to satisfy the definitions of transmission and transactional learning methods. There is evidence of cognitivist thinking and a mix of pedagogical and andragogical focus by the primary instructor and the syllabus. While he understood that transformational learning would not be possible for the class in its entireness, it was his hope that a small measure of transformation

might occur with some students. Overall, the course appears to support the educational philosophies of Dewey (Ornstein & Levine, 1993) and Ausubel (Schunk, 2004) with experiential learning, student-teacher interactions, prompting for answers, and presentation of answers in varied styles and formats.

Data Collection Instrument

The instrument that was used for this study was the Leadership Skills Inventory (LSI). It is an instrument designed to elicit students' self-perception of their leadership skills. The LSI was developed in 1980 at Iowa State University by Townsend and Carter (1983). For this particular study, the LSI (Appendix A) consisted of two sections. Section I included 21 statements that described different leadership and life skills. Section II consisted of seven demographic questions relating to age, gender, the number of leadership organizations and activities the students had participated in both in high school and in college prior to taking the ALED 340 course, and their cumulative grade point average in college. Section I included two response columns: Before ALED 340 (the "Then" responses) and After ALED 340 (the "Post" responses).

The 21 Section I statements were used to create five internal scales for analysis purposes: Working With Groups, Understanding Self, Communicating, Making Decisions, and Leadership. Each of the internal scales consisted of specific statements; see Table 1.

Table 1

Leadership Skills Inventory (LSI) Internal Scales

Scale	Statement #	Statement
Working With Groups	1	I can cooperate and work in a group.
	2	I get along with people around me.
	4	I believe in dividing the work among group members.
	8	I listen carefully to opinions of group members.
	12	I believe that group members are responsible persons.
Understanding Self	3	I feel responsible for my actions.
	5	I understand myself.
	13	I am sure of my abilities.
	17	I accept who I am.
	18	I feel responsible for my decisions.
Communicating	10	I can lead a discussion.
	14	I am a good listener.
	19	I can give clear directions.
	20	I can follow directions.
Making Decisions	7	I consider all choices before making a decision.
	11	I use past experiences in making decisions.
	15	I use information in making decisions.
Leadership	6	I feel comfortable teaching others.
	9	I am respected by others my age.
	10	I can lead a discussion.
	16	I feel comfortable being a group leader.
	19	I can give clear directions.
	21	I can run a meeting.

Responses to the statements were based on a five-point Likert-type scale with the following response values: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. Higher numeric values represented a student's stronger feeling of agreement with statements about their self-perception of each skill measured; a lower

numeric score represented much less agreement by the student with a statement about their self-perception.

As the reader studies the various tables in this chapter, he or she should understand that mean scores reported represent the averages of the respondents' cumulative self-reported scores for the first 21 statements in the Leadership Skills Inventory (LSI). Each of the statements required a response on a Likert-type scale of 1 to 5. If a person elected to answer each statement with the highest response of a 5, he or she would have a cumulative score of 105. If, on the other hand, he or she rated each response a 1, the cumulative score would have been a 21. Therefore, the possible range of cumulative scores was 21 to 105.

Data Collection

The Leadership Skills Inventory was administered to 81 students enrolled in ALED 340, Spring 2007 semester during the last week of the semester. Students were allowed whatever time they needed to answer the questions on the LSI and to enter their responses on their survey sheets. Prior to administering the LSI, the students were read instructions given to the lab instructors by the investigator who explained the purpose of the study, informed that their participation was strictly voluntary, and assurance of anonymity. Because the survey was anonymous and no experiments were conducted on the students themselves, no statements of informed consent were required. Surveys for each lab section were placed in a large envelope by the lab instructors as each student completed their survey. The survey instruments were collected from the lab instructors by the investigator after all surveys had been administered.

Data Analysis

The collected survey instruments (LSIs) were scored by the investigator and the data were entered into an SPSS version 14.0 (Statistical Package for the Social Sciences) database for analysis. Hypotheses were tested using Analysis of Variance (ANOVA) Mixed Design. Because of the relatively small sample size and following the guidance of Pedhazur and Schmelkin (1991), in order to allow effects of moderate size that might be significant in a larger sample, a confidence interval of .10 was set a priori.

CHAPTER IV

MAJOR FINDINGS

This study was designed to address whether academic leadership instruction to junior and senior college students in a coeducational setting provides the best opportunity for the teaching and learning process, or if all-male and all-female segregated teaching and learning environments are better. More specifically, this study examined the effect that a gender-specific classroom has on men's and women's self-perceived leadership abilities as compared to coeducational classrooms where the mixed gender students are studying leadership together. If the results of this study show there is a significant difference among segregated classrooms, for males, females or both, we might rethink how we teach leadership courses in the future. "Unless these differences are taken in account in the leadership educational setting, it is likely that not as many learners will be empowered or transformed as might otherwise be the case" (Murry, 1992, p. 225).

Description of the Sample

There were 81 students who voluntarily responded to the Leadership Skills Instrument (LSI). They were Juniors and Seniors enrolled in a university leadership survey course, ALED 340, at Texas A&M University in the Spring of 2007. They represented 68.6% of the 118 students enrolled in their section. The sample consisted of 54 males and 27 females. The 81 respondents were assigned to one of five leadership learning laboratories affiliated with their course section. The lab sections were designed prior to enrollment for the Spring 2007 semester to support the research conducted for

this study. Three of the lab sections were traditional coeducation classes, one was all-male and the remaining section was all-female. The three coed lab sections served as the control group and the two gender-specific sections were the experiment groups.

The three coeducational lab respondent sample consisted of 51 students of which 16 were females and 35 were males. There were 11 women respondents from the all-female lab section and 19 male respondents from the all-male lab section. Self-reported cumulative grade point ratios reported by the 81 respondents ranged from 2.00 to 4.00. Of the five age groups reported, the mode for men was the 23 years old and older group; for the women, the mode age group was 21 years of age. Interestingly, of the 18 students who reported their age as 23 or older, all of them were male students.

Demographic snapshots of the surveyed population are at Tables 2, 3, and 4, below. It is interesting to note that of the 18 students in the age group 23 and older, none of them were women.

Table 2
Gender Demographics of the Surveyed Population

Male Percentage (n=54)	Female Percentage (n=27)
67	33

Table 3
Age Demographics of the Surveyed Population

| | Gender | | |
Age Group	Male	Female	Total
19 or younger	1	1	2
20	7	7	14
21	14	12	26
22	14	7	21
23 or older	18	0	18
Total	54	27	81

Table 4
Gender by Lab Section

| | | Gender | | |
Section	Type	Male	Female	Total
901	Coed	1	1	2
902	Coed	7	7	14
903	All-Female	14	12	26
904	All-Male	14	7	21
905	Coed	18	0	18
Total		54	27	81

Leadership Skills Inventory

The LSI consisted of five internal scales: working with groups, understanding self, communicating, making decisions, and leadership. Cronbach's coefficient alpha was computed for each of the five internal scale measurements for before course and after course self-perceptions of leadership skills. Those reliability coefficients are reported in Table 5.

Table 5
Reliability Coefficients for Leadership Skills Inventory (LSI) Five Internal Scales

Scale	n	Cronbach's Alpha
Working With Groups		
Before/Then	81	.73
After/Post	81	.68
Understanding Self		
Before/Then	81	.77
After/Post	81	.76
Communicating		
Before/Then	81	.59
After/Post	81	.61
Making Decisions		
Before/Then	81	.71
After/Post	81	.51
Leadership		
Before/Then	81	.82
After/Post	81	.78
Overall		
Before/Then	81	.71
After/Post	81	.67

Laboratory Teaching Assistants

Though not a hypothesis, it was deemed important to examine whether

laboratory teaching assistants had an influence on perceptions of students. A mixed

design ANOVA was run in SPSS to determine if there were any statistically significant

differences. There were none. That is, there were no differences among student

perceptions based on their laboratory teaching assistants. See Tables 6 and 7.

Table 6
Student Self-Perception of Leadership Skills Before and After a Leadership Course
(ALED 340) by Lab Teaching Assistant (TA)

Before/ After	Lab TA (Sections)	N Student	Mean	SD
Before	1(901)	18	85.00	10.44
	2(902, 903)	27	87.59	9.55
	3(904, 905)	36	85.06	9.35
Total		81	85.89	9.62
After	1(901)	18	91.11	7.95
	2(902, 903)	27	94.22	5.77
	3(904, 905)	36	93.94	7.85
Total		81	93.41	7.26

Table 7
Analysis of Variance, Mixed Design, Lab Teaching Assistants

Source of Variance	df	SS	MS	F	Sig.
Between Subjects					
Lab TA	2	178.52	89.26	.73	.49
Error	78	9,593.93	122.00		
Within Subjects					
Before/After	1	1,943.34	1,943.34	85.02**	<.001
Before/After by Lab TA Interaction	2	62.30	31.15	1.36	.26
Error	78	1,782.82	22.86		

**p<.10.

The Null Hypotheses

In order to address the key objectives of the study, the researcher composed the following null hypotheses for testing:

H_{01} = There is no difference in self-perceived leadership skills between men and women who elected to take a collegiate academic leadership course (ALED 340).

H_{02} = There is no relationship between leadership experiences prior to taking an academic leadership class (ALED 340) and self-perceived leadership skills.

H_{03} = There is no difference in self-perceived leadership skills between women in an all-female educational setting and women in a coeducational setting following completion of a collegiate academic leadership course (ALED 340).

H_{04} = There is no difference in self-perceived leadership skills between men in an all-male educational setting and men in a coeducational setting following completion of a collegiate academic leadership course (ALED 340).

H_{05} = There is no difference in self-perceived leadership skills between men in an all-male educational setting and women in an all-female educational setting prior to and following a collegiate academic leadership course (ALED 340).

H_{06} = There is no difference in self-perceived leadership skills of students in gender specific settings and those in coeducational settings prior to and upon completion of a collegiate academic leadership course (ALED 340).

Findings Related to Hypothesis One

H_{01} = There is no difference in self-perceived leadership skills between men and women who elected to take a collegiate academic leadership course (ALED 340).

This null hypothesis was established to determine whether there were any significant differences in the way Junior and Senior women students enrolled in ALED 340 (regardless of assignment to a coeducational or all-female lab section) perceived their leadership skills as compared with Junior and Senior male students enrolled in ALED 340 (regardless of assignment to a coeducation or all-male lab section) perceived their leadership skills.

As tables 8 and 9 show, the female and male students reported almost identical self-perceptions regarding their leadership ship skills prior to taking the leadership survey course. The females' mean score prior to beginning the course was 86.52 while the males reported a mean score of 85.57. At the end of the course, the female and male

mean scores were identical at 93.41. Therefore, there were no significant differences in

the way female and male students perceived their leadership skills. The researcher failed

to reject the null hypothesis at an alpha of .10.

