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ABSTRACT

This study examines the role of community college presidents as the two-year institution faces changing and expanding issues and challenges. The author argues that the community college president must be adept at assembling a leadership team if he/she is going to be an effective administrator. The study utilized a cross-sectional design and collected data using a mailed survey. The author randomly selected 300 community college presidents from a target population of 463 presidents of stand-alone campuses that are members of the American Association of Community Colleges (AACC) and which have governing boards. A total of 124 presidents agreed to participate in the study, representing 31% of the target population and 47% of the random sample. The 119 usable surveys represented 26% of the target population and 40% of the random sample. The survey asked seven questions regarding temperament type. The author concludes that the study: (1) establishes that there are statistical differences in how the four temperaments rate their competence; (2) confirms Roberts' and Macdaid's temperament distributions for college presidents; (3) reasonably establishes the representatives of the study sample from which conclusions may be drawn; and (4) provides a springboard from which other such studies can be generated. Appended are the Situational Temperament Sorter, the leaderships Competencies Assessment Instrument, and letters of invitation and instruction. (Contains 53 references.) (NB)

Temperament and Competence in the Managerial Roles of Community College Presidents

Stephen L. Athans

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ABSTRACT

Athans, Stephen L.

Temperament and Competence in the Managerial Roles of Community College Presidents

This study began with a brief review of descriptive leadership studies which attempted to identify and define what leaders do on a daily basis. These managerial roles, defined by Mintzburg (1973), Yukl, (1989), Baker (1996) and others, were presented in detail in chapter two. Also presented was literature which described personality or type theory. Keirsey and Bates (1984) introduced the four temperaments and the work of Berens and Fairhurst (1993) and others was presented. Anecdotal associations were made between the managerial roles and temperament. Based upon the literature, predictions were made which linked competence on the managerial roles and temperament. The specific problem to be resolved in this study was to determine if there was a relationship between temperament and competence in managerial roles in a community college leadership setting. To that end, this study made four major contributions: 1) it does establish that there are statistical differences on how the four temperaments rate their competence on the managerial roles and categories; 2) it confirms Roberts' (1987) and Macdaid's, et al. (1991) temperament distributions for college presidents; 3) it reasonably establishes the representativeness of the study sample from which conclusions may be drawn concerning the population; and, 4) it provides a rich springboard from which other temperament- and competence-related studies can be generated. In addition to the formal analysis tested, use of descriptive statistics, primarily the rank-ordering of means, provided a foundation for discussion and confirmed the predictions made and anecdotal associations suggested by the literature. Suggestions were made for future research which will substantiate the credibility, reliability and validity of the findings of this study. Continued temperament- and competence-related research holds great promise for helping community college presidents prepare themselves for the many challenging and varied roles which they will face as they perform their duties.

Temperament and Competence in the Managerial Roles of Community College Presidents

by

Stephen L. Athans

A dissertation submitted to the Graduate Faculty of
North Carolina State University
in partial fulfillment of the requirements for the degree of
Doctor of Education

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Approved by:

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DEDICATION

This study is dedicated to the family of Stephen L. Athans. Every person born stands between two eternities-- the past and the future. Every person is a vital link in their family which binds their ancestors to the generations of the future. I dedicate this study to my family past, present, and future. I acknowledge the values, work ethic, and integrity instilled in me from my family past which helped me arrive at this point in my life and sincerely hope that my family, present and future, will benefit from the blessings of education and a sincere quest for the truth.

First, I dedicate this effort to my wife, Elizabeth (Liz) Wettstein Athans, and my children Amy, TJ, and Zachary Athans. My wife has been, and is, my greatest supporter. She has sacrificed, encouraged, proof-read, gently nagged, and strengthened me in this effort. To her, I am eternally grateful. Above all, I value her love and loyalty which are steadfast and immovable. My children have sacrificed the attention of their father perhaps at times in their lives when that attention was needed most. My hope is that the example of work and determination expended in this effort, and the values placed on education will fortify them in their future endeavors.

Second, I dedicate this effort to the other members of my immediate family which include my parents, Nicholas and Cleta Athans, and my wife's parents, Dave and Nathalia Wettstein. I also acknowledge and dedicate this effort to both mine, and my wife's, grandparents, siblings, aunts, and uncles. Who I am, as a person, is a simple reflection of them. All have been supportive and encouraging in these efforts.

Third, I dedicate this effort to numerous friends, colleagues, and employers who have become like family. They, too, have offered encouragement and support in this six year challenge.

I acknowledge and express sincere and heartfelt gratitude to all who have assisted, regardless of how small the effort, in this endeavor.

