

COLLEGE GRADUATES' PERCEPTIONS OF THEIR USE OF TEAMWORK  
SKILLS: SOFT SKILL DEVELOPMENT IN FORT HAYS STATE UNIVERSITY  
LEADERSHIP EDUCATION

by

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B.S., Northwestern Oklahoma State University, 1984  
M.L.S., Fort Hays State University, 2001

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

Department of Curriculum and Instruction  
College of Education

KANSAS STATE UNIVERSITY  
Manhattan, Kansas

2009

## **Abstract**

As the world has changed over the last century, so has the world of work. Today's knowledge workers have fewer individual repetitive tasks, more autonomy, and more need to work with and through people at every level of an organization (Overtoom, 2000).

As a result of the 'flattening' of the organizational hierarchy, it is critical that employees at all levels are proficient in soft skills. Recent studies indicate that employers consistently rate these skills as deficient in their incoming hires. Skills such as communication, teamwork, leadership and adaptability are commonly ranked as deficient. Academic leadership education strongly emphasizes this valuable skill set often referred to as soft skills.

This study examined the relationship of the soft skills gained to the amount of leadership education completed by Fort Hays State University graduates using the Teamwork Skills Questionnaire (O'Neil, Lee, Wang & Mulkey, 1999). Those who received no leadership education from the FHSU Department of Leadership Studies were compared with those who received a leadership certificate and those who received a bachelor's degree in Organizational Leadership. The study provided insight into whether academic leadership education enhances graduate's soft skill development and to assess the impact this has on their perception of teamwork proficiency in the workplace.

Results indicate that the leadership certificate does not significantly change soft skill development in graduates' self-reported perceptions, as compared to students with

no leadership coursework. It was found that the bachelor's degree does make limited significant changes in graduates' soft skill proficiency as compared with graduates who received the leadership certificate. Multiple significant changes were found in graduates with bachelor's degrees as compared with graduates who received no leadership coursework.

Recommendations to be considered when conducting further research include the use of qualitative methodology, the inclusion of more universities that offer a degree in Organizational Leadership, and the measurement of other skills the leadership coursework may produce but was not reflected in this instrument.

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Approved by:

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## **Acknowledgements**

The pursuit of a doctoral degree was certainly never one of my aspirations when growing up on a southern Kansas farm. In fact, I didn't even know what it meant. However, on that farm I did learn many valuable life lessons which have served me well through the years. My parents, Phillip and Marcella Patterson, taught me the importance of hard work, honesty, persistence, and an unwillingness to quit anything I started. I thank you Mom for those valuable lessons. Dad, I wish I would have completed this journey before we lost you, but I know you are proud.

There are innumerable people who have assisted me in this endeavor. Special recognition goes to my major advisor at Kansas State University, Dr. Charles Heerman, who was patient when I needed it, yet readily available when it was time to continue. I also thank my committee members Dr. Be Stoney, Dr. Doris Wright-Carroll, Dr. John Hortin and Dr. Jeffrey Katz whose suggestions were developmental and invaluable. Additionally from KSU, I would like to thank Betsy Edwards from the Information Technology Assistance Center for being available and patient when I needed assistance with the technical aspects of writing within the required parameters.

Many people at Fort Hays State University have also assisted me in this study. Dr. Brent Goertzen, Chair of the Department of Leadership Studies, has been supportive in many ways. He gave me flexibility of my time and provided guidance and feedback. Jane Rajewski in the FHSU Computing and Telecommunication Center was accommodating and timely with my data requests. Brett Whitaker was always there when I had technical difficulties which could be handled in-house. Finally, I thank my

dear friend and colleague Dr. Jill Arensdorf. Without Jill's continual encouragement and emotional support, this study would have never been completed. Everyone should be so fortunate as to have a friend like Jill.

Other friends and family played an important role in this project. Judi, who years ago inspired my love of learning and helped me believe I could succeed in college. My Council Grove friends were always there with words of encouragement. Cathy, Sylvia, Mark and Gail, who have been with me through my most difficult life challenges, but also through the best of times. As always, they supported me through this process. Recently, Dr. Cheri Harper has also played a huge role in keeping my life balanced and in perspective. Thank you to all.

I also give a big thank you to my children - Todd, Travis, Sara and Drake. Your unwavering understanding and support has been critical. Your certainty in my success has been a quiet source of strength to me for years. To my husband Curt, your continued belief in me and your unending patience has made the difference. Thank you for always being there for me. Especially, thank you for being there through the most difficult time of my life – July, 2008.

Finally, to my daughter Jana. You always were, and continue to be, an inspiration to many – especially me. Knowing how proud you were of your Mom getting a Ph.D is the main factor that continued to move me forward. I had no choice but to finalize this goal – for you. As I complete this phase of my life, I intend to carry on your life's work in the promotion of equality for all people. Thank you for teaching me the things in life that really matter.

## **Dedication**

To Jana: You inspired my life. I will love you for always.



## **CHAPTER 1 - Introduction**

Leadership involves a relational process that requires working with others to accomplish a goal or to promote positive change. Education for leadership concentrates on the soft skills, that relationship factor involved in human interaction required to achieve positive outcomes from the leadership process. The notion that soft skills can be taught and learned in an academic environment has led to the proliferation of varied leadership education programs in this nation's colleges and universities (Brungardt, Greenleaf, Brungardt & Arensdorf, 2006; Crawford, Brungardt & Maughan, 2000; Daft, 2002; Funk, 2006; Schwartz & Gimbel, 2000).

This study sought to add to the body of literature published over the past twenty years about formal collegiate leadership education programs and outcomes (Brungardt et al., 2006; Crawford et al., 2000; Evers, Rush & Berdrow, 1998; Funk, 2006; Riggio, Ciulla & Sorenson, 2003; Rost & Barker, 2000). The purpose of this study was to determine if leadership education increases students' proficiency in soft skills, particularly those skills repeatedly found deficient in incoming hires in this nation's workplaces.

The learning objectives and eventual outcomes of the Fort Hays State University Leadership Studies program were examined. Three different populations were sampled. All were graduates of Fort Hays State University. The first population was students who had never taken a course from the leadership studies department. The second population received a nine credit hour certificate in leadership studies while pursuing their chosen major. The last population was leadership majors who completed all requirements for the

Bachelor's degree in Organizational Leadership (36-credit hours in leadership coursework). The amount of leadership education was treated as the independent variable while each of the six dimensions and the composite score of the Teamwork Skills Questionnaire were treated as the dependent variables.

### **Context for the study**

As the world has changed over the last century, so has the world of work. The very nature of work has and continues to change at a rapid rate. Yesterday's workers were asked to carry out repetitive tasks within a traditional production operation (Carnevale, Gainer & Meltzer, 1990; Wilhelm, 2002). These organizations were structured in a pyramid style and were supervised by a traditional top-down, hierarchical approach (Carnevale et al., 1990). This command-and-control organizational design required only those at the top of the pyramid to make decisions, interact with others, and solve problems. The remainder of the organization's members, large numbers of people, worked within the same organization yet had little decision-making power and very little need for interaction with one another. They just did as they were told, or else.

In the 1980's and 1990's, many new management techniques and approaches were implemented to enhance organizational growth. These systemic reforms, coupled with other substantial factors such as globalization, technological innovations, and more mobile and better informed workers, have driven massive organizational changes. These changes have resulted in more flexible networks and work teams which now require employee empowerment, sharply increased use of small work groups, and numerous new work technologies (Smith, 2002). This more innovative workplace, often referred to as a

high performance workplace, magnifies the importance of relationship building between organizational members.

Today's knowledge workers have far fewer individual repetitive tasks, much more autonomy, and far more need to work with and through people at every level of the organization (Overtoom, 2000; Smith, 2002). This requires an additional new set of skills for organizational members. As a result of the 'flattening' of the traditional organizational hierarchy, workers at all levels are now required to be proficient in these soft skills. More often these skills are being required of non-supervisory employees, which in turn means that everyone in the organization needs development in these skills, not just the 'select' few at the top.

These massive organizational changes are coming at a time when the workforce itself is changing. Research shows that there are approximately 76 million baby boomers, born between 1946 and 1964 (AACU, 2007). In 2011, the oldest of these will begin to retire. However, there are only approximately 45 million in Generation X (those born between 1965 and the early 1980's), which leaves a gap of more than 30 million people to fill workforce needs (Bond, Thompson, Galinsky, & Prottas, 2005). To fill the gap, organizations will have to hire as many of the Generation X'ers as possible, while at the same time retaining as many baby boomers as possible in the workforce. Obvious issues between these mixed generations will occur in terms of abilities (i.e. technological expertise), expectations (i.e. flex scheduling), and rewards (i.e. pay differentials). A recent report by a Boston consulting group speculates that "managing and improving the performance of people in the future is likely to demand the same levels of attention and rigor that financial processes do today" (Paine, 2006, p. 1). The role of soft skills in

transitioning these two generations into the same work environment will be critical. One growing field in higher education that works to improve soft skills in college graduates is academic leadership education.

The academic discipline of leadership studies has been evolving since 1978 with the publication of James McGregor Burn's seminal book, *Leadership* (1978). Burns is a political scientist by education and training. Prior to researching and writing this book he believed that political scientists had much to say about leadership, but far too much of it centered on the power one holds in a leadership relationship. He was equally interested in the followers in the relationship. He began examining leadership from the perspectives of other disciplinary frameworks such as history and sociology. The model he eventually used involved psychology, philosophy, history, management, political science, biology and sociology. A combination of these disciplines would become the backbone of leadership research and leadership studies (Sorenson, 2000).

Burns' view of leadership was broad-based, and not limited to just a select few at the top of an organization. He believed that the industrial model of leadership, rampant throughout the days of manufacturing and warehousing, must give way to a softer approach with less emphasis on one person (the leader) and far more emphasis on the process (the relationship). As the leadership paradigm shifted to a relational, reciprocal model, Burns' called for transformational leadership which would include a moral dimension, increased motivation, and concern for all involved in the process (Burns, 1978). The role of followers in the leadership relationship took on much more importance. Sorenson (2000) stated, "Those of us in the leadership field know our debt to Jim Burns. He pushed us from leaders to leadership, defined leadership as a process

between the leaders and the led, and put motivation at the core of the leadership process (p. 5). Ultimately, and most importantly, James MacGregor Burns encouraged this point of view to institutions of higher education that academic programs in leadership studies would be imperative to meet the challenges and changes that were coming in the country and the world.

### **Higher education and leadership education**

Throughout American history, much has been asked of higher education. Various stakeholders desire different outcomes for a wide variety of reasons. One of the original aims of higher education was preparation of leaders to guide the new country (Goodchild & Wechsler, 1989; Rudolph, 1990; Thelin, 2004). As such, higher education in the United States was intended to benefit not only the individual student but also the public good. Over the years, areas of emphasis in curricular goals have shifted a number of times due to many factors. However, remaining constant throughout time is the fact that a college education benefits individuals, but also importantly benefits our entire nation (AACU, 2002).

Recent studies of U.S. employers (AACU, 2002; Casner-Lotto & Barrington, 2006; Dwyer, Millett & Payne, 2006; Hart Research Associates, 2006; U.S. Department of Education, 2006), found that employers recognize the fact that this nation's colleges and universities play a major role in the country's ability to drive innovation and competition in the global economy, yet they see much room for improvement in the level of preparation of today's four-year college graduates. Three skill areas consistently cited as deficient in incoming hires are the ability to collaborate effectively with others in a team environment (AACU, 2002; Casner-Lotto & Barrington, 2006; U.S. Department of

Education, 2006; Dwyer et al., 2006; Hart Research Associates, 2006, Learning and Skills Council, 2006), critical thinking skills (U.S. Department of Education, 2006; Dwyer et al., 2006; Hart Research Associates, 2006; McLester & McIntire, 2006), and the ability to communicate effectively across various constituencies (AACU, 2002; Casner-Lotto & Barrington, 2006; Dwyer et al., 2006; Hart Research Associates, 2006). These skills are needed by members of every level of organizations in order to be more capable in effective teamwork, problem-solving, decision-making and communication. Clearly, soft skills are not being addressed in an intentional way throughout the college experience.

The culmination of these factors, the changes in both the workplace and the work force, the evolution of leadership as a field of study, and the role of higher education in serving the needs of the nation, has served to rapidly propel the academic discipline of leadership studies forward in higher education. Since Burns' seminal work, *Leadership* (1978), the number of leadership education programs in higher education has grown to nearly 1000 (Brungardt et al., 2006; Eich, 2003; Mangan, 2002; Riggio et al., 2003; Schwartz & Gimbel, 2000). Many of these programs were designed to address the problem of deficient soft skill development. By examining the learning objectives and eventual outcomes of leadership education programs, one can determine the potential for leadership education to fill this void where traditional disciplines in higher education appear to leave gaps.

### **Statement of the problem**

It is well understood that this nation's colleges and universities do far more than prepare their graduates for job attainment. They prepare individuals to live more well-

rounded lives – to actively participate in civic responsibilities in their own communities, to raise families, to live ethically, and to enjoy the benefits of living in a prosperous country (U.S. Department of Labor, 1991; AACU, 2002). Yet, at the same time we seek to develop well rounded individuals, we must be mindful of how successful these individuals are in the workplace.

The deficiency in soft skills needed in the workforce is detrimental to many individuals as they strive to obtain and retain meaningful employment. In turn, as these individuals churn through the workforce arena, going from one job to the next as a result of deficient employability skills, our nation's economy is at risk. In the 21<sup>st</sup> century, American competitiveness and prosperity of the individual workers will be closely correlated to the education and skill attainment of the workforce (Stuart & Dahm, 1999).

Dr. Anthony Carnevale, then chief economist of the American Society for Training and Development, wrote extensively of the dangers to U.S. society if workforce development issues were not addressed in a more intentional way (Carnevale et al., 1990). Carnevale wrote that though the three “R’s” would always remain critical in an employee’s ability to do a job, soft skills such as the interpersonal skills needed in effective teamwork, critical thinking, and communication would take on new importance regardless of the job context. Carnevale et al. (1990) wrote that a deficit of human-capital could threaten corporate competitiveness and block personal initiative and opportunity for this country (Carnevale et al., 1990). Therefore, while a college education is designed to meet individual goals, never has there been a time when the convergence of those individual goals, coupled with the public goals of a strong workforce, been more important.

Despite numerous reforms, our educational system has not changed fast enough to keep up with the rapidly transforming workplace. This issue of deficient soft skills in members of modern organizations is increasing at an alarming rate. Much has been written about the importance of soft skills over the past twenty years (Eldredge, 2006; Freitag, 2000; Schinn, 2003; Houghton & Proscio, 2001; Newell, 2002; Rader & Wilhelm, 2002), yet today there remains a gap between the skills college graduates enter the workforce prepared with, and the skills needed in those places of work. As early as 1990 as Bostingl summarized the work of the National Center on Education and the Economy he wrote:

America's choice amounts to this: either we commit now to high performance in the process and products of our schools and industries, along with the development of intrinsically motivated and highly skilled young people, or we consign more than 70 percent of our workers to increasingly low wages, and put our heritage at risk as the global economy washes over us (Bostingl, 1990, p. 68).

Tucker (1995) echoed these words when he wrote that for this country to stay competitive, without being forced to lower wages, we must raise the skills of the frontline worker to levels as high as the management and professional staff of organizations from past eras, organizations that were originally designed for mass production (Tucker, 1995). Yet much of the literature reports that it is the non-technical work behaviors of most entry-level employees that do not meet employers' needs (Smith, 2002; Wilhelm, 2002). An employee's soft skills, or lack thereof, can negatively impact an organization's bottom line (Eldredge, 2006).



In today's new high performance workplace, managers of yesterday are entry-level workers of today. A common issue in leadership development is high achievers who reach a level where their lack of soft skills hampers their performance and proves a barrier to their continued progression in levels of responsibility (Newell, 2002). Therefore, today's college students need to be equipped with these skills upon graduation so as to be competitive in the workforce immediately upon hire. The changing labor market and economy over the past 20 years has served to increase the importance that post-secondary education plays in the preparation of these graduates for the contemporary workforce (Kwok, 2005).

This study investigated how well college graduates were prepared for effectiveness in today's contemporary workplace. The focus was on the use of soft skills in modern organizations and the impact one university's leadership studies program has on the soft skills of its graduates.

The Department of Leadership Studies at Fort Hays State University (FHSU) began as a program with 45 students in 1993 (Fort Hays State University, 2008). In 2000, a proposal to offer a full bachelors degree in Organizational Leadership was submitted to the Kansas Board of Regents and was granted. In 2001, FHSU became the first and only university in the state of Kansas to offer a major in leadership (Brungardt et al., 2006). Several other state institutions offer certificates, emphasis, or minors in leadership. As of spring 2008 graduation records, 1,023 students had received a leadership certificate (offered since 1994), 150 were currently pursuing a degree in leadership, and 155 had graduated with the degree from the Department of Leadership Studies at FHSU (Fort Hays State University, 2008).

Previous evaluations have been conducted on this program. Prior to the offering of a bachelor's degree, Brungardt and Crawford (1996) created a framework for assessment and evaluation using the FHSU program as the sample. The following year a program evaluation was completed on the role the FHSU Leadership Studies program played in improving a student's leadership potential (Brungardt, 1997). In 2006, a qualitative study was completed on the program comparing it to other leadership degree programs in the country (Brungardt et al., 2006). At that time, one recommendation for further research was to examine past leadership graduates who were in the workforce. This, coupled with the continued call for enhanced soft skills in the incoming hires of our nation's workforce, created the need for this study. This investigation was a status study of the program in the context of prior FHSU program evaluations in order to determine the relationship of the soft skills taught to the degree or amount of leadership education completed by the students.

### **Research purpose and questions**

The primary purpose of this study was to determine whether Fort Hays State University graduates with an academic background in the discipline of leadership studies were better equipped with essential soft skills required to be successful in contemporary organizations. This inquiry was driven by the knowledge that in the early 1990's several large studies were published concerning potential debilitating workforce issues. These studies expressed the demand for educational systems to begin addressing a new set of workforce skills that would be needed to assure success in contemporary organizations. However, as recently as 2007, a study consistently cited similar workforce deficiencies in current incoming hires. The basic premise of this study revolved around the following

question. *Is there a statistically significant difference in self-reported ratings of soft skills between students with no leadership education in comparison to students with a certificate in leadership and in comparison with students who earned a bachelor's degree in Organizational Leadership?*

### **Definition of terms**

Following are the key terms that are used throughout the entirety of this study, listed here in alphabetical order. These are definitions that are used within the framework of this study.

Academic collegiate leadership programs: refers to leadership programming found in the “academic” divisions of colleges and universities. Usually implies the traditional classroom study of leadership (Crawford & Brungardt, 1997, p. 18).

Behavioral skills: identified as those interpersonal skills such as listening, consistently interacting positively with others, and positive work habits and attitudes.

Construct validity: the degree to which scores on a measurement scale can be accounted for by the explanatory construct of a sound theory (Best & Kahn, 1998).

Critical thinking: higher order intellectual skills important to the formation and checking of beliefs, as well as evaluating, then deciding one's actions.

Employability: The relative chances of acquiring and maintaining different kinds of employment (Brown, Hesketh & Williams, 2003, p. 111).

Employability skills: refers to transferable core skill groups required by the 21st century workplace necessary for career success at all levels of employment (Overtoom, 2000, p. 2).

High performance workplace: innovative organizations with emphasis on quality and performance with decentralized authority and multi-directional communication; more direct worker control over job outcomes provides increased individual work responsibility; focus on continuous quality improvement (National Center on Education and the Economy, 1990).

Leadership education: refers to learning activities that are intended to enhance and foster leadership potential (Brungardt, 1997).

Leadership certificate program: refers to Fort Hays State University's nine credit hour Leadership Studies program. This includes three core courses revolving around the nature, tasks, and issues of leadership (Fort Hays State University, 2008).

Leadership skills: refers to one's ability to influence and interact in cooperation with others in pursuit of positive change which is mutually desired; the ability to leverage the strengths of others to achieve common goals; use interpersonal skills to coach and develop others (Casner-Lotto & Barrington, 2006).

Problem-solving: the ability to recognize and define problems, invent and implement solutions, and track and evaluate results (Portway & Lane, 1998).

Soft skills: commonly accepted non-technical workplace skill set that organizations desire of their employees (Conrad & Leigh, 1999); personal competencies and interpersonal skills that are non-technical in nature (Wilhelm, 2002); a collection of human behaviors that involves the ability to interact and communicate productively with others in a consistent manner in pursuit of common goals (Eldredge, 2006). Throughout the literature, this newly emphasized skill set is referred to by various terms such as: behavioral skills (Smith, 2002), interpersonal skills (Wilhelm, 2002), employability skills

(Overtoom, 2000; Robinson, 2006; U.S. Department of Labor, 1991), and human relations skills (Wilhelm, 2002). Additionally, others have used the term soft skills (Eldredge, 2006; Bisoux, 2002; Houghton & Proscio, 2001; Newell, 2002; Suzl, 2002), leadership skills (Daft, 2002; Northouse, 2007), and workforce development skills (Judy & D'Amico, 1997; Neill & Mashburn, 1997, O'Neil, Allred & Baker, 1997).

Team: Several definitions of teams exist in the literature. According to O'Neil et al. (1999), some useful definitions are: (1) teams are composed of two or more individuals who share a common goal; or (2) teams are composed of members of a working group identified as a "team" or (3) a team is a distinguished set of two or more people who interact dynamically, interdependently, and adaptively in working toward a common goal, and having a limited lifespan of membership (O'Neil et al., 1999).

Teamwork: Teamwork can be defined as an identifiable set of behaviors, cognitions, and attitudes that contribute to the team's overall functioning (Stout, Cannon-Bowers & Salas, 1996). McIntyre and Salas (1995) suggest that teamwork comprises a set of interrelated actions that include performance monitoring, giving and receiving feedback, close-loop communication, back-up behaviors, adaptability, and coordination of action. These same competencies are often identified as soft skills. As such, the questionnaire that was used for this study is a teamwork skills questionnaire, but it also served to measure proficiency in related soft skills. For the purposes of measuring teamwork, the researcher will use the total scores from the 36 items of the Teamwork Skills Questionnaire (O'Neil et al., 1999).

Teamwork: Adaptability: defined as a team's ability to "monitor the source and nature of problems through an awareness of team activities and factors bearing on the

task” (O’Neil et al., 1997, p. 413). For the purposes of measuring teamwork: adaptability, the researcher used the five items from the Teamwork Skills Questionnaire (O’Neil et al., 1999) identified for measuring the skill of adaptability.