Table 8
Male and Female Self-Perceptions of Leadership Skills Before and After a Leadership Course (ALED 340) Regardless of Coeducational or Gender-Segregated Lab Section

| Gender | N | Before | | After | | Total |
		Mean	SD	Mean	SD	
Males	54	85.57	8.94	93.41	7.59	89.49
Females	27	86.52	11.01	93.41	6.69	89.97
Total	81	86.01		93.41		89.73

Table 9
Analysis of Variance, Mixed Design, Male and Female Self-Perceptions of Leadership Skills

Source of Variance	df	SS	MS	F	Sig.
Between Subjects					
Gender	1	8.03	8.03	.07	.80
Error	79	9,764.42	123.60		
Within Subjects					
Before/After	1	1,950.69	1,950.69	83.89**	<.001
Before/After by Lab TA Interaction	1	8.03	8.03	.35	.56
Error	79	1,837.08	23.25		

**p<.10.

Fail to reject H_{01}. There is no statistically significant difference in the way female junior and senior students enrolled in ALED 340 perceived their leadership skills as compared with male junior and senior students in the same course.

Findings Related to Hypothesis Two

H_{02} = There is no relationship between leadership experiences prior to taking an academic leadership class (ALED 340) and self-perceived leadership skills.

This null hypothesis was established to determine if being involved in leadership activities such as training, seminars, workshops, clubs, committees and service organizations prior to enrolling in a collegiate academic leadership course such as ALED 340 was related to self-perceived leadership skills.

On questions 24, 25, 26 and 27 of the Leadership Skills Inventory, the respondents were asked to indicate their leadership experiences prior to beginning the ALED 340 leadership course. Specifically they were asked to indicate the number of leadership courses and leadership activities they had participated in while in high school and during their time in college leading up to this course. For each of the four questions, respondents' choices were: none, 1 to 2, 3 to 4, 5 to 6, and more than 6. The range of experiences reported for the sample population was a low of 1 and a high of 26. A mean score for each of the four types of leadership experiences was calculated. A scale deemed Leadership Preparation was calculated by summing responses to the four leadership experience items. (See Table 10.) The scale produced a coefficient of internal consistency of 0.71. A grand mean was determined to be 7.63 combined courses and

activities in leadership experienced by the 81 respondents prior to entering the ALED

340 course.

Pearson product moment correlations were calculated to examine the relationship

between "Leadership Preparation" and Leadership Skills Inventory statements

(Leadership Self-Perception). The results indicate that there is a statistically significant

relationship between previous leadership experiences (Leadership Preparation) and how

well one perceives their leadership skills and abilities (Leadership Self-Perception) both

prior to taking a leadership course and after completing it. See Tables 10 and 11.

Table 10
Leadership Experiences Prior to Taking College Academic Leadership Course (ALED 340)

Type of Experience	Mean	SD	N	Cronbach's Alpha
Lead Course HS	1.75	1.92	81	
Lead Course College	1.70	1.80	81	
Lead Activity HS	2.54	2.01	81	
Lead Activity College	1.63	1.50	81	
Grand Mean (Leadership Preparation)	7.63	5.32	81	.71

Table 11

Correlations of Previous Leadership Experiences (Leadership Preparation) and Before and After Leadership Self-Perceptions for a College Academic Leadership Course (ALED 340)

Statistic	Leadership Preparation Before Course	Leadership Self-Perceptions After Course
Pearson Correlation	.25*	.25*
Sig. (2-tailed)	.03	.02

*p<.10.

It is clear from the data analysis results in Table 11 that leadership experiences in the form of courses and activities while in high school and in college prior to taking a college academic leadership course has a positive and statistically significant impact on how students perceive their leadership skills and abilities. It is an indication of enhanced self-efficacy for those who are involved in those kinds of experiences prior to enrolling in this type of college academic leadership course.

Reject H_{02}. Participating in high school and college leadership courses and activities prior to enrollment in a college academic leadership course does positively enhance one's self-perceptions of leadership skills and abilities.

Findings Related to Hypothesis Three

H_{03} = There is no difference in self-perceived leadership skills between women in an all-female educational setting and women in a coeducational setting following completion of a collegiate academic leadership course (ALED 340).

This null hypothesis was designed to determine if Junior and Senior female students in a gender-segregated leadership learning classroom environment show a difference in their perceived leadership skills upon completion of a leadership course as compared with Junior and Senior female students in a coeducational leadership learning classroom environment.

A review of Table 12 reveals that the females in the all-female leadership lab improved their average perceptions of self-perceived leadership skills by nearly ten points, from 84.18 to 94.00. The females in the coed lab sections improved their average perceptions of self-perceived leadership skills by nearly five points, from 88.13 to 93.00. While this difference in improvements might seem at first glance to be a statistically significant difference, Table 13 indicates that the resulting difference was not statistically significant with an interaction significance of .11. Compared with an a priori alpha of .10, statistical significance of the resulting .11 interaction significance level is not established. It is possible that a larger all-female lab section sample could have a different outcome. However, for purposes of this study, a statistically significant difference was not established.

Table 12

Female Self-Perceptions of Leadership Skills Before and After a Leadership Course (ALED 340), Coeducational Female Versus All-Female Lab Sections

Type Lab Section	N	Before		After		Total
		Mean	SD	Mean	SD	
Coed Female	16	88.13	11.07	93.00	7.90	90.57
All-Female	11	84.18	11.00	94.00	4.73	89.10
Total	27	86.16		93.50		89.83

Table 13

Analysis of Variance, Mixed Design, Coeducational Female Versus All-Female Lab Sections

Source of Variance	df	SS	MS	F	Sig.
Between Subjects					
Type Lab Section	1	28.03	28.23	.20	.66
Error	25	3,465.69	138.63		
Within Subjects					
Before/After	1	703.64	703.64	23.72**	<.001
Before/After by Type Sec. Interaction	1	79.64	79.64	2.68[a]	.11
Error	25	741.69	29.67		

**$p<.01$.

[a]While not statistically significant at α of .10, a larger *n* might have resulted in a different finding. The interaction level of significance is close enough to the α of .10 that further research with a larger all-female class section sample size might reflect a significant difference.

Fail to reject H_{03}. There is no statistically significant difference in the self-perceived leadership skills abilities between females in an all-female leadership lab section and females in traditional coed lab sections, either before or after completing a college academic leadership course.

Findings Related to Hypothesis Four

H_{04} = There is no difference in self-perceived leadership skills between men in an all-male educational setting and men in a coeducational setting following completion of a collegiate academic leadership course (ALED 340).

This null hypothesis was established to determine if Junior and Senior male students in a gender-segregated leadership learning classroom environment show a difference in their perceived leadership skills upon completion of a leadership course as compared with Junior and Senior male students in a coeducational leadership learning classroom environment.

A review of Table 14 reveals that the males in the all-male leadership lab improved their average perceptions of self-perceived leadership skills by a little over ten points, from 86.32 to 96.37. The males in the coed lab sections improved their average perceptions of self-perceived leadership skills by over six points, from 85.17 to 91.80. Table 15 indicates that the resulting difference was statistically significant with an interaction significance of .05. Compared with an a priori alpha of .10, statistical significance of the resulting .05 interaction significance level is established. Refer to Figure 2 for a visual representation.

Table 14

Male Self-Perceptions of Leadership Skills Before and After a Leadership Course
(ALED 340), Coeducational Male Versus All-Male Lab Sections

Type Lab Section	N	Before		After		Total
		Mean	SD	Mean	SD	
Coed Male	35	85.17	9.43	91.80	7.51	88.49
All-Male	19	86.32	8.14	96.37	6.99	91.35
Total	54	85.75		94.09		89.92

Table 15

Analysis of Variance, Mixed Method, Coeducational Male Versus All-Male Lab Sections

Source of Variance	df	SS	MS	F	Sig.
Between Subjects					
Type Lab Section	1	200.95	200.95	1.72	.20
Error	52	6,069.54	116.72		
Within Subjects					
Before/After	1	1,713.38	1,713.39	94.43**	<.001
Before/After by Type Sec. Interaction	1	72.19	72.19	3.98*	.05
Error	52	943.56	18.15		

*$p<.10$.
**$p<.01$.

**Male Self-Perceptions of Leadership Skills Before
and After a Leadership Course (ALED 340),
Coeducational Male and All-Male Lab Sections**
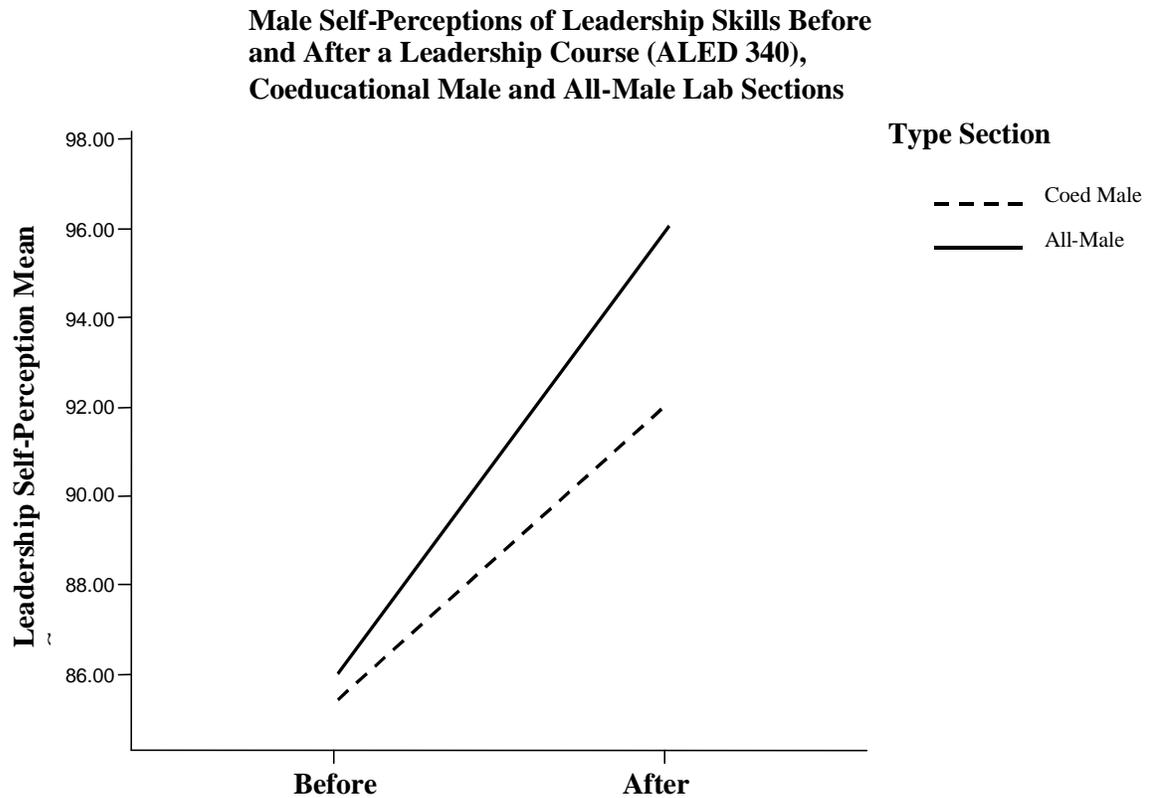
Figure 2. H$_{04}$ Graphical depiction of statistically significant interaction.

Reject H$_{04}$. There is a statistically significant difference in self-perceived leadership skills between men in an all-male educational setting and men in a coeducational setting following completion of a collegiate academic leadership course. The improved self-perception of leadership skills for males in the all-male lab section was statistically significantly better than the improvement experienced by males in the traditional coed leadership labs.

