AN INVESTIGATION OF THE RELATIONSHIP OF CREATIVITY AND LEADERSHIP IN UNIVERSITY BUSINESS STUDENTS

by Edward E. Ackerley

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Approved:

Robert J. Fallows, Ph.D., Chair

Mary Dereshiwsky, Ph.D.

Joyce A. DeVoss, Ph.D.

George Domino, Ph.D.

ABSTRACT

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EDWARD E. ACKERLEY

The purpose of this study was to investigate a possible relationship between creativity and leadership. The study was conducted through an assessment of aspects of these traits, behaviors and skills in university students. Malcolm Knowles envisioned a new and different kind of leadership he called Creative Leadership.

Gardner provided a definition of creativity in 1993, and two years later Kouzes and Posner defined leadership. As Knowles asserted, creative leadership was a form of leadership that released the creative energy of both the leader and the people being led. Although both creativity and leadership had been investigated independently for years, no single trait characterized a creative person or a potential leader.

The study was exploratory using correlation analysis of data collected in a self-assessment by university undergraduates. Pearson's *r* was used to compute coefficients to indicate the degree to which a measure of creativity was related to a measure of leadership.

The study used the Adjective Check List (ACL) and the Student Leadership Practices Inventory (SLPI). The sample consisted of upper-division undergraduate students (n = 122; 53 male and 69 female) who were enrolled in a business/management program at a major southwestern university in the United States in the spring semester of 2004.

The results indicated a significant correlation (r = .34, df = 121, p<.01) between creativity and leadership. More specifically, significant correlations were obtained between creativity scores and three components of the SLPI: Challenging the Process (r =.30 p<.01) Inspiring a Shared Vision (r = .26 p <.01) and Modeling the Way (r = .43 p < .01).

The findings of this study indicated a significant relationship between creativity and leadership. The correlation for Modeling the way, r = .43 (p < .01), suggests that mentoring may be a determinant in helping students develop into creative leaders. Future studies could be conducted using the ACL and SLPI with faculty, administrators, or with students at the beginning of the semester, to help identify potential creative leaders. Companies could administer the tests to identify creative leaders. The development of an instrument as a predictor of creative leadership is recommended.

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executive, teacher and friend, I hope that I have demonstrated the principles of creative leadership and that my legacy will be about CreatingMAGIC.

TABLE OF CONTENTS

CHAPTER 2: LITERATURE REVIEW *(continued)*

CHAPTER 2: LITERATURE REVIEW *(continued)*

CHAPTER 5. SUMMARY, CONCLUSIONS, RECOMMENDATIONS AND IMPLICATIONS *(continued)*

LIST OF TABLES

LIST OF FIGURES

This dissertation is dedicated to
my wife, Susan, and my sons
Kyle, Kevin, and Kasey.

CHAPTER 1

INTRODUCTION

> Creative Leaders stimulate and reward creativity. They understand that in a world of accelerating change, creativity is the basic requirement for the survival of individuals, organizations and societies. They exemplify creativity in their own behavior and provide an environment that encourages and rewards creativity in others. (Knowles, 1990, p. 187)

Malcolm Knowles (1990) conceptualized a relationship between creativity and leadership when he proposed a theory of Creative Leadership. Knowles (1990) discussed a new form of leadership that embodied the traits of traditional leadership theory: leadership combined with creativity to establish a new entity he called Creative Leadership.

Scholarly research on creativity can be found in numerous fields, including business and education. Since the 1900s, social scientists conducted creativity research in many disciplines, including psychology, physiology, biology, education, and business (Runco & Pritzker, 1999).

Leadership research thrived too, with early analyses (1900 to 1950) concentrated on leader and follower characteristics. No single "magic" trait of leadership was discovered. As a result, researchers like Bass (1981) and Stogdill (1974) examined the

influence of the situation on leader skills and behaviors. Leadership studies including McGregor (1960), and later Blake and Mouton (1964), differentiated effective from non-effective leader traits. These studies attempted to determine which leadership behaviors were exemplified by effective leaders.

Fielder (1976), Hersey and Blanchard (1972), and House (1967) used a contingency model to increase understanding of leadership. However, these researchers did not completely clarify what combination of personality characteristics, leader behaviors, and situational variables were required for becoming an effective leader. Leadership studies by Bass (1981) and Burns (1978) focused on the individual characteristics of leaders—those traits that influenced personal effectiveness and the ultimate success of organizations.

Identifying a list of traits became an important part of describing good leaders. An example is the acclaimed National Association of Secondary School Principals twelve leadership skills (NASSP, 1999). The original list of skills developed by the NASSP helped identify effective high school principals; however, the list was also used to develop leadership among others, including education administrators and leaders in business and civic organizations. Absent from the NASSP twelve leadership skills list (and subsequent similar lists) is the trait of "creativity."

An example of how the NASSP twelve leadership skills were used in other educational settings (other than assessing leadership qualities in principals) was the Educational Leadership degree available at Northern Arizona University. The degree program offered preparation for students planning to enter education and greater

leadership responsibilities. This program helped participants assume leadership roles in the community, and to become active in the changes taking place in education, business and society (Northern Arizona University, 2005).

A review of the literature revealed discussions regarding creativity and leadership skills described in terms of inherent traits versus learned skills obtained through training. A relationship between creativity and leadership became an important topic for Malcolm Knowles. Knowles (1990) envisioned a new and different kind of leadership: a blending of learned skills and inherent traits. Knowles conceptualized and investigated a new entity, which he called Creative Leadership.

Overview

In the following chapter, a background of creativity and leadership is included, as well as an inventory of the NASSP twelve skills of leadership. The concept of creative leadership is clarified. This section concludes with (a) presentation of the purpose of the study, (b) statement of the problem, (c) question to be investigated in this study, (d) definition of terms, (e) assumptions, and (f) significance of the study.

Purpose of the Study

The purpose of this study was to investigate creativity and effective leadership to examine the nature of the relationship between the two, if any. This investigation was conducted through an assessment of aspects of these traits, behaviors and potential skills in university business students.

Researchers, including Barron (1967, 1969, 1995), Bennis (1989, 2000), Guilford (1975), Knowles (1990), MacKinnon (1975), Torrance (1969) and Torrance and Torrance (1973) described a relationship between creativity and leadership. However, the investigation of the nature of the relationship between creativity and leadership was lacking in the research. Limited research existed on the entity described by Knowles as creative leadership (Posner, 2003).

Posner (2003) noted that there were scant data comparing leadership and creativity. He concluded that the examination of leadership and the nature of its relationship to creativity had not answered the question of how students became creative leaders. Knowles (1990) asserted that creative leaders stimulate and reward creativity, exemplify creativity in their own behavior, and provide an environment that encourages and rewards creativity in others.

Statement of the Problem

Researchers who investigated creativity included Barron (1969), Freud (1929), Gardner (1993), Guilford (1950) and Wallas (1926). These researchers attempted to characterize the creative person, the lone genius, and the traits which creative people possessed. A variety of sources of data about leadership existed. Fielder (1967), Fleishman (1973), Lewin (1948) and Likert (1967) investigated leadership at prestigious institutions such as the University of Iowa, Ohio State University and the University of Michigan. While the exact sampling procedures, methodologies, and measures varied

among these studies, their findings were similar. No single magic trait characterized a creative person or a potential leader.

It was not until 1990 that Knowles (1990) offered his theory of creative leadership; therefore, less research has been conducted on creative leaders than creativity and leadership individually.

Question to be Investigated

Is there a relationship between creativity and leadership as indicated on self-reported measures of undergraduate business majors? If there is a relationship, what is its direction and magnitude?

Definition of Terms

The following terms, which are in popular usage, are defined here for the purpose of clarity.

Creativity

(a) Creativity is the act of regularly solving problems, fashioning products, or defining new questions in a domain in a way that is initially considered novel but that ultimately becomes accepted in a particular cultural setting (Gardner, 1993, p. 35);

(b) Creativity is a person's capacity to produce new or original ideas, insights, restructuring, inventions, or artistic objects, which are accepted by experts as being of scientific, aesthetic, social, or technological value. In addition to novelty as a major criterion, the definition must include the acceptability or appropriateness of the creative

product, even though this valuation may change with the passage of time (Glover, Ronning, & Reynolds, 1989).

Leadership

(a) Kouzes and Posner (1995, p. 30) defined leadership as "the art of mobilizing others to want to struggle for shared aspirations." To them, leadership was the capacity to lead while challenging the process, inspiring a shared vision, enabling others to act, modeling the way, and encouraging the heart (Kouzes & Posner, 1999);

(b) For the purpose of this study, the NASSP twelve leadership skills are used as the reference for leadership, which has been used in education, business and non-profit organizations to help prepare leaders. The original twelve leadership skills, when first developed by the NASSP (1999), were: problem analysis, judgment, organizational ability, decisiveness, leadership, sensitivity, stress tolerance, oral and written communication, range of interest, personal motivation, and educational values. (Creativity did not appear on the list.)

Creative Leadership

Creative leadership is that form of leadership that releases the creative energy of both the leader and the people being led (Knowles, 1990, p. 183).

Assumptions

Bennis (1989), Campbell (1997), DePree (2000), Gough and Heilbrun (1983), and Kouzes and Posner (1995) developed lists of characteristics or instruments to test

creativity and leadership potential. Students in a college of management at a university should display some of these characteristics. Much of the class work involved small group projects, and at times, entire class participation on a larger project. These experiences offered students an opportunity to engage in leadership and or creativity in a group setting. Each large or small group delegated tasks and organized itself to accomplish assignments. Within these student groups, leaders were appointed or elected (if not by default), depending on the faculty facilitator as well as the dynamics of the group.

Knowles (1990) espoused that every leader must participate in democracy in a unique way, where people could have the experience of learning to live co-operatively. As workers, students and playmates experienced dynamics in groups at work, study and play, they experienced leadership and the democratic process. The goals of these small groups determined the goals of the larger group as a whole (Knowles, 1990).

As part of their course work, undergraduates in business who participated in this study were exposed to small- and large-group environments where leadership was required to accomplish tasks and achieve group goals. There is a possibility that student characteristics could be inventoried using self-reporting measures to investigate a possible relationship between creativity and leadership. The goal of the study was to determine if a relationship exists, and to report the direction and magnitude of that relationship.