Teamwork: Communication: defined as a team’s ability to “monitor the source and nature of problems through an awareness of team activities and factors bearing on the task” (O’Neil et al., 1997, p. 417). For the purposes of measuring teamwork: communication, the researcher used the seven items from the Teamwork Skills Questionnaire (O’Neil et al., 1999) identified for measuring the skills of communication.

Teamwork: Coordination: defined as a team’s “process by which team resources, activities, and responses are organized to ensure that tasks are integrated, synchronized, and completed with established temporal constraints” (O’Neil et al., 1997, p. 413). For the purposes of measuring teamwork: coordination, the researcher used the five items from the Teamwork Skills Questionnaire (O’Neil et al., 1999) identified for measuring the skill of coordination.

Teamwork: Decision-making: defined as a team’s “ability to integrate information, use logical and sound judgment, identify possible alternatives, select the best solution, and evaluate the consequences” (O’Neil et al., 1997, p. 415). For the purposes of measuring teamwork: decision-making, the researcher used the six items from the Teamwork Skills Questionnaire (O’Neil et al., 1999) identified for measuring the skill of decision-making.

Teamwork: Interpersonal skills: is defined as “the ability to improve the quality of team member interactions through the resolution of team members’ dissent, or the use of cooperative behavior” (O’Neil et al., 1997, p. 416). For the purposes of measuring

teamwork: interpersonal skills, the researcher used the six items from the Teamwork Skills Questionnaire (O'Neil et al., 1999) identified for measuring the skills of interpersonal skills.

Teamwork: Leadership: for the purpose of this study, is defined as “the ability to direct and coordinate the activities of other team members, assess team performance, assign tasks, plan and organize, and establish a positive atmosphere” (O'Neil et al., 1997, p. 417). For the purposes of measuring teamwork: leadership, the researcher used the seven items from the Teamwork Skills Questionnaire (O'Neil et al., 1999) identified for measuring the skill of leadership.

Practitioners, researchers, employers and educators alike use verbiage interchangeably for the skill set referred to as soft skills. Upon further exploration of the literature, it is obvious that these terms have similar meanings. This needed skill set is a collection of human behaviors that involves the ability to interact and communicate productively with others in a consistent manner in the pursuit of common goals. These are skills and competencies that all organizations desire in their employees, regardless of industry type. The skills needed in the new workplace include: communication skills, adaptability/flexibility, decision-making, enhanced interpersonal skills, problem-solving/conflict resolution, and the ability to work more effectively in teams (Carnevale et al., 1990; O'Neil et al., 1997; Wilhelm, 2002). For the purposes of this study, the term soft skills is used to refer to this set of attributes which are increasingly in demand yet difficult to find.

### **Significance of the study**

For the past 20 years, the workplace has rapidly transformed from a manufacturing-based environment to one of information, knowledge, and service. Throughout that time, government agencies, educators, researchers and industry representatives have written extensively about the growing deficiencies in soft skills. Despite education reforms, the skills gap continues to widen.

This study compiled much of the literature in this area, while adding similar recent studies, in yet another attempt to answer the skills gap question. These soft skills are oftentimes difficult to identify when hiring, difficult to observe, and even more difficult to measure. Yet difficulty in measurement should not be used as reasoning to continue avoidance of this area of human development. This study was important in that not only are well-documented facts reiterated and expanded upon, but a viable solution is offered.

### **Limitations of the study**

There are several limitations to the study. First, in comparison to most academic disciplines, the sample size of this population from a new academic discipline (approximately fifteen years of history) was relatively small. Second, the demographics of the student body at FHSU were not ethnically diverse. Relatively few multicultural students live in western Kansas, which is the geographic area from which FHSU draws the majority of the on-campus students. Similar homogeneity was also found among the students who chose to participate in Leadership Studies. Third, throughout the country there are relatively few educational institutions offering bachelor's degrees in leadership.



A 2006 study (Brungardt et al., 2006) found approximately 15 such schools. Of those, curricular offerings vary greatly (Brungardt et al., 2006). This caused generalizability across like programs to be difficult.

Finally, the survey research method used in this study was based on self-report of respondents. Asking individuals to report on their own behaviors may or may not produce accurate data. People who self-report their own behaviors may report what reflects positively on their personal knowledge, attitudes, and behaviors (Cook & Campbell, 1979). Despite the concerns about self-report data reliability, appropriate survey methodologies were utilized to attempt to minimize this limitation.

## CHAPTER 2 - Literature Review

This chapter reviewed the available literature on the needs of incoming workers in modern organizations and how well prepared recent college graduates are to meet these needs. A historical review of studies exploring this national issue is discussed. Also addressed is one emerging and rapidly growing academic discipline in higher education which attempts to address this gap in needed workforce attributes.

### **Changes in organizational life**

As the organizational landscape has changed over the last 60 to 70 years, so has the need for changing member behaviors. Early research focused on individual factors associated with behaviors identified as leadership (Bird, 1940; Stogdill, 1948). In the late 1960's and early 1970's, researchers studied a broader picture by looking at organizations more holistically – not only the individual people involved, but also the situational context, setting and climate where leadership is exhibited (Doh, 2003; Hencley, 1973; Stogdill, 1974). Leavitt (1975) wrote:

Groups attracted interest initially as devices for improving the implementation of decisions and to increase human commitment and motivation. They are now loved because they are also creative and innovative, they often make better quality decisions than individuals, and because they make organizational life more livable for people. (p. 76)

By the mid 1980's, organizations from a wide variety of societal segments called for the increased use of teams to improve organizational life. In 1987 the Hudson

Institute published *Workforce 2000*, which was a study of the changing American workforce. Trends such as quality circles, autonomous work groups, project teams and management task forces, became popular methods to accomplish work within organizations (Hackman, 1987).

Adapted from *21<sup>st</sup> Century Skills for 21<sup>st</sup> Century Jobs* (1999), Table 2.1 summarizes these ongoing changes in organizational life. An important part of the shift from old to new was that the new system was fluid while the old system was more fixed in nature. The new system appears to be able to respond to changing conditions more readily. Certainly, decision-making was thought to be shared in the new system while it remained in the hands of a few in the older system. As shown, the 21<sup>st</sup> century skills chart signaled that modern workers must be able to function in teams, have multiple responsibilities, and play a significant role in how the organization functioned and achieved its goals. Worker productivity, to an extent, was based on team productivity.

**Table 2.1 Historical changes in organizational life**

<b>ELEMENT</b>	<b>OLD SYSTEM</b>	<b>NEW SYSTEM</b>
<b>Workplace organization</b>	Hierarchical  Function/specialized Rigid	Flat  Networks of multi-functional teams Flexible
<b>Job design</b>	Narrow Do one job Repetitive/standardized	Broad Do many jobs Multiple responsibilities
<b>Employee skills</b>	Specialized	Multi/cross skilled
<b>Workforce management</b>	Command/control systems	Self-management
<b>Communications</b>	Top down Need to know	Widely diffused Big picture
<b>Decision making responsibility</b>	Chain of command	Decentralized
<b>Direction</b>	Standard operating procedures	Procedures constantly changing
<b>Worker autonomy</b>	Low	High
<b>Employee knowledge of organization</b>	Narrow	Broad

*Adapted from 21 Century Skills for 21<sup>st</sup> Century Jobs, Stuart and Dahm, 1999*

By 1998 employers reported that approximately 80% of all employees in America worked in groups identified as teams (Caroselli, 1998). Over the past ten years, this trend has rapidly continued to move this percentage higher. This shift in organizational life was addressed by John Sculley, former CEO of Apple Computer when he said, “Our old, ineffective, hierarchical model will need to be replaced by the new empowerment model of putting critical thinking and decision-making skills into the hands of a fully educated workforce” (In McFarland, Senn, & Childress, 1993, p. 67). The question then, and now, rests in how best to “fully educate” the workforce.

### **Why higher education?**

Bailey (1997) said “Innovative work systems suggest the need for a very different educational process, one in which the integration of academic and vocational studies and of theoretical and practical learning must play a central role” (Bailey, 1997, p. 36). A fully educated workforce must be proficient in hard, technical skills as well as interpersonal, or soft skills. In the past, soft skills were considered best learned at home, in the K-12 educational system, the vocational education arena, or through on-the-job training. With today’s growing concern for America’s global societal and economic status, there is much concern about educating this nation’s greatest resource – its workforce (Green-Ivey, 2002). And yet, the piece of this fully educated workforce equation that is consistently avoided is training for soft skills.

As more of the U.S. population goes to college, the more appropriate it becomes to focus on soft skill development to enhance one’s employability skills throughout students’ collegiate lives. Though much can be done to improve these soft or interpersonal skills through effective parenting practices and the K-12 school system,

more is needed to keep up with the changing world. Organizations are already spending billions annually to educate their new hires in these needed skills, which only slows their innovation and progress (Green-Ivey, 2002). In the continuum of personal development, higher education is the remaining logical point of contact that holds promise to address this problem.

The sheer number of students enrolled in U.S. colleges and universities today indicates a rationale for why we should be looking to higher education. Terry Hartle of the American Council on Education points to the U.S. Department of Education's 2001 *Report on the American Workforce* (U.S. Department of Education, 2001). These statistics revealed 13.8 million students enrolled in postsecondary education in 1997 as compared to 15.5 million enrolled in 2002. Education officials project the number will rise to 17.5 million by 2010 (Henry, 2002). These numbers represent over 75 percent of high school graduates who now get some postsecondary education within two years of receiving their diplomas (AACU, 2002). For the first time in our nation's history, these numbers also represent the first time we have more college students in this country than high school students. A college degree today is similar to what a high school diploma became 100 years ago – the pathway to a successful career and informed citizenship (AACU, 2002). As such, higher education must assume more responsibility in the growing workforce dilemma of soft skill development.

### **The skills gap – a historical perspective**

This section tracks, in chronological order, a development of the literature which has set the precedent for this study. From the early 1990's through today, numerous studies and articles have called for new skills to be developed for college graduates, so as

to make the school to work transition smoother for all involved – the graduates and their new employers.

In 1990 the American Association of Training and Development published a study explaining the reasons behind the changing needs in the workforce. Anthony P. Carnevale served as principal investigator for this study which began in 1986. The study revealed that the characteristics of the new world marketplace would be much different. The workforce required to carry out repetitive tasks on a traditional production level would not be the same as the kind of workers needed in the future (Carnevale et al., 1990). This new work environment would require workers at all levels to solve problems, engage in problem-solving to improve work methods, and interact effectively with their coworkers (Bailey, 1997; Packer, 1998).

This study's primary findings, published in *Workplace Basics: The Essential Skills Employers Want* (Carnevale et al., 1990) identified the basic skills employers considered necessary to achieve workplace success. These skills were placed into seven skill groups: (1) *influence* - organizational effectiveness and leadership, (2) *group effectiveness* – interpersonal skills, negotiation, and teamwork, (3) *personal management* – self-esteem, goal setting and personal development, (4) *adaptability* – creative thinking and problem-solving, (5) *communication* – listening and oral communication, (6) *competence* – reading, writing, and computation, and (7) *foundational* – learning to learn (Portway & Lane, 1998; Smith, 2002; Wilhelm, 2002).

The National Center on Education and the Economy's 1990 report, *America's Choice: High Skills or Low Wages*, argued that higher levels of skills in the workforce would be necessary to compete in the new global economy. In 1991, President George

H.W. Bush and the nation's governors announced a new educational strategy, *America 2000*, which set six educational goals for the nation (Holter & Kopka, 2001). Within Goal 5, higher education was given the mandate that "the proportion of college graduates who demonstrate an advanced ability to think critically, communicate effectively, and solve problems will increase substantially" (National Center for Education Statistics, 1995). Elizabeth Dole, then Secretary of the Department of Labor, established the Secretary of Labor's Commission on Achieving Necessary Skills, commonly referred to as the SCANS Commission (1991).

The purpose of the SCANS Commission was to identify common skills that the overall workforce required of employees (Smith, 2002). This document made strong references to new types of organizational arrangements such as employee empowerment and increased use of teams to accomplish an organizational mission and goals. This would require not only new skills, but also a higher level of existing skills from the current workforce.

The commission determined that to find meaningful work, graduates would need to master certain workplace skills. In all, this report compiled 36 skills and competencies described as essential to the work place in the 21<sup>st</sup> century (U.S. Department of Labor, 1991). Foundation skills included basic skills such as reading and math, along with communication skills of writing, speaking and listening. Thinking skills such as decision-making, problem-solving, and creative thinking were included, as were personal qualities such as responsibility, self-esteem, self-management, sociability, and integrity. Five competency areas were also identified, such as (1) resource management of time, money, and human resources, (2) interpersonal skills such as ability to function as an



effective team member and the ability to exercise leadership, (3) information usage such as acquiring, organizing, analyzing, and communicating information, and (4) understanding and ability to select, apply and maintain technology (U.S. Department of Labor, 1991; Whetzel, 1992; Wilhelm, 2002).

When combined, these early 1990 studies pointed to the need for a very different type of worker required to be effective in organizational life. Organizations needed people who were comfortable with adaptability, could communicate well, could manage resources and make effective decisions, while simultaneously interacting positively with their co-workers, and still oftentimes exhibit certain leadership abilities. This demand from our national human resource pool would require that individuals be educated as holistically as possible – soft skills would be as critical as hard skills. Ultimately, the required skill set would continue to incorporate job-specific proficiencies and basic academic skills of math and writing, but would now be expanded to include behavioral skills such as problem-solving along with the ability to maintain consistent interpersonal relationships with team members (Smith, 2002). This enhanced education would go beyond basic acquisition of discipline specific knowledge and prepare students for a demanding and evolving workplace within a global economy (Evers, Rush & Berdrow, 1998).

During the late 1990's, numerous scholars continued to build a persuasive case emphasizing the need for changes in higher education which would more closely align college graduate's skills with the workplace of the 21<sup>st</sup> century (Bailey, 1997; Evers et al., 1998; Judy & D'Amico, 1998; O'Neil et al., 1997; Packer, 1998; Portway & Lane, 1998). Intentional efforts were made to bring education, business, and governmental

entities together to determine best practices to achieve this common goal, which had potential negative long-term national effects if left unaddressed (Evers et al., 1998; O’Neil et al., 1997; Portway & Lane, 1998; Stuart & Dahm, 1999).

Throughout this time, the skills most frequently mentioned as deficient were: knowing how to learn; competence in reading, writing, and computation; effective listening and oral communication skills; adaptability through creative thinking and problem-solving; personal management with strong self-esteem and initiative; interpersonal skills; the ability to work in teams or groups; and leadership effectiveness (Imel, 1999; McNabb, 1997; Murnane and Levy, 1996; Oliver et al., 1997). Though not the only measure of successful employment, the skills that consistently emerged throughout this time frame as the most critical for successful employment were the soft skills, those personal competencies and interpersonal skills that were non-technical (Wilhelm, 2002).

After the turn of the century, it became apparent that merely reaching the 21<sup>st</sup> century milestone on the calendar made little difference in the skills gap between what organizations needed and what educational institutions produced. The call for 21<sup>st</sup> century workers to match the new 21<sup>st</sup> century jobs throughout the decade of the 1990’s, though seriously heeded in some circles, had yet to fully impact student educational outcomes.

Early in the 21<sup>st</sup> century, the American Association of Colleges and Universities (AACU) released *Greater Expectations: A New Vision for Learning as a Nation goes to College* (2002). This report included a call for students to better learn to effectively communicate orally, visually, and in writing; to improve in their problem-solving

abilities; and to understand and work with complex systems and within diverse groups. This report asked the educational community to rethink what a liberal arts education should entail in the 21<sup>st</sup> century. The report included several direct implications for the workplace and proposed the notion of a ‘practical’ liberal arts education that “erases the artificial distinctions between studies deemed ‘liberal’ (interpreted to mean that they are not related to job training) and those called ‘practical’”. These are interpreted to mean that they are related to job training (Casner-Lotto & Barrington, 2006).

A summary of Corporate Recruiter’s survey report released in 2004 listed as one of four key findings that employers wish to see more improvement in MBA graduates’ soft skills such as leadership, communication, and interpersonal skills, a skill set which is highly attractive yet difficult for employers to find. This report, compiled by the Graduate Management Admission Council (2004), found two interesting observations (1) “What distinguished the most sought-after schools and MBA graduates are the soft skills of communication and leadership” and (2) “Students may indeed get by on their technical and quantitative skills in the first few years on the job, but leadership skills quickly distinguish the stars” (Graduate Management Admission Council, 2004, p. 4). According to the MBA Skills Gap Analysis from the same report, the skills with the high need, strength and attractiveness were (1) leadership skills, and (2) interpersonal skills.

To build upon the Graduate Management Admission Council’s findings, in 2006 the Association to Advance Collegiate Schools of Business (AACSB, 2006) formed a task force to study the future needs of business and ways to better develop graduates “who are capable of working with global partners, suppliers, and customers” (AACSB, 2006, p. 8). As with numerous studies across many disciplines, the AACSB Alliance for

Management Education Task Force pointed out that business graduates were lacking in a number of desirable skills. These included the ability to work in teams and in collaborative situations, as well as interpersonal skills including written and oral communication proficiencies. Beyond business graduates, across the nation this concern has been voiced by various sectors including healthcare, education, technology and non-profit organizations.

A comprehensive study titled *The National Employers Skills Survey* (Learning and Skills Council, 2006) involved over 74,000 employers and found consistent results with the Corporate Recruiters Survey (2004) and the Graduate Management Admission Council (2004). The key findings of this study identified the main skills lacking among incoming applicants to be customer handling skills, oral communication skills, problem-solving skills, and teamwork skills (Learning and Skills Council, 2006).

The Education Testing Service (ETS) produced a 2006 report *A Culture of Evidence: Postsecondary Assessment and Learning Outcomes* which examined the effectiveness of postsecondary education's ability to produce hard evidence of its impact on graduates. This report also included a recommendation for a comprehensive national system for determining the nature and extent of college learning. The four dimensions undertaken in this comprehensive national system were (1) workplace readiness and general skills (2) domain-specific knowledge and skills (3) soft skills, such as teamwork, communication and creativity, and (4) student engagement with learning (Dwyer, Millett & Payne, 2006).

Later that same year, Secretary of Education Margaret Spellings released *A Test of Leadership: Charting the Future of U.S. Higher Education* (2006). Once again, this

report reiterated the fact that in this knowledge society, fewer and fewer people engage in individualized, repetitive tasks of the industrial age, while more and more people are asked to work with others in a team environment. This report found that unacceptable numbers of our college graduates enter the workforce without the skills employers need in our new economy. One expectation set out for higher education by the Spellings report is an educational system that gives Americans the workplace skills they need to adapt to this new and rapidly changing economy (U.S. Department of Education, 2006).

For a variety of reasons, proficiency in working with others is often overlooked in curricular planning and implementation of collegiate coursework. Or worse, in the name of teaching teamwork, students are placed indiscriminately into groups and asked to complete an assignment together. Without some knowledge of the components of effective teamwork, some explanation of the value in accomplishing goals collaboratively, and some guided practice in effective teambuilding behaviors, students have difficulty progressing from a disjointed group into an effective team. This experience often negatively skews students' opinion of working with others, which causes further issues for that individual when required to work in teams in their future careers. Higher education has a responsibility to address these underlying issues of how academic coursework, programs and institutions must be transformed to serve the changing needs of a knowledge economy (U.S. Department of Education, 2006).

In late 2006, another study was released which highlighted over 400 employers' perspectives on the basic knowledge and skills of new entrants to the 21<sup>st</sup> century workforce (Casner-Lotto & Barrington, 2006). *Are they really ready to work? Employers' Perspectives on the basic knowledge and applied skills of new entrants to the*

*21<sup>st</sup> century U.S. work force*, distinguished between basic knowledge (academic subjects and skills acquired in school) and applied skills (ability of new workforce entrants to use what they learned in school to perform in the workplace). Applied skills include those based on cognitive abilities such as *critical thinking/problem-solving*, as well as more social and behavioral skills such as *professionalism/work ethic*. Other applied skills, such as *oral communications and teamwork/collaboration*, combine both cognitive abilities and social skills (Casner-Lotto & Barrington, 2006).

This study combined resources, reputations, and member bases of The Conference Board, Corporate Voices for Working Families, the Partnership for 21<sup>st</sup> Century Skills, and the Society for Human Resource Management to conduct an in-depth study of the corporate perspective on the readiness of new entrants into the U.S. workforce by level of educational attainment. Two questions were posed (1) what skills are necessary for success in the workplace of the 21<sup>st</sup> century?, and (2) do new entrants to the workforce - graduates of high school, two-year and four-year colleges - have those skills? (Casner-Lotto & Barrington, 2006). For the purposes of this literature review, only the four-year college results were examined and reported.

The human resource managers from these organizations were asked to perform five main tasks in reference to their incoming hires. The first three tasks were to (1) prioritize the most important basic knowledge/skills needed in their organization, (2) prioritize the most important applied skills needed, (3) combine the list of basic knowledge/skills and applied skills needed and prioritize the entire list. Table 2.2 lists, in order, the results for the four-year college graduates.

**Table 2.2 Prioritized combined basic knowledge/skills and applied skills needed in today’s organizations**

	<b><u>Basic knowledge needed</u></b>	<b><u>%</u></b>	<b><u>Applied Skills needed</u></b>	<b><u>%</u></b>	<b><u>Combined knowledge and applied skills</u></b>	<b><u>%</u></b>
1	Writing in English	89.7	Oral Communications	95.4	Oral communications	95.4
2	English Language	88.0	Teamwork/Collaboration	94.4	Teamwork/Collaboration	94.4
3	Reading Comprehension	87.0	Professionalism/Work Ethic	93.8	Professionalism/Work Ethic	93.8
4	Mathematics	64.2	Written Communications	93.1	Written Communications	93.1
5	Science	33.4	Critical Thinking/ Problem Solving	92.1	Critical Thinking/Problem Solving	92.1
6	Foreign Languages	21.0	Ethics/Social Responsibility	85.6	Writing in English	89.7
7	Government/Economics	19.8	Leadership	81.8	English Language	88.0
8	History/Geography	14.1	Information Technology Application	81.0	Reading Comprehension	87.0
9	Humanities/Arts	13.2	Creativity/Innovation	81.0	Ethics/Social Responsibility	85.6
10			Lifelong Learning/Self Direction	78.3	Leadership	81.8
11			Diversity	71.8	Information Technology Application	81.0
12					Creativity/Innovation	81.0
13					Lifelong Learning/Self Direction	78.3
14					Diversity	71.8
15					Mathematics	64.2
16					Science	33.4
17					Foreign Languages	21.0
18					Government/Economics	19.8
19					History/Geography	14.1
20					Humanities/Arts	13.2
	Basic knowledge/skills rank ordered by percent rating as “very important.”		Basic applied skills rank ordered by percent rating as “very important.”		Basic knowledge and applied skills rank ordered by percent rating as “very important.”	