Findings Related to Hypothesis Five

H_{05} = There is no difference in self-perceived leadership skills between men in an all-male educational setting and women in an all-female educational setting prior to and following a collegiate academic leadership course (ALED 340).

This null hypothesis was established to determine if Junior and Senior men in an all-male leadership learning classroom environment show a difference in their perceived leadership skills when compared with Junior and Senior women in an all-female leadership learning classroom environment.

A review of Table 16 shows clear evidence of almost identical improvements in self-perceived leadership skills and abilities by males and females who were assigned to gender-specific, all-male and all-female lab sections. Both reported approximately ten point gains in their mean scores before beginning the ALED 340 leadership survey course and after having completed the course. The men in the all-male lab improved from a mean score of 86.32 before the course to one of 96.37 upon completion. The women in the all-female lab improved from a mean score of 84.18 before the course to one of 94.00 upon completion. There was no significant difference in their self-perceived leadership abilities, as revealed by the interaction significance of .944 as compared to an a priori alpha of .10.

Table 16
Male and Female Self-Perceptions of Leadership Skills Before and After a Leadership Course (ALED 340), Gender-Specific Lab Sections

Type Lab Section	N	Before Mean	SD	After Mean	SD	Total
All-Male	19	86.32	8.14	96.37	6.99	91.35
All-Female	11	84.18	10.00	94.00	4.73	89.10
Total	30	85.25		95.19		89.73

Table 17
Analysis of Variance, Mixed Model, Gender-Specific Lab Sections

Source of Variance	df	SS	MS	F	Sig.
Between Subjects					
Type Lab Section	1	70.61	70.61	.81	.38
Error	28	2,440.87	87.17		
Within Subjects					
Before/After	1	1,375.39	1,375.39	36.15**	<.001
Before/After by Type Sec. Interaction	1	.19	.19	.01	.944
Error	28	1,065.29	38.05		

**p<.01.

Fail to reject H_{05}. There is no significant difference in self-perceived leadership skills between men in an all-male educational setting and women in an all-female educational setting prior to and following a collegiate academic leadership course.

Findings Related to Hypothesis Six

H_{06} = There is no difference in self-perceived leadership skills of students in gender specific settings and those in coeducational settings prior to and upon completion of a collegiate academic leadership course (ALED 340).

This null hypothesis was established to determine whether Junior and Senior students who participate in segregated gender leadership classroom learning environments show a significant difference in self-perceived leadership skills as compared to those Junior and Senior students who participate in coeducational classroom learning environments.

A look at Table 18 reveals that the 51 respondents in the coeducational lab sections improved their self-perceptions of leadership skills from a mean score of 86.10 prior to beginning the ALED 340 leadership survey course to a mean score of 92.18 at completion of the course. The 30 respondents, male and female collectively, in the two gender-specific lab sections improved their self-perceptions over the same time period from a mean score of 85.53 to 95.50. The interaction significance of .01 in Table 19 indicates that the difference in self-perceived leadership skills of students in gender specific settings and those in coeducational settings prior to and upon completion of a collegiate academic leadership course is statistically significant at an a priori alpha of .10. What this indicates is that student respondents in the gender-segregated lab sections

collectively improved their self-perceived leadership skills to a degree that was

statistically significantly superior to those student respondents in the coeducational lab

sections. Also refer to Figure 3 for a visual representation.

Table 18
Self-Perceptions of Leadership Skills Before and After a Leadership Course (ALED 340)
for Students in Coeducational Lab Sections Versus Students (Male and Female
Collectively) in Gender-Specific Lab Sections

Type Lab Section	N	Before		After		Total
		Mean	SD	Mean	SD	
Coeducational	51	86.10	9.96	92.18	7.57	89.14
Gender-Specific	30	85.82	9.16	95.50	6.27	90.52
Total	81	85.82		93.84		89.83

Table 19
Analysis of Variance, Mixed Model, Coeducational Lab Sections Versus Gender-Specific
Lab Sections

Source of Variance	df	SS	MS	F	Sig.
Between Subjects					
Type Lab Section	1	71.78	71.78	.59	.45
Error	79	9,700.56	122.79		
Within Subjects					
Before/After	1	2,431.43	2,431.43	112.84**	<.001
Before/After by Type Sec. Interaction	1	142.79	142.79	6.63*	.01
Error	79	1,702.33	21.55		

*p<.10.
**p<.01.

Self-Perceptions of Leadership Skills Before and After a Leadership Course (ALED 340) for Students in Coeducational Lab Sections Versus Students (Male and Female Collectively) in Gender-Specific Lab Sections
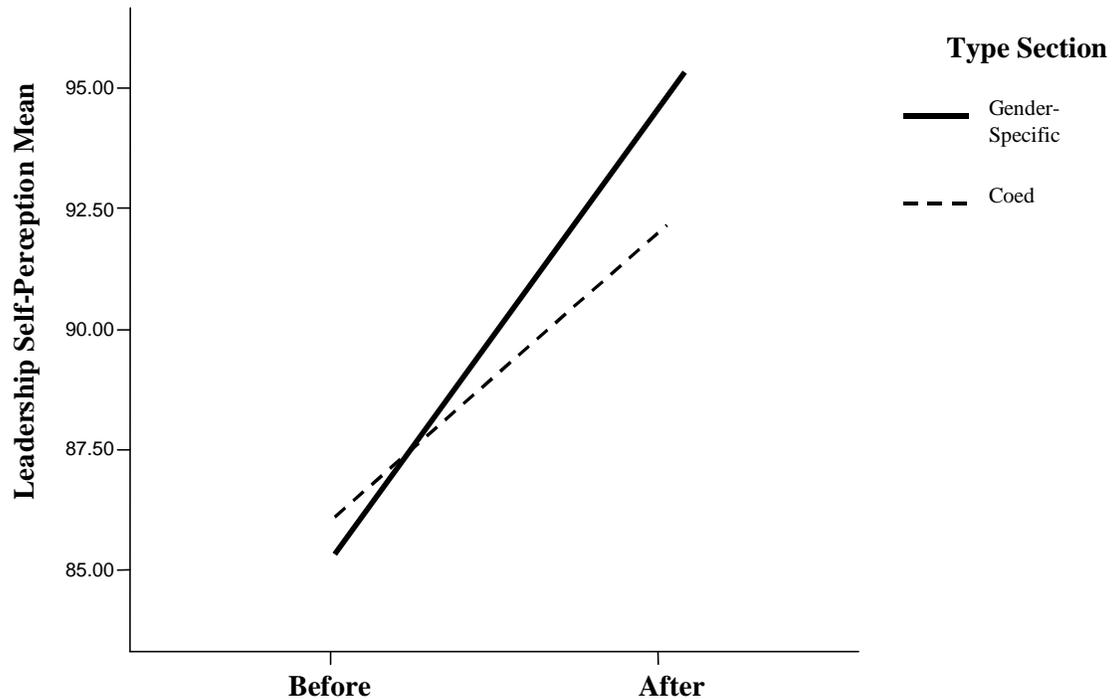
Figure 3. H_{06} Part One graphical depiction of statistically significant interaction.

A look at Table 20, as in Table 18 above, reveals that the 51 respondents in the coeducational lab sections improved their self-perceptions of leadership skills from a mean score of 86.10 prior to beginning the ALED 340 leadership survey course to a mean score of 92.18 at completion of the course. The 19 male respondents in the all-male lab section improved their self-perceptions over the same time period from a mean score of 86.32 to 96.37, while the 11 female respondents in the all-female lab section improved from a mean score of 84.18 to 94.00.

Table 20

Self-Perceptions of Leadership Skills Before and After a Leadership Course (ALED 340)
for Students in Coeducational Lab Sections Versus Female Students in an All-Female
Lab Section and Male Students in an All-Male Lab Section

Type Lab Section	N	Before		After		Total
		Mean	SD	Mean	SD	
Coeducational	51	86.10	9.96	92.18	7.57	89.14
All-Male	19	86.32	8.14	96.37	6.99	91.35
All-Female	11	84.18	10.00	94.00	4.73	89.09
Total	81	85.89		93.41		89.73

The interaction significance of .08 in Table 21 indicates that the difference in
self-perceived leadership skills of students in each gender-specific setting and those in
coeducational settings prior to and upon completion of a collegiate academic leadership
course is statistically significant at an a priori alpha of .10. What this indicates is that
student respondents in the all-male lab section and the student respondents in the all-
female lab sections each improved their self-perceived leadership skills to a degree that
was statistically significantly superior to those student respondents in the coeducational
lab sections. Please refer to Figure 4 for a visual representation.

Table 21

Analysis of Variance, Mixed Model, Coeducational Lab Sections Versus All-Female and All-Male Lab Sections

Source of Variance	df	SS	MS	F	Sig.
Between Subjects					
Type Lab Section	2	142.50	71.25	.58	.56
Error	78	9,629.95	123.46		
Within Subjects					
Before/After	1	2,063.65	2,063.65	94.57**	<.001
Before/After by Type Sec. Interaction	2	142.98	71.49	3.28*	.08
Error	78	1,702.14	21.82		

*p<.10.
**p<.01.

Reject H_{06}. There is a statistically significant difference in self-perceived leadership skills of students in gender specific settings and those in coeducational settings prior to and upon completion of a collegiate academic leadership course (ALED 340). Students in the all-male and the all-female gender-specific leadership labs, collectively and separately, showed statistically significantly superior self-perceptions in their leadership abilities prior to and upon completion of a collegiate academic leadership course (ALED 340).

Self-Perceptions of Leadership Skills Before and After a Leadership Course (ALED 340) for Students in Coeducational Lab Sections Versus Female Students in an All-Female Lab Section and Male Students in an All-Male Lab Section
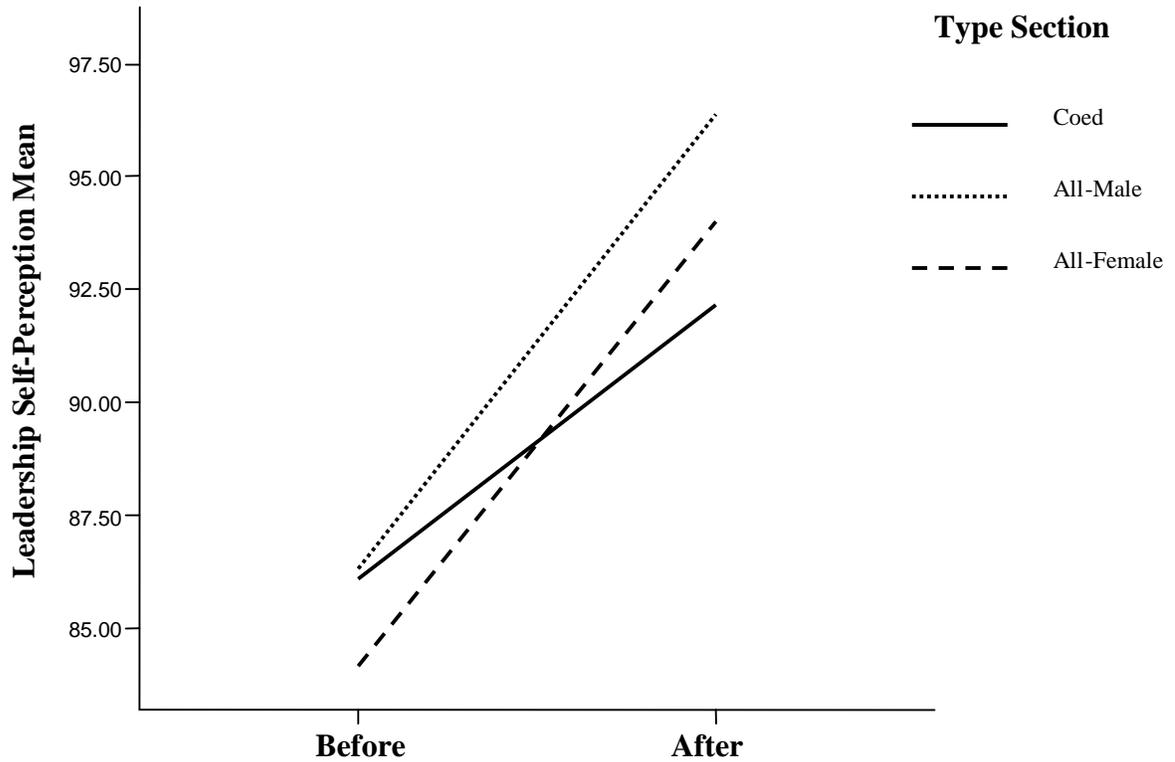
Figure 4. H_{06} Part Two graphical depiction of statistically significant interaction.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Purpose of the Study

This study was designed to address whether academic leadership instruction to junior and senior college students in a coeducational setting provides the best opportunity for the teaching and learning process, or if all-male and all-female segregated teaching and learning environments are better. The study examined the effect that a gender-specific classroom has on men's and women's self-perceived leadership abilities as compared to coeducational classrooms where the students are studying leadership together.