Significance of the Study

Creativity and leadership have been investigated separately over time, especially since 1900. Few studies, however, were initiated to investigate if a relationship existed between leadership and creativity. This study was exploratory in nature; the methodology included the Adjective Check List (ACL) and the Student Leadership Practices Inventory (SLPI), which were used in a new way. Through this study, characteristics perhaps would be identified to describe a relationship between creativity and leadership as indicated on self-reported measures of undergraduate business majors. If there was a relationship, this study could report the direction and magnitude. Creative leaders exemplified creativity in their own behavior and provided an environment that encouraged and rewarded creativity in others (Knowles, 1990, p. 187). Chapter 5 presents suggestions for further investigations that could be conducted among business and educational professionals.

Summary

Creativity was scrutinized particularly since the psychoanalysis period since 1900. Beginning with Wallas's theory of creative production in 1926, and continuing in 1950 with Guilford's speech to the APA, creativity became an important area of study. Gardner (1993, p. 35) summarized creativity with this definition: "Creativity was the act of regularly solving problems, fashioning products, or defining new questions in a domain in a way that was initially considered novel but that ultimately became accepted in a particular cultural setting."

Leadership has been studied for centuries. Theories were developed to assist organizations and help individuals become good leaders. An example of one such leadership-training program which assisted administrators in education, and which has subsequently been used in leadership training for business and non-profit organizations, was the NASSP *Selecting and Developing the 21st Century Principal* (NASSP, 1999). Kouzes and Posner (1999) summarized the numerous definitions of leadership: "When getting extraordinary things done, leaders challenged the process, inspired a shared vision, enable others to act, modeled the way, and encouraged the heart" (Kouzes & Posner, 1999).

In the forthcoming chapters, an overview of the literature is presented outlining prior research on this topic, as well as research conducted for this specific study and an analysis of the data and its implications. Chapter 2 provides a review of the literature regarding work on both creativity and leadership since 1900. Chapter 3 describes the research design and methodology used in this study. Chapter 4 provides detail regarding the actual study using the ACL and SLPI testing instruments and compiles and summarizes those data to produce findings and results. Chapter 5 presents a summary of findings and related conclusions, limitations, and delimitations, presents recommendations for practical application of the findings as well as future study, and discusses the possible implications of the findings.

CHAPTER 2

LITERATURE REVIEW

Overview

Chapter 2 examines the literature exploring concepts of creativity and leadership. An extensive search of the literature did not reveal any studies that used both of the testing instruments in this study in a similar way. According to the co-author of the SLPI the application of these two instruments in this exploratory study had not been used together in this way before (Posner, 2003).

The intent of this chapter is to provide information about research conducted on creativity and leadership, to highlight important researchers who contributed to this area of study, and to describe sample studies that investigated leadership and creativity (Isaac & Michael, 1997). To this end, a thorough review of the research was conducted, as well as research on studies that had been conducted to test for creativity and leadership. This research and studies are highlighted in this chapter.

The literature on creativity and leadership was extensive, but less has been written on how creativity affected leadership, or what Knowles (1990) called creative leadership. The research conducted independently on both creativity and leadership is presented in this chapter, both of which attracted significant social science research scrutiny. Also in

this section, the literature defines both creativity and leadership. The chapter concludes with a discussion of how creativity relates to leadership, how creative leaders looked at problems and solutions from new perspectives, and how creative leaders release the energy of those they lead in education, business and non-profit organizations to create dynamic systems.

Literature Review

Foundations of Creativity (1700-1925)

In the 1700s, the French philosopher Voltaire described the creative process as an individual taking two disconnected ideas and combining them together to form something new and exciting (Arens, 2002). At the turn of the twentieth century, creativity was described as the lone genius or an extraordinary individual who was mysterious (Barron, 1995). James Baldwin (1906) was noted for work on mental development in children, much of which was a first in psychology (University of Toronto, 2004).

Poincare's (1913) theories proposed new thoughts on the generation of creative ideas. Poincare described creativity as the appearance of sudden illumination as a manifest sign of long unconscious prior work (Glover, Ronning, & Reynolds, 1989). The study of creativity in the early 1900s included Freud (1929), who provided some of the first insights into the stages of human development.

Modern Creativity Research

Social scientists, with early and rigorous laboratory studies of human intelligence, carried out some of the first studies of the development of mental abilities in children (Gardner, 1993). A child's thinking was both logical and very different from the way adults think (Smith, 2000). From Voltaire's (Arens, 2002) connecting of two ideas to form something new, to Baldwin (1906), Binet and Simon's (1916) research on child development and human intelligence, and to Freud's (1929) description of human development, the stage was set for the study of creativity.

First Major Milestone in Creativity Research (1926)

In 1926, the first milestone in the study of modern creativity research was the introduction of a formalized creativity model proposed by Wallas. Wallas's (1926) theory presented a groundbreaking four-stage process of preparation, incubation, illumination and verification as the steps a person engaged in during the creative experience.

Wallas's Stages of Creativity

For Wallas (1926), preparation occurred when preliminary work took place in anticipation of the creative process. The individual thought freely, brainstormed, collected information from memory and other sources, searched and listened to suggestions and let the brain wander. In the second stage, the individual experienced a time period as thoughts percolated and as Wallas described, incubation could happen in a moment or over an extended period of time. According to Wallas (1926), during the illumination process the individual spontaneously, or through a logical sequence, saw a solution to the

problem. This insight was either sudden intuition or a more developed solution. The idea then moved to the fourth stage of verification to be accepted for critical evaluation by the innovator or objective observers.

Evolution of Early Creativity Research

For several decades, researchers and scholars accepted the Wallas model as a simple formula for generating creative ideas. Patrick (1955) studied poets, artists, and scientists and confirmed the existence of Wallas's four stages. As with any conceptual model, other contributors described and enhanced Wallas's ideas. Osborn (1957) divided the creative process into seven stages, including: (1) orientation; (2) preparation; (3) analysis; (4) ideation; (5) incubation; (6) synthesis; and (7) evaluation. Taylor (1964) expanded the original Wallas four stages by suggesting that creativity exists at five different levels. Rossman (1964) expanded the four stages to seven based on results obtained from responses to questionnaires administered to 710 inventors. Rossman's seven steps of creativity were: (1) observation of need; (2) analysis of need; (3) survey of available information; (4) formulation of all objective solutions; (5) critical analysis of solutions, including advantages and disadvantages; (6) the idea or invention; and (7) experimenting to test the best solution.

Second Milestone in Creativity Research — Guilford Speech (1950)

Creativity research was advanced in a significant event, in a speech by Guilford (1950), which was recognized as a milestone in the study of creativity. In his presidential address to the American Psychological Association (APA), Guilford (1950) noted the

lack of research on creativity. Guilford's benchmark presentation to the APA stood out as a beacon in creativity research. As Guilford highlighted the scarceness of systematic research, he noted that the index of psychological abstracts for the prior two decades indicated that only 186 of 121,000 articles dealt with the subject of creativity (Guilford, 1950). According to Puccio (1999), Guilford's address was a call to arms, a rallying cry, to convince social scientists that creativity research was essential to the future security of America. Guilford pointed to the importance of studying creativity and charged the scientific community with discovering and promoting creativity (Puccio, 1999). Through the next few decades, researchers used Guilford's speech as the framework to construct tests in creativity research. It was clear that the modern study of creativity began with Guilford's speech to the APA (Feldman, 1994).

Third Milestone - Institute of Personality Assessment & Research

A third milestone in modern creativity research was the establishment of the Institute of Personality Assessment and Research (IPAR). MacKinnon came to the University of California as a professor of psychology, in preparation for the establishment of IPAR in 1949. He, along with Barron, was a pioneering creativity researcher studying writers, architects, scientists, and mathematicians at IPAR at UC Berkeley from 1949-1965. The pair helped develop a complex method for studying individuals that combined interviews, observation, games, laboratory tasks, and informal contacts between staff observers. From the information gathered, a rich set of psychological variables was collected and analyzed (Craik, Gough, Hall, & Helson, 1987). In the Barron and

MacKinnon studies (MacKinnon, 1975), the more creative persons were seen as ingenious, imaginative, courageous, original, artistic, clear thinking, insightful, possessing wide-ranging interests, versatile, intelligent, individualistic, preoccupied, and complicated.

The goal of IPAR was to apply personality assessment to the study of fundamental theoretical and substantive issues in psychology and human behavior (University of California Berkeley, 1992). In the first three decades of that work, the scientists at IPAR contributed much to the understanding of creativity and the processes in which humans engage while being creative.

Characteristics and Traits of Creative People

Researchers looked at characteristics and traits of individuals for clues regarding the creative process. Guilford (1975) hypothesized that there were at least eight primary abilities that were the foundations of creativity: sensitivity to problems, fluency, novel ideas, flexibility, synthesizing and analyzing abilities, complexity, and evaluation. He contended that the human mental abilities that contributed to potential for creative production, and the mental functions that go with them, were considered to be an important part of human intelligence (Guilford, 1975). Armstrong (1988) asserted the twelve qualities of genius, or "giving birth to the joy in learning." Armstrong's qualities list included curiosity, playfulness, imagination, wonder, wisdom, inventiveness, sensitivity, behavior, irrelevancies, silliness, and even rudeness and creativity.

Covey (1989) postulated that the primary human endowments were: (1) self-awareness; (2) imagination and conscience; (3) volition or will power; (4) an abundance mentality; (5) courage and consideration; and (6) creativity.

Creativity — Teachable Skill or Inherent Trait

Torrance and Torrance (1973) asked the question: Was creativity teachable? Some (Johnson, Christie, & Yawkey, 1987) asserted formal education, or "coloring within the lines," forced young students to comply with societal rules and the rules of education. The argument continued that this transformation from creative play to adulthood behavior was caused by environmental factors (parents, teachers, peers, societal influence, etc.), including the way a child was raised and family structure. Worthy (1975) found schools spent little time trying to teach creative thinking. Even when the attempt was made, the emphasis was on originality rather than creativity. Learning to be original was important; however, this was only the first step to becoming a creative thinker.

Children were perceived to be naturally creative because they had not been "brainwashed" by the conventional attitudes of society (Armstrong, 1988). Creative individuals used childhood experiences as a reference and preserved certain aspects of their earlier life in a way that advanced their work and made sense to their peers (Gardner, 1994). Adams (1986) asserted that creativity could be taught, although the teaching was more of an encouraging. Efforts at Stanford showed a result in an improvement in the quality of conceptual output from students.

Children continued as the focus of much research (Fu, Canaday, & Fu, 1982; Armstrong, 1988; Barron, 1995) as social scientists attempted to determine the origins of creativity. When children "pretended," they effortlessly switched between fantasy and reality. In imaginative play, children possessed magic power as kings, captains, and commanders and overcame challenges as superheroes. Young children provided an insight into creativity. The value of imaginative play was strongly supported in the literature, and imaginative play was researched to find indicators such as intelligence, creativity, impulse control, positive affect, and communication skills (Segal & Adcock, 1981).