*Adapted from Are They Really Ready to Work? Casner-Lotto & Barrington (2006)*

Applied skills clearly dominate the top ten on this combined ranking list. Optimally, these skills should build upon one another. Successful *teamwork/collaboration* depends a great deal on successful *oral* and *written communications* and *critical thinking/problem solving* skills (Casner-Lotto & Barrington, 2006).

Using the information from steps (1), (2), and (3), the employers continued with the final steps of the process. At this time, the employers were asked to (4) assess the actual overall preparation of new entrants within their organizations, and (5) prioritize what is believed will be the most important basic knowledge/skills and/or applied skills in their organization over the next five years.

When asked to assess the overall preparation of new entrants into their organizations (4), these human resource managers were asked to rate their incoming workers in one of three categories – deficient, adequate, or excellent. The employer respondents rated post-secondary entrants better prepared than high school graduates, yet considered the preparation to be “excellent” for only a minority of these post-secondary new entrants (23.9%).

In the area of basic knowledge/skills, four year graduates were found to be most deficient in *foreign languages* and *writing in English*. Across all educational levels, *writing in English* was the most frequently reported basic academic skill “deficiency” reported. For these graduates, lack of *leadership* was the second most frequently reported applied skill “deficiency,” behind only *written communications*. Casner-Lotto & Barrington (2006) reported that:



Given the huge demographic shifts underway, with the baby boomers retiring and the younger generations taking their place, the organizational implication of lack of *leadership* is an issue that warrants increased attention from corporate leaders (Casner-Lotto & Barrington, 2006, p. 39).

The final step for these employers (5) was to prioritize what they believe to be the most important basic knowledge/skills and/or applied skills in their organization over the next five years. Table 2.3 lists, in order, the results of this inquiry.

**Table 2.3 Prioritized combined basic knowledge/skills and applied skills needed in future organizations**

<i>Rank</i>	<i>Basic knowledge &amp; applied skills</i>	<i>Rank</i>	<i>Basic knowledge &amp; applied skills</i>
1	Critical Thinking/Problem Solving*	11	Lifelong Learning/Self-Direction*
2	Information Technology Application*	12	Foreign Languages
3	Teamwork/Collaboration*	13	Mathematics
4	Creativity/Innovation*	14	Writing in English
5	Diversity*	15	Reading comprehension
6	Leadership*	16	Science
7	Oral Communications*	17	English Language
8	Professionalism/Work Ethic	18	Government/Economics
9	Ethics/Social Responsibility*	19	History/Geography
10	Written Communications*	20	Humanities/Arts

\*Indicates an applied skill

*Adapted from Are They Really Ready to Work? Casner-Lotto & Barrington (2006)*

As noted, the applied skills dominate the ranking of basic knowledge and skills expected to increase in importance over the next five years. Clearly, a gap exists between what incoming college graduate hires are prepared to contribute to their new workplaces as compared to the expected needs in organizational life, when looking forward through the next five years.

A final report that substantiates the findings in these prior studies was released in January of 2007. This report stemmed from work by the Association of American Colleges and Universities (AACU) initiative, *Greater Expectations: A New Vision for Learning as a Nation Goes to College* (AACU, 2002). AACU then built upon this initiative with their *College Learning for the New Global Century* report (AACU, 2007). In conducting the research for this 2007 report AACU commissioned Peter D. Hart Research Associates to conduct a series of focus groups and a national survey of employers. Hart interviewed 305 employers whose companies had at least 25 employees and report that 25% of their new hires hold at least a bachelor's degree from a four-year college (Hart Research Associates, 2006).

When evaluating the skills of potential new hires, these business executives placed the greatest importance on teamwork skills and the ability to collaborate with others in a diverse group. Critical thinking and the ability to effectively communicate orally and in writing rounded out the top tier of valued skills. In the second tier, the ability to assemble and organize information from multiple sources and the ability to innovate and think creatively were seen as most valuable. While the ability to work with numbers and understand statistics and proficiency in a foreign language were seen as important to employers, these business executives rank them as lower priorities when it comes to what they are looking for in incoming employees (Hart Research Associates, 2006).

Table 2.4 lists the main workplace soft skill needs cited in the nine major studies reported in this section of the literature review. Over the last two decades the literature has advised the educational community about the upcoming needs of the 21<sup>st</sup> century

knowledge-based worker. Current studies indicate that while many strides have been made to meet those needs, there remains work to be done. As noted in the table, teamwork was not considered as a specific need in the first four studies covering the period from 1990-2004. However, with the group of five studies all published in 2006, the five research groups made a consistent inclusion of teamwork and communication as highly rated soft skills. This researcher recognizes that the group of soft skills shown in table 2.4 includes levels of behavioral and social skills, while others combine some cognitive abilities and social skills.

**Table 2.4 Main workplace soft skill needs reported in nine major studies**

<u>Carnevale 1990</u>	<u>U.S. Dept. of Labor 1991</u>	<u>AACU 2002</u>
Communication Interpersonal Adaptability	Communication Interpersonal Problem-solving Creative thinking Decision-making Leadership	Communication Problem-solving (adaptability) Work with diverse groups
<u>GMAC 2004</u>	<u>AACSB 2006</u>	<u>Casner-Lotto &amp; Barrington 2006</u>
Communication Interpersonal Leadership	Communication Interpersonal Teamwork skills	Communication Leadership Work with diverse groups Teamwork skills
<u>ETS 2006</u>	<u>Learning &amp; Skills 2006</u>	<u>Hart 2006</u>
Communication Creativity Teamwork skills	Communication Problem-solving (Adaptability) Teamwork skills	Communication Work with diverse groups Teamwork skills

**The Alignment of Soft Skills and Teamwork Skills**

***Soft Skills***

Research shows that non-technical skills, such as the ability to work with others, to communicate effectively, to solve complex problems, to provide vision and inspiration for others, and the ability to analyze and draw decisions from multiple information sources are the skills today’s employers are seeking. Yet attaching a name to this skill set has proved to be a complex problem in and of itself. Few educators, employers, and workforce development practitioners have heartily embraced the term “soft skills.” The term is vague, difficult to define, and even more difficult to measure. However, over the

years as more and more college graduates entered the world of work armed with excellent hard, technical skills, yet incapable of accomplishing required projects with others, the term became increasingly acceptable. Soon, the phrase “soft skills” and the skill set it implies became almost inescapable. In an economy dominated by communication and collaboration, employers say what they want is really just a combination of “personality traits, social graces, facility with language, and personal habits that many older working people take for granted and most find hard to list” (Houghton & Proscio, 2001, p. 5).

### ***Teamwork Skills***

As responsibility in organizations is increasingly decentralized, and the traditional hierarchy is flattened, soft skills and teamwork skills become more desirable. With members at all levels involved in problem-solving, decision-making, and collaborative work assignments, all involved must be proficient in the skills that increase teamwork effectiveness. “Leadership is empowering a group of people to successfully achieve a common goal. In order to do that, you’ve got to tap their full potential,” Jack Welch, Former Chair and CEO General Electric (In McFarland, Senn & Childress, 1993, p. 285). But what skills need to be enhanced to function at “full potential?” What are the individual skills necessary to function at a high level in a team environment? Where can college students gain knowledge and experience in these needed skills?

Not surprisingly, teams and teamwork have been the subject of considerable empirical research in recent years. In reviewing the team literature which has evolved over the last 30 years, several common themes emerge. A team is typically defined as two or more people who interact and coordinate their work to accomplish a shared task or goal (Burke, Volpe, Cannon-Bowers & Salas, 1993; Cohen & Bailey, 1997; Hackman,

1987; Hirschfield, Jordan, Field, Giles & Armenakis, 2006; Morgan, Salas, & Glickman, 1993). Cohen and Bailey (1997) defined a team as a collection of people who are interdependent in their tasks, who share responsibility for results, they view themselves and are viewed by others as an intact social entity, and they manage their relationships across organizational boundaries (Cohen & Bailey, 1997). Per this commonly accepted definition, an individual's performance within a team is equally as important as the overall team performance. This then directs one back to the individual skills necessary to be effective within the team.

### **Teamwork and Soft Skills**

In order to illustrate the alignment between teamwork and soft skills, the researcher crafted Table 2.5 which includes the nine studies listed in Table 2.4 along with their soft skills. At the bottom of the table the researcher has included a chart which shows the alignment of teamwork skills and soft skills according to the work of O'Neil, Chung & Brown (1997).

O'Neil, Chung & Brown (1997) provide insight into the nature of those individual teamwork skills needed to be effective in the team process. Members of effective teams must first be prepared for the task, and in addition should know how to coordinate their activities, communicate with other team members, and respond effectively to changing conditions. Drawing on the work of Morgan et al. (1993) and Burke et al. (1993), O'Neil et al. (1997) adopted six categories describing individual work skills necessary to be effective in the team process (a) *adaptability* – recognizing problems and responding appropriately, (b) *coordination* – organizing team activities to complete a task on time, (c) *decision-making* – using available information to make decisions, (d) *interpersonal* –

interacting cooperatively with other team members, (e) *leadership* – providing direction for the team, and (f) *communication* – the overall exchange of clear and accurate information. These six categories show significant alignment with the desired skill set commonly referred to as soft skills. When the teamwork literature is compared with the last two decades of literature on soft skills needed in the workplace, several similarities emerge. Most common to both lists are: communication skills, teamwork skills, interpersonal skills, leadership skills and adaptability (problem-solving).

**Table 2.5 The alignment of teamwork with soft skills**

<b>SOFT SKILLS</b>		
<b><u>Carnevale 1990</u></b>	<b><u>U.S. Dept of Labor 1991</u></b>	<b><u>AACU 2002</u></b>
Communication Interpersonal Adaptability	Communication Decision-making Problem-solving (Adaptability) Creative thinking Interpersonal Leadership	Communication Problem-solving (adaptability) Work with diverse groups
<b><u>GMAC 2004</u></b>	<b><u>AACSB 2006</u></b>	<b><u>Casner-Lotto &amp; Barrington 2006</u></b>
Communication Interpersonal Leadership	Communication Interpersonal Teamwork skills	Communication Leadership Work with diverse groups Teamwork skills
<b><u>ETS 2006</u></b>	<b><u>Learning &amp; Skills 2006</u></b>	<b><u>Hart 2006</u></b>
Communication Creativity Teamwork skills	Communication Problem-solving Teamwork skills	Communication Work with diverse groups Teamwork skills



<b>TEAMWORK SKILLS</b>	
Adaptability	recognizing problems and responding
Coordination	organizing team activities
Decision-making	using information to make decisions
Interpersonal	interacting with team members
Leadership	providing team direction
Communication	exchange of accurate information

*Adapted from O'Neil, Chung, & Brown (1997)*

In summary, regardless of the term used – soft skills or teamwork skills – one fact remains clear. Never before in human history has the importance of these skills been emphasized more for every worker within every organization, regardless of position or



authority. Gone are the days of the traditional hierarchy when a select individual or small group of people provided total leadership control to the organization. Today, shared leadership is expected to flow from all levels, in all directions, at all times. Organizations are encouraged to create new flexible work structures that maximize the contributions of all employees. The importance of developing each employee's full potential has never been so critically important.

### **Teaching the Skill Set**

Many believe that soft skills can be taught and learned throughout student's educational experiences. While experts agree that life experiences may play a critical role in soft skill development, many scholars and educators alike believe educational environments designed to teach the skills termed as 'soft' can successfully do so. A variety of strategies and resources must be used by educators to promote competence in all areas, develop a relevant curriculum, clearly identify the needs of employers, and incorporate techniques that foster development of necessary skills (Suzl, 2002).

Research has shown that employers are seeking dependable employees who get along with one another in diverse groups, can work as part of a team, communicate effectively, solve complex problems, and are able to adapt to continuously changing work conditions. Most importantly is for the employee to not only *know* something about these skills, but to also be able to *apply* this knowledge of the skill throughout their daily lives in a practical manner. This applicability is oftentimes where the breakdown occurs.

Georges (1996) asks, "How does one acquire skillfulness?" Georges points out the difference between "education," to increase intellectual awareness, and "training," to make someone proficient at a given task. Students need to understand the results they are

being asked to achieve and the skills they will need to obtain those results (Georges, 1996). Throughout this process, they need the ability to practice (ideally with a teacher/coach) to achieve fluency (Suzl, 2002). Again, first students must understand the theoretical background and foundational reasons for the skill – the *why*. Then they must understand the most effective methods to make that skill ‘come to life’ – the *how*. The goal is to turn a student’s potential talent into demonstrable competence. In education, optimum outcomes will result with the proper balance of the *knowing* and the *doing* for the students.

Disciplines from across the academy are listening to employers voice their frustration from their inability to find incoming college graduates proficient in these skills. Engineering (Akins & Reda, 1998), management (Rader & Wilhelm, 2003; Sincoff & Owen, 2004); accounting (Blanthorne, Bhamornsiri, & Guinn, 2005; Smith, 2005), information systems (Joseph, Ang, & Slaughter, 1999; Russell, Russell, & Tastle, 2005), and communication studies (Petress, 2006), are some of the examples of studies undertaken and published with regards to this phenomenon. But perhaps none are focused as heavily in the area of soft skill development as leadership studies.

### **Leadership Education**

The emerging academic discipline of leadership studies strives to meet the needs of the new high performance workplace. Though the study of leadership has been a major scholarly activity for over 100 years, it was only thirty years ago that political scientist James MacGregor Burns effectively established the recognized field of leadership studies with his pioneering book *Leadership* (1978). Burns believed that the field of political science had much to say about leadership, but that far too much of

leadership through the political science lens centered on the power one holds in a leadership relationship. This traditional view of leadership puts the power of the leadership relationship in the hands of one person. Burns and others believe that the power of the leadership relationship actually resides in the leadership process, not with any one individual. In other words, in this new paradigm of leadership, “leadership equals a *process*” rather than “leadership equals a *person*”. This was an obvious paradigm shift in the leadership literature which has had lasting impact on both the theory and practice of leadership development in this country. According to John Alexander, President of the Center for Creative Leadership:

There has been a huge shift in thinking. Our tendency has been always to look to an individual for leadership. But now there’s an understanding that leadership is not always correlated with positions of power and authority. It is something that can come from anywhere in an organization or community. It can manifest in many places in many different ways (In Bisoux, 2002, p. 28).

Similarly, noted leadership scholar Joanne Ciulla, a professor of leadership at the Jepson School of Leadership says that leadership is no longer about directing or managing – it’s about taking initiative. She went on to say,

When our students are 22 years old, they’re not going to run General Motors, but they might be leaders in their work groups, or in their homes and communities. We are sending the message to students that leadership is not about being the boss or at the top of the heap. It’s about taking responsibility (In Bisoux, 2002, p. 30).

Roger McGill, Director of the MBA in Leadership Studies in Glasgow, Scotland argues that practical leadership skills are being neglected in business schools in all areas

of the world. As a result he agrees with what *Business Week* depicted 20 years ago when they said business schools are turning out ‘highly skilled barbarians.’ He further believes that missing from the curriculum are practical leadership skills such as emotional intelligence, teamwork and teambuilding skills, facilitation skills, oral communication skills, coaching, mentoring, and scenario planning (Bisoux, 2002). Many of these skills are the very same skills that recent studies of major employers proclaim to be deficient in their incoming hires. Most of these skills are commonly referred to as soft skills. Jean-Pierre Bal, Director of the Thierry Graduate School of Leadership in Brussels, Belgium said, “The functional “hard skills” of business...are no longer a guarantee for success. The so-called “soft skills” are now equally important, if not more. Teaching those skills is within the realm of leadership education” (In Bisoux, 2002, p. 31).

Burn’s seminal book *Leadership* (1978) was in effect a national appeal for this contemporary style of leadership education in the United States, particularly in institutions of higher education. Burns recognized the need for the study of leadership and made such a strong vocal and written national argument that intellectual attention was demanded of this increasingly important subject (Funk, 2006).

Prior to Burns’ call for formal academic leadership education, scholars from across many other disciplines were researching the leadership phenomenon. Academic fields as varied as political science, psychology, education, history, agriculture, public administration, management, anthropology, biology, military sciences, philosophy, and sociology have all contributed to the wealth of leadership literature throughout the years. Many of these areas have established sub-fields in leadership (Sorenson, 2000). However, this did not automatically transfer into an easy acceptance in academia when

calls for a separate and formal academic discipline were heard across the country. Though practitioners, particularly in the corporate arena, had begun leadership (as a separate function from management) training and development programs in the early 1980's, institutions of higher education were much slower to respond. Gunn stated that before this national consensus could be reached, a set of basic assumptions had to be accepted:

First, leadership teachers need to exist who have knowledge of leading and who can instruct others in the art; second, that students want to learn about leadership and believe that instruction in leadership theory and practical skills can help them become effective leaders; and third, that a curriculum can be developed and transmitted via a framework of reading material and other instructional strategies (In Funk, 2000, p. 15).

Over the past 15 years, a consensus has been reached on leadership education and today nearly 1000 leadership programs can be found in all areas of the academy. Some are co-curricular in nature and housed in student affairs and residential life programs, however, an ever growing number of these programs are found in various academic departments across the academy. Upon studying this phenomenon, Riggio, Ciulla, and Sorenson (2003) signaled that much of this growth can be found in academic courses which focus on leadership, certificates in leadership and leadership concentrations.

A few colleges and universities have even developed full undergraduate degree offerings in leadership. Brungardt et al. (2006) searched for those programs in the U.S. offering a bachelors degree in leadership. In the initial search, 70 leadership degree programs were discovered. However, upon further review of the curriculum

requirements for each program, it was determined that the majority of those schools offered only one, or in some cases zero leadership classes in conjunction with traditional degree programs in disciplines including business and agriculture. These were eliminated, leaving only 15 schools in the country offering degree programs which focus largely on the teaching of leadership courses. The authors of this study acknowledge that due to potential limitations of the study, such as new programs having started but with no web presence, nor little recognition yet in the national academic leadership arena, other similar programs may exist which were not listed.

Of the 15 identified schools offering a major in more “pure” leadership degrees, several curricular commonalities were discovered. Courses in skill development were considered essential in 14 of the 15 programs. Thirteen of the 15 offer two or more courses in the area of skill development. The most popular skill-based courses include general leadership skills, communication, critical inquiry, change making, conflict management, decision-making, negotiations, professional skills, and team-building, all skills demanded in today’s high performance workplaces.

Nearly all of these programs include at least one course which integrates their academic learning with real life experience. These include such varied experiential choices as internship, practicum, a fieldwork course, or a capstone project. Critical to the success of skill development is the opportunity to *practice* the skills, rather than just *learn* about the skills. Riggio, Ciulla, and Sorenson believe that quality leadership education combines classroom-based learning with experiential opportunities which cause students to apply leadership concepts to actual or simulated leadership experiences (Riggio, Ciulla & Sorenson, 2003). Daniel Goleman, expert in the area of emotional

intelligence and soft skills, believes that to develop this type of skill one must use a different model of learning. A person cannot learn leadership competencies in the traditional academic mode, nor can they be learned by reading them in a book. When you read or hear something, you integrate that into your existing framework and expand that framework, which can be quick and powerful because you can understand with one exposure (Schinn, 2003). However, according to Goleman:

When you are talking about something like listening, empathy, initiative, collaboration, or teamwork you need a model of skill acquisition, because the parts of the brain that are engaged learn more slowly. They learn through models, through rehearsal in a safe setting, and then through continual practice using spontaneously occurring opportunities (In Schinn, 2003, p. 21).

Most all quality leadership education programs incorporate this experiential educational approach into their curriculum in one form or another. Academic internships, service-learning courses, and problem-based pedagogies are all effective examples of experiential approaches.

### **Profile of one academic Leadership Education program –Fort Hays State University**

In 1993 the Leadership Studies Program at Fort Hays State University began with 45 students from across many majors. The program offered a certificate and an emphasis in leadership. This academic program was created to prepare graduates for a broad range of leadership and supervisory positions in both public and private organizations.

This program was born out of a combination of increasing global competition, regulatory demands, microeconomic trends, technological changes and demographic shifts in the workplace. It was recognized that contemporary styles of leadership were

needed to replace the ‘old school’ classical management style. These changes would be necessary to keep pace with the rapid changes that were happening at all levels of all organizations.

As the traditional hierarchies of organizations were continually ‘flattening,’ a new approach to leadership was required. Employers were looking for incoming hires who possessed a good mixture of communication skills, the ability to work in teams and groups and were self-disciplined and self-empowered. At that time, employers were asking educators to do a better job of preparing students for the modern organization.

Today, little has changed. Employers continue to ask for graduates who are proficient in all communication skills – verbal, written, and listening. They need employees with excellent interpersonal skills who are analytical in their thinking and capable of making timely, effective decisions from multiple sources of information. As such, the FHSU Leadership Studies Department has aligned their curriculum with the following 12 intended characteristics of their graduates: (1) *knowledgeable* – ability to understand leadership, self-reflect, think critically, and have a holistic perspective, (2) *civic minded* – a sense of community and a commitment to civic responsibility and action, (3) *collaborative* –successful in interpersonal relationships and group interaction, (4) *creative/innovative* - ability to problem solve and establish vision for the future, (5) *credible* – aware that honesty serves as the heart of integrity, (6) *critical thinkers* – able to evaluate and question basic assumptions, (7) *problem solvers* – take an analytical approach to situational dilemmas, (8) *risk-takers* – willing to accept and pursue non-conventional methods, (9) *persistent* - willing to pursue change over the long term, (10) *seeing multiple perspectives* – able to see issues and problems from several different



perspectives and views, (11) *effective communicators* – able to communicate effectively through both written and verbal efforts, and (12) *pursuing social justice* – committed to pursuing and correcting society's injustices (Fort Hays State University, 2008).

Pedagogical approaches are designed to encourage students to develop leadership potential and to engage in productive leadership behavior. Experiential opportunities are included within the curriculum. The 3-credit hour course LDRS 310: Fieldwork in Leadership Studies, requires students to work in a self-selected team on team-selected projects for an entire semester to bring about positive change in a local community issue. Faculty guided reflection helps students understand the intersection between the theoretical underpinnings of the disciplines (the knowing) with the specific service experience (the doing). Additionally, an applicable 3-credit hour internship designed for application of leadership theories and concepts is required for the major.

Specific leadership competencies are continually sought. Students should be able to demonstrate and perform both personal and collaborative leadership skills. These include the ability to think critically, make decisions, solve problems, communicate, and successfully work in teams and organizational settings (Fort Hays State University, 2008). As many of these soft skills are required to successfully interact within a collaborative team environment, the possibility of measuring teamwork skills has been explored as a way to measure for soft skill proficiency.