More specifically, the purpose of this study was to:

1. Examine the differences of self-perceived leadership skills between men and women who elect to take a collegiate leadership development course.

2. Determine if a relationship exists between previous leadership experience and self-perceived leadership skills.

3. Examine the differences of self-perceived leadership skills between women in an all-female educational setting and women in a coeducational setting.

4. Examine the differences of self-perceived leadership skills between men in an all-male educational setting and men in a coeducational setting.

5. Examine the differences of self-perceived leadership skills between men in an all-male educational setting and women in an all-female educational setting.

6. Examine the interaction between gender, male versus female, and educational settings, gender-specific setting versus co-educational setting.

Null Hypotheses

Based on the purpose of the study, the researcher constructed the following six null hypotheses to be tested:

H_{01} = There is no difference in self-perceived leadership skills between men and women who elected to take a collegiate academic leadership course, ALED 340.

H_{02} = There is no relationship between leadership experiences prior to taking an academic leadership class, ALED 340, and self-perceived leadership skills.

H_{03} = There is no difference in self-perceived leadership skills between women in an all-female educational setting and women in a coeducational setting following completion of a collegiate academic leadership course, ALED 340.

H_{04} = There is no difference in self-perceived leadership skills between men in an all-male educational setting and men in a coeducational setting following completion of a collegiate academic leadership course, ALED 340.

H_{05} = There is no difference in self-perceived leadership skills between men in an all-male educational setting and women in an all-female educational setting prior to and following a collegiate academic leadership course, ALED 340.

H_{06} = There is no difference in self-perceived leadership skills of students in gender specific settings and those in coeducational settings prior to and upon completion of a collegiate academic leadership course, ALED 340.

Summary of Review of Literature

The review of literature explored learning theories coinciding with the advent of Educational Psychology as a field of study in the late 19th century until the present. Included in a theory continuum, Figure 1, Chapter 1, designed to show the progression of the evolution of learning theories, were the general headings of Structuralism, Functionalism, Behaviorism, Cognitivism, Constructivism, Humanism, and more modern-day learning philosophies. While the initial theory discussion did not address gender differences or single-gender versus coeducational learning environments, the underlying theories are pertinent. They form the basis from which gender-specific research has evolved and continues to evolve.

Even though Structuralism no longer exists as a unified doctrine today, it, along with Functionalism, was a new psychology in the late 19th century that influenced thinking about learning. Simply stated, this theory encompassed the belief that human consciousness is an area of legitimate scientific study worthy of being investigated. Proponents of this area of research believed that our minds are comprised of idea associations; they studied structure and makeup of mental processes (Schunk, 2004). Its proponents included, among others, Edward B. Titchener, 1867-1927, who contended that psychology, a study of the mind, should be patterned after the "physiological method." Studies of mind processes should be investigated and measured in terms of stimuli and response (Schunk, 2004), a glimpse into future Behaviorism.

Like Structuralism, Functionalism is no longer a unified doctrine today. It was a challenge to the Structuralist thinking because Structuralism, while it addressed the

association of ideas in the mind, it did not address how these associations occurred. Functionalists were strongly influenced by Charles Darwin's studies on evolution and how mental processes helped living organisms survive and adapt to their particular environments. They were interested in understanding the functional factors of bodily structures which allow living organisms to survive, consciousness, and certain cognitive processes as "thinking, feeling, and judging" (Schunk, 2004, p. 16). Functionalists included the likes of William James, 1842-1910, an empiricist who had a big impact on Functionalist thinking and influenced men like John Dewey, 1859-1952.

Some of Dewey's philosophy was evident in the manner in which the surveyed ALED 340 course section was conducted. He espoused that student learning must include varied activities, including teacher-guided experience. Dewey believed in a Democratic form of education and schooling. Students must be free to test all ideas, beliefs, and values. His influence can still be seen in the U.S. education system, within schools that rely on experimentation and learning from reflective reconstruction of experiences. Teachers today who believe that education is a social activity where human behavior and character are shaped, are following the Dewey education philosophy (Ornstein & Levine, 1993). The course was presented in such a manner that reflected these philosophies.

Behaviorism, as a learning theory, grew out of the belief by many, to include John B. Watson, that introspection as a basis for scientific research, was not reliable, as behavior could be observed and could become an objective science; introspection could not be observed, was subjective, and may have no basis in reality. Therefore, if

consciousness could only be studied through unobservable introspection, then it should not be studied at all. Behaviorists see motivation as a function of change in the rate, occurrence frequency, and responses to environmental stimuli and events (Pintrich & Schunk, 2002). Most notable among the Behaviorists are John B. Watson, 1878-1958, Edward Thorndike, 1874-1949, B. F. Skinner, 1904-1990, and Albert Bandura 1925-present, a modern day (neo) Behaviorist.

The field of Cognitive Psychology, Cognitivism, is one that encompasses the study of how people's minds work, how they think, and how they learn. While there is more to education than cognition, studying how our brains function assists us in improving the way we teach and learn. With the advent of automated information systems and the constant innovations of that technology, we are more able to learn and understand how the human brain functions. Cognitivists consider learning to be a developmental process of testing our current knowledge about the world around us against new information that we encounter. That belief is supported by this researcher's finding in H_{02} in this study that there is a statistically significant relationship between previous leadership experiences, Leadership Preparation, and how well one perceives their leadership skills and abilities, Leadership Self-Perception, both prior to taking a leadership course and after completing it. Before we change our minds on how we think about something, we first consider our prior experiences, our current knowledge, and the impact that new information will have on our knowledge. Besides our experiences and knowledge, expectations are key to our learning. We constantly build on what we know

(Connor, 1996). Among the most notable Cognitivists are Jean Piaget, 1896-1980, David

Ausubel, 1918-present, and Robert Gagne, 1916-2002.

Elements of Ausubel's philosophy were evident in the surveyed ALED 340

section. His methodology involves considerable interaction between the teacher and the

student. While the teacher verbally presents a substantial amount of material, the student

is continually prompted for responses. In order for the lessons of deduction to be

effective, teachers must present their materials in a very organized manner. In order to

accomplish the desired learning result, examples must be presented in diverse ways so as

to help students link this new knowledge with similar content in their memories. Again,

this researcher's finding in H_{02}, that previous leadership experiences enhance one's self-

perception of their leadership skills ability, appears to support Ausubel's cognitivist

philosophy. Teachers have to break the more abstract ideas into smaller and related

points (Schunk, 2004).

Those who became known as Constructivists, did so in large part because they

disagreed with some of the basic assumptions included in Cognitivism. Three cognitivist

assumptions not in agreement with constructivist epistemology follow. First, cognitivists

believed that "thinking resides in the mind rather than in interaction with persons and

situations" (Schunk, 2004, p. 286). Second, they believed that "processes of learning and

thinking are relatively uniform across persons, and some situations foster higher-order

thinking better than others" (Schunk, 2004, p. 286). And, finally, the cognitivists

believed that "thinking derives from knowledge and skills developed in formal

instructional settings more than on general conceptual competencies that result from one's experiences and innate abilities" (Schunk, 2004, p. 286).

In contrast to cognitivism, constructivism, truly an epistemology, not a theory, rejects notions that scientific truths exist and are just awaiting discovery and verification. No statements can be assumed as truth, and reasonable doubt should be the norm. No theory has a lock on the truth. Constructivists construe new knowledge not as truth, but as a hypothesis, since they contend that knowledge is not imposed from outside a person; rather truth is constructed inside a person, and their "truth" may not be someone else's truth. Because knowledge is created or produced based on people's beliefs and their own experiences, they differ from person-to-person. Therefore, all knowledge is to be considered subjective, personal, and a product of people's own cognition (Schunk, 2004). Notable Constructivists include Lev Vygotsky, 1896-1934, and Jerome Bruner 1915-present. This researcher believes that an obvious concern with this form of learning theory, in regard to traditional teaching methods today, is that it is not conducive to the scientific method that is the basis for most research today. Where there are no provable absolutes, research becomes meaningless. For research to have meaning, knowledge must be objective, not merely subjective.

Humanistic learning, Humanism, is certainly the highest form of andragogy, as it is focused on the individual learner and not on the content. It is specifically concerned with human potential for personal growth. People's perceptions are centered in experience. It is the humanists' belief that all people are inherently good and that their behaviors are the result of their individual choices. It is a transformational type of

learning where it is espoused that adults are open to change and continual lifelong learning. The pace at which one learns is entirely up to that person. They determine what they want to learn, how they wish to learn it, and they determine the sequence and the level of performance. A person learns on his or her own through self-direction. It takes into account each person's cognitive style, the way one perceives, organizes, and retains information (Connor, 1996). As with the Constructivist theories, this form of learning is generally not amenable for use in a traditional college learning setting. Individuals commonly associated with the Humanistic learning theory are Carl Rogers 1902-1987 and Malcolm Knowles 1913-1997.

More modern day learning philosophers include such notables as Chris Argyris, Howard Gardner, and Robert Sternberg. Argyris is noted for his Double Loop Learning Theory. Gardner is equally known for his Theory of Multiple Intelligences. And Sternberg is well known for his Triarchic Theory. While interesting theories, they do not add substantially to the development of learning theory that is important to this study. They were referenced as a transition to some modern-day thinking that is pertinent to understanding the ways in which males and females think and learn.

While the majority of the theories in the review did not pertain specifically to either male or female gender, they apply to both and still form the basis from which current research into learning differences between the sexes exists. Worldwide research over the past 20 years or so indicates there are physiological differences in the male and female brains that impact the way both genders see, hear, perceive, process information,

and experience learning. It seems to point toward different teaching approaches and separate learning environments for males and females, at least in certain cases.