Barron (1969) referred to a passage from the great Indian poet Rabindranath Tagore, who wrote of children:

> They build their houses with sand, and they play with empty shells. With withered leaves they weave their boats and smilingly float them on a vast deep. Children have their play on the seashore of worlds. They know not how to swim, they know not how to cast nets. Pearl-fishers dive for pearls, merchants sail in their ships, while children gather pebbles and scatter them again. They seek not for hidden treasures, they know not how to cast nets. (Barron, 1969, p. 169)

Barron suggested that in the creative adult, the child remained fully alive (Barron, 1969). Barron's work (University of California Berkeley, 1992) was regarded as classic in the field of creativity research. Whether creativity resided in the child or the adult as an inherent trait characteristic, or as a developed and learned skill, or perhaps both, scholars continued to share insight on the subject through the literature.

Clarifications of Creativity

Voltaire (Arens, 2002) described the creative process as an individual taking two disconnected ideas, and combining them together to form something new and exciting. Contemporary views of creativity emerged as practitioners, researchers and scholars shared insights into creativity. Researchers in the late twentieth century continued to isolate characteristics of creative people and test for commonalities, while the definition of creativity became clearer. Barron (1969) defined creativity as the ability to bring something new into existence. Torrance (1969) defined creative thinking as the process of sensing gaps or disturbing missing elements; forming new hypotheses concerning them; and testing these hypotheses and communicating the results, while also possibly modifying and retesting the hypotheses.

Fabun (1971) described creativity as the process by which original patterns were formed and expressed. For Worthy (1975), creativity always involved closing the gap, which made the unknown known, and the unseen seen. These definitions led to a synthesis of ideas, a common understanding of the creative process, and both the mechanics and unexplained processes evolved. Armstrong (1988) related that the word creativity was closely linked to the word genius, since both had the root meaning "to give birth." Essentially, creativity designated the capacity to give birth to new ways of looking at things, the ability to make novel connections between different things, and to see things that might be missed by the typical ways of viewing life. Feldman (1994) viewed creativity as the achievement of something remarkable and new, something that transformed and changed a field of endeavor in a significant way. Cohen (2000)

conceptualized creativity as the energy that allowed one to think a different thought, and to express thoughts in a novel way, while life was viewed as an opportunity for exploration, discovery, and an expanding sense of self.

Synthesis: The Evolution of the Definition of Creativity

Researchers (Glover, Ronning, & Reynolds, 1989; Gardner, 1993) aligned the foremost definitions of creativity for a common understanding of the process. Creative activity combined the energies of feelings, imagination and thought. Creativity met developmental needs and was an essential part of the human experience (Ebersole & Hess, 1995). A growing consensus arose among creativity researchers (Tierney, Farmer, & Graen, 1999) regarding the appropriateness of defining creativity in terms of an outcome such as an idea or product. Creativity was analyzed and researchers began to concur (Glover, Ronning, & Reynolds, 1989) that creativity was not an isolated human condition. The research helped the social scientists to determine that creativity had a complexity and interconnection with the environment, the life experience and was indeed a process.

As process became the focal point for research, much of what had been studied about creativity had come full circle. What started with the speech given to the APA by Guilford (1950) now had returned to its roots. Attempts to clarify creativity began with Wallas (1926) through the four-step process of preparation, incubation, illumination and verification theory. Even with Wallas's (1926) simplified model for creativity, there was an abundant debate on the subject of creativity. "Creativity" was defined by Glover,

Ronning, & Reynolds (1989) as a person's capacity to produce new or original ideas, insights, restructuring, inventions, or artistic objects, which were accepted by experts as being of scientific, aesthetic, social or technological value. The modern accepted definition of creativity was offered by Gardner (1993, p. 35), who defined the creative individual "as a person who regularly solved problems, fashioned products, or defined new questions in a domain in a way that was initially considered novel but that ultimately became accepted in a particular cultural setting."

Foundations of Leadership

Leadership had received scrutiny throughout history. According to Bass (1981), the study of leadership was an ancient art. Leadership was discussed by such great historical figures as Plato, Caesar and Plutarch. Many philosophers from the Egyptian, Greek and Renaissance eras, and even the Chinese, commented on leadership (Bass, 1981).

Bass (1981) inventoried leadership history and accounted for leadership models among all people in all cultures, whether isolated Indian villages, Eurasian steppe nomads, or Polynesian fisherfolk. Bass (1981) observed that even parenthood made for patterns of leadership. Leadership had long been observed; however, leadership was one of the least understood human relationship phenomena on earth (Bass, 1981). Leadership theory was focused on trait inventories, transformational and transactional styles, behavior modification, contingency, and situational theories.

Lewin (1948) investigated autocratic, authoritarian, and democratic leadership at the University of Iowa. Likert (1957) investigated the principles and methods of effective leadership at the University of Michigan. Likert (1932) had a vision for survey research, which was first expressed in a dissertation, *A Technique For The Measurement of Attitudes*. One product of this study was the creation of what would become the most widely used scaling method for attitude measurement, the Likert scale (Thoemes Continuum, 2004).

Meanwhile, other leadership theories were being constructed. At Ohio State University, the Leader Behavior Descriptive Questionnaire (Halpin, 1957) was developed to define leadership traits. Blake and Mouton (1964) authored a model that conceptualized management styles and relations. The model was developed on a matrix focusing on contingency theory with three measurable dimensions that had the greatest effect on the ways people work: their concern for productivity, their concern for people, and their motivation.

Other leadership theorists included Fielder (1967), who argued that leadership consisted of the particular acts in which a leader engaged during the course of directing and coordinating the work of group members. Fielder (1967) expanded the contingency theory with the Least Preferred Co-worker scale that helped identify leadership styles. Drucker (1969) described leadership as the creation of a human community held together by the work bond for a common purpose. Hersey and Blanchard (1972) investigated leadership behaviors in situations where dimensions were linked to task and relational behavior.

As leadership theories continued to evolve, new forms of leadership emerged to explain organizational behavior, including charismatic leadership, transformational, and transactional leadership styles. According to Burns (1978), the result of transformational leadership was a relationship of mutual stimulation and elevation that converted followers into leaders and leaders into moral agents.

Bennis (1989) stated that leadership was often confused with other things, specifically management. However, management required an entirely different set of skills. Leadership revolved around vision, ideas, and direction and had more to do with inspiring people as to direction and goals than with day-to-day implementation. A leader had to be capable of inspiring other people to do things without actually sitting on top of them with a checklist—which was management, not leadership. Bennis (1989) surmised that the single defining quality of leaders was the capacity to realize a vision. He characterized leadership as different from management functions in a well-used comparison:

> The difference between leaders and managers were presented as those who master the context and those who surrender to it. There were other differences, as well, and they were enormous and crucial. The manager administered; the leader innovated. The manager was a copy; the leader was an original. The manager maintained; the leader developed. The manager focused on systems and structure; the leader focused on people. The manager relied on control; the leader inspired trust. The manager had a short-range view; the leader had a long-range perspective. The manager asked how and when; the leader asked what and why. The manager's eye was always on the bottom line; the leader's on the horizon. The manager imitated; the leader originated. The manager accepted the status quo; the leader challenged it. The manager was the classic good soldier; the leader was his own person. The manager did things right; the leader did the right things. (Bennis, 1989, p. 45)

More recent forms of leadership theory included interactive leadership and servant leadership in an age of new technology and instant communication (Pitt State University, 1998). Leadership was the ability which enabled an individual to get other people to do willingly what they had the ability to do, but might not spontaneously do on their own.

National Association of Secondary School Principals

O'Callaghan (2004) looked at how educators could become better leaders by thinking outside the box. Educators thinking outside the box transcended just being creative and coming up with a new angle or technique. Leadership in the classroom and principal's office involved a quantum shift in thinking to a different dimension to see things in a new light where unforeseen possibilities appeared (O'Callaghan, 2004). Many studies were commissioned to explore who became a leader, how humans led, how leaders were trained, and how training manifested itself in practice.

An example was the acclaimed program of the National Association of Secondary School Principals (NASSP) and a comprehensive program entitled *Selecting & Developing the 21st Century Principal* (NASSP, 2002). This contemporary assessment tool helped identify and develop effective school leaders. *Selecting & Developing the 21st Century Principal* (NASSP, 2002) subsequently was adapted for leaders in business and non-profit organizations. The program was designed to measure leadership potential by diagnosing the behavioral strengths and development needs of prospective and practicing school principals in skills identified as critical for success in the principalship (NASSP, 2002).

The original twelve leadership skills first developed by the NASSP (1999) were: Problem Analysis, Judgment, Organizational Ability, Decisiveness, Leadership, Sensitivity, Stress Tolerance, Oral and Written Communication, Range of Interest, Personal Motivation, and Educational Values (Northern Arizona University, 1998). These twelve skills were the foundation of many leadership programs in both education and business, including the master's and doctor of education degrees in Educational Leadership at Northern Arizona University (Northern Arizona University, 2001). In assessing the potential candidates, the NASSP (2002) revised the list of assessment criteria which were divided into four areas: Administrative Skills – problem analysis, judgment and organizational ability; Interpersonal Skills – leadership, sensitivity, motivating self and others; Knowledge of Self – knows strengths and weaknesses, knows development strategies, expresses values; and Communication Skills – oral and written (NASSP, 2002).

Creativity did not appear on the NASSP Leadership Skills Lists. The NASSP Leadership Assessment skills came from a job analysis conducted as part of the process of establishing the original assessment center for school principals (Miles, 2000). Reed (2000), an assessment trainer, explained the Leadership Skills Assessment Criteria as follows:

> In essence, the reason creativity was not included in the list was because the authors of the list perceived creativity to be a process, not a skill. It involves the unique application of skill in terms of judgment, problem analysis, sensitivity and personal motivation, but the creativity comes as a process in a unique way one applies the set of skills. So, creativity is a process rather than being a skill in and of itself. (Reed, 2000)

Characteristics and Traits of Leaders

Bass (1981) summarized the common traits of leadership. In his analysis, he included: nucleus of tendency, personality in action, induction of compliance, influence relation, power differential, persuasion, influence act, influence on goal achievement, effect on interaction, status position, role differentiation, reinforcement, and initiation of structure (Bass, 1981). Bass's analysis broke down the leadership process into identifiable characteristics of leaders.