### **Measuring Teamwork**

Many of the competencies taught in leadership education are rated as highly desirable by employers. These competencies include skills such as ability to work in a team environment, interacting and collaborating with others successfully, effectively

solving problems, and communicating well within a group. Based on the work of Morgan, Salas, and Glickman (1993), O'Neil, Chung, and Brown (1997) suggested that:

The teamwork track or team skills influence how effective an individual member will be as part of a team and are domain-independent team skills. Team skills encompass skills such as adaptability, coordination, cooperation, and communication. (p. 412)

These same competencies are often identified as soft skills. As such, the questionnaire that was used for this study is a teamwork skills questionnaire, but it also served to measure proficiency in related soft skills.

The teamwork skill items on the questionnaire were developed by writing a set of items based on the interpersonal skills of the Secretary's Committee on Achieving Necessary Skills (U.S. Department of Labor, 1991), the New York Standards for Interpersonal Skills (New York State Education Department, 1990), and the Employability Skills Profile (O'Neil, Wang, Lee, Mulkey, & Baker, 2003). The next concern is whether the use of a questionnaire is the most valid instrument as compared to other methods of testing for teamwork effectiveness.

### ***Observation***

Over the years, tools of different types have been developed to assess teamwork skills. Several approaches to measuring teamwork placed particular emphasis on direct observation (Baker & Salas, 1992). As such, existing approaches to measuring teamwork skills continue to rely heavily on observation. Though observation is an important tool for team performance measurement, it has been criticized by many recent theorists (Weng, 2000). This ongoing debate over the measurement of teamwork skills points to

the complex measurement of variables which are subjective in nature. Little doubt remains that direct observation does have some limitations. Though observation is an important tool for team performance measurement, the method continues to be criticized. It is labor intensive and time consuming, which negates its practicality and cost effectiveness in a large-scale test setting (Kuehl, 2001).

### ***Computer simulations***

Another method which has been used to measure teamwork skills is computer simulation. With the technological advances that have taken place over the past few decades, computers and networks have increased as a way to do team research. Weng believes there is promise in networked simulations that can potentially bridge the gap between the realities of training needs and the actual operational environment, which are both affordable and realistic alternatives to large-scale military training exercises (Weng, 2000).

While computer-based methods of measuring teamwork skills have reduced some of the barriers associated with measuring effectiveness, some issues still remain. First and foremost of the negatives associated with measuring teamwork skills through computer-based simulations is the lack of empirical studies. Much has been written on the topic, but few in-depth studies have been published. Of those, the population studied has been most often within the military (Kuehl, 2001; Weng, 2000). Generalizability across teams from varied contexts is difficult.

### ***Questionnaires***

Questionnaires or surveys are a relatively easy method for researchers or organizations to sample large populations in a timely and efficient manner (Best & Kahn,

1998). Gall, Gall and Borg (2003) state that “the purpose of a survey is to use questionnaires or interviews to collect data from a sample that has been selected to represent a population to which the findings of the data analysis can be generalized” (p. 223). In the last decade, this format was successfully adopted for measuring team performance (e.g. O’Neil et al., 1999; Weng, 2000; Kuehl, 2001; Marshall, O’Neil, Chen, Kuehl, Hsieh & Abedi, 2005). Many reasons exist for utilizing surveys in assessment of teamwork. While surveys are capable of measuring a wide range of topics, they are inexpensive. Hallam and Campbell (1997) state that surveys have the ability to focus on how the team has functioned over a long period of time, and can be used to accurately measure a wide variety of teams doing different types of work in highly diverse settings.

Numerous researchers have used this method of measurement when studying various aspects of team effectiveness. Helmerich and Wiljelm (1990) used a 25-item survey instrument to measure attitudes of aviators related to cockpit resource management training. Mathieu and Day (1997) illustrated the usage of a survey to measure team performance when they assessed specific teamwork variables that were characteristic of interdepartmental processes in a nuclear power plant. The Campbell-Hallam Team Development Survey (TDS) was developed by Hallam and Campbell (1997) to assess team member’s perceptions of their own team’s performance. O’Neil et al. (1999) created a survey to measure teamwork skills which focuses on the skills a person needs to have in order to be able to work as part of a team. This Teamwork Skills Questionnaire has since been revised several times (Kuehl, 2001; Marshall et al., 2005; Weng, 2000).

## **Teamwork Skills Questionnaire**

Teamwork skills are commonly identified as those skills that aid in an individual's ability to work and collaborate effectively with others when assigned as a member of a specific team (Kuehl, 2001; Salas, Cannon-Bowers, Church-Payne & Smith-Jenysch, 1998; Weng, 2000). These are skills such as coordination, communication, conflict resolution, decision-making, negotiation and adaptability (Salas et al., 1998). Numerous research studies of the workplace now recognize these skills to also be essential for work readiness in the high performance workplaces now prevalent in our current global economy (Carnevale et al., 1990; Evers et al., 1998; O'Neil et al., 1999; Wilhelm, 2000).

Other measurement approaches such as observation and computer simulations could be used to assess team effectiveness, but are not cost-effective in many environments. As such, O'Neil et al. (1999) developed a 10-minute self-report questionnaire to measure teamwork skills of individuals. It is an indirect teamwork measurement tool. Undoubtedly the best way to measure teamwork skills is to use an existing team to provide a forum to directly measure these skills (e.g., Hsieh & O'Neil, 2002; O'Neil, Weng, Chung & Hurl, 2000). However, in many cases, this direct approach is not feasible. Thus, the questionnaire methodology was created to measure teamwork skills indirectly (Marshall et al., 2005). This provides a way to measure teamwork skills without having to find all individuals who were participating in the team (Kuehl, 2001; Weng, 2000).

The model of teamwork skills used in the Teamwork Skills Questionnaire has been adopted by UCLA's National Center for Research on Evaluations, Standards, and

Student Testing, commonly referred to as CRSST (O'Neil et al., 1997). This model was adapted from several sources (e.g. Morgan et al., 1993; Salas et al., 1998 ; Burke, et al., 1993; O'Neil, Baker, and Kazlauskas, 1992). The CRESST taxonomy consists of six teamwork skills (team processes) that influence how effective an individual member will be as part of a team. These six teamwork skills are:

(a) *coordination* – organizing team activities to complete a task on time, (b) *decision making* – using available information to make decisions, (c) *leadership* – providing direction for the team, (d) *interpersonal* – interacting cooperatively with other team members, (e) *adaptability* – recognizing problems and responding appropriately, and (f) *communication* – clear and accurate exchange of information (O'Neil et al., 1997, p. 413).

The predicted dimensions of the Teamwork Skills Questionnaire were the participant's perceptions of his or her own proficiency in these skills. Following is a brief discussion of each skill.

### ***Coordination***

Coordination, as defined by O'Neil et al. (1997) is the process by which a team utilizes resources, activities, and responses are organized to ensure that tasks are integrated, synchronized, and completed with established temporal constraints. Kuehl (2001) simplified this definition into “organizing team activities to complete a task on time”. The view of these authors is that coordination strictly involves task accomplishment rather than interpersonal harmony. Cannon-Bowers, Salas, & Converse (1993) and others argue that implicit coordination must involve the team members using shared or mental models, and that interpersonal harmony is critical. These shared models

make it possible for all team members to have a common understanding of who is responsible for what task. In times of high work load, work is synchronized more efficiently by team member's ability to anticipate one another's needs (Cannon-Bowers et al., 1993).

### ***Decision making***

Decision making is the ability to make team decisions by utilizing available information (Kuehl, 2001). O'Neil et al. defined decision making as the "ability to integrate information, use logical and sound judgments, identify possible alternatives, select the best solution, and evaluate the consequences" (O'Neil et al., 1997, p. 414). Cannon-Bowers et al. (1993) found that shared mental models among team members is advantageous in terms of placing a useful outlook on team decision making. This ability to see into the mind's eye of team members has potential long-term positive impact on the team outcomes by allowing members to more closely coordinate actions and by adapting behavior to task demands (Cannon-Bowers, 1993).

### ***Leadership***

Leadership is defined as the ability to coordinate and supervise the activities of team members, assess team performance, assign tasks, plan and organize, and establish a positive atmosphere for team interaction (O'Neil et al., 1997). Kuehl defined leadership as merely providing direction for the team (Kuehl, 2001).

In McIntyre and Salas' (1995) summary of lessons learned from their teamwork research, they believe that team leadership style is critical to the effective functioning of a team. Good team leaders lead by example in displaying the types of behaviors that increase team performance. Contemporary leadership scholars have established that

these behaviors should include the development of a vision, the proper alignment of people, and the ability to motivate and inspire others as they produce useful and innovative changes throughout task completion (Crawford et al., 2000).

### ***Interpersonal***

Interpersonal skill is the ability to improve the quality of team members' interaction and conflict through the use of cooperative behaviors (O'Neil et al., 1997). Interpersonal processes are important to minimize conflict within the team, which in turn increases team interdependence. O'Neil et al. (1997) believe that reinforcing positive team behaviors has been found to be related to effective teamwork outcomes. Team effectiveness is highly dependent on the ability of individual team members to successfully interact with one another. This cooperative behavior fosters a belief that each individual team member is critical to the overall success of the team, and helping others helps the team (Weng, 2000). Many professional business organizations have identified interpersonal skills as a core competency in effective teamwork (Page & Donelan, 2003).

### ***Adaptability***

O'Neil et al. (1997) define adaptability as the ability to monitor the source and nature of problems through an awareness of team activities and factors bearing on the task. According to these authors, an important element of adaptability is the ability to detect and correct problems. In much of the literature, this is commonly referred to as problem-solving (AACU, 2002; Carnevale et al., 1990; U.S. Department of Labor, 1991). Kuehl defined adaptability as the ability to recognize problems and respond accordingly (Kuehl, 2001). This process of problem detection is labeled situational awareness where



team members cross-check each other's performance, fill-in when needed, and freely accept and give feedback to one another (McIntyre & Salas, 1995).

### ***Communication***

Communication is defined as the clear and accurate exchange of information between two or more team members and by the ability to clarify or acknowledge the receipt of information (O'Neil et al., 1997). Kuehl more succinctly described effective communication as the overall exchange of concise and accurate information (Kuehl, 2001). Effective communication is likely the most important measure of team performance. The art of skillful communication is foundational to each of the team processes discussed thus far. As such, effective communication integrates team members' expectations, actions, responses, and feedback behaviors (O'Neil et al., 1997).

### **Survey Research**

This study was conducted through the approach of survey research. The survey research method is often used in studies such as evaluation and longitudinal (Krahwol, 1998). This particular type of research is common in the field of education. Tuckman (1999) recommends that "surveys be undertaken with a research design utilizing comparison groups" (Tuckman, 1999, p. 12). In this study, comparison data was collected and analyzed.

### **Tailored Design Method**

When Dillman's original Total Design Method (1978) was published, the mail survey for data collection was discouraged. At that time, mail surveys were considered undesirable because of poor response rates and other factors. His Total Design Method

outlined a new system of “inter-connected procedures for conducting high-quality mail surveys with a greatly improved potential for obtaining acceptable response rates” (Dillman, 2007, p. 5). Over time, Dillman upgraded his Total Design Method to the Tailored Design Method. This method reflected changes resulting from a decade of research on improved surveying methods, as well as advanced technological changes. This improved method altered ways in which the first four contacts were completed, as well as added a fifth contact step. When used as Dillman suggests, this method has consistently produced higher response rates than researchers traditionally expect from mail surveys (Dillman, 2007).

The researcher for this study chose the Tailored Design Method because of the high degree of personalized contact made with the respondents. As this study pertains to relational or soft skill development, the determination was made to use a relational approach of making several personal contacts throughout the data collection. Leadership education is based on a high level of personal interactions. This type of relationship building is critical to successful implementation of the influence process (rather than the process of power) needed in today’s flatter organizational structures. Where more power is dispersed, more usage of influence tactics is needed. This need increases the importance of teaching students the interpersonal skills necessary to be successful in this environment. Electronic administration of this survey may have given a feeling of hypocrisy to students who have taken leadership classes, which would include nearly two-thirds of the target population.

In an attempt to maximize response rate and obtain high quality feedback, the following survey procedures which align with the Tailored Design Method were

followed, as recommended by Dillman (2007). The five elements of this method are designed to complement one another and include: (1) a respondent-friendly questionnaire, (2) up to five contacts with the questionnaire recipient, (3) inclusion of stamped return envelopes, (4) personalized correspondence, and (5) a token financial incentive that is sent with the survey request. Following is a brief description of each element.

***Element 1: Respondent-friendly questionnaire***

By using a pre-established and tested questionnaire for this study, the Teamwork Skills Questionnaire, most features of the first element are easily verified. The questions are clear and easily comprehended. The layout aligns with visual principles of design, therefore enhancing the respondent-friendliness of this instrument (Dillman, 2007).

***Element 2: Four contacts by first class mail, with an additional “special” contact***

The use of multiple contacts is essential to maximize the response to mail surveys. Dillman (2007) suggests a system of five compatible contacts which include the following: (1) a pre-notice postcard, (2) the questionnaire with explanatory cover letter, (3) a thank you/reminder postcard, (4) a replacement questionnaire and cover letter, and (5) a final contact made in a totally different format.

The final contact made in various forms other than regular mail delivery distinguishes it from all previous contacts. These varied delivery modes build upon past research which has shown that a ‘special’ contact of these types improves overall response to mail surveys (Dillman, 2007). Timing of all deliveries is extremely important to the ultimate response rate as well. Strict adherence was given to Dillman’s recommendations as to each of these mailings.

***Element 3: Return envelopes with real first-class stamps***

Prior research on the use of questionnaires to survey subjects has shown that the use of real stamps affixed to envelopes will improve response rates by several percentage points. Sending a real stamp represents a gesture of goodwill with a feeling that the sender has sent something of value. This often is reciprocated by doing what is asked of the sender (Dillman, 2007).

***Element 4: Personalization of correspondence***

Dillman recommends the personalization of all correspondence to the degree that it has a look of sincerity. Though some have suggested that with the increased use of word processors to write letters, which in turn increases the ease of personalizing correspondence, overall usage of personalization has lost its effectiveness. Yet most researchers recommend that personalization should still be used, but only to the extent that one would send a letter to a business acquaintance who is not well known to the sender.

***Element 5: Token prepaid financial incentives***

The mail survey literature has shown a consistent pattern of improved response rates with the inclusion of a small, token financial incentive (Dillman, 2007). As such, a new one dollar bill was included with each initial request for response to the mail questionnaire as a token of advance appreciation. This has been shown to produce a sense of reciprocal obligation (Dillman, 2007).

## **Summary of the literature**

This chapter reviewed much of the available literature on the need for greater emphasis on soft skill development in college students. This section provides a brief summary of the important findings as they pertain to how changes in organizational life have created a need for a new type of skill set in college graduates, a historical review of those studies which have discussed this phenomenon for the past 20 years, and the role higher education may play in the solution.

This literature has established how closely the skill set commonly referred to as soft skills align with the elements of effective teamwork. Until recently, much of the team research was conducted on the role of teams and teamwork and was more concerned with identifying and evaluating what teams really are (Kuehl, 2001; Weng, 2000). Since then the literature has revealed that as team usage within modern organizations has increased, so have the number of research studies conducted on teams, team performance, and particularly the importance of individual teamwork skills (eg. Salas et al., 1998; O'Neil et al., 1997; O'Neil et al., 1999).

Much of the assessment of teamwork skills has taken place within the past 10 years. Various methods of assessment have been used including observation, which proved too time consuming and cumbersome; computer simulations and networks, which to date have an insignificant amount of empirical studies to provide a quality body of knowledge; and, questionnaires, which seem to hold the most promise in terms of balance between practicality, reliability and validity, and ease of administration.

Questionnaires for this study were administered using Dillman's Tailored Design Method (2007). Dr. Harold O'Neil, University of Southern California professor, has

contributed a great deal of pioneering work to the usage of questionnaires to assess teamwork. O'Neil et al., (1999) suggest that teamwork skills can be effectively measured with a self-report questionnaire containing six scales - coordination, decision making, leadership, interpersonal skills, adaptability and communication.

These six teamwork skills closely align with the characteristics which leadership educators seek to instill in their graduates. Approximately 1000 leadership education programs of various forms exist today in America's colleges and universities. Many of those have similar guiding principles, learning objectives, and graduate characteristics. Fort Hays State University's Department of Leadership Studies was profiled as a local example of this type of educational programming. This new emerging academic discipline in higher education is offered as one viable solution to the workforce development dilemma plaguing our country's organizations, across all contexts, today.

## **CHAPTER 3 - Methodology**

This chapter contains information relating to the purpose of this study, research design, population and sample, instrumentation, validity and reliability, data collection and data analysis. The target population for this study was graduates of Fort Hays State University.

### **Purpose of the Study**

The primary purpose of this study was to determine whether college graduates with an academic background in the discipline of leadership studies are better equipped with essential soft skills required to be successful in modern organizations. Selected graduates from Fort Hays State University were studied. Graduates who had received either a leadership certificate or a full degree in Organizational Leadership from the Department of Leadership Studies at Fort Hays State University (FHSU) were assessed, as were a group of FHSU graduates who took no leadership classes from this department. An existing instrument, the Teamwork Skills Questionnaire, was used for assessment. This was a status study of the Leadership Studies degree program designed to determine the relationship of the soft skills taught to the degree or amount of leadership education completed by the students. Thus, this study was a part of an ongoing process to evaluate the Leadership Studies program at FHSU.

### **Research design**

This study was conducted using the survey research method. The purpose of survey research is to gather data from groups of people by utilizing questionnaires (Ary,

Jacobs & Razavieh, 2002). Gall et al., (2003) stated that “the purpose of a survey is to use questionnaires or interviews to collect data from a sample that has been selected to represent a population to which the findings of the data analysis can be generalized” (p. 223).

Research question:

*Is there a statistically significant difference in self-reported ratings of soft skills between students with no leadership education in comparison to students with a certificate in leadership and in comparison with students who earned a bachelor’s degree in Organizational Leadership?*

Related hypotheses:

H<sub>01</sub>: Students with no leadership education will report significantly different scores than leadership certificate holders.

H<sub>02</sub>: Students with leadership certificates will report significantly different scores than leadership degree holders.

H<sub>03</sub>: Leadership degree holders will report significantly different scores than those without leadership coursework.

This study utilized the survey research methodology and compared skills and abilities between three groups of Fort Hays State University graduates with varying levels of leadership education from the Department of Leadership Studies. Examined were three groups of graduates that received no leadership education, a leadership certificate, or a degree in Organizational Leadership, respectively.

### **Population and sample**



The population for this study included graduates of Fort Hays State University. Students that completed their degrees between the spring of 2003 and the spring of 2008 were included in the sample population. As the full leadership degree was first offered beginning in the fall of 2001, there were few graduates in the spring of 2002. For the three groups to be more consistently represented, the decision was made to use a stratified random sampling strategy to select graduates from the years between 2003 through 2008.

Assuming a medium effect size with a probability level of  $<.05$ , at least 52 responses were needed from each group (Cohen, 1992). This was the minimum number needed to run analysis of variance with meaningful conclusions. In an effort to yield at least 52 responses, deliberate oversampling occurred in the first two groups. As there had been only 155 graduates of the Organizational Leadership degree through the spring of 2008, this entire group was selected.

Surveys were mailed to 225 randomly selected graduates from across all FHSU departments who had never taken a leadership class. These students completed their major requirements as well as all general education requirements, but had taken no leadership coursework. Likewise, 225 graduates who had received the leadership certificate from the FHSU Department of Leadership Studies, in conjunction with their chosen major and general education requirements, were mailed surveys from a total population of 464. All 155 graduates who had received the 12 course, 36-credit hour degree in Organizational Leadership, coupled with cognate requirements and all general education requirements, were included in the survey mailing.

In the first two groups, international students who graduated with a Bachelor's of General Studies (BGS) were excluded from the study. These students often take thirty or fewer hours from FHSU, which would not have been representative of the broader sampling.

After invalid addresses were returned, the researcher made several contacts to attain as many valid mailing addresses as possible. Non-deliverable surveys totaled 16 in the group with no leadership coursework, 31 in the group of leadership certificates, and one in the group of leadership degree graduates. This resulted in the following *n* values: no leadership coursework *n* = 210; leadership certificate *n* = 194; leadership degree *n* = 154 for a total of 558 total participants.

Data collection information was obtained from the FHSU Computing and Telecommunication Center (CTC) and the FHSU Alumni association. These two entities are responsible for database management for the university. This sample frame was collected in the fall of 2008 by the researcher.

### **Protection of Human Subjects**

In the fall of 2008, the Kansas State University Institutional Review Board (IRB) reviewed the proposal for this study and determined that it was exempt from further review. Specifically, permission was granted by the Committee for Research Involving Human Subjects on November 6. During that same time, permission was also obtained from the Fort Hays State University Institutional Review Board for the Protection of Human Subjects.

## **Instrumentation**

The selected instrument for this study, the Teamwork Skills Questionnaire (O'Neil et al., 1999), is intended to measure teamwork skills and focuses on the skills a person should have to be effective in a team. Teamwork skills have been linked repeatedly with soft skills throughout the literature over the past 20 years.

Marshall's (2003) review of the literature on measurement of teams and teamwork showed similarities across industries. Various elements of teams were measured, such as team functioning (team type, communication, cohesion, and group dynamics), team outcomes (cost, quality, and models), team training (teaching teams and work skills assessment), and team characteristics (innovation and general styles of team behavior). This literature also showed multiple methods in the measurement of teams and teamwork and a variety of team and teamwork models such as communication, problem solving, and social identity (Marshall et al., 2005).

Questionnaires are often used to collect information of data from large groups of people. Carnevale, Gainer, and Meltzer (1990) stated that "a questionnaire can be used to get workers to provide written answers to questions. It can be distributed to many workers, thereby resulting in the collection of a large amount of data...and offers an opportunity for comparative analysis" (p. 417).

The Teamwork Skills Questionnaire (Appendix C) was chosen for use in this study for several reasons. This questionnaire is a self-report, indirect teamwork measurement tool. O'Neil et al. (2000) report that the optimum way to measure teamwork skills is to observe an existing team to provide a context to directly measure these skills (In Marshall et al., 2005). However, oftentimes, this direct approach is not

feasible. Therefore, Marshall et al. (2005) focused on measuring teamwork skills indirectly by using a questionnaire methodology. The Teamwork Skills Questionnaire (Kuehl, 2001; O'Neil et al., 2003; Weng, 1999) was used to measure individual teamwork skills of team members across various contexts (Marshall et al., 2005). This questionnaire has six scales: (a) coordination, (b) decision making, (c) leadership, (d) interpersonal skills, (e) adaptability, and (f) communication (O'Neil et al., 1997, p. 413).

The response scale used was:

1 – *almost never*

2 – *sometimes*

3 – *often*

4 – *almost always*

Definitions for these dimensions and a sample item for each scale are provided here.