Findings of this study in general support key research that has been ongoing since the 1980s. Marlene Hamilton's study of students in Jamaica during the mid-1980s found that students who attended single-gender schools outperformed students who attended coeducational schools in almost every subject she tested (Hamilton, 1985). University of Michigan researchers compared graduates of Catholic single-gender and coeducational schools. They found that boys in the single-gender schools outperformed boys in the coeducational schools in reading, writing, and math. Girls in single-gender schools scored better than girls in coeducational schools in science and reading (Lee & Bryk, 1986).

Cornelius Riordan published a series of studies in the 1980s and early in the 1990s, comparing short-term and long-term outcomes of graduates of single-gender and coeducational Catholic schools in the United States. In several different measures, including socioeconomic status, race, and ability at time of school entry, he found that girls in single-gender schools consistently outperformed girls at coeducational schools. He found the same thing for boys (Riordan, 1990). In 1998, the British Office for Standards in Education (OFSTED) discovered that the superior performances by students in single-gender schools could not be attributed to socioeconomic factors; rather, they appear to be the result of single-gender education. An additional finding was that students in single-gender schools tend to have a significantly more positive attitude toward learning overall (Dean, 1998).

A meta study conducted by the RMC Research Corporation for the U.S. Department of Education (USDE) in 2005 revealed that traditional coeducational schools provide a more socially appealing environment, but single gender students are more focused on grades, leadership, and are less interested in their looks and money. The USDE study provides some encouraging signs for single-sex learning environments.

There is ample research to suggest that there are different ways that women and men tend to lead, whether perceived or real. This study focused on segregated learning environments for leadership development and resulting attitudes toward leadership. Perhaps, certain leadership learning can be enhanced if presented in segregated gender learning environments. This particular study supports that idea.

Population and Sample

The population selected for this study consisted of junior and senior students who were enrolled in a course titled Professional Leadership and Development, Agricultural Leadership and Development, ALED 340. This course is a survey undergraduate leadership course in the Department of Agricultural Leadership, Education, and Communications, College of Agriculture and Life Sciences, Texas A&M University. The enrollment for the section surveyed was 118 students. Of that number, there were 81 students who were present for the final lab sessions and who volunteered to participate in the survey. All 81 voluntarily elected to participate in the survey.

Prior to registration for the course by students in the Fall of 2006, the investigator coordinated with and gained permission from the department head, and the course coordinator set up two of the five leadership laboratory sections as single-sex and the

other three as traditional coeducational laboratory sections. The result was three

coeducational, one all-male and one all-female sections. The three coeducational

sections were designed to serve as the control group and the two single-sex laboratory

sections were the two experimental sections.

Research Design

The study employed the Retrospective Post-Then-Pre Design (Rockwell & Kohn,

1989) with an a priori alpha of .10, that is supported by Pendhazur and Schmelkin

(1991), in cases of relatively small sample sizes (p. 558). The dependent variable, self-

perceived leadership ability, was measured using the Leadership Skills Inventory (LSI).

The independent variables are students' gender and educational setting, coeducational or

gender-specific, with previous leadership experiences used as a covariate. Although

random assignment of students to their respective lab sections was not possible, their

selection of their class section was unrelated to the study. The design is quasi

experimental. The sample consisted of junior and senior students enrolled in a collegiate

academic leadership theory course, ALED 340, at Texas A&M University presented

during the Spring semester of 2007.

Methodology

The survey instrument that was administered, the Leadership Skills Inventory

(LSI), was designed to allow the surveyed students to evaluate their self-perceptions

regarding their leadership skills and attitudes prior to taking a collegiate academic

leadership course, ALED 340, as compared with those same skills and attitudes after

completion of the course. Consideration was initially given to using the Pre-Test Post-

Test design method wherein the survey would have been administered both prior to and upon completion of the course. However, there are studies that have reported that the Pre-Test Post-Test Design is a less reliable method than the Retrospective Post-Then Pre-Design method. The difficulty with administering surveys of self-perceptions using the Pre-Test Post-Test method is that the student may tend to overestimate their level of expertise on the Pre-Test. This can bias the survey results (Rockwell & Kohn, 1989; Rohs, 1999). The advantage of the Post-Then method is that the student has sufficient knowledge of the subject matter upon completion of a leadership course to more correctly assess what their level of knowledge was prior to commencement of the course.

The Post-Then design was created by Howard and Dailey (1979). Their initial design used one questionnaire with two instruments and was administered at the end of a course. Their students were asked their perceptions of leadership attitudes and skills before they had begun the course and after they had completed it. Patterned after their method, the Leadership Skills Instrument survey for this study was designed for the student respondents to provide both "Before" and "After" assessments for each statement pertaining to leadership attitudes and skills (Appendix A).

Instrumentation, the Leadership Skills Inventory

The instrument used for this study was the Leadership Skills Inventory (LSI). It is an instrument designed to assess students' self-perception of their leadership skills. The LSI was developed in 1980 at Iowa State University by Carter and Townsend (Townsend & Carter, 1983). For this particular study, the LSI (Appendix A) was

modified to included two sections. Section I includes 21 statements that describe

different leadership and life skills. Section II consists of seven demographic questions

relating to age, gender, the number of leadership organizations and activities the students

had participated in both in high school and college prior to taking the ALED 340 course,

and their cumulative grade point average in college. Section I was modified to include

two response columns: Before ALED 340, the "Then" responses, and After ALED 340,

the "Post" responses.

Summary of Findings and Conclusions

Findings and Conclusions Related to Null Hypothesis H_{01}

H_{01} = There is no difference in self-perceived leadership skills between men and women

who elected to take a collegiate academic leadership course, ALED 340.

An analysis of variance, mixed design was used to determine that there was no

difference in the self-perceived leadership skills between men and women respondents

who completed the ALED 340 course. The females' mean score on the Leadership Skills

Inventory prior to beginning the course was 86.52, while the males reported a mean

score of 85.57. At the end of the course, the female and male mean scores were identical

at 93.41. Therefore, there were no significant differences in the way female and male

students perceived their leadership skills. The researcher failed to reject the null

hypothesis at an alpha of .10. There is no statistically significant difference in the way

female junior and senior students enrolled in ALED 340 perceived their leadership skills

as compared with male junior and senior students in the same course.

The researcher's interpretation of this finding is that it is a desirable one. It is an indication that their experiences along the way, prior to enrolling in a college academic leadership course, have prepared them to have similar expectations of their leadership capabilities. And, the identical result in their self-perceived leadership skills ability indicates that the learning environment incorporates methods that are equally effective for males and females, collectively.

Findings and Conclusions Related to Null Hypothesis H_{02}

H_{02} = There is no relationship between leadership experiences prior to taking an academic leadership class, ALED 340, and self-perceived leadership skills.

Pearson product moment correlations were calculated to examine the relationship between "Leadership Preparation" and Leadership Skills Inventory statements (Leadership Self-Perception). The results indicate that there is a statistically significant relationship between previous leadership experiences, Leadership Preparation, and how well one perceives their leadership skills and abilities, Leadership Self-Perception, both prior to taking a leadership course and after completing it. The researcher rejected the null hypothesis.

There is a distinct correlation between how much previous leadership experience a student has prior to taking a college level leadership academic course and their self-perceptions of their leadership skills as well as after concluding that course. Pearson product moment correlations were calculated to examine the relationship between "Leadership Preparation" and Leadership Skills Inventory statements, Leadership Self-Perception. The results indicate that there is a statistically significant relationship

between previous leadership experiences, Leadership Preparation, and how well one

perceives their leadership skills and abilities, Leadership Self-Perception, both prior to

taking a leadership course and after completing it. The finding for this hypothesis

supports the cognitivist learning philosophy of Ausubel whose philosophy was that

examples must be presented in diverse ways so as to help students link this new

knowledge with similar content in their memories (Schunk, 2004).

Taken in concert with the findings in H_{01}, this finding should be beneficial

feedback to the many professionals who dedicate their time and careers making a

difference in the lives of young people throughout their youth in preparation for higher

levels of leadership knowledge and application. No doubt, such programs as 4-H, FFA,

JROTC, student councils and government, Boys and Girls State, marching bands,

athletic teams, and many others too numerous to mention, have significant positive

impacts on youth as they approach adulthood. This finding seems to bear that out.

Findings and Conclusions Related to Null Hypothesis H_{03}

H_{03} = There is no difference in self-perceived leadership skills between women in an all-

female educational setting and women in a coeducational setting following completion

of a collegiate academic leadership course, ALED 340.

The females in the all-female leadership lab improved their mean score of self-

perceived leadership skills by nearly ten points, from 84.18 to 94.00. The females in the

coed lab sections improved their average perceptions of self-perceived leadership skills

by nearly five points, from 88.13 to 93.00. While this difference in improvements might

seem at first glance to be a significant difference, the resulting difference was not

statistically significant with an interaction significance of .11. It is possible that a larger all-female lab section sample could have established a different outcome. However, for purposes of this study, a statistically significant difference was not established. Therefore, the researcher failed to reject the null hypothesis at an a priori alpha of .10. There is no statistically significant difference in the self-perceived leadership skills abilities between females in an all-female leadership lab section and females in traditional coed lab sections, either before or after completing a college academic leadership course.

Having made that declaration, however, the fact remains that the all-female lab section's self-reported efficacy improvement was twice that of the females in the coeducational lab sections. Indications are that there may be something of value to be gained by further research in this regard. More comment concerning this is found in the Recommendations section that follows.

Findings and Conclusions Related to Null Hypothesis H_{04}

H_{04} = There is no difference in self-perceived leadership skills between men in an all-male educational setting and men in a coeducational setting following completion of a collegiate academic leadership course, ALED 340.

The males in the all-male leadership lab improved their mean score of self-perceived leadership skills on average by a little over ten points, from 86.32 to 96.37. The males in the coed lab sections improved their average perceptions of self-perceived leadership skills by over six points, from 85.17 to 91.80. The resulting difference was statistically significant. There is a statistically significant difference in self-perceived

leadership skills between men in an all-male educational setting and men in a coeducational setting following completion of a collegiate academic leadership course. The improved self-perception of leadership skills for males in the all-male lab section was statistically significantly when compared to the improvement experienced by males in the traditional coed leadership labs.

This finding supported findings credited to Marlene Hamilton's study of students in Jamaica during the mid-1980s (Hamilton, 1985); the University of Michigan's research comparing graduates of Catholic single-gender and coeducational schools (Lee & Bryk, 1986); Cornelius Riordan's studies comparing short-term and long-term outcomes of graduates of single-gender and coeducational Catholic schools in the United States (Riordan, 1990); the 1998 British Office for Standards in Education (OFSTED) study that discovered the superior performances by students in single-gender schools (Dean, 1998); and the meta study conducted by the RMC Research Corporation for the U.S. Department of Education in 2005 (USDE, 2005).

Findings and Conclusions Related to Null Hypothesis H_{05}

H_{05} = There is no difference in self-perceived leadership skills between men in an all-male educational setting and women in an all-female educational setting prior to and following a collegiate academic leadership course, ALED 340.

There were almost identical improvements in self-perceived leadership skills and abilities by males and females who were assigned to gender-specific, all-male or all-female lab sections. Both groups reported approximately ten point gains in their mean scores before beginning the ALED 340 leadership survey course and after having

completed the course. There was no statistically significant difference in their self-perceived leadership abilities. The researcher failed to reject the null hypothesis.