Truth and Integrity

BIOGRAPHY

Stephen L. Athans was born January 15, 1955 to Nicholas Athans and Cleta McNeill Athans at Forth Bragg, NC. Following his 1973 graduation from Union Pines High School in Cameron, NC, Stephen attended Appalachian State University in Boone, NC for two and one-half years. From 1976-78, he took a leave of absence from school to serve as a missionary for the Church of Jesus Christ of Latter-day Saints in the California-Anaheim Mission. Following his mission, he transferred to Brigham Young University in Provo, Utah. He graduated from Brigham Young University in 1982 with a Bachelor of Science Degree in Industrial Education. Having been the recipient of a Two-year Army ROTC Scholarship, Stephen served a four-year commitment in the United States Regular Army with the 82nd Airborne Division at Fort Bragg, NC. Following separation from the military, Stephen taught high school for four years at Pinecrest High School in Southern Pines, NC. He then worked for eight years at Sandhills Community College, Pinehurst NC as the Vocational-Technical Recruiter and as the Director of Career Counseling and Job Placement. In 1994, he received a Master of Science Degree in Organizational Leadership and Management from the University of North Carolina at Pembroke. He began employment with the NC Community College System in Raleigh, NC in 1998. In 2000, he received his Doctor of Education Degree in Higher Education Administration from North Carolina State University in Raleigh, NC. He is married to Elizabeth Wettstein Athans of Salt Lake City, Utah and they have three children-Amy, TJ, and Zachary Athans.

ACKNOWLEDGMENTS

I acknowledge that many people have helped me in this endeavor. Many have helped through encouragement and quiet support; others have been more overt. I acknowledge the work of researchers past from which I have gleaned much information and have attempted to compile into this research effort. There are a few people, however, who have been specifically helpful whom I would like to acknowledge by name.

First, I acknowledge Dr. George Baker who has served as the chair of my committee. Not only has he served as chair, he has been a mentor, exemplar, task master, and friend. He has made suggestions which were critical to this work and has been a source of motivation and inspiration. I appreciate his confidence in my abilities and his confidence in my leadership potential. He is truly a graduate student's greatest advocate.

Second, I acknowledge the other individuals who have served on my committee: Dr. John Pettitt, Dr. Duane Akroyd, and Dr. Dewey Adams. Also Dr. Ed Gerler and Dr. Paul Bitting who substituted during the oral dissertation proposal and dissertation defense respectively. I appreciate their time, suggestions, and encouragement.

Third, I acknowledge the assistance of Dr. Dennis Boos and Joy Smith of the NC State Statistical Consulting Service. Without their assistance this effort would have been much more difficult than it was. I appreciate their time and patience.

Fourth, I acknowledge the assistance of the administrative assistants in the Department of Adult and Community College Education: Dawn Crotty and Elaine Hardin. They have been extremely helpful in getting the necessary paperwork together to make this a reality. Not only are they bright and capable, they are pleasant and nice. My heartfelt thanks to them.

Fifth, I acknowledge the advice, mentorship, and encouragement of James C. Halstead. Early in my community college career, he strongly encouraged me to pursue a terminal degree to maximize my career opprotunities within the higher education community.

Finally, I acknowledge and express thanks and gratitude to my employers and others who have assisted in this effort. My thanks to all.

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CHAPTER ONE: INTRODUCTION OF THE PROBLEM

Overview of Type and Managerial Roles

For the past thirty to forty years, the time during which the modern community college movement in America became fully established, the mission and scope of the community college has expanded. Deegan and Tillery (1985) outline various missions of the community college in different periods of its development demonstrating how societal and environmental needs have influenced the community college mission. Cohen and Brawer (1982) cite increased numbers, diversity, faculty, governance, finances and community education as issues which have increased the challenges placed upon the community college and its leaders. Vaughan (1983) cites loss of funds, tuition increases, an unclear mission, the quality of educational programs being offered, and governance as obstacles and frustrations faced by community college leaders. Presidents continue to face new challenges from both within and without their institutions, which can place tremendous stress on the presidency. Because these challenges and demands are varied and wide-ranging, leaders need to have an accurate understanding of their personal leadership strengths and weaknesses and need to be capable of assembling leadership teams who have complementing strengths and skills. By utilizing their personal managerial skills and effectively delegating to their leadership team, presidents will be better prepared and capable of administering and managing larger institutions in an ever-widening arena of community issues and challenges.

Descriptive leadership studies describe the type of work which leaders do on a day-to-day basis. Mintzberg (1973) identified ten managerial roles which he divided into three categories: interpersonal, informational, and decisional. The three roles which Mintzberg identified as dealing with interpersonal behavior are figurehead, leader, and liaison; the informational roles are monitor, disseminator, and spokesman; and the four decisional roles are entrepreneur, disturbance handler, resource allocator, and negotiator. Table 1.1 shows each broad category with its managerial roles. Mintzberg claims that while all managers use each of these roles, the type of organization and the level of the manager's position will determine how each role is interpreted and enacted (Yukl, 1989). The personal abilities and skills of the manager in each of these roles will determine his or her success. Baker (1996) developed the Leadership Competencies Assessment Instrument (LCAI) to measure the managerial competencies (natural or acquired

Table 1.1

Mintzberg's Managerial Categories and Roles. Adapted from Pugh & Hickson (1989).