*Coordination – organizing team activities to complete a task on time.*

Sample item is: When I work as part of a team, I track other team members' progress (Kuehl, 2001).

*Decision making – using available information to make team decisions.*

Sample item: When I work as part of a team, I know the process of making a decision (Kuehl, 2001).

*Leadership – providing direction for the team.*

Sample item: When I work as part of a team, I exercise leadership (Kuehl, 2001).

*Interpersonal skills – interacting cooperatively with other team members.*

Sample item: When I work as part of a team, I respect the thoughts and opinions of others in the team (Kuehl, 2001).

*Adaptability – recognizing problems and responding appropriately.*

Sample item: When I work as part of a team, I willingly contribute solutions to resolve problems (Kuehl, 2001).

*Communication – the overall exchange of clear and accurate information.*

Sample item: When I work as part of a team, I listen attentively (Kuehl, 2001).

### **Validity and reliability**

An analysis on group and team measurement tools used from 1950 through 1990 was performed by Greenbaum, Kaplan, and Damiano (1991). They found that psychometric information on reliability and validity was available for only a few teamwork skills inventories. Additionally, they found that most of the existing team measurement tools have poor or no reliability information. For example, out of the 200 instruments they found, only 40 provided reliability information.

The Teamwork Skills Questionnaire was developed by O’Neil in 1997 to measure individual trait teamwork skills of team members (Kuehl, 2001; O’Neil et al., 2003; O’Neil et al., 1999; Weng, 1999). The questionnaire is intended to measure teamwork skills and focuses on the skills a person should have to be effective in a team. This questionnaire has been used with participants across several settings including: (1) an electronics firm in the United States (O’Neil et al., 2003); (2) an air conditioning and refrigeration union in the United States (O’Neil et al., 2003); (3) a temporary workers’ agency (O’Neil et al., 2003); (4) a Canadian union (O’Neil et al., 2003); (5) a U.S. Marine Corps Aviation Logistics Squadron (Kuehl, 2001); (6) Asian American junior high and high school students (Hsieh, 2001); (7) nurses in Australia (Marshall, 2003);

and (8) engineers and assembly workers in an electronics firm in Taiwan (Chen, 2002; Weng, 1999).

The reliability of the Teamwork Skills Questionnaire was determined by investigating participants from four of the settings: (1) 269 participants from the U.S. Marine Corps Aviation Logistics Squadron; (2) 273 participants from a Taiwanese electronics company; (3) 120 participants from Asian American junior and high school students; and (5) 149 participants from a sample of nurses in Australia (Marshall, 2003). Cronbach's alpha measure of internal consistency reliability ranged from .84 to .97 (Chen, 2002; Hsieh, 2001; Kuehl, 2001; Marshall, 2003; Marshall et al., 2005; O'Neil et al., 2003; Weng, 1999) across these various populations. In previous studies, construct validity for the six dimensions of the Teamwork Skills Questionnaire was determined by using confirmatory factor analysis. Table 3.1 shows a comparison of the Cronbach alpha coefficients for each of the varied populations.

**Table 3.1 Cronbach’s alpha coefficients for the teamwork skills scales for the four sample studies and the current study**

<b>Subscale</b>	U.S. Marine Corps (Kuehl, 2001)	Taiwanese Electronics Company (Chen, 2002)	Asian American and High School (Hsieh, 2001)	Australia Nurses (Marshall, 2003)	Current Study (Brungardt, 2009)
Coordination	.76	.79	.70	.81	.70
Decision	.82	.85	.81	.86	.72
Leadership	.86	.88	.88	.92	.84
Interpersonal	.85	.86	.78	.86	.77
Adaptability	.81	.85	.78	.86	.69
Communication	.84	.81	.73	.86	.71
Composite	n/a	n/a	n/a	n/a	.92
	(n=269)	(n=273)	(n=120)	(n=149)	(n=301)

The Cronbach alpha values for the current study were presented in two decimals in this table, as this was the only available format for the previous studies. Subsequent results are presented in three decimals. Cronbach alpha numbers for the current study ranged from .685 to .839 on the six dimensions. The first dimension tested was *coordination*, which tested at .702. *Decision-making*, the next tested dimension, resulted in a .724 and *leadership* the highest at .839. The last three dimensions – *interpersonal*, *adaptability*, and *communication*, resulted in alpha results of .769, .685 and .707 respectively. Since all of the Cronbach values were above .600, the researcher had confidence in moving forward with the appropriate statistical analyses to test the hypotheses.

**Table 3.2 Cronbach's alpha coefficients for the teamwork skills scales for the current study**

<b>Subscale</b>	<b>Current Study (Brungardt, 2009)</b>
Coordination	.702
Decision	.724
Leadership	.839
Interpersonal	.769
Adaptability	.685
Communication	.707
Composite	.924

### **Data collection**

A coding system for participants was determined prior to the actual data collection. Each questionnaire was marked with a code number. These codes were assigned according to the three groups. For example, groups one and two consisted of numbers starting with code 1-1 through 1-225 and 2-1 through 2-225. Group three consisted of code 3-1 through 3-155. These numbers were used for follow-up correspondence and data analysis. Participants were assured that at no time would responses be matched with codes and that all results would be provided in summative rather than individual form.

The following data collection procedures were followed as recommended by Dillman (2007) in the Tailored Design Method. Five elements that were designed to complement one another comprise Dillman's methodology: 1) a respondent-friendly questionnaire, 2) up to five contacts with the questionnaire recipient, 3) inclusion of



postage paid return envelopes, 4) personalized correspondence, and 5) a token financial incentive that is sent with the initial survey request.

On November 28, 2008, the selected participants were sent an initial postcard (Appendix A) to inform them of the purpose of the study. Appropriate contact information of the Principal Investigator was included in this communication (as in all future communications) so participants could ask questions if so desired. This postcard also served as verification of participant contact information for the researcher. A total of 47 individual postcards were returned undeliverable. The researcher made a second contact with the FHSU Alumni Association. Personal searches were also conducted online through the websites of whitepages.com, people.yahoo.com, and through the social networking program Facebook. After these attempts to secure valid addresses failed, they were eliminated from the study reducing the sample size from 605 to 558.

The second contact was a cover letter (Appendix B) which was mailed on December 4, 2008 along with the actual questionnaire (Appendix C), which included the demographic information. This packet also contained a postage paid return envelope to encourage participation. A total of 558 surveys were sent and 159 completed responses (28.5%) were returned prior to the next contact.

A thank you postcard (Appendix D), which also served as a reminder for non-respondents, was mailed on December 16, 2008. Forty-four additional responses were returned, for a total of 203 responses (36.4%).

A replacement questionnaire, along with a new cover letter (Appendix E) and postage paid return envelope was sent to non-respondents three weeks later on January 6, 2009. This mailing reminded potential respondents that this person's completed

questionnaire had not been received and urged the recipient to do so. This step resulted in 82 additional survey responses returned. The total after this fourth contact was 285 responses (51.1%).

The final contact was made January 20, 2009. Dillman (2007) recommended this contact be made via telephone, Federal Express, priority U.S. mail or special delivery. The researcher chose to use a combination of telephone and email communication with every non-respondent for which a current phone number or email address was available. This contact produced another 16 responses, for a total of 301 responses. This represented a total response rate of 53.9%.

### **Data analysis**

Several types of data analysis were used in this study. These data were analyzed using the Fort Hays State University College of Business and Leadership's Statistical Package for Social Science (SPSS).

The SPSS procedure FREQUENCIES was utilized to generate descriptive statistics and percentages. One-way analysis of variance (ANOVA) was calculated on each of the six subscales of the Teamwork Skills Questionnaire, as well as the questionnaire's composite score. The SPSS procedure COMPARE MEANS was used to compare the means of each of the six subscales and the composite score of the instrument.

These procedures were utilized to determine if there is a statistical difference between the comparison groups of varying degrees of leadership education – no leadership coursework, leadership certificate, and degree in Organizational Leadership. In a desire to test the quality of the measurement, Cronbach alpha was run to test

reliability. Tukey's post-hoc test was run in an effort to determine which groups differed from each other and where the differences occurred. Tukey is often chosen as the post-hoc method when testing large numbers of means (Field, 2005).

### **Summary of the methodology**

This study was conducted to assess the perception of soft skill development of graduates of Fort Hays State University. Three different groups of graduates were compared. The study was intended to determine the degree to which leadership education plays in the development of soft skills in college graduates, as per their own self-perceptions. Specifically, the six scales examined were (1) coordination, (2) decision-making, (3) leadership, (4) interpersonal skills, (5) adaptability, and (6) communication. The Teamwork Skills Questionnaire (O'Neil et al., 1999) was used to collect the data. Previous studies have successfully used this instrument across a variety of populations.

Following the collection of the data, using Dillman's (2007) Tailored Method Design, various forms of analysis were performed. Included were the use of descriptive statistics, Cronbach alpha reliability testing, and one-way analysis of variance (ANOVA) on each of the six measurement factors, plus the composite score. Additionally, post-hoc testing was completed using the Tukey method.

## **CHAPTER 4 - Findings**

This chapter was designed to report results from the data collection process as it was explained in the third chapter. Demographic information was detailed, as were the findings for each of the three hypotheses in relationship to the study's basic research question. The correlation between the six subscales and the composite score of the instrument was examined, as were the confidence intervals between the three groups. Regression analyses were performed on the subscales and the composite score of the Teamwork Skills Questionnaire.

### **Demographics**

Several demographic variables were collected in conjunction with this research. This demographic information was collected in alignment with the Fort Hays State University Admissions' collection methods. The selected demographic variables include gender, ethnicity, and age. Additional variables collected were the specific degree and the year the degree was received, the predominant course delivery method, and limited information as to the length and nature of employment in the respondent's current position.

For gender comparison, males represented 35% (n=106) of respondents, while 65% (n=195) were female. This varies from the total undergraduate demographic profile at FHSU in that overall, there is a more even split with 49% male and 51% female (College Portrait, 2008). Table 4.1 represents a summary of the sample population and the total FHSU population by gender.

**Table 4.1 Demographics of sample population and total FHSU population - Gender**

<b>Gender</b>	<b>Total Sample Population</b>	<b>Sample Percentage</b>	<b>FHSU Percentage</b>
<b>Males</b>	106	35%	49%
<b>Females</b>	195	65%	51%

When comparing the age of respondents, the ages ranged from 20 years of age to 62 years of age. By far the largest age range was those between 20 – 29 years of age at 72% (n=216). The average age of all FHSU students is 24 years (College Portrait, 2008). Table 4.2 illustrates a summary of the sample population and the total FHSU population by age.

**Table 4.2 Demographics of sample population and total FHSU population - Age**

<b>Age</b>	<b>Total Sample Population</b>	<b>Sample Percentage</b>	<b>FHSU Percentage</b>
20 – 29	216	72%	88%
30 – 39	39	13%	6%
40 - 49	23	8%	4%
50 – 59	17	6%	1%
60 - 69	3	.5%	1%
Unreported	3	.5%	0

When asked for information as to ethnicity, 93% (n=279) of respondents reported being white or Caucasian, 4% (n=12) were black or African American, 2% (n=5) were Hispanic or Latino, .7% (n=2) were multiracial or biracial American, and .3% (n=1) was reported for Asian Americans, native Hawaiian or other Pacific Islander and International. No American Indian or Alaska natives participated in this study. These

results are similar as compared to the overall student body ethnicities represented at FHSU: 93% white or Caucasian, 3.0 % Hispanic, 3% black or African American, with remaining categories at less than 1.0% or none (College Portrait, 2008). Table 4.3 represents a summary of the sample population and the total FHSU population as distributed by ethnicity.

**Table 4.3 Demographics of sample population and total FHSU population - Ethnicity**

<b>Ethnicity</b>	<b>Total Sample Population</b>	<b>Sample Percentage</b>	<b>FHSU Percentage</b>
<b>White/Caucasian</b>	279	93%	93%
<b>Black/African American</b>	12	4%	3%
<b>Hispanic or Latino</b>	5	2%	3%
<b>Multi-Racial or Bi-Racial</b>	2	.7%	.7%
<b>Asian American</b>	1	.3%	.1%
<b>Native Hawaiian or Pacific Islander</b>	1	.3%	.1%
<b>International</b>	1	.3%	.1%
<b>American Indian or Alaska Native</b>	0	0%	0%

While relatively even in distribution of responses per year, there was a greater return rate in the 2005 – 2008 time range when determining the year the degree was received. Totals for specific years were: 2003 – 14% (n=42); 2004 – 12% (n=36); 2005 – 17% (n=50); 2006 – 19% (n=57); 2007 – 18% (n=56); and 2008 – 20% (n=60). A summary of the sample population and sample percentage by year is included in Table 4.4. Also included is a listing of total degrees from FHSU from the spring of 2003 through the

spring of 2008, excluding Bachelor of General Studies graduates, as explained in the methodology section of this study.

**Table 4.4 Year degree was received from sample population and total FHSU degrees received through like time frame**

<b>Year Degree Received</b>	<b>Total Sample</b>	<b>Sample Percentage</b>	<b>Total FHSU Degrees</b>
2003	42	14%	498
2004	36	12%	773
2005	50	17%	756
2006	57	19%	790
2007	56	18%	935
2008	60	20%	888

Table 4.5 illustrates the different majors who responded to this study. Thirty-eight majors from across campus were represented in the responses. Frequencies for the various majors ranged from 1 – 110. All four colleges at Fort Hays State University were represented in the responses. The College of Business and Leadership (COBL) and the College of Health and Life Sciences (CHLS) each had eight participating majors. Six different majors were represented from the College of Education and Technology (COET). The College of Arts and Sciences (COAS), the largest college at Fort Hays State University, had 16 different majors participating.

**Table 4.5 Frequency distribution of represented majors**

<b>Major</b>	<b>Frequency</b>	<b>College</b>
Organizational Leadership	110	COBL
Management	19	COBL
General Business	13	COBL
Agriculture	13	CHLS
Elementary Education	12	COET
General Education	12	COET
Psychology	11	COAS
Health and Human Performance	11	CHLS
Justice Studies	10	COAS
Nursing	9	CHLS
Communication Studies	8	COAS
Info Networking & Telecommunications	6	CHLS
Marketing	5	COBL
Industrial Technology	5	COET
Medical Diagnostic Imaging	5	CHLS
Chemistry	4	COAS
Art	4	COAS
English	4	COAS
Speech-Language Pathology	3	CHLS
Sociology	3	COAS
Business Administration	3	COBL
Biology	3	COAS
Accounting	3	COBL
Computer Information Systems	3	COAS
Social Work	3	COAS
Political Science	2	COAS
Geographic Information Systems	2	COAS
Technology Leadership	2	COET
Finance	2	COBL
Graphic Design	2	COAS
Modern Languages	2	COAS
General Science	1	CHLS
Business Education	1	COBL
Special Education	1	COET
Educational Leadership	1	COET
Music	1	COAS
Allied Health	1	COAS
Agricultural Business	1	CHLS
<b>38 Total Majors</b>	<b>301</b>	<b>-----</b>



Seventy-five percent (n=225) of the graduates did the majority of their coursework on campus in a traditional face-to-face setting. Twenty-two percent (n=67) received their coursework via on-line delivery, as evidenced in Table 4.6. Three percent (n=9) reported having received their coursework through mixed course delivery methods. The FHSU Computing and Telecommunication Center did not have records for every year since 2003 which differentiated between on-campus students who took some on-line courses or on-line students who took some on-campus courses (mixed delivery method). Because of this, the mixed delivery method was not used in calculating the FHSU percentage.

**Table 4.6 Course delivery method by which respondents received the majority of their FHSU coursework**

<b>Delivery Method</b>	<b>Total Sample Population</b>	<b>Sample Percentage</b>	<b>FHSU Percentage</b>
On-Campus	225	75%	94%
On-line	67	22%	6%
Mixed	9	3 %	n/a

The majority of respondents, or 89% (n=269), were employed at their jobs full-time versus part-time. The average length of employment at their current position was 29.8 months.

**Testing of hypotheses**

Three hypotheses were posed in response to the following research question. Is there a statistically significant difference in self-reported ratings of soft skills between

students with no leadership education in comparison to students with a certificate in leadership and in comparison with students who earned a degree in Organizational Leadership?

The first hypothesis stated that students with no leadership education would report significantly different scores than leadership certificate holders. The second hypothesis stated that students with leadership certificates would report significantly different scores than leadership degree holders. Finally, hypothesis three stated that leadership degree holders would report significantly different scores than those without leadership coursework.

Table 4.7 reports the means and standard deviations for each of the six subscale scores and the composite score for each subject group. The *coordination* subscale yielded a mean of 3.061 and a standard deviation of .515 in the no leadership coursework group, a mean of 3.213 and a standard deviation of .497 in the leadership certificate group, and a mean of 3.241 and a standard deviation of .430 in the leadership degree group. The *decision-making* subscale yielded a mean of 3.342 and a standard deviation of .413 in the no leadership coursework group, a mean of 3.383 and a standard deviation of .401 in the leadership certificate group, and a mean of 3.518 and a standard deviation of .372 in the leadership degree group. The subscale of *leadership* yielded a mean of 3.134 and a standard deviation of .537 in the no leadership coursework group, a mean of 3.276 and a standard deviation of .495 in the leadership certificate group, and, a mean of 3.410 and a standard deviation of .400 in the leadership degree group.

The mean of the *interpersonal* subscale in the no leadership coursework group was 3.626 with a standard deviation of .351. In this same subscale the leadership

certificate group yielded a mean of 3.578 and a standard deviation of .455, while the mean of the leadership degree group was 3.757 and the standard deviation was .279. The mean of the *adaptability* subscale in the no leadership coursework group was 3.219 with a standard deviation of .431. For this same subscale the leadership certificate group yielded a mean of 3.340 and a standard deviation of .406, while the mean of the leadership degree group was 3.431 and a standard deviation .394. The mean of the *communication* subscale in the no leadership coursework group was 3.325 with a standard deviation of .404. In this same subscale the leadership certificate group yielded a mean of 3.390 and a standard deviation of .366, while the mean of the leadership degree group was 3.491 with a standard deviation of .359.

The composite scores for the total Teamwork Skills Questionnaire resulted in a mean of 3.290 in the no leadership coursework group and a standard deviation of .357, a mean of 3.362 in the leadership certificate group and a standard deviation of .334, and a mean of 3.471 and a standard deviation of .287 in the leadership degree group.

**Table 4.7 Means and standard deviations reported by the six subscales and the total scale by three subject groups for each subscale and the total scale**

Subscale/group	n	mean	s.d.	95% Confidence Interval for Mean	
				Lower Bound	Upper Bound
<b>Coordination</b>					
No coursework	109	3.061	0.515	2.962	3.158
Certificate	90	3.213	0.497	3.109	3.317
Degree	102	3.241	0.430	3.157	3.326
<b>Decision-making</b>					
No coursework	109	3.342	0.413	3.264	3.421
Certificate	90	3.383	0.401	3.299	3.467
Degree	102	3.518	0.372	3.445	3.591
<b>Leadership</b>					
No coursework	109	3.134	0.537	3.032	3.236
Certificate	90	3.276	0.495	3.177	3.380
Degree	102	3.410	0.400	3.331	3.489
<b>Interpersonal</b>					
No coursework	108	3.626	0.351	3.559	3.694
Certificate	90	3.578	0.455	3.482	3.673
Degree	102	3.757	0.279	3.702	3.811
<b>Adaptability</b>					
No coursework	108	3.219	0.431	3.137	3.301
Certificate	90	3.340	0.406	3.255	3.425
Degree	102	3.431	0.394	3.354	3.509
<b>Communication</b>					
No coursework	108	3.325	0.404	3.248	3.403
Certificate	90	3.390	0.366	3.313	3.467
Degree	102	3.491	0.359	3.421	3.562
<b>Composite Score</b>					
No coursework	109	3.290	0.357	3.218	3.354
Certificate	90	3.362	0.334	3.294	3.433
Degree	102	3.471	0.287	3.419	3.531

One-way analysis of variance (ANOVA) was used to test for differences in the mean responses between participants from the three groups (Table 4.8). ANOVAs were performed for each of the six dimensions of the Teamwork Skills Questionnaire as well as the composite score. The amount of leadership education was treated as the independent variable while each of the six dimensions and the composite score of the Teamwork Skills Questionnaire were treated as the dependent variables.

The following table (Table 4.8) illustrates the findings of this ANOVA testing. These results are reported for each of the six dimensions as well as for the composite score. There was a significant difference found between groups for each of the six dimensions as well as the composite score of the Teamwork Skills Questionnaire. Criterion for significance was set at the .05 level. Results for each of the six dimensions were as follows: *coordination* ( $F(2, 298) = 4.271, p = .015$ ), *decision-making* ( $F(2, 298) = 5.572, p = .004$ ), *leadership* ( $F(2, 298) = 8.686, p = .001$ ), *interpersonal* ( $F(2, 297) = 6.248, p = .002$ ), *adaptability* ( $F(2, 297) = 7.053, p = .001$ ) and *communication* ( $F(2, 297) = 5.143, p = .006$ ). The composite score of the questionnaire yielded a significant difference ( $F(2, 297) = 8.757, p = .001$ ).

**Table 4.8 Analysis of variance (ANOVA) of the Teamwork Skills Questionnaire on the three sample groups**

<b>Subscale/group</b>		<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
<b>Coordination</b>						
	Between Groups	1.990	2	.995	4.271	.015*
	Within Groups	69.411	298	.233		
	Total	71.401	300			
<b>Decision</b>						
	Between Groups	1.746	2	.873	5.572	.004*
	Within Groups	46.704	298	.157		
	Total	48.450	300			
<b>Leadership</b>						
	Between Groups	4.029	2	2.014	8.686	.001*
	Within Groups	69.102	298	.232		
	Total	73.130	300			
<b>Interpersonal</b>						
	Between Groups	1.675	2	.838	6.248	.002*
	Within Groups	39.819	297	.134		
	Total	41.494	299			
<b>Adaptability</b>						
	Between Groups	2.386	2	1.193	7.053	.001*
	Within Groups	50.244	297	.169		
	Total	52.631	299			
<b>Communication</b>						
	Between Groups	1.469	2	.734	5.143	.006*
	Within Groups	42.401	297	.143		
	Total	43.870	299			
<b>Composite Score</b>						
	Between Groups	1.879	2	.939	8.757	.001*
	Within Groups	31.865	297	.107		
	Total	33.744	299			

\*Significant at the 0.05 level

The significant one-way ANOVAs for each dimension and the composite score indicated that at least one group mean differed from the others; however, this result cannot tell us which groups' means differ significantly. Therefore, follow up post-hoc analysis was conducted. Though there are a wide variety of post-hoc comparisons available that correct for multiple comparisons, a widely used method is Tukey (Cronk, 2004), which was chosen for this study. Following are narratives with tables to explain this relationship to each of the hypotheses.