Similar to the researcher's comment regarding the finding in H_{01}, above, this is a desirable finding. It was concluded that the methods used to teach both of the gender-specific lab sections were consistent

Findings and Conclusions Related to Null Hypothesis H_{06}

H_{06} = There is no difference in self-perceived leadership skills of students in gender specific settings and those in coeducational settings prior to and upon completion of a collegiate academic leadership course, ALED 340.

The 51 respondents in the coeducational lab sections improved their self-perceptions of leadership skills from a mean score of 86.10 prior to beginning the ALED 340 leadership survey course to a mean score of 92.18 at completion of the course. The 30 respondents, male and female collectively in the two gender-specific lab sections, improved their self-perceptions over the same time period from a mean score of 85.53 to 95.50. The difference in self-perceived leadership skills of students in gender specific settings and those in coeducational settings prior to and upon completion of a collegiate academic leadership course is statistically significant at an a priori alpha of .10. Student respondents in the gender-segregated lab sections collectively improved their self-perceived leadership skills to a degree that was statistically significant compared to those student respondents in the coeducational lab sections.

With further inspection of the collective gender-specific lab sections, the 19 male respondents in the all-male lab section improved their self-perceptions over the same

time period from a mean score of 86.32 to 96.37, while the 11 female respondents in the all-female lab section improved from a mean score of 84.18 to 94.00. The difference in self-perceived leadership skills of students in each gender-specific setting and those in coeducational settings prior to and upon completion of a collegiate academic leadership course is statistically significant at an a priori alpha of .10. Student respondents in the all-male lab section and the student respondents in the all-female lab sections each improved their self-perceived leadership skills to a degree that was statistically significant compared to those student respondents in the coeducational lab sections.

Based on these two findings, the researcher rejected the null hypothesis. There is a statistically significant difference in self-perceived leadership skills of students in gender specific settings and those in coeducational settings prior to and upon completion of a collegiate academic leadership course.

In simple terms, the findings regarding H_{06} herein answered the most critical question in the entire study: Do students in a gender-segregated leadership learning environment out-perform those students in a traditional coeducational leadership learning environment in terms of their perceived abilities to lead? The answer determined in this study is, yes. It is clearly evident in this particular study that males in an all-male leadership learning environment have statistically significantly higher perceptions of their leadership abilities than males in a traditional coeducational learning environment as well as all students collectively, both genders, in a coeducational learning environment. It is equally evident that females in an all-female leadership learning environment have statistically significantly higher perceptions of their

leadership abilities than all students collectively, both genders, in a coeducational learning environment. What is unclear is whether or not females in an all-female leadership learning environment out-perform females in a coeducational learning environment. This question will require further research in order to make a determination. The findings for H_{06} support research findings cited for H_{04} above.

The findings for this hypothesis support, and are supported by previously cited research by Marlene Hamilton, the University of Michigan, Cornelius Riordan, the British Office for Standards in Education, and the U.S. Department of Education. It is this researcher's belief that the results of this study are what they are because the studies cited above and others like them have correctly determined that there are distinct learning advantages for students in gender-specific, all-male or all-female, educational environments. While it is possible that the advantages are not as distinct in some learning situations, there is evidence in this study that it is true for presenting leadership studies.

Programmatic Recommendations

From the researcher's perspective, recommending programmatic changes or shifts is without merit unless suggestions are likely to contribute to the overall improvement of the program under study. It is evident from the results of the study that in all areas investigated, the ALED 340 course of instruction is achieving positive results. What that means is that regardless of whether students participated in a gender-segregated or traditional coeducational leadership learning environment, their self-

efficacy with regards to perceptions of self-reported leadership abilities improved noticeably in each section.

So, the question becomes not did they improve their self-perceptions of leadership skills, rather did they improve enough? Another question should be, is the superior improvement shown by respondents in the gender-segregated leadership learning labs a desirable outcome for all students who experience this course? That is a question for administrators in the College of Agriculture and Life Sciences to determine. Most likely that answer will be driven by time, space and cost constraints that are present in the current facilities available to restructure leadership learning laboratories and the greater University course scheduling structure. The results of the study, however, do appear to warrant further study and consideration for at least some leadership laboratories to be designed as single-gender wherein practical to do so.

From the above discussion, three specific recommendations for practice are warranted. First, evaluate leadership recitation lab methodologies in the Department of Agricultural Leadership, Education, and Communications. Second, establish a minimum acceptable score for improvement in leadership self-efficacy. And, third, offer gender-specific, both male-only and female-only, lab sections of ALED 340.

Recommendations for Further Research

By no means is this study conclusive beyond the particular student population that was surveyed. However, the fact remains that the results obtained from this study are indicative of a learning environment when males and females are segregated that enhances their learning. Most studies that were discovered through this research base

their results on academic results. In other words, results are based on actual course grades achieved that were obtained by those studied. In this particular study, results are not based on course grades. It is important to distinguish that fact. The results were based on self-reported responses to efficacy statements concerning one's ability to lead in given situations. It is true that grades are important in a traditional sense, but the study of leadership is unique in that one's course grade may not accurately predict how well one will lead in any given situation. The fact that those respondents who participated in the gender-specific lab sections had significantly higher self-perceptions of their ability to lead indicates that more research is needed to confirm the results of this study.

It is, therefore, the researcher's recommendation that similar research studies be conducted within the Department of Leadership, Education, and Communications to examine the effect of single gender learning environment. Additionally, future studies should be further stratified to examine the effects in diverse populations: race and culture, e.g., Asian, Black, Hispanic; socio-economic; academic majors; age groups; adult learner and returning students; distance education on leadership self-efficacy, knowledge, skills, abilities, and performance.

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APPENDIX A

LEADERSHIP SKILLS INVENTORY

Leadership Skills Inventory
Department of Agricultural Leadership, Education and Communications
Texas A&M University

Thank you for participating in this study. I am seeking to determine how well you believe you have developed certain skills that are used in everyday life. Your responses will be combined with the others in this study; there will be no way to identify you with your answers. Please respond to each statement based on how much you agree with it by circling the appropriate number or letter beside each question. This is not a timed survey, so take as much time as you need to carefully read and answer each question. Your participation in this study is voluntary; you will not receive any additional grade or special consideration for your participation. Your participation is greatly appreciated.

In Section I, you will be asked to respond to 21 questions. Each question requires two answer selections. Your first response to each question is to be answered from the perspective of your attitudes and feelings prior to beginning ALED 340 in the Spring 2007 Semester. Your second response to each question is to be answered from the perspective of your attitudes and feelings now that you have completed ALED 340. You may perceive a change over time, or you may decide that there was little or no change. That is fine. Just answer to the best of your ability. For scoring purposes, use the following rubric to select and circle your answers:

5 – Strongly Agree   4 – Agree   3 – Undecided   2 – Disagree   1 – Strongly Disagree

SECTION I

	Before ALED 340	**After** ALED 340
(1) I can cooperate and work in a group.	5 4 3 2 1	5 4 3 2 1
(2) I get along with people around me.	5 4 3 2 1	5 4 3 2 1
(3) I feel responsible for my actions.	5 4 3 2 1	5 4 3 2 1
(4) I believe in dividing the work among group members.	5 4 3 2 1	5 4 3 2 1
(5) I understand myself.	5 4 3 2 1	5 4 3 2 1
(6) I feel comfortable teaching others.	5 4 3 2 1	5 4 3 2 1
(7) I consider all choices before making a decision.	5 4 3 2 1	5 4 3 2 1
(8) I listen carefully to opinions of group members.	5 4 3 2 1	5 4 3 2 1
(9) I am respected by others my age.	5 4 3 2 1	5 4 3 2 1
(10) I can lead a discussion.	5 4 3 2 1	5 4 3 2 1
(11) I use past experiences in making decisions.	5 4 3 2 1	5 4 3 2 1
(12) I believe that group members are responsible persons.	5 4 3 2 1	5 4 3 2 1
(13) I am sure of my abilities.	5 4 3 2 1	5 4 3 2 1
(14) I am a good listener.	5 4 3 2 1	5 4 3 2 1
(15) I use information in making decisions.	5 4 3 2 1	5 4 3 2 1

	Before ALED 340	**After** ALED 340
(16) I feel comfortable being a group leader.	5 4 3 2 1	5 4 3 2 1
(17) I accept who I am.	5 4 3 2 1	5 4 3 2 1
(18) I feel responsible for my decisions.	5 4 3 2 1	5 4 3 2 1
(19) I can give clear directions.	5 4 3 2 1	5 4 3 2 1
(20) I can follow directions.	5 4 3 2 1	5 4 3 2 1
(21) I can run a meeting.	5 4 3 2 1	5 4 3 2 1

SECTION II

The purpose of this section is to find out some information about you. Please answer the following questions about yourself by circling the appropriate answer beside each question.

(22) How old are you?
A 19 years old or younger
B 20 years old
C 21 years old
D 22 years old
E 23 + years old

(23) Are you male or female?
A Male
B Female

(24) How many leadership courses (training, seminars, workshops) did you participate in during your high school career?
A None
B 1 – 2 courses
C 3 – 4 courses
D 5 – 6 courses
E more than 6 courses

(25) How many leadership courses (training, seminars, workshops) have you taken in your collegiate career, prior to ALEC 340?
A None
B 1 – 2 courses
C 3 – 4 courses
D 5 – 6 courses
E more than 6 courses

(26) How many leadership activities (clubs, committees, service organizations) were you involved with during your high school years?
A none
B 1 – 2
C 3 – 4
D 5 – 6
E more than 6

(27) How many leadership activities (clubs, committees, service organizations) have you been involved with in your collegiate career?
A none
B 1 – 2
C 3 – 4
D 5 – 6
E more than 6

(28) What is your cumulative TAMU GPA? _____

You are finished. Thank you for voluntarily participating in this research survey. Please ensure you provided answer selections for Before ALED 340 <u>and</u> After ALED 340 for questions 1 through 21. Turn this answer sheet in to your lab instructor now.

APPENDIX B

ALED 340 SPRING 2007 COURSE SYLLABUS

Texas A&M University
Agriculture Leadership & Development

Professional Leadership Development
ALED 340-901 thru 905
MW 9:10-10:00 Scoates 208
Tuesdays Scoates 101

<u>Instructor</u>
Henry K. Musoma
126 Scoates Hall
musoma@tamu.edu
979-458-0390
appointments call 862-3001

<u>Teaching Partners</u>
Felix Arnold
Meghan Paclik
Tracy Smith

LEARNING COMMUNITY (LC) TEAM:

901	Ms. Tracy Smith	845-2594	tsmith@aged.tamu.edu
902-903	Ms. Meghan Paclik		farnold@aged.tamu.edu
904-905	Mr. Felix Arnold		mpaclik@aged.tamu.edu

NATURE OF COURSE:

Professional Leadership Development is designed to help you understand the complexity of leadership. Many leadership scholars support the notion that leadership is a scholarly discipline ꞏat can be taught (Bennis, 1989; Bass, 1994). It is important that you understand the difference between the socialization of a leader and leadership theory education. Many successful leaders obtain their leadership skills from practice, in other words, they are socialized into leadership as they have learned from their experiences. ALED 340, however, is a collegiate leadership education course where we study the scholarly discipline of leadership theory.