From the early studies commissioned at major universities, including Iowa, Michigan, and Ohio State, many researchers focused on traits of good leadership, best practices and leadership training. Lists of leadership traits and characteristics were developed. DePree (2000) listed integrity, vulnerability, discernment, awareness of the human spirit, courage in relationships, sense of humor, intellectual energy and curiosity, respect for the future, regard for the present, understanding of the past, predictability, breadth, comfort with ambiguity, and presence (DePree, 2000).

Campbell (1997) presented a preliminary list of leadership skills with attributes such as: fairness, motivating, respect, responsibility, consistency, role models, supportive, political, ability to fail, and public recognition. Campbell (1997) converted the list of leadership skills to the "P" List for alliteration purposes, as all the traits began with the letter "P": personality, persuasive, persistence, patience, perceptive, probity, praise-giving, positive orientation, people-based, possible, practical, progressive, prepared, and power-building.

Kouzes and Posner (1995) described what they found in their research about leadership:

> We've discovered that there are myriad success stories in virtually every arena of organized activity in profit-based firms and non-profits, manufacturing and services, government and business, education and entertainment, work and community service. Leaders reside in every city and every country, in every position and every place. They're employees and volunteers, young and old, women and men. Leadership knows no racial or religious bounds, no ethnic or cultural border. (Kouzes & Posner, 1995, p. 6)

Early analyses of leadership, from the 1900s to the 1950s (Lewin, 1948; Likert, 1957; Etzoni, 1961; Drucker, 1969; Fielder, 1967), differentiated between leader and follower characteristics. No single trait or combination of traits fully explained leaders' abilities. Leadership studies of the 1970s and 1980s (Bass, 1981; Hersey and Blanchard, 1972; Burns, 1978; Bennis, 1989) once again focused on the individual characteristics of leaders, which influenced their effectiveness and the success of their organizations. The investigations led to the conclusion that leaders and leadership were crucial but complex components of organizations (Southwest Educational Development Laboratory, 1992).

Synthesis: The Evolution of the Definition of Leadership

Throughout the twentieth century, the definition of leadership became more refined. Bennis (1989) defined leadership as first being, and then doing. Everything a leader did somehow reflected on what he or she was (Bennis, 1989). Effective leaders, therefore, led themselves and others, and they brought out the best in people by encouraging them to achieve what they thought was possible (Chan, 2000).

During the past few decades, many organizations and institutions established essential criteria for good leadership. Kouzes and Posner (1999) studied tens of thousands of leadership assessments and found that when getting extraordinary things done, leaders challenged the process, inspired a shared vision, enabled others to act, modeled the way, and encouraged the heart (Kouzes & Posner, 1999).

The Relationship Between Leadership and Creativity

A review of the literature revealed few studies on the subject of creativity and its relationship to leadership. One example (Gryskiewicz & Taylor, 2003) described creativity as targeted innovation, which reconciled creativity with management so that leaders could use creativity to solve problems that met their organization's call for innovative answers to current challenge. Desrosiers (2000) observed that connecting creativity to leadership was not a novel idea.

Many individuals (Bennis, 1989) challenged the implicit assumption that leaders could not do anything to foster creativity. They argued that creative people, like baseball hitters, were born, not made. Indeed, much of the anecdotal literature about creativity suggested that creativity was some mystical power that only a chosen few possessed. In summarizing those studies that looked carefully at the creative process, Klemm (2002) discovered that everyone of ordinary intelligence had latent creative abilities that could be enhanced by training and by a favorable environment.

Bennis (1989) stated that the creative processes that underlie strategic thinking were infinitely complex and unexplainable, but there were basic steps in the process that

could be identified. He espoused that creative problem solving was a form of innovative learning. He surmised that leaders would reshape the corporate culture so that creativity, autonomy, and continuous learning replaced conformity, obedience, and rote behavior, with long-term growth, not short-term profit, as the goal (Bennis, 1989). Fu, Canaday, and Fu (1982) maintained that certain characteristics of leadership involved creative traits, such as the ability to generate original and unique ideas in the process of solving problems, reaching goals, and completing group tasks.

Malcolm Knowles and the Creative Leader

Knowles was responsible for a number of important "firsts" in adult education. His contributions included being the first to chart the rise of the adult education movement in the United States—the first to develop a statement of informal adult education practice, and the first to attempt a comprehensive theory of andragogy (Smith, 2002). Adult education was the area of study in which Knowles made his mark on history.

Knowles (1990) developed a list of outcomes that allowed leadership to follow democratic principals. These outcomes depicted a leadership style in which the adults being led were active participants and the leadership style was receptive to all points of view.

According to Goertz (1991),

> the future of education, where leaders are trained, may well need the emergence of the creative leader. The creative leader is energetic, enthusiastic, confident, flexible and purposeful. The creative leader is willing to serve others, is fearless in standing up for right, is willing to try

> new things, takes initiative and follows through. These traits suggest that the creative leader is a mover and motivator of people. The creative leader guides group activities toward common goals. The creative leader is a skillful master of motivation, and able to foster a deep sense of commitment and drive among followers, who then attempt to achieve the unachievable. (Goertz, 1991, p. 93)

Knowles (1990) had seen wonderful things happen when creative leadership was put into practice in both business and education. Low-achieving students became high-achieving students when they discovered the excitement of self-directed learning under the influence of a creative teacher. He saw bench workers in a factory increase their productivity and display a new sense of personal pride and fulfillment under a creative supervisor, as well as an entire college faculty become creative facilitators of learning through the stimulation of a creative administration. He observed several instances in which creative leadership helped line managers of major corporations move from controlling managers to releasing managers (Knowles, 1990).

For Knowles (1990), creativity was the heart of the quest for a sustainable competitive advantage and organizational survival. Without creativity, an organization could not innovate to improve performance, nor could the organization survive significant environmental change.

Knowles (1990, pp. 183-190) suggested the following eight dimensions of creative leaders:

1. Creative leaders make a different set of assumptions (essentially positive) about human nature from the assumptions (essentially negative) made by controlling leaders.

2. Creative leaders accept as a law of human nature that people feel a commitment to a decision in proportion to the extent that they feel they have participated in making it.
3. Creative leaders believe in and use the power of self-fulfilling prophecy and understand that people tend to come up to other people's expectations of them.
4. Creative leaders highly value individuality and they sense that people perform at a higher level when they are operating on the basis of their unique strengths, talents, interests, and goals than when they are tying to conform to some imposed stereotype.
5. Creative leaders stimulate and reward creativity. They understand that in a world of accelerating change, creativity is a basic requirement for survival of individuals, organizations, and societies.
6. Creative leaders are committed to a process of continued change and are skillful in managing change. They understand the difference between the static and innovative organizations and aspire to make their organizations the latter.
7. Creative leaders emphasize internal motivators over external motivators.
8. Creative leaders encourage people to be self-directing. They sense intuitively what research has been telling us for some time, that a universal characteristic of the maturation process is movement from a state of dependency towards state of increasing self-directedness.

Knowles (1990) believed that in order to attempt to be a creative leader one had to put to rest the myth that great leaders were born. The ability to be a leader was the result

of a lifetime of effort constantly improving communications skills, reflecting on personal values and aligning one's behavior with those values, and learning how to listen and appreciate others and their ideas. He described the role of a creative leader in creative leadership as follows:

> I had perceived the role of leadership consisted primarily of controlling followers or subordinates. Effective leaders were those who were able to get people to follow their orders. It gradually came to me that the highest function of leadership is releasing the energy of the people in the system and managing the processes for giving that energy direction toward mutually beneficial goals. Perhaps a better way of saying this is that creative leadership is that form of leadership that releases the creative energy of the people being led. (Knowles, 1990, p. 183)

Summary

Researchers have examined both creativity and leadership for centuries. From the insights of Voltaire in the 1700s, to the milestone developments in creativity research, creativity has been studied. Wallas (1926) introduced a four-step model to explain the creative process. Guilford (1950) established a benchmark by challenging the research community to delve deeper into creativity research. The establishment of IPAR at the University of California Berkeley (1992) signaled an aggressive effort to understand creativity.

Lists of characteristics and traits emerged in an attempt to profile the creative individual. Discussions ensued about whether or not creativity was teachable, and which inevitably involved discussions of childhood development.

Throughout the decades, many definitions of creativity surfaced. However, Gardner (1993, p.35) synthesized a definition of the creative person as "one who regularly

solved problems, fashioned products, or defined new questions in a domain in a way that was initially considered novel but that ultimately became accepted in a particular cultural setting."

While creativity was being scrutinized, leadership was also investigated. Modern researchers (Blake & Mouton, 1964; Drucker, 1969; Southwest Educational Development Laboratory, 1992) investigated the relationship between leaders and those being led. Styles emerged including transactional, charismatic, transformational, situational, interactive, and servant leadership. The NASSP (1999) developed its twelve leadership skills. Other lists emerged to characterize leadership qualities. Kouzes and Posner (1999, p.30) synthesized the definition of leaders as those who "challenged the process, inspired a shared vision, enabled others to act, modeled the way, and encouraged the heart."

Knowles (1990) proposed an idea that brought into focus the relationship of creativity and leadership: "Creative leadership is that form of leadership that releases the creative energy of the people being led" (Knowles, 1990, p. 183).

Chapter 3 presents the methodologies and procedures used in this study to investigate creativity and effective leadership to examine the nature of the relationship between the two, if any.

CHAPTER 3

METHODOLOGY AND RESEARCH DESIGN

Overview

The purpose of this chapter was to describe the methods used to investigate the research question, including:

(a) research design and methodology;

(b) instrumentation, reliability and validity;

(c) population sample;

(d) data collection; and

(e) data analysis.

Restatement of the Problem

As presented in Chapter 1, the research question was:

Is there a relationship between creativity and leadership as indicated on self-reported measures of undergraduate business majors? If there is a relationship, what is the direction and magnitude of it?

In the review of the literature, no single trait that characterized a creative person or a potential leader was discovered. In 1990, Knowles offered a theory of creative leadership; therefore, there are few studies on the subject. As Knowles (1990) described

it, creative leadership was that form of leadership that released the creative energy of both the leader and the people being led. He asserted that creative leaders stimulated and rewarded creativity, exemplified creativity in their own behavior, and provided an environment that encouraged and rewarded creativity in others (Knowles, 1990, p. 189).

Research Methodology

The design methodology for the study involved a correlation analysis, quantitative in nature, of raw data collected in a self-assessment of university undergraduates. Through this study, the researcher sought to determine whether a potential linear relationship exists between the response variable (creativity score tabulated form the ACL raw data) and the predictor variable (leadership score from the SLPI raw data (Isaac & Michael, 1997). Pearson's correlation (Pearson's r) was used to compute a single number to summarize the relationship between the two variables.