### **Findings related to hypothesis one**

Hypothesis one stated that students with no leadership education would report significantly different scores than leadership certificate holders. The Tukey post-hoc analysis was used to assess hypothesis one, with full results reported in Table 4.9. However, no statistically significant differences were found between any of the dimensions, nor the composite score when comparing the two groups. The significance values ranged from .069 to .753 with the significance level set at .05. The dimension of *coordination* correlated most closely with a significance level of .069, followed by that of *leadership* with a significance level of .096. Next was *adaptability* with a significance level of .100 and then *communication* with a level at .450. The least statistical difference occurred between the group scores for dimensions of *interpersonal* at .620 and *decision-making* at .753. The composite score for the combined dimensions resulted in a less than significant difference at .226. Following is a table which displays these findings (Table 4.9). Thus, hypothesis one, which estimated significant differences between no leadership education and leadership at the certificate level, was rejected.

**Table 4.9 Tukey post-hoc test comparing mean, standard error, and significance between no leadership coursework and leadership certificate**

<b>Subscale</b>	<b>Mean Difference</b>	<b>Std. Error</b>	<b>Significance</b>
<b>Coordination</b>	.153	.069	.069
<b>Decision-making</b>	.040	.056	.753
<b>Leadership</b>	.143	.069	.096
<b>Interpersonal</b>	.049	.052	.620
<b>Adaptability</b>	.121	.059	.100
<b>Communication</b>	.065	.054	.450
<b>Composite Score</b>	.077	.047	.226

\* Significant at the 0.05 level

**Findings related to hypothesis two:**

Hypothesis two stated that students with leadership certificates would report significantly different scores than leadership degree holders. The Tukey post-hoc analysis was again used to assess hypothesis two, with results summarized in Table 4.10. The significance values ranged from .002 to .916 with criterion for significance set at the .05 level.

Although students with leadership degrees reported higher means across all dimensions and the composite score, these differences were only found to be significant for two of the dimensions. First, the dimension of *interpersonal* resulted in a statistically significant difference at .002 with criterion for significance set at the .05 level. Second, the dimension of *decision-making* was statistically significant at .050. Differences between the two groups on the other four dimensions failed to achieve significance at the



.05 level: *coordination* at .916, *leadership* at .134, *adaptability* at .276, and *communication* at .154. Finally, the mean difference in the composite scores between the leadership certificate and the leadership degree groups achieved only marginal significance (.051). Thus, hypothesis two was accepted for the two dimensions of *interpersonal* and *decision-making* skills. For the dimensions of *coordination*, *leadership*, *adaptability*, *communication*, and the composite score, hypothesis two was rejected because of no significant group differences in the scores for these four dimensions.

**Table 4.10 Tukey’s post-hoc test comparing means, standard error, and significance between leadership certificate and leadership degree**

<b>Subscale</b>	<b>Mean Difference</b>	<b>Std. Error</b>	<b>Significance</b>
<b>Coordination</b>	.028	.070	.916
<b>Decision-making</b>	.135	.057	.050*
<b>Leadership</b>	.134	.070	.134
<b>Interpersonal</b>	.179	.053	.002*
<b>Adaptability</b>	.091	.059	.276
<b>Communication</b>	.101	.055	.154
<b>Composite Score</b>	.111	.047	.051

\*Significant at the 0.05 level

**Findings related to hypothesis three**

Hypothesis three stated that leadership degree holders will report significantly different scores than those without leadership coursework. The Tukey post-hoc analysis was used to assess hypothesis three. As reported in Table 4.7, leadership degree holders

reported higher levels of soft skills across all six dimensions than did those with no leadership coursework, and these differences were found to be significant at the .05 level for all six dimensions as well as for the Teamwork Skills Questionnaire composite score. Significance values are reported in Table 4.11 and ranged from .001 to .029 – well below the designated cutoff of .05.

The dimensions of *leadership* and *adaptability* were the most statistically significant with both dimensions resulting in significance values of .001 each. These are followed in order of significance by *decision-making* and *communication* with significance of .004. The dimension of *coordination* was found to be significant at .019, as was *interpersonal* at .029. Overall, the composite score for the Teamwork Skills Questionnaire was found to be significant at .001. Thus, hypothesis three was accepted based on the Tukey results and this supports the value of a leadership degree in comparison to no coursework in leadership education.

**Table 4.11 Tukey’s post-hoc test comparing means, standard error, and significance between leadership degree and no leadership coursework**

<b>Subscale</b>	<b>Mean Difference</b>	<b>Std. Error</b>	<b>Significance</b>
<b>Coordination</b>	.181*	.066	.019*
<b>Decision-making</b>	.175*	.055	.004*
<b>Leadership</b>	.276*	.066	.001*
<b>Interpersonal</b>	.130*	.051	.029*
<b>Adaptability</b>	.212*	.057	.001*
<b>Communication</b>	.166*	.052	.004*
<b>Composite Score</b>	.189*	.045	.001*

\* Significant at the 0.05 level

### **Follow-up Analyses**

Upon completion of the Tukey tests, three additional analyses were conducted on the questionnaire used in the study. A correlation analysis was completed between the six dimensions and the composite score to determine the inter-correlations among the questionnaire items. Confidence intervals were examined as another way to explore the differences between the three sample groups (1) no leadership, (2) leadership certificate, and (3) leadership degree. Finally, regression analyses were performed on each of the six subscales and the composite score, with leadership education treated as a continuous predictor variable, to further assess significance and impact of increased leadership education on reported soft skills.

### ***Correlations***

A follow-up Pearson's correlation was performed between the six individual dimension scores and the composite score of the Teamwork Skills Questionnaire in order to explore the degree of separateness among the dimensions. Table 4.12 summarizes these correlations. All correlations were statistically significant ( $p < .05$ ). The correlations ( $r$ ) ranged from .242 to .679. Coefficients of determination ( $r^2$ ) ranged from 5.9% to 46.1%. Eight of the correlations fell in the range of .61 to .68. Three correlations fell in the range of .54 to .59, with four correlations in the range of .24 to .45. Two dimensions produced five inter-correlations in the upper range and these were *communication* and *decision-making*. At the lower end, one dimension, *interpersonal*, produced three inter-correlations in the range of .24 to .37. Three dimensions, *adaptability*, *coordination* and *leadership* produced four correlations in the upper range. Thus, *communication* and *decision-making* had the smallest degrees of separation and *interpersonal* had the largest degree of separation. In total, the researcher concluded that there were reasonable degrees of separation among the six dimension scores.

**Table 4.12 Correlation matrix of Teamwork Skills Questionnaire subscales and composite score**

<b>Subscale</b>	<b>Coord</b>	<b>Decis</b>	<b>Lead</b>	<b>Inter</b>	<b>Adapt</b>	<b>Comm</b>	<b>Comp</b>
<b>Coordination</b>	----						
<b>Decision-making</b>	.643*						
<b>Leadership</b>	.628*	.628*					
<b>Interpersonal</b>	.272*	.448*	.242*				
<b>Adaptability</b>	.562*	.679*	.611*	.369*			
<b>Communication</b>	.585*	.637*	.549*	.625*	.646*		
<b>Composite Score</b>	.803*	.855*	.798*	.595*	.820*	.842*	----

\* Correlation is significant at the 0.05 level

### ***Confidence Intervals***

The following figures provide a visual representation of the relationship between the means of each dimension across the three groups. Confidence intervals are calculated to examine differences in mean levels across the three groups of interest; however as opposed to point estimates in which the sample mean is assumed to proxy for the population mean, confidence intervals provide an interval estimate for the population mean, and therefore a higher probability of including the true population mean. In this case, 95% confidence intervals are presented – therefore, the intervals presented should include the true population mean 95% of the time. Visualizing confidence intervals across groups allows for a rough estimate of significance. If there is substantial overlap of confidence intervals, even if means appear to be different, differences between groups generally will not be significant. Such visual representations for the confidence intervals

on reports for each dimension and the composite score are shown in Figures 4.1 through 4.7. The dot within each bar represents the sample mean for each group.

Figure 4.1 presents the confidence intervals for group means on the dimension of *coordination*. For all figures, Group 1 represents the portion of the sample with no leadership coursework; Group 2 those with a leadership certificate; and Group 3 those with a leadership degree. As the figure makes clear, the reported competence in coordination did increase as the level of leadership education increased; additionally, the groups with no leadership coursework and the leadership certificate exhibit slightly larger standard errors (and therefore confidence intervals) than the sample with leadership degrees. However, only the confidence intervals for the group with no leadership and the group with a leadership degree fail to overlap. This further supports the results of the Tukey tests reported above on the dimension of *coordination*. Although increasing levels of leadership education tend to increase reports of the coordination skill, this difference is only significant when comparing the group with no leadership coursework to those with a leadership degree.

**Figure 4.1 Confidence intervals of the three sample groups on the coordination dimension of the Teamwork Skills Questionnaire**

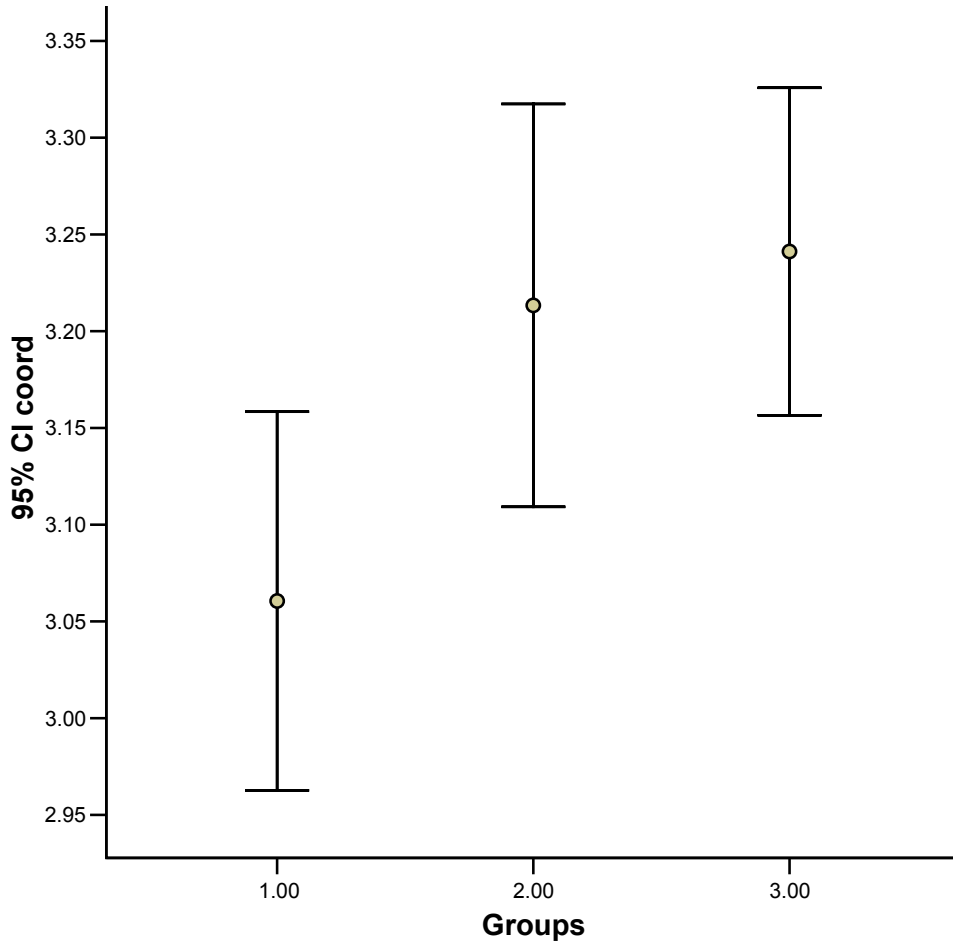


Figure 4.2 displays the means with associated confidence intervals for each of the three groups of interest for the dimension of *decision-making*. Again, the pattern for the groups and this skill remains the same as reported in the dimension of *coordination* – although the mean level of *decision-making* increases for each achieved level of leadership education, overlapping confidence intervals indicate that this difference is not always significant. In this case, significant differences appear to exist between the group with no leadership and those with a leadership degree, as well as between those with

leadership certification and those with a leadership degree – but not between those with no leadership and those with leadership certification. The Tukey tests again confirm these relationships.

**Figure 4.2 Confidence intervals of the three sample groups on the decision-making dimension of the Teamwork Skills Questionnaire**

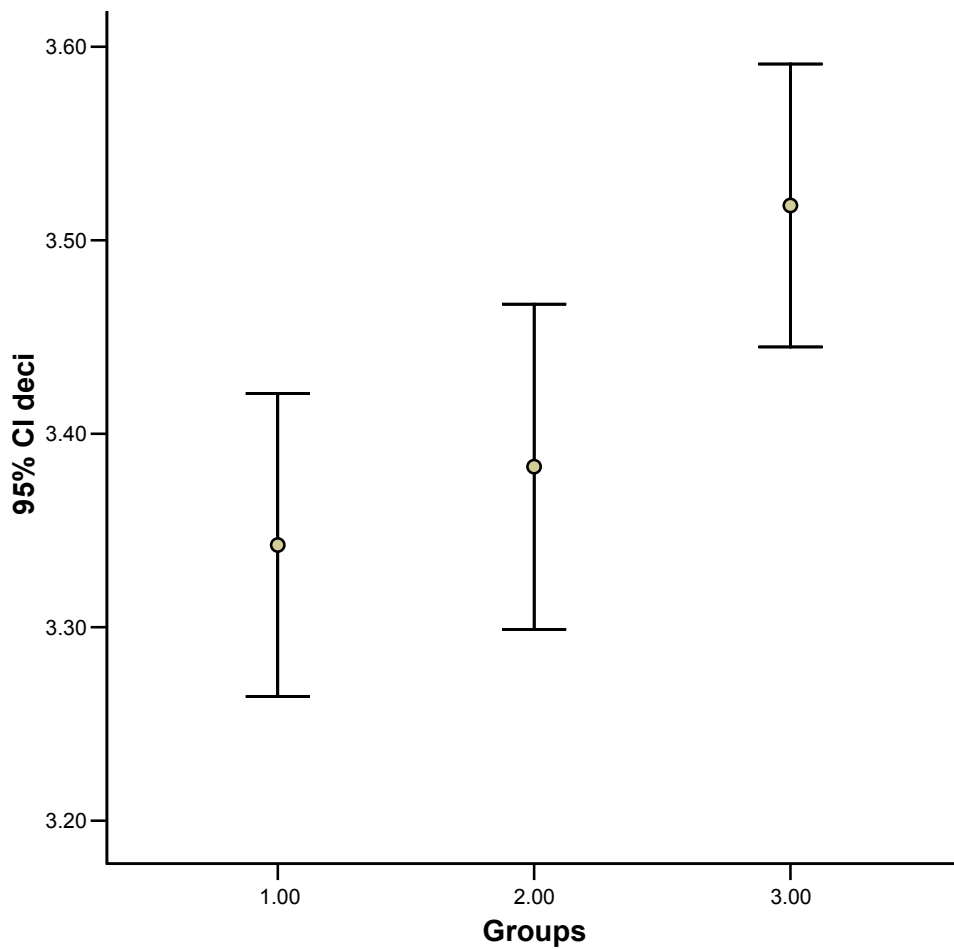
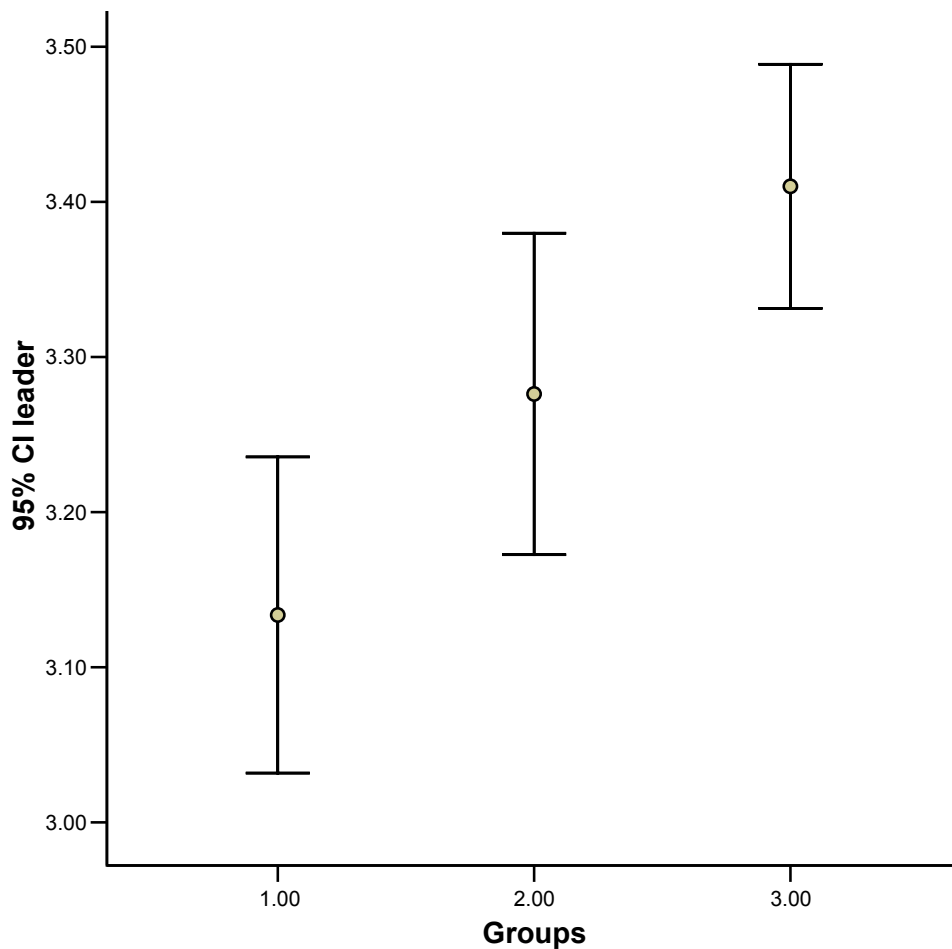




Figure 4.3 again displays this pattern, with skill level increasing as leadership education increases, but confidence intervals failing to overlap only between the degree holders and those with no leadership coursework. Again, this further confirms the Tukey tests.

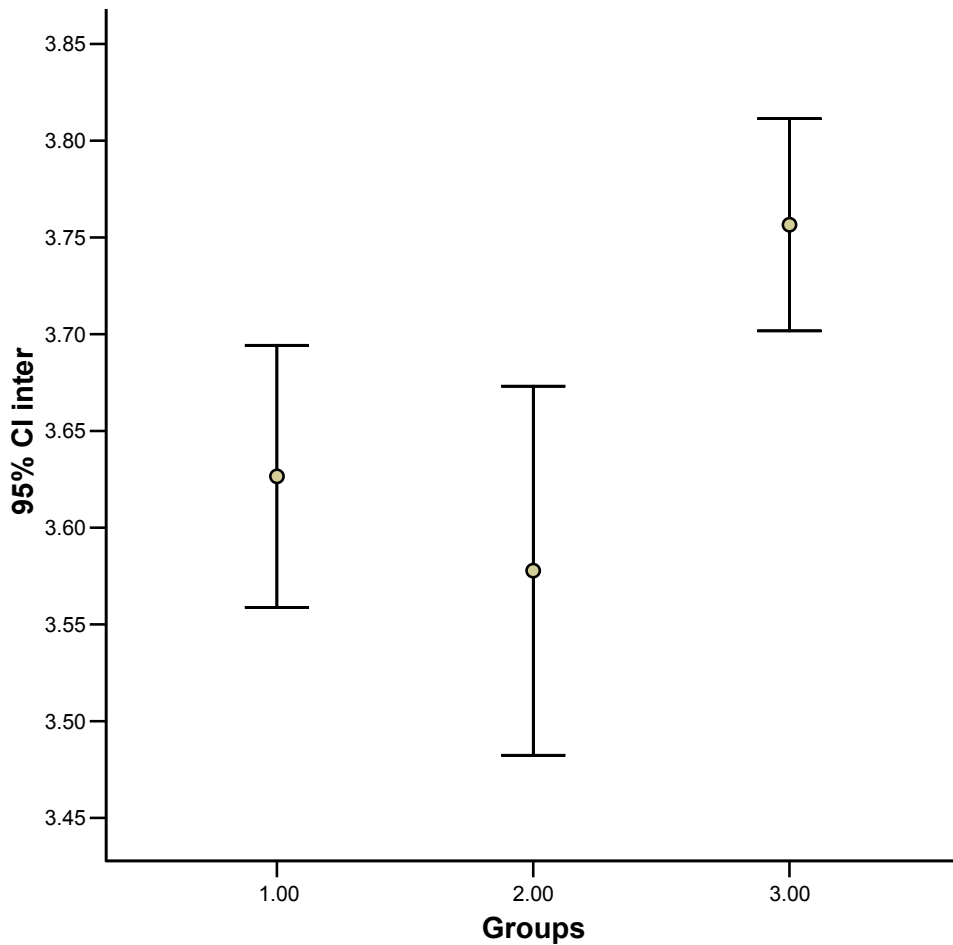
**Figure 4.3 Confidence intervals of the three sample groups on the leadership dimension of the Teamwork Skills Questionnaire**



The confidence intervals illustrated in Figure 4.4 represent a divergence from the previously established pattern of ever-increasing means throughout the three groups. For the *interpersonal* dimension, the leadership certificate holders reported a lower mean than did those with no leadership education, and this group also saw a much larger standard

deviation (and hence larger confidence interval) than the other two groups. However this difference between the no leadership education group and the group with leadership certification is not significant. Compared to the group of leadership degree holders, however, both of these groups reported significantly lower levels of the *interpersonal* skill.