<u>Expectations for you:</u>
- Come to class
- Pay attention and participate
- Read the text and take notes
- Work hard and have fun

<u>My goals:</u>
- Be prepared and organized
- Provide a positive learning environment
- Be available
- Learn from you and have fun

OVERALL COURSE OBJECTIVES:

1. analyze leadership theory and models
2. synthesize leadership theory as a philosophy
3. model leadership skills in your life
4. evaluate models in leadership theory
5. increase written and oral communications

REQUIRED TEXTS: Northouse, P. G. (2004). *Leadership: Theory & Practice.* 3rd ed.
OPTIONAL TEXTS: Faigley, L. (2005). *The brief penguin handbook* (2nd ed.). New York: Longman.

WebCT:
Students are **_required_** to use the course website at: **http://elearning.tamu.edu/.**
 ꞏee: http://www.tamu.edu/its/workshops/stuhandouts.htm for instructions on accessing the course). Various course announcements, assignments and additional material will be posted throughout the semester on this website.

Revisions to this syllabus may be made at the discretion of the instructor.

Changes in dates and topics will be announced in class and may not be communicated in writing.

TEXAS A&M UNIVERSITY: Dept. of Agricultural Leadership, Education, & Communication
COURSE OUTLINE

Lecture Date	Course Topic	Required Reading Chpts (prior to class listed)
Jan. 17	MWAISENI BONSE!!!	
Jan. 22	Community of leadership theory	
Jan. 23	Writing Expectations, Course Goals	
Jan. 24	Leadership definitions/myths	Chpt 1
Jan.29	Management vs. leadership	Chpt 1
Jan.30	Leadership characteristics	**DUE: License to Lead**
Jan.31	Identification of trait theories	Chpt 2
Feb.5	Theory X/Y	Chpt 2
Feb.6	Leadership in Action	
Feb. 7	Leadership Continuum Model	Chpt 2
Feb.12	Task and Relationship Models	Chpt 3
Feb.13	A Leading Experiment	**DUE: Contemporary leader**
Feb.14	Managerial grid	Chpt 4
Feb.19	Motivation theory/Delegation	Chpt. 7
Feb.20	Understanding leadership in popular media	
Feb.21	Path Goal Theory/Motivation theories	Chpt 7
Feb. 26	Power philosophies	Chpt 4
Feb.27	Demonstrating sources of power	**DUE: Film Review**
Feb. 28	Understanding Power	Chpt 4
Mar.5	**Exam 1**	**Chpt 1,2,3,4, 7**
Mar.6	Planning for task completion	
Mar.7	Situational Leadership Model	Chpt 5
Mar.19	Critical analysis of situational leadership theory	
Mar.20	Exploring Differences (time to review writing assignments) **Bring Draft of Case 1**	
Mar.21	Contingency Theory	Chpt 6
Mar.26	Leader-member exchange theory	Chpt 8
Mar.27	Group Dynamics	**Due: Case 1**
Mar.28	Transactional/Transformational	Chpt 9
April 2	Vision	
April3	Creating an information organization	
April4	Group and team norms/Team Development	Chpt 10
April9	Meetings and problem members	Chpt 10
April10	Group Member Roles (time to review writing assignments) **Bring Draft of Case 2**	
April 11	Creativity in Teams	Chpt 10
April16	Risk Assessment/Decision Making	
April17	Making the "right" decision	**Due: Case 2**
April18	Ethics/Conflict Mgmt.	Chpt 13
April23	**Exam 2**	**Chpt 5, 6, 8, 9, 10, 13**
April24	Consensus decision making	
April25	Practicing Leadership Theory	

ALED 340
Contemporary Leader Paper
Grading Rubric

Criteria	Excellent 90-100	Very Good 80-89	Satisfactory 70-79	Marginal 60-69	Unsatisfactory 59 or less	Total Points
Description of leadership theories (40 points)	Describes at least 4 examples of the leaders strengths & weaknesses 35-40 pts.	Describes at least 3 examples of the leaders strengths & weaknesses 30-34 pts	Describes at least 2 examples of the leaders strengths & weaknesses 25-29 pts	Describes at least 1 examples of the leaders strengths & weaknesses 20-24 pts	Fails to describe any examples of the leaders strengths & weaknesses 15-19 pts	
Discussion of Leader's image and leadership theory that applies (40 points)	Provides more than one example to support the leadership theory 35-40 pts.	Provides only one example to support the leadership theory 30-34 pts	Provides examples of image, but does not discuss leadership theory 25-29 pts	Examples provided do not relate to the leader 20-24 pts	No examples; paper off topic 15-19 pts	
Writing Effectiveness (20 points)	Only a few minor grammar, punctuation, spelling errors. Paper is well organized 15-20 pts	5-10 grammar, punctuation, spelling errors. Good organization 10-14 pts	11-15 grammar, punctuation, spelling errors. Some organization problems 5-9 pts	16-20 grammar, punctuation, spelling errors. Poorly organized 1-4 pts	More than 20 grammar, punctuation, spelling errors. Lacks any sense of flow 0 pts	
(100 points)						

Name_____

ALED 340-Film Review

Criteria						Total Points
Summary of the story 1-2 paragraphs (10 points)	Describes the movie in depth 8-10 pts	Describes the movie, but not very clear 6-8 pts	Describes the movie with too much detail and takes up too much of the paper. 3-6 pts	Barely describes any part of the movie 1-3 pts	Fails to describe any of the movie 0 pts	
Leadership Concept demonstrated in film (Look at theories and models discussed in class). (40 points)	Discusses at least 2 leadership concepts and gives more than one example to support each leadership concept 35-40 pts.	Discusses at least 2 leadership concepts and gives more than one example to support each leadership concept 30-34 pts	Discusses at least 1 leadership concepts and gives more than one example to support each leadership concept 25-29 pts	No real concept discussed, examples provided do not relate to the leadership concepts 20-24 pts	No examples; paper off topic 15-19 pts	
Personal Reaction to leader in film (10 points)	Describes personal reaction in depth with explanation from film as it relates to leadership and class concepts. 8-10 pts	Describes personal reaction in depth, with little explanation from film as it relates to leadership and class concepts. 6-8 pts	Describes personal reaction in depth with explanation, but not very clear, and does not relate to the film as it relates to leadership and class concepts. 3-6 pts	Barely describes personal reaction of the film as it relates to leadership and class concepts. 1-3 pts	Fails to give personal reaction 0 pts	
Learning Statement (what did you learn most about leadership) (10 points)	Describes what was learned in depth with explanation from film as it relates to leadership and class concepts. 8-10 pts	Describes what was learned in depth, with little explanation from film as it relates to leadership and class concepts. 6-8pts	Describes what was learned, but not very clear and does not relate to the film as it relates to leadership and class concepts. 3-6pts	Barely describes what was learned in the film as it relates to leadership and class concepts. 1-3 pts	Fails to give describes what was learned 0 pts	
Writing Effectiveness (10 points)	Only a few minor grammar, punctuation, spelling errors. Paper is well organized. Appropriate citing. 8-10 pts	5-10 grammar, punctuation, spelling errors. Good organization 6-8 pts	11-15 grammar, punctuation, spelling errors. Some organization problems 3-6 pts	16-20 grammar, punctuation, spelling errors. Poorly organized 1-3 pts	More than 20 grammar, punctuation, spelling errors. Lacks any sense of flow 0 pts	
(80 points)						

Assignments	Due	Points	Grade Earned
License to Lead	Jan. 30	40 points	
Contemporary Leadership Paper	Feb. 13	100 points	
Leadership Film Review	Feb.27	80 points	
Leadership Case Study and Analysis 1 DRAFT	Mar.20	20 points	
Leadership Case Study and Analysis 1	Mar.27	80 points	
Leadership Case Study and Analysis 2 DRAFT	April 10	20 points	
Leadership Case Study and Analysis 2	April 17	80 points	
Survey of Knowledge (Quizzes)	Be Ready!	6 x 25 points = 150 points	
Exam One	Mar.5	150 points	
Exam Two	April 23	150 points	
Participation and Attendance	ALL SEMESTER	13 x 10 points = 130 points	
TOTAL		**1000 points**	

COURSE GRADE:

Grades are calculated on total points earned.

895 - 1000 points	A
795 - 894 points	B
695 – 794 points	C
595 - 694 points	D
below 594 points	F

Class Participation ALED 340 is a dynamic class where your leadership experiences provide an important context for the topics. Class interaction and participation are an important part of what makes this class work. I do not punish students for missing class, but because many of the concepts you will be tested on contain application activities not found in lecture notes or readings, missing class can make a difference in how you perform on exams. Attendance is taken in the learning community (LC) sessions (Tuesdays) and constitutes about 15% of your overall grade.

SPECIAL NOTES:

The University Writing Center (UWC), located in Evans Library 1.214, offers help to writers at any stage of the writing process including brainstorming, researching, drafting, documenting, revising, and more; no writing concern is too large or too small. These consultations are highly recommended but are not required. While the UWC consultants will not proofread or edit your papers, they will help you improve your proofreading and editing skills. If you visit the UWC, take a copy of your writing assignment, a hard copy of your draft or any notes you may have, as well as any material you need help with. To find out more about UWC services or to schedule an appointment, call 458-1455, visit the web page at writingcenter.tamu.edu, or stop by in person.

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, the legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. IF you believe you have a disability requiring an accommodation, please contact the Department of Student Life, Services for Students with Disabilities, in Cain Hall or call 845-1637.

The Aggie Honor Code is important to all Aggies. **Aggies do not LIE, CHEAT, or STEAL, nor do they tolerate those who do.** This includes PLAGIARIZING anyone else's work. You are committing plagiarism if you copy the work of another person and turn it in as your own, even if you should have the permission of that person. IF you have questions regarding plagiarism, please consult the Texas A&M University Honor Council Rules and Procedures on the web at http://www.tamu.edu/aggiehonor and the latest issue of the Texas A&M University Student Rules, under the section "Scholastic Dishonesty."

Writing Intensive Course:
You are enrolled in a writing intensive course, with that your ability to improve your overall writing skills over the course of the semester will be highlighted. This includes the provision of additional writing instruction in your small groups. Please understand if you are in need of additional assistance, you will be referred to the University Writing Center. Many assignments will be eligible for a rough draft revision. Please see your assigned small group facilitator for additional information.

Peer reviews in learning community will provide you the opportunity to work through your writing skills and allow you to make corrections. The rough drafts are due in learning community and have point values assigned. These are an important part of you writing development.

You will be allowed 5 points extra credit for visiting the center. In order to do this, you will need to take one of your papers, any of the listed writing assignments are appropriate, to the UWC. Work with the center staff to better the paper, attach documentation to the final draft you submit.

Opportunities for Success:

Get to know you visit. To earn an additional 5 points extra credit toward your final grade, schedule a personal visit with Mr. Musoma. This must be completed by Friday, February 9th. Appointments are encouraged, call 862-3001 and let Charlene know it is a MOOLISHANI visit.

Quizzes: There will be 6 unannounced reading quizzes to assess your reading comprehensions and basic understanding of the material. Quizzes are not cumulative and will be short answer.