All of the responses from undergraduates were based on answers generated from the ACL and SLPI instruments. Raw data from these responses were recorded, and coded with a number to cross-reference the creativity and leadership scores for each respondent. However, the student scores were anonymous in terms of identification of a specific individual. Demographic information included anonymous age and gender, with no other information collected. The two answer sheets were coded numerically, and there were three responses associated with each individual: identification number (random and anonymous), and two test scores.

Research Design and Procedures

This study used two testing instruments, the Adjective Check List (ACL) (Gough & Heilbrun, 1983) and the Student Leadership Practices Inventory (SLPI) (Kouzes & Posner, 1998). The two established testing instruments were used to record responses from the sample regarding self-assessment in areas of creativity and leadership. These two instruments had not been used together in this way before (Posner, 2005).

The study investigated self-reporting scores on the ACL and SLPI to identify a possible relationship between creativity and leadership. The research was exploratory and quantitative in nature, using two instruments that generated numerical data that could be statistically analyzed. The ACL was administered as a self-analysis, a 300-word adjective list (which students were instructed to mark based on the instructions from the ACL Manual) if they felt the adjective was a descriptor of their personality. Likewise, students were instructed to fill out the Likert-response SLPI as a description of self-perceived leadership qualities.

Variables

The context of the study was a classroom setting in an academic environment of a university during regularly scheduled class time. The variables in this study were the scores on the ACL and SLPI that were recorded from the students' self-assessment answer sheets.

Population and Sample

The Population

The major southwestern university where the data were gathered for this study was top-ranked in research and was acclaimed as being in the top twenty-five programs nationally in several colleges. The enrolled students were from all 50 states and more than 100 countries. The university offered more than 100 academic and professional degree tracks.

During the spring of 2004, there were 37,083 students enrolled at the university. In the college of management, there were 4,811 enrolled undergraduates in business. University students enrolled in business classes constituted a convenience sample for this study. Convenience sampling was useful in obtaining general ideas about the phenomenon of creativity and leadership, as the classes were accessible and students were interested in the topic (Mugo, 2004).

The gender breakdown of total university enrollment was 53% female, and 47% male. In the college of management, the enrollment in the spring of 2004 was decidedly in favor of males, accounting for close to two-thirds of enrolled business students. A total of 63% of the college of management was comprised of male students, with 3,024 enrolled. Females in the business college accounted for approximately one third of the students, with 1,787 enrolled.

The Sample

The sample consisted of 122 upper-division undergraduate students (53 male and 69 female) who were enrolled as juniors and seniors in a business/management program at the university during the spring semester of 2004. The number of males and females was recorded from the front sheet of the ACL. The age range was between 18 and 31 years, with the majority of the students ranging in age between 20 and 22. The students were enrolled in a class in which a convenient time and place could be arranged to administer the tests. The students in the sample volunteered to participate in the research project. The tests were administered during a regularly scheduled class period in an academic setting.

Gender

The number of males and females was recorded from the front sheet of the ACL answer sheet. From the answers from the ACL score sheets, the participants registered a total of 122 responses, with 69 (57% of sample) recorded as female, and 53 (43% of sample) recorded as male.

Age

Each respondent recorded his/her age on the front of the ACL answer sheet. The ages ranged between 18 and 31 years, with the majority of the students recording ages between 20 and 22.

Instrumentation

Two established self-assessment instruments were used in this study. The Adjective Check List (ACL), created by Gough and Heilbrun (1983), was used to test for creativity. The Student Leadership Practices Inventory (SLPI), created by Kouzes and Posner (1998), was used to test for leadership potential.

Adjective Check List (ACL)

The Adjective Check List (Gough & Heilbrun, 1983) was developed in 1965. Gough and colleagues authored the checklist to assess the personality of participants in various studies related to leadership, achievement, and creativity. The ACL was initially proposed at IPAR in Berkeley in 1949 as a method for recording the reactions of staff members to individuals studied in assessment programs.

The ACL was originally developed as an observer checklist and subsequently became a self-reporting inventory. The respondent checked any of 300 adjectives (alphabetical order) if the item on the list was self-descriptive. Domino (1994) noted that a number of creativity scales had been developed using the ACL as the base, and one such scale was the ACL Cr scale developed in a study of college students (Domino, 1970). In this study, faculty who were asked to describe students (who had been pre-identified by other faculty as creative) used 59 adjectives more often to describe creative individuals. The ACL Cr scale was then cross-validated on a sample of 800 high school students attending magnet schools for the arts and sciences. Subsequent investigations found the scale to be useful in identifying qualities in students that would reveal creative tendency

(Domino, 1994). The 59 adjectives as listed in Table 1 on the following page were isolated as indicators of creativity tendency.

Adjective Check List Reliability and Validity

According to Domino (1970), a rational analysis of the ACL Cr scale indicated the presence of both positive and negative items, sometimes resulting in a paradox. Thus, the creative student was seen as active and aloof, enthusiastic and reserved, humorous and serious, sensitive and tactless, rational and unconventional. On both theoretical and empirical grounds, the ACL Cr scale was a useful tool for the identification of creative individuals (Domino, 1970).

Domino developed a 59-item subscale of the ACL, the Domino Creativity Scale, which discriminated among several groups of more and less creative college students, when used by instructors to rate the students (Domino, 1994). The criterion of creativity involved either instructors' ratings or choice of a creative course (e.g., dance, music, cinematography).

Domino (1994) later reported that the Adjective Check List had been utilized in a wide range of studies of group differences in creativity and also as a starting point for the development of several scales to measure creativity. Originally developed as a tool for observers, the ACL was also a self-descriptive assessment instrument. Simple to administer, the ACL was non-threatening and non-invasive for the respondent, scorable both by hand and by computer, amenable to both statistical and logical analyses, and

Table 1. The 59 Adjectives from the ACL Cr.— (Domino, 1994)

Absentminded	Impulsive
Active	Independent
Adaptable	Individualistic
Adventurous	Industrious
Alert	Ingenious
Aloof	Insightful
Ambitious	Intelligent
Argumentative	Interests Wide
Artistic	Intolerant
Assertive	Inventive
Autocratic	Logical
Capable	Moody
Careless	Original
Clear-Thinking	Outspoken
Clever	Quick
Complicated	Rational
Confident	Rebellious
Curious	Reflective
Cynical	Reserved
Demanding	Resourceful
Disorderly	Restless
Dissatisfied	Sarcastic
Distractible	Self-Centered
Egotistical	Sensitive
Energetic	Serious
Enthusiastic	Sharp-Witted
Humorous	Spontaneous
Hurried	Tactless
Idealistic	Unconventional
Imaginative	

useful both by a researcher while observing an individual, or as a self-descriptive instrument (Domino, 1994).

According to Domino and Giuliani (1997), psychologists used the ACL and studied creativity in school children, talented high school students, architects, jazz musicians, dancers, and scientists. Domino and Giuliani (1997) found that the data presented on research scientists and architecture students indicated the convergent and discriminate validity of the ACL.

Student Leadership Practices Inventory

The testing instrument used for leadership was the Student Leadership Practices Inventory (SLPI) authored by Kouzes and Posner (1998). The SLPI had two forms: Self and Observer. Each form consisted of thirty statements in total, with six statements measuring each of the five leadership practices.

The original Leadership Practices Inventory (LPI) was created as part of an extensive and continuing research project into the everyday actions and behaviors of exemplary leaders at all levels, across a wide variety of organizational settings. Data from the original Leadership Practices Inventory were collected from over 2,500 managers, including best practices as leaders. Content analyses of these case studies suggested a pattern of behaviors used by people when they were most effective as leaders. These behaviors resulted in the five key leadership practices.

Most leadership development programs designed for college students were based on studies and models that were developed with managers in business and public-sector

organizations. Serious questions were raised about whether such models and their concomitant instruments were applicable to college students and collegiate environments, which differed considerably from the environments in which managers operated. Subsequently, the SLPI was developed using the same case-study approach to investigate whether the leadership behaviors of students were comparable with those of managers. The SLPI was developed to fill this gap (Kouzes & Posner, 1998, p. 5).

The instructions for the students taking the SLPI included the following statements: "Be realistic about the extent to which you actually engage in the behavior; do not answer in terms of how you would like to see yourself or in terms of what you should be doing; and answer in terms of how you typically behave" (Kouzes & Posner, 1998, p. 1).

The five sub-categories of the SLPI were divided into: Challenging the process – questions 1, 6, 11, 16, 21 and 26; Inspiring a shared vision – questions 2, 7, 12, 17, 22 and 27; Enabling others to act – questions 3, 8, 13, 17, 23 and 28; Modeling the way – questions 4, 9, 14, 19, 24 and 29; and Encouraging the heart – questions 5, 10, 15, 20, 25 and 30.

Each of the thirty sentences began with the word "I" in order to present a realistic view of the setting for the respondent. Sample questions from the SLPI were: *I look for opportunities that challenge my skills and abilities; I include others in planning the activities and programs of our organization; I encourage others as they work on activities and programs in our organization; I show enthusiasm and excitement about what our organization is doing; I provide opportunities for others to take on leadership*

responsibilities (Kouzes and Posner, 1995). The Likert-scale response options included (1) seldom or rarely, (2) once in a while, (3) sometimes, (4) fairly often, and (5) very frequently (Kouzes & Posner, 1999).

SLPI Validity and Reliability

The SLPI used as a self-reporting assessment tool had gained wide acceptance, and it possessed sound psychometric properties (Kouzes & Posner, 1999). "The internal reliabilities for the five leadership practices were reported as consistent, with excellent predictive and concurrent validity. When the SLPI was used, findings were consistent across people, genders, and ethnic and cultural backgrounds. Overall, the Kouzes Posner leadership framework has contributed in a convenient way to the understanding of the leadership process and in developing and unleashing of leadership capabilities" (Kouzes & Posner, 1995, p. 351).

Adams and Keim (2000) reported:

> The SLPI measures leadership practices in five areas: (a) Challenging the Process (search for opportunities, experiment and take risks); (b) Inspiring a Shared Vision (envision the future, enlist others); (c) Enabling Others to Act (foster collaboration, strengthen others); (d) Modeling the Way (set the example, plan small wins); and (e) Encouraging the Heart (recognize individual contribution, celebrate accomplishments). The instrument contains six items in each category and uses a 5-point Likert response scale (rarely to very frequently). Scores can range from 6 to 30 on each of the five scales. In addition, Cronbach alphas for the SLPI ranged from .51 to .73 on the five leadership practices observed. (Adams & Keim, 2000, p. 259)

Kouzes and Posner (1998) reported that as a psychometric instrument, the SLPI had generally shown strong reliability. Analyses from the data of Posner reported internal

reliabilities for the five leadership practices ranging between .83 and .92 (Kouzes & Posner, 1998).