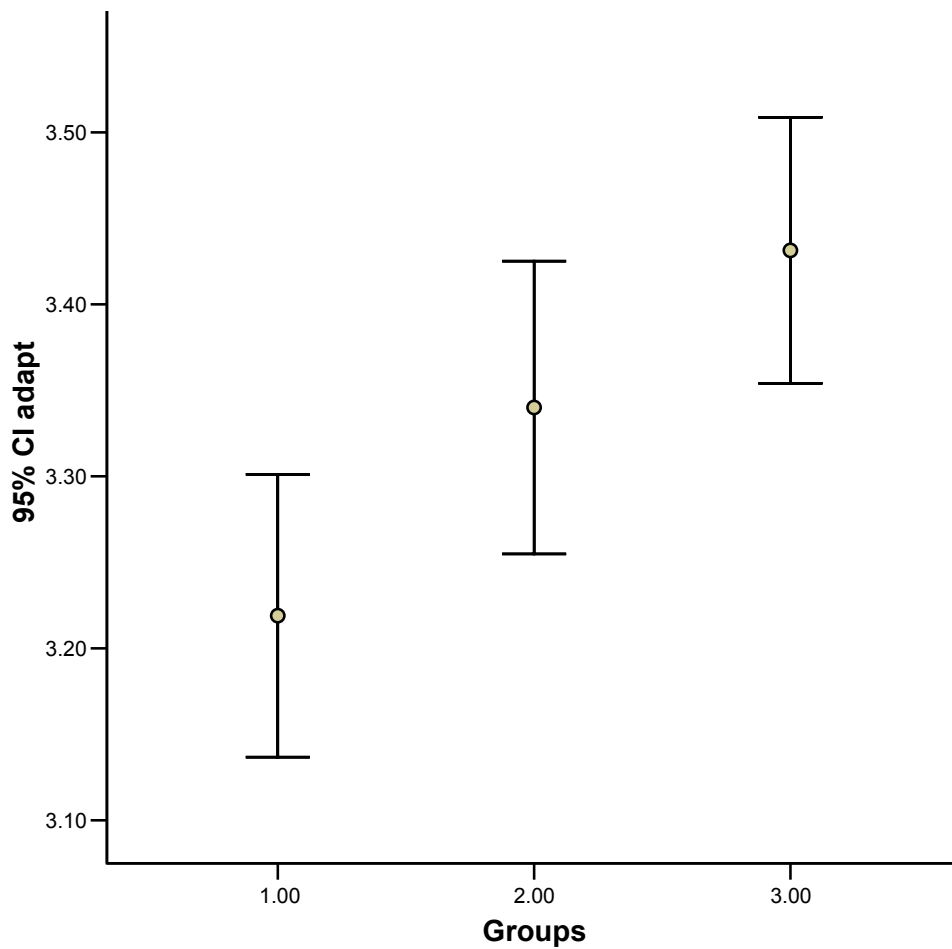
**Figure 4.4 Confidence intervals of the three sample groups on the interpersonal dimension of the Teamwork Skills Questionnaire**



On the dimensions of *adaptability* and *communication*, Figures 4.5 and 4.6 again demonstrate a familiar pattern – means of reported skill increase as leadership education

increases; however the confidence intervals for the means overlap in all comparisons except for between the group with no leadership coursework and those with leadership degrees. Again Tukey tests confirm that this is the only significant difference on either dimension.

**Figure 4.5 Confidence intervals of the three sample groups on the adaptability dimension of the Teamwork Skills Questionnaire**



**Figure 4.6 Confidence intervals of the three sample groups on the communication dimension of the Teamwork Skills Questionnaire**

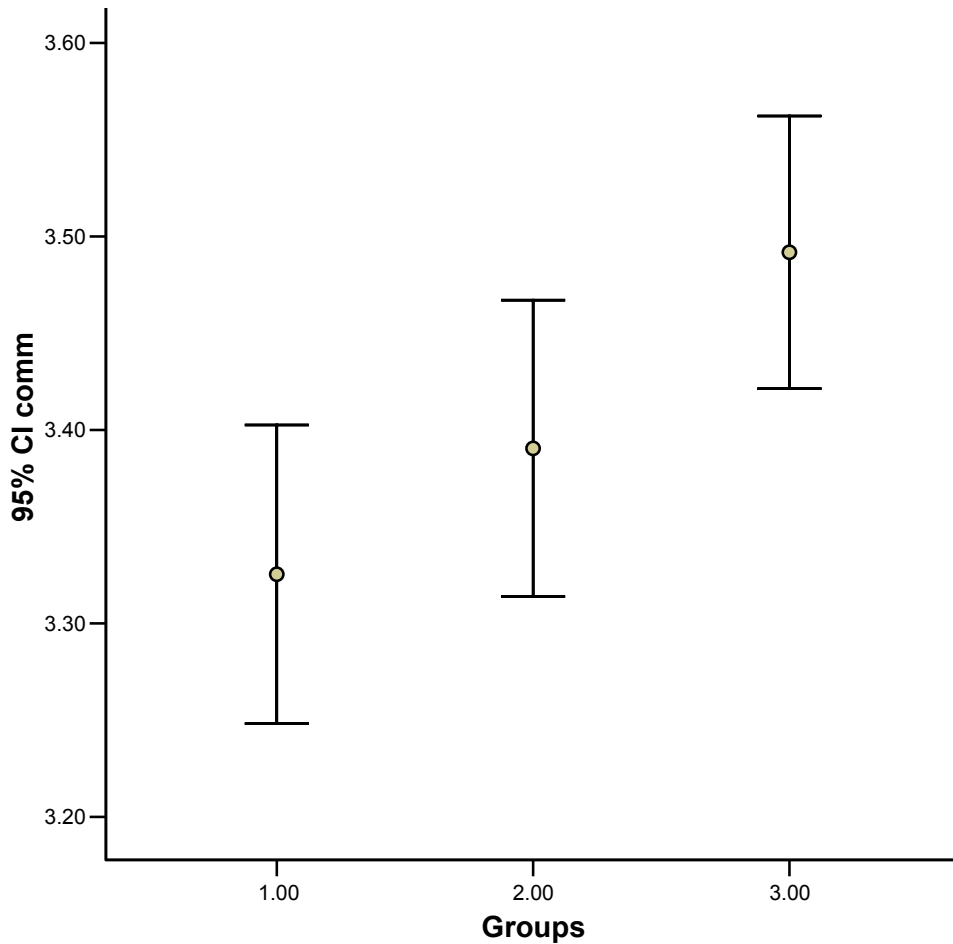
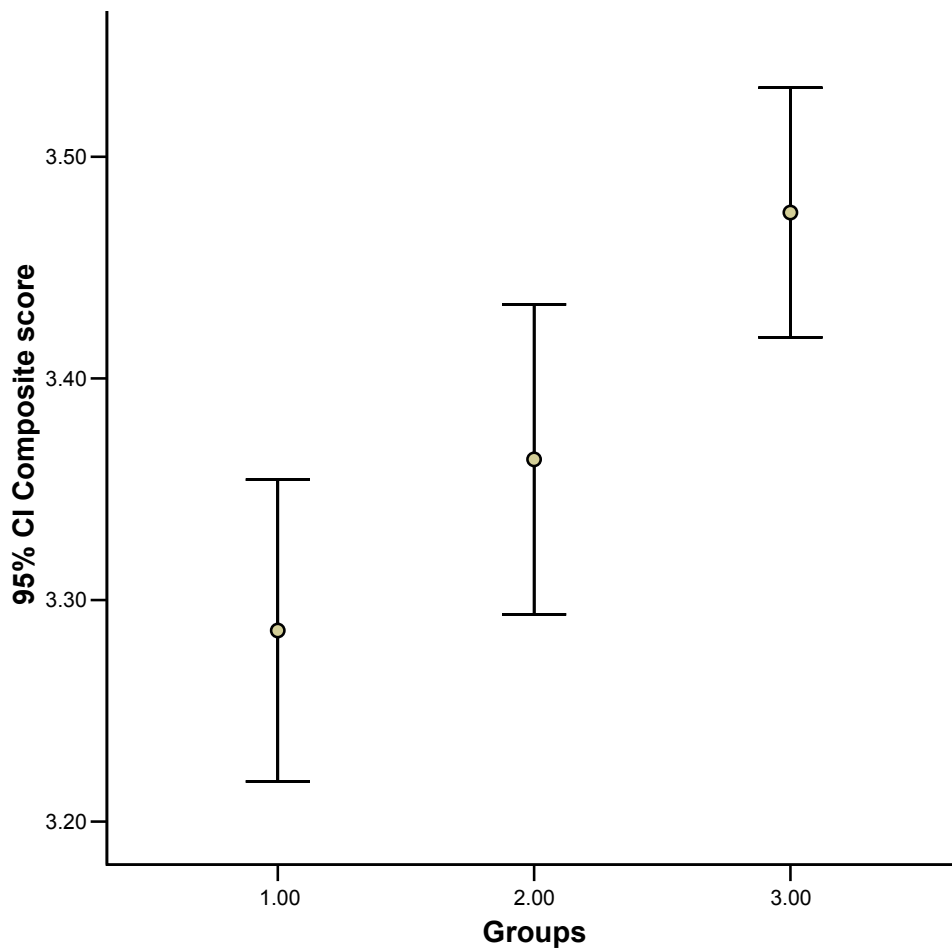


Figure 4.7 shows the sample means and confidence intervals for the Teamwork Skills Questionnaire composite score by level of leadership education. The trend in the sample means is the same as described for five of the six individual dimensions, with mean levels of skill increasing as leadership education increases. And again, the non-overlapping confidence intervals between the group with leadership degrees and those with no leadership coursework indicate that this difference is significant – i.e., those individuals with leadership degrees report significantly higher levels of composite score

skill than do those with no leadership education. The confidence intervals for those with a leadership certificate and those with a leadership degree do overlap slightly, but there does seem to be some evidence that, in addition, students with leadership degrees also report significantly higher levels of composite soft skills than do those who hold only a leadership certificate.

**Figure 4.7 Confidence interval of the three sample groups on the composite score of the Teamwork Skills Questionnaire**



### ***Regressions***

The previously completed significance tests (ANOVA & Tukey post-hoc) allowed an examination of which groups exhibited significantly different levels of soft skill development, however these were not capable of estimating the magnitude of the differences in reported levels of soft skill development by leadership curriculum experience – in other words, how much larger is the reported soft skill score for an individual with a leadership degree versus one with no leadership coursework? In order to estimate the size of these effects, a simple linear regression was estimated on each of the soft skill subscales and the composite score.

Table 4.13 summarizes the findings of the regression analyses. Across all dependent variables, the amount of leadership education variable was found to be positive and highly significant, indicating that as leadership education increases so does the level of reported soft skill. Specifically, for the various subscales, the coefficient for level of leadership education ranged from a low of .064 on the *interpersonal* subscale to a high of .138 for the *leadership* subscale. In the latter case, this indicates that for each additional level of leadership education, reports of skills are expected to increase by .138 points (on a five-point scale), holding everything else constant. The adjusted R<sup>2</sup> for these models ranges from a low of .017 for *interpersonal* skill to a high of .052 for *leadership*, indicating that generally the level of leadership education is explaining approximately two to five percent of the observed variance in the dependent variables.

**Table 4.13 Simple regression results of amount of leadership education on subscales and composite score**

<b>Dependent variable</b>	<b>Independent variable</b>	<b>Coefficient</b>	<b>Std error</b>	<b>T-value</b>	<b>Sig.</b>	<b>Model Adj R<sup>2</sup></b>
<b>Coordination</b>	Leadership education	.091	.033	2.736	.007*	.021
	<i>Constant</i> <i>N=301</i>	2.988				
<b>Decision-making</b>	Leadership education	.087	.027	3.201	.002*	.030
	<i>Constant</i> <i>N=301</i>	3.242				
<b>Leadership</b>	Leadership education	.138	.033	4.174	<.001*	.052
	<i>Constant</i> <i>N=301</i>	2.997				
<b>Interpersonal</b>	Leadership education	.064	.025	2.512	.013*	.017
	<i>Constant</i> <i>N=300</i>	3.529				
<b>Adaptability</b>	Leadership education	.106	.028	3.751	<.001*	.042
	<i>Constant</i> <i>N=300</i>	3.117				
<b>Communication</b>	Leadership education	.083	.026	3.189	.002*	.030
	<i>Constant</i> <i>N=300</i>	3.237				
<b>Composite</b>	Leadership education	.094	.023	4.170	<.001*	.052
	<i>Constant</i> <i>N=300</i>	3.187				

\*Significant at the 0.05 level

For the composite score, the coefficient for leadership education was .094 and again highly significant at <.001. This indicates that for each additional increase in the amount of leadership education, the composite score for soft skills is expected to increase

by .094 points (on a five-point scale). As such, this model would assume that an individual with a leadership degree as opposed to no leadership coursework would report a composite score .188 points higher (on a five-point scale). The adjusted R<sup>2</sup> for this model is .052, indicating that the amount of leadership education explains about five percent of the observed variation on the dependent variable.

### **Summary of findings**

This chapter included an examination of the study results through data analysis and a summary of those results. Demographic data was collected and analyzed for the sample population. In an attempt to answer the following research question, three hypotheses were explored. Is there a statistically significant difference in self-reported ratings of soft skills between students with no leadership education in comparison to students with a certificate in leadership and in comparison with students who earned a degree in Organizational Leadership?

A comparison of the means and the standard deviations of each of the six survey subscales scores and the total scores by three subject groups for each subscale and the total scale was presented. One-way analysis of variance testing was used to determine the differences in the mean responses between participants from the three groups. Results show that there is a statistically significant difference in all six dimensions between the three groups. The dimension of *coordination* is the least significant at .015 with criterion for significance set at the .05 level. The remaining dimensions of *decision-making*, *leadership*, *interpersonal*, *adaptability* and *communication* resulted in p-values ranging from .001 to .006. This resulted in a composite score for the entire Teamwork Skills Questionnaire being statistically significant at .001.



To determine how the three groups differed from each other, and where these differences occurred, Tukey's post-hoc analysis was conducted. This resulted in finding no significant difference between the first group of graduates who had taken no leadership coursework and the second group of graduates who had received a leadership certificate. In comparing this second group of graduates with those who have received a degree in Organizational Leadership, significance was found in only two dimensions. The dimensions of *decision-making* and *interpersonal* were found to have statistical significant difference at .050 and .002 respectively.

The final comparison was made between the first group of graduates whom had taken no leadership coursework and those whom had received a degree in Organizational Leadership. This is where the most significant differences occurred. A statistically significant difference was found in all six dimensions, as well as the composite score for the Teamwork Skills Questionnaire. These differences ranged from .001 to .029, with criterion for significance set at the .05 level.

Upon completion of the Tukey tests, three additional analyses were conducted. A follow-up correlation analysis was completed to evaluate the inter-correlations of the six dimensions of the survey instrument. The magnitude of correlation between the dimensions ranged from .242 - .679 which indicates that these six subscales separate cleanly and the quality of the instrument was supported. Confidence intervals were examined as another way to explore the differences between the three sample groups. The trend in the sample means on five of the six individual dimensions, as well as the composite score, was that the mean level of skill increased as leadership education increased. The only divergent confidence interval occurred on the dimension of

*interpersonal*, where the leadership certificate holders reported a lower mean than did those with no leadership education. Additionally, regression analyses were performed on each of the six subscales and the composite score. Upon completion of these analyses, the adjusted  $R^2$  indicated that the amount of leadership education explained only about five percent of the observed variation on the dependent variable.

## **CHAPTER 5 - Summary, Conclusions, Recommendations and Implications**

This final chapter of the study is devoted to summarizing the overall study as well as the specific research hypotheses and conclusions that were drawn from the findings. Possible programmatic recommendations are suggested, limitations to the study are identified, and recommendations for future research in this area are discussed.

### **Summary of Study Problem and Methodology**

The primary purpose of this study was to determine whether college graduates with an academic background in the discipline of leadership studies are better equipped with essential soft skills required to be successful in modern organizations. The need for this study came as a result of the ‘flattening’ of the traditional organizational hierarchy as the very nature of work has changed (Carnevale et al, 1990). It is now critical that employees at all levels of organizations are proficient in these soft skills. Yet employers from many recent studies indicate that there is a continued deficit in this area as they hire this nation’s college graduates (Casner-Lotto & Barrington, 2006; Hart Research Associates, 2006).

This was a status study of the Fort Hays State University Leadership Studies degree program designed to determine the relationship of the soft skills taught to the degree or amount of leadership education completed by the students. The instrument used in this study was the Teamwork Skills Questionnaire (O’Neil et al., 1999). For the past two decades, the literature in this field has linked teamwork skills with soft skills.

The amount of leadership education was treated as the independent variable while each of the six dimensions and the composite score of the Teamwork Skills Questionnaire were treated as the dependent variables.

This study was conducted using the survey research method. The purpose of survey research is to gather data from groups of people by utilizing questionnaires (Ary, et al., 2002). Gall et al. (2003) stated that “the purpose of a survey is to use questionnaires or interviews to collect data from a sample that has been selected to represent a population to which the findings of the data analysis can be generalized” (p. 223).

Participants were randomly selected from the 2003 through 2008 graduates of Fort Hays State University, excluding graduates who received a Bachelor’s in General Studies degree. With an original sample of 605 graduates, a total of 301 subjects ultimately participated in the study following the data collection process. Of these participants 35% (n=106) were male and 65% (n=195) female. Additional limited demographic information was gathered from these participants.

A majority (72%) of respondents were between the ages of 20 – 29 years of age, with ages ranging from 20 – 69. Ethnic breakdown was disproportionately white or Caucasian (93%), with small percentages reported in the black or African American, Hispanic or Latino, multiracial or biracial American, Asian Americans, native Hawaiian or other Pacific Islander and International categories.

Thirty-eight majors were represented from the six years of graduates surveyed. The study did not generate an adequate response rate per each of the academic majors to allow for an analysis by major.

The majority of these graduates (75%) reported having received most of their coursework on campus in a traditional face-to-face setting, while the remainder received their coursework via on-line delivery or mixed delivery methods. Of these participants, the vast majority (89%) were employed at their jobs full-time versus part-time employment.

Data collection was accomplished by utilizing Dillman's (2007) Tailored Design Method. This process, which took place between November of 2008 and January of 2009, involved five separate, individualized contacts which were made with study participants. The data were then analyzed by utilizing the statistical software package SPSS using descriptive statistics and one-way analysis of variance (ANOVA). Cronbach's alpha was run to test reliability. This testing resulted in a range from .685 to .839 on the six dimensions of the survey. The alpha result for the composite score was .924.

Post-hoc analysis was conducted by using the Tukey method to determine which groups differed from each other and where these differences occurred. A correlation analysis was conducted to evaluate the inter-correlations between the six dimensions of the survey instrument. Eight of the 15 correlations tested moderately high in magnitude with the remainder ranging from moderate to very low. The two dimensions of *leadership* and *interpersonal* are decidedly different scales with a very low correlation of .242 while the two dimensions of *adaptability* and *decision-making* share a much higher common variance with a value of .679.

Confidence intervals were examined as another way to explore the differences between the three sample groups. The trend in the sample means on five of the six

individual dimensions, as well as the composite score, found that the mean level of skill increased as leadership education increased. The only confidence interval to diverge was on the *interpersonal* dimension. Here the leadership certificate holders reported a lower mean than did those with no leadership education. Additionally, regression analyses were performed on each of the six subscales and the composite score. Upon completion of this analyses, the adjusted  $R^2$  indicated that the amount of leadership education explained only about five percent of the observed variation on the dependent variable.

### **Research Question, Hypotheses, and Findings**

The following research question and three related hypotheses were explored as a means to better understand the impact of the Fort Hays State University's Leadership Studies program on graduates' soft skill development.

*Research question:*

*Is there a statistically significant difference in self-reported ratings of soft skills between students with no leadership education in comparison to students with a certificate in leadership and in comparison with students who earned a degree in Organizational Leadership?*

*Hypotheses:*

H<sub>01</sub>: Students with no leadership education will report significantly different scores than leadership certificate holders.

H<sub>02</sub>: Students with leadership certificates will report significantly different scores than leadership degree holders.

H<sub>03</sub>: Leadership degree holders will report significantly different scores than those without leadership coursework.

### ***Related to Hypothesis One***

A one-way analysis of variance (ANOVA) was conducted to test  $H_{01}$ . This hypothesis stated that students with no leadership education will report significantly different scores than leadership certificate holders. This hypothesis was rejected, as no significant difference was detected between any of the six tested dimensions, nor was the result of the composite score statistically significant.

Given the findings of hypothesis one, it is concluded that the 9-credit hour leadership certificate from the FHSU Department of Leadership Studies does not significantly change soft skill development in graduates, per their self-reported perceptions of teamwork competence.

### ***Related to Hypothesis Two***

A one-way analysis of variance (ANOVA) was used to test  $H_{02}$ . This hypothesis stated that students with a leadership certificate will report significantly different scores than leadership degree holders. This hypothesis was supported by the study. Significant difference was found when comparing means of these two groups in that differences were found in two of the six dimensions. Both *decision-making* and *interpersonal* skills were found to be at a level of significant difference. In addition, the composite score was extremely close to statistical significance (.051) with criterion for significance set at the .05 level.

As per the findings of hypothesis two, it is concluded that the bachelor's degree in Organizational Leadership from the FHSU Department of Leadership Studies does make limited significant changes in graduates' soft skill proficiency in the workplace, as

compared with graduates who received the leadership certificate at FHSU. These changes were measured according to the graduate's self-reported perceptions.

### ***Related to Hypothesis Three***

A one-way analysis of variance (ANOVA) was conducted on H<sub>03</sub> to test for significance. This hypothesis stated that leadership degree holders will report significantly different scores than those without leadership coursework. As was predicted, statistically significant differences were found in all six dimensions, as well as the composite score. The dimensions of *leadership* and *adaptability* were the most statistically significant with both dimensions resulting in significance values of .001. The composite score for the Teamwork Skills Questionnaire was also found to be significant at .001. Thus, hypothesis three was accepted.

As per the findings of hypothesis three, it is concluded that the bachelor's degree in Organizational Leadership from the FHSU Department of Leadership Studies does indeed make multiple significant changes in soft skill proficiency in the workplace, as compared with graduates who received no leadership coursework from FHSU. These changes were measured by the use of a self-report survey on the graduate's self-perceptions.

### **Programmatic considerations**

The results of this study suggest that the Fort Hays State University Department of Leadership Studies should consider a thorough review of the curriculum with possible program changes. As no significant difference was found in soft skill proficiency between students with no leadership coursework and students with a 9-credit hour leadership certificate, the strength of the leadership certificate must be examined.



Currently, the leadership certificate consists of the three courses (1) LDRS: 300 Introduction to Leadership Concepts, (2) LDRS 302: Introduction to Leadership Behaviors, and (3) LDRS 310: Fieldwork in Leadership Studies (Fort Hays State University, 2008). Perhaps the leadership certificate should be increased to a 12-credit hour requirement,

adding another required course from the Organizational Leadership major. LDRS 480: Leadership and Team Dynamics appears to be an obvious choice to deepen the impact of soft skill development. The LDRS 670: Leadership and Personal Development course also has the potential to do so (Fort Hays State University, 2008). Additional investigation of the leadership coursework must take place to further identify what course or experience in the program caused specific differences to occur.