Exams:
Exams may contain a combination of multiple choice, true-false, short answer and/or essay questions. Students are expected to complete their own work: dishonest participation will be handled according to university regulations.

Many of the concepts you will be tested on emerge from class explanation and are not found in the text readings, therefore attendance and participation are extremely important to your grades.

The final exam will be cumulative on material covered in the course. It will contain a mix of question formats, including multiple choice, T/F, matching and short-answer that are reflective of the Exam 1 & 2 formats.

A **full-size (8 ½ X 11) 'gray' scantron** and a **#2 pencil** are required for all exams.

Assignments:
Explanation of assignments (written or verbal) will be made during class meetings. Assignments are due at the BEGINNING of the class on the due date. Late assignments will be penalized **10% per day** up to **3-week days**. **NO ASSIGNMENTS ARE ACCEPTED AFTER 3-WEEK DAYS.**

Grammar, spelling, syntax, readability and neatness will be considered in grading.

CONTEMPORARY LEADER PAPER

SITUATION: Everyday, leaders from all walks of life are highlighted in popular media. Developing a critical lens with which to view and understand these leaders is essential to the leadership development process. As a student of leadership, one must be able to delineate good leadership from bad leadership In The Prince, Niccolo Machiavelli wrote, "But as to the exercise of the mind, a prince should read histories and consider in them the actions of excellent men, and should see how they conducted themselves in wars, and should examine the cause of their victories and losses, so as to be able to avoid the latter and imitate the former...A prudent man should always enter upon the paths beaten by great men and imitate those who have been most excellent."[1]

ASSIGNMENT: For this assignment, please submit a minimum two-page report analyzing the strengths and weaknesses of a leader prominent in the popular media, especially news magazines, newspapers, and journals. *Do not just offer an overview of that person's endeavors.* Consider why this person is currently in the limelight and is this for positive reasons or negative reasons. With what leadership theories do they seem to fit? What could they be doing to improve their image, if needed? Do you feel the image portrayed is accurate? How do you perceive this leader? Would you want to imitate this person's leadership style?

POPULAR FILM REVIEW: LEADERSHIP ACTIONS

SITUATION: Concepts and theories are presented in an abstract form and students of leadership must find methods to bring "life" to these concepts. One technique is to observe personal situations that mirror the concept studied in class. But, many times specific circumstances are not presented during a one-semester term. Another alternative is to view leadership actions found in popular films and movies. Champoux (1999) stated that films are a rich resource for learning organizational behavior theories, concepts, and issues. Over a century of filmmaking is readily available on videotape and DVD which offers a visualization of concepts that often are abstract in textbooks and lectures. Therefore, the intent of this assignment is to select a popular film and analyze the leadership actions demonstrated within the story.

ASSIGNMENT: Select a popular film and view it on your own. As you view the film, watch for the actions of the primary leader, the followers, or supporting leaders. Document your observations by writing a 3-5-page paper (double-spaced). It is critical that you **reference the material you have learned** from the textbook, lecture, or small group as you document the leadership actions in the film.

Champoux, J.E. (1999). Film as a teaching resource. *Journal of Management Inquiry, 8*(2), 206-217.

LEADERSHIP CASE STUDY AND ANALYSIS 1

SITUATION: Tom Peters, in his leadership newsletter suggested that "effective storytelling has always been near the heart of effective leadership."[1] Storytelling has occurred in the style of many great leaders including Abraham Lincoln. In fact, telling stories, relating examples, and discussing what is happening is a tremendous boost for communication between leaders and organization members.

ASSIGNMENT: You are a leadership consultant who is asked to present a seminar on leadership skills to a group. The group does not have experience in leadership skill development but is greatly interested in the subject. Your task is to lead by storytelling. That is, communicate on a real level; tell them a story about leadership.

For this experience, you will utilize the case study format. Your task is to submit a 4-5 page paper describing a leadership situation, defining the leadership characteristics demonstrated, and recommend best practices for future successful leadership.

The case study illustrates a leadership problem and your recommendations for solutions to the problem. Your case study should be a real situation that you have experienced or observed. One-half of the paper is your description of the leadership problem (what actually occurred). The other half of the paper is your recommendation to the group based on knowledge gained in AGED 340. In each section, you are to demonstrate your AGED 340 knowledge.

LEADERSHIP CASE STUDY AND ANALYSIS 2

SITUATION: The case study is an effective tool for teaching leadership. ALED 340 uses case studies extensively to demonstrate important leadership lessons.

ASSIGNMENT: You are a leadership consultant who has been asked to present a seminar on leadership skills to a group. The group does not have experience in leadership skill development but is greatly interested in the subject. Your task is to teach leadership by using the case study method. That is, use a case study to teach the participants about leadership.

The case study that you will use in your seminar is entitled, *The Agenda: Grassroots Leadership,* and can be found at http://www.fastcompany.com/online/23/grassroots.html
You are to analyze this case to identify leadership concepts from ALED 340 that you can teach during the seminar. You should try to identify as many examples of leadership theory as you can. You are to write a script of your seminar in the form of a 2-3 page paper. You are to describe the leadership theories contained in the article and demonstrate each theory with examples. For example, if you believe that power bases are described in the article, you should define those power bases and give examples from the case that demonstrate those power bases being used.
Imagine that the president of this organization has asked for a script of what you will teach. This script is a representation of the quality of your work. The amount of your consulting fee will be determined by the quality of this paper that you present. You want to put your best foot forward; therefore, correct grammar, spelling and punctuation are important. As with all presentations, your paper will need an introductory paragraph, supporting paragraphs and a summary paragraph.

APPENDIX C

Ph.D. RESEARCH IN-CLASS SURVEY INTRODUCTION

PhD Research In-Class Survey Introduction

GOOD MORNING/AFTERNOON. MY NAME IS MIKE CAUDLE. I AM A Ph.D.

CANDIDATE CONDUCTING RESEARCH FOR MY DISSERTATION WHICH IS <u>A</u>

<u>COMPARATIVE STUDY OF SELF-PERCEIVED LEADERSHIP SKILLS IN CO-</u>

<u>EDUCATIONAL, MALE-ONLY, AND FEMALE-ONLY EDUCATIONAL</u>

<u>SETTINGS</u>. I HAVE PERMISSION FROM THE DIRECTOR OF THE

DEPARTMENT OF AGRICULTURAL LEADERSHIP, EDUCATION, AND

COMMUNICATIONS, DR. CHRISTINE TOWNSEND, TO ADMINISTER TO YOUR

LAB SECTION A SURVEY CALLED THE LEADERSHIP SKILLS INVENTORY

(LSI). IT CONSISTS OF 28 QUESTIONS AND SHOULD NOT TAKE YOU VERY

LONG TO COMPLETE. WHILE I WOULD LOVE FOR EACH OF YOU TO

PARTICIPATE FOR THE SAKE OF SAMPLE SIZE, KNOW THAT YOU ARE NOT

REQUIRED TO DO SO. YOUR PARTICIPATION IS STRICTLY VOLUNTARY.

YOU WILL NOT RECEIVE EXTRA CREDIT IN THIS COURSE FOR DOING SO,

AND YOU WILL NOT BE PENALIZED FOR NOT PARTICIPATING. ARE THERE

ANY QUESTIONS UP TO THIS POINT? IF SO, ASK YOUR LAB INSTRUCTOR

AT THIS TIME. (**<u>LAB INSTRUCTORS</u>**: ANSWER ANY QUESTIONS OR

CONCERNS AT THIS POINT) YOUR LAB INSTRUCTOR WILL GIVE EACH OF

YOU A COPY OF THE SURVEY QUESTIONS. AS HE OR SHE PASSES THE

SURVEY AROUND, IF YOU WISH NOT TO PARTICIPATE SIMPLY DO NOT

TAKE A SURVEY. YOU WILL HAVE WHATEVER TIME YOU NEED TO

COMPLETE THIS SURVEY. YOU WILL NOTICE THAT NOWHERE IN THE

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RESPONSES ARE YOU ASKED FOR PERSONAL IDENTIFYING INFORMATION. THIS IS AN ANONYMOUS SURVEY. SO, YOU CAN FEEL FREE TO RESPOND HONESTLY WITHOUT WORRY THAT YOUR ANSWERS CAN BE TRACED BACK TO YOU OR THAT ANY PERSONAL INFORMATION GETS INTO THE HANDS OF ANYONE ELSE. THE DATA THAT I COLLECT FROM ALED 340 LAB SECTIONS 901, 902, 903, 904 AND 905 WILL BE COMPILED AND ANALYZED FOR MY RESEARCH AND USED IN WRITING MY DISSERTATION FOR COMPLETION OF MY DOCTORAL DEGREE REQUIREMENTS. BEFORE YOUR LAB INSTRUCTOR HANDS OUT THE SURVEY, ARE THERE ANY QUESTIONS? (ANSWER ANY QUESTIONS) THANK YOU FOR ALLOWING ME TO ADMINISTER THIS SURVEY TODAY. WHEN YOU RECEIVE THE SURVEY, PLEASE READ THE BRIEF INSTRUCTIONS. YOU WILL CIRCLE THE APPROPRIATE RESPONSES WITH PEN OR PENCIL, IT DOES NOT MATTER. PLEASE NOTICE THAT THERE ARE TWO ANSWERS FOR QUESTIONS 1 THROUGH 21. THE INSTRUCTIONS ON THE SURVEY EXPLAIN THAT POINT. **PLEASE DO NOT FORGET TO PROVIDE TWO RESPONSES FOR EACH OF THOSE QUESTIONS.** DO NOT PUT YOUR NAME ON THE SURVEY. ONCE YOU HAVE COMPLETED THE LSI RAISE YOUR HAND AND YOUR LAB INSTRUCTOR WILL TAKE YOUR RESPONSES. AGAIN, DO NOT FEEL RUSHED. TAKE WHATEVER TIME YOU NEED TO THINK ABOUT YOUR ANSWERS. HAVE A NICE DAY, AND THANK YOU.

VITA

Michael E. Caudle
4902 Brompton Lane
Bryan, Texas 77802-6072

EDUCATION

2007   Doctor of Philosophy, Agricultural Education
                Texas A&M University, College Station, Texas

1975   Master of Arts, Business
                University of Northern Colorado, Greeley, Colorado

1969   Bachelor of Business Administration
                Texas A&M University, College Station, Texas

PROFESSIONAL EXPERIENCE

7/99-Present   Cadet Training Officer, Texas A&M University
                College Station, Texas

7/98-7/99   Senior Army Instructor, ROTC, Jefferson County High School
                Monticello, Florida

6/97-7/98   Management Consultant Trainee, Bartell & Bartell, Ltd.
                State College, Pennsylvania

6/95-6/97   Construction Estimator, Ronald W. Johnson Construction Co.
                Spring Mills, Pennsylvania

6/94-6/95   Project Manager, Conference Coordinator, Turbomachinery
                Laboratory, Department of Mechanical Engineering
                Texas A&M University, College Station, Texas

5/94   Retired, United States Army

6/80-5/94   United States Army

9/75-6/80   Vice President, Funeral Director, Caudle-Rutledge, Lindale, Texas

9/75-3/78   United States Army Individual Ready Reserve

7/69-9/75   United States Army

This dissertation was typed and edited by Marilyn M. Oliva at Action Ink, Inc.