Data Collection and Recording

A self-reported score of creativity was obtained from the sample using the ACL. Self-report scores of five leadership practices were obtained using the SLPI (Kouzes & Posner, 1998). Students considered the range of leadership skills they already possessed and used the test to self-report.

The instruments were administered on the same day. The ACL was administered first because the Student Leadership Practices Inventory was more self-evident and had the potential to affect responses to the ACL if given first (Domino, 2003). The ACL was generic from the viewpoint of the subject, as the respondent did not know if he/she was being assessed for personality, neuroticism, anxiety, self-esteem, or some other characteristic. The instrument administration sessions began with instructions on how to take the ACL, and subsequently the SLPI. The entire administration took approximately sixty minutes. The instruments were only identified by code so that at the conclusion of administration of both instruments, the two answer sheets from each student could be paired. Each student transferred the "code" number from the ACL to the SLPI, which allowed for cross tabulation without identifying the student to protect privacy, and to encourage honest responses.

The instrument was administered to all participants in this study. Each subject was provided with an individual self-assessment score sheet and asked to follow along with

the instructions. Each subject then read the adjective list and applied the words to himself/herself. At the conclusion of the administration, the score sheets were collected and hand scored as instructed in the Adjective Check List Manual. A total score for each student ranging from 0 to 59 was recorded. If a subject checked all 59 adjectives, the score would be recorded as an ACL total score of 59.

The SLPI was also used in this study as a self-reporting instrument. The tests and instructions were administered to all respondents in a like manner as the ACL. Each subject then read the Likert-scaled questions and applied the statements to himself/herself. At the conclusion of the test, the score sheets were collected and hand scored following instructions in the Student Leadership Practices Inventory Manual. The 30 questions were categorized into the five leadership practices as instructed in the manual.

Although the ACL had 300 adjectives for the respondents to check, only the 59 pertaining to "creativity" were analyzed in keeping with the focus of this study. The ACL Cr list of 59 adjectives and the SLPI total score were the benchmarks for the investigation of the relationship between creativity and leadership. According to a co-author of the SLPI, "other scholars (Lock, 2001) have used a total score on the five practices to provide a more robust array (continuum) of 'transformational leadership' abilities" (Posner, 2005). The score sheets were collected, hand scored, and preserved.

Data Processing and Analysis

During the early 1900s, Karl Pearson originated a numerical analysis describing the relationship between two variables. The correlation analysis was to compute coefficients that might indicate the degree to which variation (or change) from one variable was associated with variation (or change) in the other variable. This methodology used the correlation equation as an indicator of the goodness of fit of the linear regression as a measure of association indicating the strength of the linear relationship between the two variables. The comparison would show the strength of relationship between the variables (Nie, 1975). The resulting coefficient of correlation was the product/moment correlation commonly referred to as *r* or Pearson's *r*. The basis for Pearson's *r* stated that if two variables had a correlation of –1.00 or +1.00, a perfect linear correlation would exist. If there were no linear relationship, then Pearson's *r* would be 0 (Lind, Marchal, & Mason, 2003). Pearson's *r* was used to analyze the data in this study.

The ACL and SLPI were hand scored and analyzed. Coded responses from both instruments were recorded on a spreadsheet. The data were plotted on scatter plot for analysis. Table 2 on the following page shows the match between the research question and the corresponding sources of information and corresponding data analysis and reporting procedures.

These data were summarized with descriptive or summary statistics in aggregate with mean and standard deviation to report the data, so that the reader could construct a mental picture of the data to which the statistics related. The quantitative studies resulted

in descriptive statistics including sample size, averages on the ACL and SLPI among the 122 student respondents, and standard deviation of the responses. Chapter 4 provides detail regarding the population and sample, the actual study using the ACL and SLPI testing instruments and the findings and results compiled from the data.

Table 2. Match of Research Question to Corresponding Sources of Information and Data Analysis Reporting for ACL and SLPI.

Research Question	Corresponding Source(s) of Information	Corresponding Data Analysis/Reporting Procedure(s)
What was the relationship, if any, between creativity and leadership as reported by university business students as they prepared to become business leaders, or perhaps creative leaders, as described by Malcolm Knowles?	1. ACL Adjective Check List with respondents using 300 adjectives as self-descriptors	2. Summary descriptive statistics showing aggregate mean scores based on the ACL manual
	2. SLPI Student Leadership Practices Inventory with respondents using 30 Likert-style responses used as self-descriptors	3. Summary descriptive statistics showing aggregate mean scores based on the SLPI manual
	3. Creativity and leadership raw data	4. Correlation analysis

CHAPTER 4

RESULTS

The purpose of this exploratory study was to investigate creativity and effective leadership and to examine the nature of the relationship between the two, if any, in self-reported assessments among business students at a major southwestern university. The purpose of this chapter was to present the findings and results of the study which utilized the Adjective Check List and Student Leadership Practices Inventory instruments. Specifically, those results included descriptive statistics for the sample, as well as the instrumentation data (ACL and SLPI scores). This chapter was organized with the narrative description of the statistics, an analysis of correlation coefficients, and a chapter summary.

Data Sources

Permission to use the ACL and SLPI instruments in this setting was secured through the respective publishers. The university department administration approved the research methodology. The research study was approved through the Human Research Subjects process. The process was followed as outlined by the Institutional Review Board for the Protection of Human Subjects based at Northern Arizona University in Flagstaff, Arizona, after obtaining written approval for gathering the research. The data were

gathered using the Adjective Check List authored by Gough and Heilbrun (1983) and the Student Leadership Practices Inventory authored by Kouzes and Posner (1998). The information gathered included student age, gender, and self-descriptive response to the ACL 300 adjectives. From the list of 300, scores were obtained on the 59 adjectives that comprise the Domino Creativity Scale (Domino, 1970). The questions from the SLPI were designed to determine leadership potential.

A Description of the Study Sample

In Chapter 3, the population and sample were described and are detailed in this section. As noted earlier, the participants were students from a major southwestern university, and a total of 122 students were interviewed for this study. The university where the research was conducted had a total enrollment in Spring 2004 of 37,083. In the college of management, with 4,811 enrolled undergraduates in business, 63% were male and 37% were female.

The gender breakdown of total university enrollment was 53% of the enrolled student body female, and 47% male. In the college of management, the enrollment in the spring of 2004 included a total of 3,024 (63%) male students and 1787 (37%) female students.

The sample consisted of 122 upper-division undergraduate students 53 male (43%) and 69 female (57%) who were enrolled as juniors and seniors in a business/management program at the university in the spring semester of 2004. The number of males and females was recorded from the front sheet of the ACL. The age

range was between 18 and 31 years, with 103 of the students ranging in age between 20 and 22. The students were enrolled in a class in which a convenient time and place could be arranged to administer the tests, and in which the department administration had approved participation. The students in the sample volunteered to participate in the research project. The tests were administered during a regularly scheduled class period in an academic setting.

The age range of the sample as recorded on the front of the ACL answer sheet by the respondents was between 18 and 31 years, with 103 of the students ranging in age between 20 and 22. Table 3 summarizes the distribution of ages of respondents.

Table 3. Distribution of Sample Recorded by Age. (N=122)

Age	18	19	20	21	22	23	24	25	26	27	28	29	30	31	N
Total	1	0	20	50	33	3	4	3	2	3	0	0	2	1	122

SOURCE ACL SCORESHEET

Table 4 depicts the age range of the sample as well as the mean age. The standard deviation was 2.04.

Table 4. Age Range and Mean of Sample. (N=122)

MEAN	21.79
Standard Deviation	2.04
AGE RANGE	18-31

SOURCE ACL SCORESHEET

Research Question Restated

As outlined in Chapter 3, the research question for this study was "Is there a relationship between creativity and leadership as indicated on self-reported measures of

undergraduate business majors? If there is a relationship, what is the direction and magnitude of it?"

Adjective Check List Scores

As outlined in Chapter 3, the ACL was used to record the data from students regarding creativity. The highest possible score was 59 if a subject checked all 59 adjectives relating to creativity. The low score for the group was identified as 5 and the highest reported score was 52. Table 5 reports the summary descriptive statistics showing high, low, and mean scores for the Adjective Check List.

Table 5. ACL High Score, Low Score, and Mean Score. (N=122)

MEAN	26.07
Standard Deviation	8.86
RANGE	5-52

SOURCE ACL SCORESHEET

Student Leadership Practices Inventory Scores

As outlined in Chapter 3, the SLPI was used to record the data from students regarding leadership potential. The lowest possible total score was zero and the highest possible total score was 150. The low score for the group was 83 and a high score was 145. Table 6 reports the summary descriptive statistics showing mean, standard deviation, and range for the Student Leadership Practices Inventory.

Table 6. SLPI High Score, Low Score, and Mean Score. (N=122)

MEAN	114.74
Standard Deviation	12.74
RANGE	83-145

SOURCE ACL SCORESHEET

A Closer Analysis of Gender

The ACL score sheet included an entry for gender and age; therefore, each respondent recorded his/her age and gender as part of the answers. However, each respondent's identity was only recorded with a random number, so the identity of the individuals remained anonymous. This information allowed for a closer look at gender in regard to the data collected from the sample. Both the ACL and SLPI scores for male and female followed a normal distribution. Table 7 depicts the age gender breakdown for the ACL and SLPI with corresponding mean and standard deviation.

Table 7. ACL and SLPI Breakdown by Gender. (N=122)

Gender Breakout	Mean	Standard Deviation
ACL - Male (N=53)	25.92	9.81
ACL - Female (N=69)	26.18	8.19
SLPI - Male (N=53)	112.44	13.15
SLPI - Female (N=69)	116.33	12.29

SOURCE SLPI SCORE SHEET

Correlation Analysis

A correlational analysis using the Pearson *r* correlation coefficient of the ACL Creativity Scale scores and total scores from the SLPI yielded a regression equation: ACL = 0.2381SLPI - 1.2468 with an R^2 value of 0.1173. The Pearson *r* is .34 (df=121, p< .01). The results indicated a statistically significant correlation (r = .34, df = 121, p<.01) between creativity as assessed by the ACL Creativity Scale and leadership as assessed by the SLPI. Figure 1 contains the scatter plot for these data, which depicts that a statistically significant linear relationship does exist.