Another suggestion for the Department of Leadership Studies would be to encourage students from across all majors to consider adding an Organizational Leadership degree as a second major. Today's employers expect incoming hires to be prepared to immediately interact effectively in diverse teams. Attaching a leadership degree to any other major should help fill this current organizational deficit. From the student recruitment process through their graduation, this point should be made clear to all current and incoming students. This would allow students to decide early in their collegiate experience as to whether the additional cost and time for dual degrees is worth their pursuit.

The advantage of dual degrees should also be discussed with the students' academic advisors. Many of these advisors would need additional information about the Leadership Studies curriculum. As Leadership Studies is a new academic field, some

departments are hesitant to enroll their advisees in leadership classes. The multiple statistically significant differences found in soft skill development between Organizational Leadership graduates as compared to those with no leadership coursework should clarify the educational enhancement provided by the Leadership Studies program.

Finally, the Department of Leadership Studies must actively promote enrollment in their classes from all ethnicities represented on campus. The department should do more to encourage students from all cultures to understand the intended learning outcomes from leadership classes and how these classes may benefit their future employability skills.

### **Limitations of the study**

- Because this study was based on survey research, and was not a true experimental design study, we are not able to manipulate independent variables to make a stronger case for causation.
- The sample for this study was not ethnically diverse. This fact should cause one to be cautious in generalizing findings of this study to another population. Information in Chapter 3 illustrated this limitation among the student body at FHSU. Similarly, that same homogeneity exists among students who have chosen to take classes in Leadership Studies.
- The number of Organizational Leadership degree graduates is relatively small. As leadership is a new academic discipline with approximately fifteen years of history, the Organizational Leadership degree at FHSU has only an eight year history.

- By studying only one university, generalizability to a broader population is difficult. Though there are numerous collegiate leadership development programs throughout higher education, there are few that offer a similar bachelor's degree in Organizational Leadership (Brungardt et al., 2006).
- The survey research method used in this study was based on self-report of respondents. Results depended on one's ability to honestly self-reflect and report may or may not produce accurate data. People who self-report their own behaviors may report what reflects positively on their personal knowledge, attitudes, and behaviors (Cook & Campbell, 1979).
- Using only one survey instrument to measure soft skills is limiting. There are elements of soft skill development not measured with this instrument, and there are other instruments which could be used for measurement.
- A few participants in the study were graduates who voluntarily identified as having received double degrees from Fort Hays State University. Double degrees were not accounted for in the research design.

### **Implications for future research**

There are several implications which can be drawn from this study to enhance future research in the field. These suggestions should prove beneficial to future researchers, which should in turn produce more positive future outcomes for college students and organizations throughout the country.

- Validity is a concern in any research study. Did the instrument and the method measure what you want to know? What other skills might the leadership coursework produce that may not have been measured with this instrument?

Given the complexity of the multi-dimensional phenomena known as leadership, future research in leadership education must specifically define the elements of effective leadership growth in order to measure outcomes more accurately.

- This study should be replicated using the same measure, but also collect data from a 360-degree feedback perspective. This data collection would include the graduates' supervisors, peers and direct reports who would all respond to the graduate's performance on the six dimensions.
- Researchers must continue to stress the importance of both the '*knowing*' and the '*doing*' in terms of effective leadership development. This will require measurement of learning through experiential pedagogies as well as traditional classroom teaching methods.
- This study should be replicated with the inclusion of one or more forms of qualitative methodology. Though time intensive and complex, qualitative research often illuminates "in radically new ways phenomena as complex as leadership" (Conger, 1998, p. 107). Though leadership development is difficult to measure, and qualitative research remains relatively rare, the two must be intertwined more readily to allow Leadership Studies to continue to emerge as a recognized academic discipline (Riggio et al., 2003).
- The field of leadership education needs to develop standardized leadership curriculum. Without these standards, measuring leadership growth of graduates in a consistent manner will continue to be difficult (Riggio et al., 2003).
- Longitudinal studies need to be designed and implemented. Many of the typical graduate outcomes evaluated by other academic departments may take several

years for leadership graduates to refine. Therefore, there needs to be a long-term perspective to much of the future research in the leadership field.

- Valuable information could be gleaned from a replication of this study by adding a fourth educational level. The Department of Leadership studies at FHSU also offers a 21-credit hour minor in Leadership Studies. This category could be measured and compared to the three groups used in this current study.
- A strong goal of most leadership education programs is to instill a sense of civic responsibility within their students. The effectiveness of this component should be measured, particularly in future longitudinal studies.
- There is a need to further explore the relationship between demographic variables and the levels of academic leadership development.
- Future research in Leadership Studies must include integration of assessment data from multiple universities where similar degrees are offered.
- Given the growing demand for college programs to be delivered online, this study should be replicated with a more in-depth analysis of the effect of leadership education in students who receive the majority of their coursework online as compared to on campus
- Future research should attempt to control for abilities and previous life experiences. One way to control for this is to include the ACT score as the control variable

## **Final Discussion**

In conclusion, this study was an extension of the rapidly growing body of research in the field of leadership education. As this field is still in its infancy, more research is needed at many levels. Standardized methods of intended learning outcomes, curriculum development and program assessment will be critical in moving this field forward as an accepted academic discipline (Brungardt et al., 2006; Sorenson, 2000).

This study confirms findings from several previous studies (AACU, 2007; Casner-Lotto & Barrington, 2006; Hart Research Associates, 2006). There is a skills gap in incoming hires in the area of soft skill development, and this gap often proves detrimental to overall success of the organization (Eldredge, 2006). One potential answer to address this gap in needed skills is found in the new emerging academic discipline of Leadership Studies (Bisoux, 2002; Burns, 1978; Funk, 2006).

This study did produce positive results, which further advances the body of knowledge in the field of leadership education. If we believe that the role of higher education is to develop effective organizational members, and that leadership does indeed play an important role in the progress of our organizations, communities and society, then it is imperative that we as leadership scholars continue our efforts to educate for effective leadership.

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## **Appendix A - Pre-Notice Postcard**

## Appendix A – Pre-Notice Postcard

November 28, 2008

First Name,

Fort Hays State University (FHSU) is conducting a study to assess FHSU graduates' self-perceptions of their soft skill development and the impact this has on teamwork proficiency in the workplace. You have been randomly selected to participate in this study. As such, you are representing your past classmates; thus, your responses are very important. In an effort to better prepare future FHSU graduates, the findings from this study will potentially be used to enhance the curriculum in departments across campus.

The purpose of this postcard is to confirm your address, to notify you of a questionnaire you will soon be receiving, and to ensure the questionnaire gets to you in a timely fashion. If you have a more current address than the one in which this postcard was sent, please reply to Christie Brungardt, coordinator of the study at [cjbrunga@fhsu.edu](mailto:cjbrunga@fhsu.edu) or by calling 785 628-4303 to update your address.

On behalf of Fort Hays State University, thank you in advance for your participation in this much needed study. Working together we can continue to produce extremely successful graduates, such as yourself, from FHSU.

Respectfully,

Dr. Charles Heerman, Principal Investigator  
Department of Secondary Education  
Kansas State University

Christie J. Brungardt  
KSU Doctoral Student  
FHSU Department of Leadership Studies

## **Appendix B - Initial Cover Letter**



## Appendix B – Initial Cover Letter

December 4, 2008

First Name Last Name

Address 1

Address 2

City, State Zip Code

Dear First Name,

Fort Hays State University (FHSU) is conducting a study to assess FHSU graduates' self-perceptions of their soft skill development and the impact this has on teamwork proficiency in the workplace. As a recent FHSU graduate, your insight is extremely important. The purpose of this letter is to invite you to participate in this valuable study.

Participation in this study is completely voluntary. We ask that you take approximately 15 minutes to complete this questionnaire and return it in the pre-addressed, stamped envelope provided no later than **December 14, 2008**. Please use the enclosed \$1.00 bill to buy yourself a soda or coffee to enjoy while you complete the form. Completion and submission of this questionnaire implies that you consent for us to use the information in this study.

Your responses to this study will remain *completely* confidential. Only summated, group data will ever be reported. No names will be linked to responses. Please respond to each question openly and honestly. While you are not obligated to participate in this study, your responses are very important to the University as we consider modifying curriculum and addressing the needs of current and future FHSU students. Rest assured that if you decide not to participate in this study, your decision will in no way affect your relationship with Fort Hays State University.

Should you have questions concerning this letter and/or study, please do not hesitate to contact Christie Brungardt who is coordinating this research as a partial requirement for her doctoral degree. She may be reached by phone at (785) 628-4303 or via e-mail at [cjbrunga@fhsu.edu](mailto:cjbrunga@fhsu.edu). You may also contact Dr. Charles Heerman, principal investigator, via email at [heerman@ksu.edu](mailto:heerman@ksu.edu) with questions. Additionally, you may contact the FHSU Campus IRB office at (785) 628-4236 for further information concerning human participation in research studies, or the K-State IRB Compliance Office by contacting Rick Scheidt, Chair, Committee on Research Involving Human Subjects, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66506, (785) 532-3224.

Please contact Christie Brungardt if you would like final results of the study sent to you. Thank you for your interest in this important study and in the academic preparation of graduates at Fort Hays State University. I look forward to receiving your responses!

Respectfully,

Dr. Charles Heerman, Principal Investigator  
Department of Secondary Education  
Kansas State University

Christie Brungardt  
KSU Doctoral Student  
FHSU Dept. of Leadership Studies

## **Appendix C - Teamwork Skills Questionnaire**

# Appendix C - Teamwork Skills Questionnaire



## Teamwork Skills Questionnaire

*Directions:* This set of questions is to help us understand the way you think and feel about working with others. We know that different parts of your life, such as your job, recreational activities, or service to your community, may involve working with others and have different requirements, and that you may react differently in each kind of activity. Nonetheless, read each statement below to indicate how you generally think or feel. There are no right or wrong answers. Do not spend too much time on any one statement. Circle the most appropriate answer. Remember, give the answer that seems to describe how you *generally* think or feel.

	Almost never	Sometimes	Often	Almost always
1. When I work as part of a team, I exercise leadership.	1	2	3	4
2. When I work as part of a team, I ensure the instructions are understood by all the team members prior to starting the task.	1	2	3	4
3. When I work as part of a team, I understand and contribute to the organizational goals.	1	2	3	4
4. When I work as part of a team, I teach other team members.	1	2	3	4
5. When I work as part of a team, I interact cooperatively with other team members.	1	2	3	4
6. When I work as part of a team, I allocate the tasks according to each team member's abilities.	1	2	3	4
7. When I work as part of a team, I know the process of making a decision.	1	2	3	4
8. When I work as part of a team, I serve as a role model in formal and informal interactions.	1	2	3	4
9. When I work as part of a team, I conduct myself with courtesy.	1	2	3	4
10. When I work as part of a team, I ask for the instructions to be clarified when it appears not all the team members understand the task.	1	2	3	4
11. When I work as part of a team, I help ensure the proper balancing of the workload.	1	2	3	4
12. When I work as part of a team, I know how to weigh the relative importance among different issues.	1	2	3	4
13. When I work as part of a team, I lead when appropriate, mobilizing the group for high performance.	1	2	3	4
14. When I work as part of a team, I respect the thoughts and opinions of others in the team.	1	2	3	4
15. When I work as part of a team, I can	1	2	3	4

	Almost never	Sometimes	Often	Almost always
identify potential problems readily.				
16. When I work as part of a team, I communicate in a manner to ensure mutual understanding.	1	2	3	4
17. When I work as part of a team, I do my part of the organization in a timely manner.	1	2	3	4
18. When I work as part of a team, I prepare sufficiently to make a decision.	1	2	3	4
19. When I work as part of a team, I lead the team effectively.	1	2	3	4
20. When I work as part of a team, I treat others with courtesy.	1	2	3	4
21. When I work as part of a team, I willingly contribute solutions to resolve problems.	1	2	3	4
22. When I work as part of a team, I seek and respond to feedback.	1	2	3	4
23. When I work as part of a team, I track other team members' progress.	1	2	3	4
24. When I work as part of a team, I solicit input for decision making from my team members.	1	2	3	4
25. When I work as part of a team, I demonstrate leadership to ensure team results.	1	2	3	4
26. When I work as part of a team, I adapt readily to varying conditions and demands.	1	2	3	4
27. When I work as part of a team, I listen attentively.	1	2	3	4
28. When I work as part of a team, I am able to change decisions based upon new information.	1	2	3	4
29. When I work as part of a team, I try to bring out the best in others.	1	2	3	4
30. When I work as part of a team, I recognize conflict.	1	2	3	4
31. When I work as part of a team, I clearly and accurately exchange information.	1	2	3	4
32. When I work as part of a team, I emphasize the meeting of deadlines.	1	2	3	4
33. When I work as part of a team, I accept individual differences among members.	1	2	3	4
34. When I work as part of a team, I identify needs or requirements and develop quality/timely solutions.	1	2	3	4

	Almost never	Sometimes	Often	Almost always
35. When I work as part of a team, I pay attention to what others are saying.	1	2	3	4
36. When I work as part of a team, I treat all my team members as equals.	1	2	3	4

### DEMOGRAPHIC INFORMATION

(Please indicate by placing an X beside the most correct answer)

1. Indicate the year you received your Bachelor's degree from Fort Hays State University.

2003  
 2004  
 2005  
 2006  
 2007  
 2008

Degree/Department \_\_\_\_\_

2. **Gender:**         Male         Female

3. **Ethnicity:** Please select from the following categories.

Hispanic or Latino (Spanish Origin)  
 American Indian or Alaska Native  
 Asian American  
 Black or African American  
 Native Hawaiian or Other Pacific Islander  
 White or Caucasian  
 Multiracial or Biracial American  
 International

4. **Please indicate your age:** \_\_\_\_\_

5. **Course Delivery Method:**

I took the majority of my FHSU courses:     On Campus     Online

6. Is your current employment position considered  **full** or  **part-time**?

7. How many months have you been in your current position? \_\_\_\_\_

## **Appendix D - Thank You Postcard**

## Appendix D – Thank You Postcard

December 16, 2008

First Name,

Approximately ten days ago you were mailed a questionnaire from Fort Hays State University (FHSU). This questionnaire was concerning a study on the assessment of FHSU graduates' self-perceptions of their soft skill development and the impact this has on teamwork proficiency in the workplace.

If you have already completed and returned this questionnaire, thank you so much for your assistance with this important study. If you have not yet done so, please take a few minutes to complete the questionnaire and return it in the pre-paid, stamped envelope provided. Your responses are important to the University as we look to better prepare future graduates for the workplace.

If you have misplaced your questionnaire, please call Christie Brungardt, coordinator of the study, at (785) 628-4303 or e-mail at [cjbrunga@fhsu.edu](mailto:cjbrunga@fhsu.edu). She will be happy to send another one.

Respectfully,

Dr. Charles Heerman, Principal Investigator  
Department of Secondary Education  
Kansas State University

Christie Brungardt  
KSU Doctoral Student  
FHSU Dept. of Leadership Studies



## **Appendix E - Follow-Up Letter to Non-Respondents**

## Appendix E – Follow-Up Letter to Non-Respondents

January 6, 2009

First Name Last Name  
Address 1  
Address 2  
City, State Zip Code

Dear First Name,

Approximately four weeks ago, a questionnaire was sent to you on behalf of Fort Hays State University (FHSU). This was a study concerning the assessment of FHSU graduates' self-perceptions of their soft skill and teamwork proficiency in the workplace. Our records indicate that of this date your questionnaire has not been received.

To date, many of your former classmates have responded and have rated themselves in terms of their own self-perception of their level of soft skill and teamwork proficiency, and the impact this has in their own workplaces. Our goal with this study is to obtain all of the questionnaires distributed to recent FHSU graduates in an effort to more fully understand the needs of our current students as we work to better prepare them for their future careers. The results of this study will be useful to potentially help enhance the curriculum in departments across campus. I am writing again because of the importance your responses have to this study.

Please take a few minutes (approximately 15) to complete the questionnaire and return it in the pre-paid, stamped enveloped provided no later than **January 14, 2009**. Should you have questions concerning this letter and/or study, or if you would like final results of the study sent to you, please do not hesitate to contact Christie Brungardt, coordinator of the study, by phone at (785) 628-4303 or via e-mail at [cjbrunga@fhsu.edu](mailto:cjbrunga@fhsu.edu). You may also contact Dr. Charles Heerman, principal investigator, via e-mail at [heerman@ksu.edu](mailto:heerman@ksu.edu) with questions. Additionally, you may contact the FHSU Campus IRB office at (785) 628-4236 for further information concerning human participation in research studies, or the K-State IRB Compliance Office by contacting Rick Scheidt, Chair, Committee on Research Involving Human Subjects, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66506, (785) 532-3224.

Thank you for your interest in the academic preparation of graduates at Fort Hays State University. We look forward to receiving your responses!

Respectfully,

Dr. Charles Heerman, Principal Investigator  
Department of Secondary Education  
Kansas State University

Christie Brungardt  
KSU Doctoral Student  
FHSU Dept. of Leadership Studies

## **Appendix F - Permission to use Instrument**

## Appendix F – Permission to use Instrument

FROM: Harry O'Neill,  
University of Southern California

DATE: January 3, 2008

You have my permission to use either version.

In general later versions have more extensive psychometric info.

Sorry for the delay in responding.

Please send me a copy of your dissertation abstract when finished.

Sent from my iPhone  
Harry O'Neil

On Jan 3, 2008, at 12:40 PM, [cjbrunga@fhsu.edu](mailto:cjbrunga@fhsu.edu) wrote:

Hello Dr. O'Neil,

I apologize for being such a pest. With the holidays behind us, I now must 'bear down' on this dissertation process. Below you will see an email I sent to you in December. I know you had been out of the country prior to the holidays, so certainly understand the work load upon return and immediately prior to the rush of Christmas.

I hope to speak with you soon in regards to the possibility of using your Teamwork Skills Questionnaire as the survey for my study. I would be more than happy to call you at any time to discuss requirements for use of your instrument. If you would prefer a phone call, please send me a time and a number.

Thank you so much for your consideration of this request.

Christie Brungardt

-----Forwarded by Christie J Brungardt/FHSU on 01/03/2008 04:35PM -----

To: [honeil@usc.edu](mailto:honeil@usc.edu)  
From: Christie J Brungardt/FHSU  
Date: 12/05/2007 04:16PM  
Subject: Teamwork Skills Questionnaire

Hello Dr. O'Neil,

My name is Christie Brungardt. I teach in the Department of Leadership Studies at Fort Hays State University in Hays, Kansas. I am currently beginning work on a dissertation to finish the requirements for my doctoral degree at Kansas State University.

As a student and teacher of the emerging discipline of leadership studies, I am naturally drawn to the area of soft skills. I have read much of your work from the past 15 years and am intrigued by your Teamwork Skills Questionnaire. Initially, I was interested in the Revised Teamwork Skills Questionnaire Marcia

Kuehl produced through her dissertation work. However, the more I study the original and the revised, the more I think I would prefer to use your original Questionnaire as my survey instrument. I have looked at a number of other instruments, but find yours to most closely align with elements in my particular study.

My question is, might I have permission to use your instrument? At this point, I believe I will be testing approximately 200 past Fort Hays State University students who have either a bachelor's degree in Organizational Leadership, a minor in Leadership Studies, or a certificate in Leadership Studies.

I will also be surveying each of these individual's direct supervisors as to their observations of the individual's teamwork skills. This would require some minor 'tweaking' of the verbiage so as to reflect an observer's point of view rather than a self-report.

Please advise as to the possibility of the usage of your instrument for my dissertation process. I thank you in advance for your consideration of this request.

Christie Brungardt

Fort Hays State University  
Department of Leadership Studies  
Hays, KS 67601

## **Appendix G - Teamwork Skills Questionnaire Scoring Key**

## Appendix G – Instrument Scoring Key

### TEAMWORK SKILLS QUESTIONNAIRE SCORING KEY

#### Scoring Key

Scales	Items
Coordination (n=5)	6,11,17,23,32
Decision-Making (n=6)	3,7,12,18,24,28
Leadership (n=7)	1,4,8,13,19,25,29
Interpersonal Skills (n=6)	5,9,14,20,33,36
Adaptability (n=5)	15,21,26,30,34
Communication (n=7)	2,10,16,22,27,31,35

#### **COORDINATION – Organizing team activities to complete a task on time**

6. When I work as part of a team, I allocate the tasks according to each team member's abilities.
11. When I work as part of a team, I help ensure the proper balancing of the workload.
17. When I work as part of a team, I do my part of the organization in a timely manner.
23. When I work as part of a team, I track other team members' progress.
32. When I work as part of a team, I emphasize the meeting of deadlines.

#### **DECISION MAKING -- Using available information to make decisions**

3. When I work as part of a team, I understand and contribute to the organizational goals.
7. When I work as part of a team, I know the process of making a decision.
12. When I work as part of a team, I know how to weigh the relative importance among different issues.
18. When I work as part of a team, I prepare sufficiently to make a decision.
24. When I work as part of a team, I solicit input for decision making from my team members.
28. When I work as part of a team, I am able to change decisions based upon new information.

#### **LEADERSHIP -- Providing direction for the team**

1. When I work as part of a team, I exercise leadership.
4. When I work as part of a team, I teach other team members.
8. When I work as part of a team, I serve as a role model in formal and informal interactions.

13. When I work as part of a team, I lead when appropriate, mobilizing the group for high performance.
19. When I work as part of a team, I lead the team effectively.
25. When I work as part of a team, I demonstrate leadership and ensure team results.
29. When I work as part of a team, I try to bring out the best in others.

**INTERPERSONAL SKILLS -- Interacting cooperatively with other team members**

5. When I work as part of a team, I interact cooperatively with other team members.
9. When I work as part of a team, I conduct myself with courtesy.
14. When I work as part of a team, I respect the thoughts and opinions of others in the team.
20. When I work as part of a team, I treat others with courtesy.
33. When I work as part of a team, I accept individual differences among members.
36. When I work as part of a team, I treat all my team members as equals.

**ADAPTABILITY -- Recognizing problems and responding appropriately**

15. When I work as part of a team, I can identify potential problems readily.
21. When I work as part of a team, I willingly contribute solutions to resolve problems.
26. When I work as part of a team, I adapt readily to varying conditions and demands.
30. When I work as part of a team, I recognize conflict.
34. When I work as part of a team, I identify needs or requirements and develop quality/timely solutions.

**COMMUNICATION -- Clear and accurate exchange of information**

2. When I work as part of a team, I ensure the instructions are understood by all team members prior to starting the task.
10. When I work as part of a team, I ask for the instructions to be clarified when it appears not all the team members understand the task.
16. When I work as part of a team, I communicate in a manner to ensure mutual understanding.
22. When I work as part of a team, I seek and respond to feedback.
27. When I work as part of a team, I listen attentively.
31. When I work as part of a team, I clearly and accurately exchange information.
35. When I work as part of a team, I pay attention to what others are saying.