Additional analysis was done on the five sub scales of the SLPI compared to the ACL. The five sub scales were: Challenging the process; Inspiring a shared vision; Enabling others to act; Modeling the way; and Encouraging the heart. These five sub-categories are at the core of the leadership practices as described by Kouzes and Posner (1998). The mean and standard deviation of the total scores for the SLPI are presented in Table 8.

On all five practices measured by the SLPI, the highest scores were Enabling Others to Act with a mean of 24.13, and the lowest score was Challenging the Process with a mean of 21.45. The five sub-categories of the SLPI were compared to the ACL total score. Each respondent's total ACL creativity score was compared to the sub-category score. A correlational analysis using the Pearson *r* compared each of the five SLPI scales to the ACL Creativity Scale. The results are presented in Table 9.

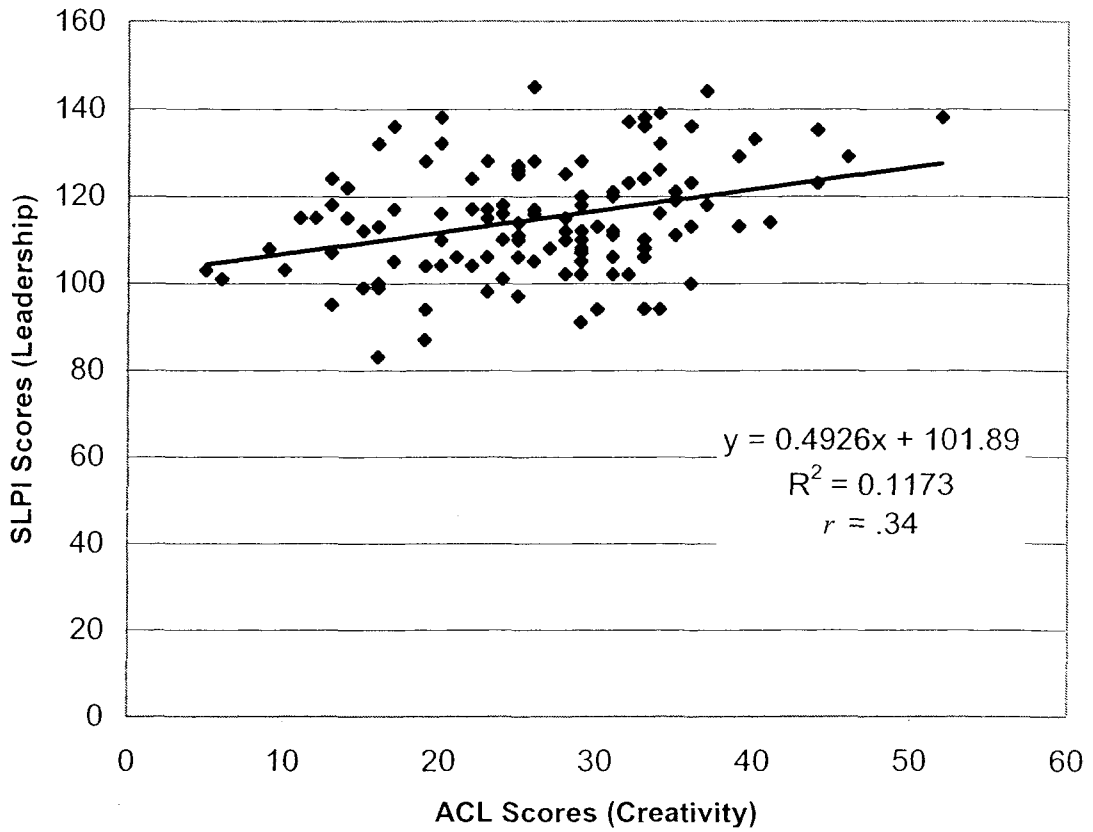

Figure 1. Scatter Plot for ACLI and SLPI.

Table 8. SLPI Total Scores Mean and SD. (N=122)

Category	Mean	Standard Deviation
Challenging the Process	21.45	3.31
Inspiring a Shared Vision	22.40	3.56
Enabling Others to Act	24.13	3.14
Modeling the Way	23.27	3.16
Encouraging the Heart	23.47	3.64

SOURCE SLPI SCORE SHEET

Table 9. Results of Correlational Analysis of ACL Creativity Scale Scores and SLPI Sub Scales. (N=122)

SLPI Scale	Mean	Standard Deviation	r with ACL Total Score
Challenging the Process	21.45	3.31	.30 ($p < .01$)
Inspiring a Shared Vision	22.40	3.56	.26 ($p < .01$)
Enabling Others to Act	24.13	3.14	.15 (p = ns)
Modeling the Way	23.27	3.16	.43 ($p < .01$)
Encouraging the Heart	23.47	3.64	.17 (p = ns)

The corresponding Pearson's *r* values for each of the SLPI Leadership sub-categories as compared to the ACL Total Score are: Challenging the process – $r = .30$ ($p < .01$); Inspiring a shared vision – $r = .26$ ($p < .01$); Enabling others to act – $r = .15$ (p = ns); Modeling the way – $r = .43$ ($p < .01$); and Encouraging the heart – $r = .17$ (p = ns). The correlations range from a low of .15 for Enabling Others to Act to a high of .43 for Modeling the Way. The results indicate a statistically significant relationship between three of the SLPI scales (Challenging the Process, Inspiring a shared Vision, and Modeling the Way) and ACL Creativity Scale scores.

Summary

The Adjective Check List and the Student Leadership Practices Inventory were used as self-assessment instruments in this study to investigate if a relationship exists between creativity and leadership in university business students. The purpose of this chapter was to present the findings and results of the study.

With prior authorization from the Institutional Review Board, the Adjective Checklist and Student Leadership Practices Inventory were administered to the sample of 122 undergraduate business students. Chapter 5 presents a summary of this study, the conclusions that can be drawn from it, recommendations for practical applications, and recommendations for future studies, as well as implications from this study.

CHAPTER 5

SUMMARY, CONCLUSIONS, RECOMMENDATIONS, AND IMPLICATIONS

Introduction

The purpose of this chapter was to present a summary of this study, the conclusions that can be drawn from it, recommendations for practical application of the findings, recommendations for future studies, and implications. The question posed in this study was discussed in relation to the findings as presented in Chapter 4. Conclusions drawn from the study were confined by the limitations and delimitations presented in this chapter. Recommendations included future studies that might be appropriate as well as suggestions for practical application of the study findings. Implications included information related to the Significance of the Study referenced in Chapter 1.

Summary of the Study

This dissertation included five chapters. The first three chapters were the introduction to the study, the literature review and the methodology design to answer the specific research question. The next few paragraphs summarize the first three chapters.

The purpose of this study was to investigate creativity and effective leadership to examine the nature of the relationship between the two, if any. This investigation was

conducted through an assessment of aspects of these traits, behaviors and potential skills in university business students.

The literature was reviewed to ascertain what had been written about the relationship between creativity and leadership. Although both creativity and leadership had been investigated independently for years, no single magic trait characterized a creative person or a potential leader.

Gardner (1993) defined creativity and Kouzes and Posner (1999) defined leadership. Among the elements of Gardner's definition "was the creative person who regularly solved problems, fashioned products, or defined new questions in a domain in a way that was initially considered novel but that ultimately became accepted in a particular cultural setting" (Gardner, 1993, p. 35). Kouzes and Posner (1999) developed a definition that revealed the relationship between the person leading and the person(s) being led, with encouraging the heart at the core. Knowles (1990) espoused the concept of creative leadership. He asserted that creative leadership was that form of leadership that released the creative energy of both the leader and the people being led.

The study used two testing instruments, the Adjective Check List (ACL) (Gough & Heilbrun, 1983) and the Student Leadership Practices Inventory (SLPI) (Kouzes & Posner, 1998). The two established testing instruments are both observer and self-reporting instruments; however, the two were used only in a self-reporting mode in this study.

The design methodology of the study involved a correlation analysis, quantitative in nature, of raw data collected in a self-reporting by university undergraduates. Summary

descriptive statistics were presented in both numerical and table forms. Pearson's *r* was used to indicate the degree to which creativity was related to leadership.

Correlation analysis showed that the independent variable SLPI total score (all five leadership practices combined) was statistically significant when correlated to the ACL, with an *r* value of .34. Further analysis showed that three of the five SLPI leadership practices were statistically significant: Inspiring a shared vision – $r = .26$ ($p < .01$); Challenging the process – $r = .30$ ($p < .01$); and Modeling the way – $r = .43$ ($p < .01$). Three of the leadership practices were significant factors in establishing criteria of a creative leader. There was no statistically significant difference by gender. The findings indicated that student leadership practices are positively correlated with creativity, and can help identify creative leaders.

Limitations

Some inherent threats to internal validity arose as the investigation of creativity and leadership was pursued. Although two well-respected testing instruments were used, possible contaminants existed because the study was not a true experimental design utilizing controlled samples. Specifically, because this study involved self-reports using two measurement instruments, the study might have induced social-behavioral outcomes or other causes that could potentially affect the data gathered. The following is a list of three specific limitations:

1. *Self-reporting anomaly in test scores.*

   Because a respondent appeared to be a creative leader based on the responses given in a self-reporting environment, without controlled samples in a true experimental design, a respondent may not actually be a creative leader simply because he/she scored high on both of the tests.

2. *Social desirability and task researcher expectations.*

   A person may answer questions based on assumptions about the research, rather than true behavior. A respondent may think certain questions should be answered in a certain way and may do so, even though his/her behavior may not be described by the answer. The respondent may think he/she was helping by answering the question in a way that could assist the research rather than reflecting his or her true behavior.

3. *Hawthorne Effect.*

   Surveys may have made the respondent feel special and produced responses that were artificial (Isaac & Michael, 1997).

Delimitations

The potential threats to external validity or generalization of findings and results of this study were the following:

1. *Subject pool.*

   The sample consisted of 122 business students enrolled in upper-division marketing courses at major southwestern university in the spring semester of 2004. University students typically were not currently leaders in business or education; therefore, this study may not specifically describe current business and educational leaders.

2. *New use for tests.*

   The Adjective Check List (ACL) (Gough & Heilbrun, 1983) and the Student Leadership Practices Inventory (SLPI) (Kouzes & Posner, 1998) testing instruments had not been used simultaneously to investigate creativity and leadership. Two existing self-reported testing instruments were used to investigate a relationship between creativity and leadership. Since this use of both tests was new, no comparative data existed on how the results may best describe a potential creative leader in any setting.

3. *Generalization.*

   The self-reported assessments of this particular group of university students might not have generalized to the entire population. Therefore, the findings and results may not necessarily generalize to other populations, locations, or time periods.

4. *Accessibility.*

   As survey instrumentation, both the ACL and the SLPI tap only respondents who were accessible and cooperative (Isaac & Michael, 1997).

5. *Validation.*

   No outside observers made objective assessments to attempt to validate self-reports by the sample.

Summary of Findings

The question to be investigated was "*Is there a relationship between creativity and leadership as indicated on self-reported measures of undergraduate business majors? If there is a relationship, what is the direction and magnitude of it?*" The study measured the level of relationship between creativity and leadership. The sample consisted of 122 upper-division undergraduate students (53 male and 69 female) who were enrolled as juniors and seniors in a business/management program at a major southwestern university in the United States in the spring semester of 2004. Demographic information included age and gender; however, the students were not identified.

The data gathered confirmed that in the sample there was a reported relationship between creativity and leadership. The relationship between creativity and leadership could be integral in the study of creative leaders.

Conclusion

This study was exploratory in nature. In an extensive review of the literature, no research was discovered that had been conducted using the ACL and SLPI as self-reporting instruments to detect a relationship between creativity and leadership. Although there had been a tremendous amount of research conducted on both creativity and leadership, and to a lesser degree on creative leadership, this study looked at the relationship between creativity and leadership in a new way. Although the ACL had used a total score on the 59 adjectives as an indicator of creative talent, the use of a total score with the SLPI to indicate leadership potential was limited. However, one of the authors of the SLPI reviewed the usage and indicated that use of the total score of the SLPI was warranted. According to Posner (2005), "other scholars (Lock, 2001) have used a total score on the five practices to provide a more robust array (continuum) of 'transformational leadership' abilities." The findings for this study resulted in at least one conclusion: creativity and leadership are related.

Among the findings to the research questions obtained from this study were the following:

1. There is a statistically significant correlation between creativity and leadership.
2. In this study, gender was not identified as a distinguishing characteristic of a creative leader.
3. There is a statistically significant correlation between the ACL Creativity Scale and 3 of the 5 SLPI Scales.

The findings as self-reported by the subjects led to the conclusion that indeed there was a relationship between creativity and leadership.

Recommendations for Practical Application

Recommendation 1

The LPI was originally designed to test for leadership skills in leaders in business, education, etc. The resulting SLPI sought to identify potential leadership skills in students. This process could be used in reverse based on the results of this study. A relationship between creativity and leadership was identified in this study. Perhaps the same process could be implemented with leaders in education. The NASSP viewed "creativity" as a process, and not a skill, and the originators of the assessment determined that creativity would not be included in the list of 12 Assessment Skills in the 21st Century Principal. The first recommendation is that the NASSP include ACL and the SLPI in their assessment of principals to help determine if administrators are potential creative leaders.

Recommendation 2

Students in university settings often develop class projects in large and small learning groups. For some faculty members, it is difficult to identify potential creative leaders, especially among a population of unknown students. Perhaps the administration of the ACL and SLPI to classes at the beginning of the semester would enable the faculty

member and the groups themselves to identify potential creative leaders to guide group projects.

Recommendation 3

Faculty members may wish to self-administer the ACL and SLPI among all colleagues in a department to help identify creative leaders among the group.

Recommendation 4

Companies may wish to administer the ACL and SLPI among departments to help identify creative leaders in the organization.

Recommendation 5

The significant correlation of the SLPI and ACL for the subset Modeling the way, $r = .43$ ($p < .01$), may suggest that mentoring may be a meaningful determinant in helping students develop into creative leaders.

Recommendations for Future Research

Recommendation 1

During the investigation for this study, no instrument was found that could test for creative leadership as described by Malcolm Knowles. The development of such an instrument, which would be a predictor of creative leadership, is recommended. A test for

creative leadership could take on the attributes of the ACL and SLPI, including observer and self-reported assessments. A new test could be constructed much like the ACL and SLPI to effectively establish a new instrument to test for creative leadership. This new test could be used to compile an overall creative leadership score. This single creative leadership score could be an indicator of the creative leadership potential of the subject. A checklist approach is recommended, as this format has proven to be an excellent indicator in self-assessment. In general, excellent reliability and validity have been reported in ACL and SLPI self-assessments.

Recommendation 2

Scores from the SLPI could be reported when administered to undergraduates in business and using the five sub-categories of the SLPI (Challenging the process, Inspiring a shared vision, Enabling others to act, Modeling the way, and Encouraging the heart). The resulting scores could be correlated with the ACL Total Score for each student to predict which of the students might become a creative leader.

Recommendation 3

The relationship between creativity and leadership should be examined with different samples including business leaders; administrators, principals and teachers; military personnel; government leaders and politicians; and parents and children, among others.

Recommendation 4

The NASSP leadership skills assessment does not currently include creativity as part of its criteria. Further studies could be developed and presented to the NASSP to encourage inclusion of creativity in the criteria, as well as an assessment of creativity leadership, and is recommended.

Recommendation 5

The significant correlation of the SLPI and ACL for the subset of the SLPI Modeling the way, $r = .43$ ($p < .01$), may suggest that mentoring may be a meaningful determinant in helping students develop into creative leaders. A mentorship program developed to instill leadership training for students could be augmented by first administering the ACL and SLPI tests, and is recommended.

Recommendation 6

This study was quantitative in nature using correlation and descriptive statistics. A qualitative study is recommended to gather rich, in-depth data from subjects to more fully understand feelings about creativity and leadership. Additionally, non-linear and parametric models should be pursued to help explain the relationship of creativity to leadership.

Implications

The findings of this study indicated that there is a significant relationship between creativity and leadership. Malcolm Knowles (1990) suggested that creative leadership was about releasing the creative energy of the people being led. Perhaps principals who participated in the NASSP leadership skills assessment might become creative leaders if they practiced creative leadership and released the creative energy of the teachers in their charge. Perhaps teachers in classrooms would have displayed creative leadership as they in turn released the creative energy of the students they taught.

As the circle of influence widened from the classroom to the community, perhaps parents would have embraced creative leadership as displayed in their children's school in order to transform the workforce. Perhaps politicians would have released the creative energy of their constituents. The ripple effect would have been enormous, as the concept of creative leadership spread from local schools to parent-teacher organizations, from parents to their co-workers, from the office to the boardroom, from business to government, from a local community to a nation and beyond.

From Wallas's (1926) innovative four-stage creative process theory, to Guilford's (1950) presidential address to the (APA), to the development of IPAR in the 1960s, creativity research was vigorous. Leadership research has its roots in studies conducted by Fielder (1976), Hersey and Blanchard (1972), House (1967) Bass (1981), and Burns (1978). Researchers, including Barron (1967, 1969, 1995), Bennis (1989, 2000), Guilford

(1975), Knowles (1990), MacKinnon (1975), Torrance (1969) and Torrance and Torrance (1973), described a relationship between creativity and leadership.

Few creativity and leadership studies were initiated to investigate if a relationship existed. Through this study, a relationship was identified between creativity and leadership as indicated on self-reported measures of undergraduate business majors.

Creative leaders exemplified creativity in their own behavior and provided an environment that encouraged and rewarded creativity in others (Knowles, 1990). This study was an investigation of the relationship between creativity and leadership in university business students. Business students generally move into the workforce and become leaders in industry. Through skills teaching and assessment, universities could stimulate and reward creativity in the students, who would in turn "understand that in a world of accelerating change, creativity is the basic requirement for the survival of individuals, organizations and societies. These new creative leaders would then exemplify creativity in their own behavior and provide an environment that encourages and rewards creativity in others" (Knowles, 1990, p. 187).

In the future, universities would be well served to add creativity and leadership to the curriculum in order to prepare these students to become Creative Leaders.

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APPENDIX

BIOGRAPHICAL INFORMATION

Name of Author: Edward E. Ackerley

Place of Birth: Tucson, Arizona

Date of Birth: December 26, 1958

Educational Degrees Awarded

Northern Arizona University, M.Ed., 1999
The University of Arizona, B.A., 1979

Professional Positions Held

Account Executive/Principal, Ackerley Advertising, Tucson, Arizona, 1976-present
Consultant, CreatingMAGIC, Tucson,Arizona, 1998-present
Adjunct Faculty, The University of Arizona, Tucson, Arizona, 1995-present
Adjunct Faculty, Pima Community College, Tucson, Arizona, 1988-present
Adjunct Faculty, Northern Arizona University, Tucson, Arizona, 2001-present
Adjunct Faculty, University of Phoenix, Tucson, Arizona, 2001-present
Teaching Emphasis:

Media Arts:	Professional Practices
	Creative Media Advertising
Marketing:	Marketing, Business Administration
	Advertising and Promotion Management
	Sales Management
	Public Relations Management
	Consumer Behavior
	Retail Promotion
	Hospitality Marketing

Professional Affiliations

American Advertising Federation, Washington, D.C.
Tucson Advertising Federation, Tucson, Arizona
The University of Arizona Advertising Federation, Tucson, Arizona

Professional Honors

Advertising Professional of the Year, Tucson, Arizona, 1988
Hall of Fame, Tucson Advertising Federation, 1989
Aid to Advertising Education, American Advertising Federation, Washington, D.C., 1997
Silver Medal Award, American Advertising Federation, Washington, D.C., 1999
Mortar Board, Faculty Excellence in Teaching, The University of Arizona, Tucson, Arizona, 1999
Apple Award, Faculty Excellence in Teaching, The University of Arizona, Tucson, Arizona, 1999

Professional Honors *(continued)*

Excellence in Teaching, BPA Student Council, Eller College of Business and Public Administration, The University of Arizona, Tucson, Arizona, 2001

Recognition Award, 65th Anniversary of Tucson Advertising Federation, 2004

Publications

2005 *Advertising and Integrated Brand Promotion* by O'Guinn, Allen, & Seminik. Editor, Test Bank.

2004 *Consumer Behavior: A Managerial Perspective*, 2nd Ed., by Sheth, Mittal, and Newman. Editor.

2004 *International Marketing*, 7th Ed., by Czinkota/Ronkainen. Editor, Instructor's Resource CD.

2003 *Advertising and Integrated Brand Promotion* by O'Guinn, Allen, & Seminik. Contributing Editor.

2002 *Creating MAGIC*. Nedder Publishing. Tucson, AZ. 1st Ed. ISBN: 1-893757-24-2.

2001 *Creative Strategy in Advertising*, 7th Ed., by Jewler/Drewniany. Contributing Editor.

2000 *Contemporary Advertising* by W. Arens. Irwin Press. Contributing Editor.