Mintzbergs Categories	Mintzberg's Roles
Interpersonal	Figurehead
	Leader
	Liaison
Informational	Monitor
	Disseminator
	Spokesman
Decisional	Entrepreneur
	Disturbance Handler
	Resource Allocator
	Negotiator

Table 1.2

A Comparison of Mintzberg and Baker. Adapted from Pugh & Hickson (1987) and Baker (1996).

Mintzberg's Managerial Roles		Baker's Managerial Roles	
Interpersonal Roles	Leader	Leadership Roles	Visionary
	Liaison		Task Giver
	Figurehead		Motivator
Informational Roles	Monitor		Ambassador
	Disseminator		Liaison
	Spokesman	Informational Roles	Monitor
Decision Making Roles	Entrepreneur		Disseminator
	Disturbance Handler		Advocate
	Resource Allocator	Decisional Roles	Change Agent
	Negotiator		Disturbance Handler
			Resource Allocator
			Negotiator

proficiencies) of community college presidents in a slightly modified version of Mintzberg's managerial roles. Baker used twelve managerial roles which he grouped under the same three categories as Mintzburg. Table 1.2 shows Mintzberg's and Baker's managerial categories and roles in a side-by-side manner and provides a comparison between of the two. Mintzberg's roles are based upon research with CEOs and Baker's with community college presidents. Baker (1996) provides very detailed

Table 1.3

Detailed Descriptions of Baker's Managerial Roles. Adapted from Baker (1996)

Leadership Roles	**Visionary-** Thinks globally and of future possibilities, recognizes momentum, applies educational convictions, applies quality concepts.
	Task Giver- Defines and structures roles for followers, provides direction, defines standards, biased to action yet flexible, has high expectations, uses authority appropriately.
	Motivator- Establishes mutual trust, encourages creative and innovative performance, increases job satisfaction, rewards appropriately, manages individual and organizational stress.
	Ambassador- Presides at official functions as a symbol of college or as a symbol of external groups and organizations, promotes goodwill and commitment between organization and stakeholders.
	Liaison- Develops collaborative relationships with groups or individuals in and out of college service area. Establishes a close bond between the organization and its customers or partners.
Informational Roles	**Monitor-** Assesses needs of institution, uses them to identify programs and services, evaluates opportunities, develops/analyzes policy, understands the informal organization, employs technology to support decision making, facilitates development and maintenance.
	Disseminator- Uses technology, effective techniques for speaking, writing, listening, and reading, effective use of formal/informal communication, coordinates various functions within the organization, identifies talent in staff, develops personnel performance appraisal process.
	Advocate- Keeps various segments of the community informed of the organization's progress in fulfilling its mission, deals effectively with mass media, has working knowledge of (federal, state, local) political processes.
Decisional Roles	**Change Agent-** Sets measurable objectives, develops strategies/plans, develops quality initiatives, makes prudent decisions, designs plans, provides motivation for change, seeks new opportunities.
	Disturbance Handler- Identifies problems and works to resolve them, finds alternatives to produce win-win outcomes, resolves conflict and other problems to satisfaction of those involved.
	Resource Allocator- Develops basic principles of organizational planning, determines span of control, develops budgets, manages time, designs personnel plans, sees employees as human capital.
	Negotiator- Represents institutions in major and local negotiations, is skillful in and has working knowledge of group dynamics, conflict resolution, decision making, and problem-solving techniques.

descriptions of each of his managerial roles. Table 1.3 shows detailed descriptions of Baker's managerial categories and roles.

Type theory was originated by Carl Jung, a Swiss psychologist and was made popular by Myers and Briggs. Through observation of normal people, Jung was able to distinguish patterns in human behavior. Jung theorized that these patterns were a result of how people prefer to use their minds. In other words, Jung's theory claims that variation in human behavior was not the result of chance, but rather was the result of observable and measurable differences in mental functioning (Roberts, 1987). Type theory suggests that all people can be divided into one of four temperaments. Each of

Table1.4

Description of Managerial Strengths and Weaknesses of Temperament. Adapted from Keirsey & Bates (1984).

NF- Catalyst-Idealist **Managerial Strengths:** personal charisma and commitment to people; strong communication skills; enthusiastic; involves all; comfortable in unstructured situations; optimistic; gives appreciation readily. **Managerial Weaknesses:** poor time management skills; may fail to prioritize; may avoid unpleasant situations; may get "burned-out"; doesn't take personal time to recharge.	**SJ- Traditionalist- Guardian** **Managerial Strengths:** creates stability; is decisive; understands organizational values; good at precision work; will follow through; is orderly, timely, and scheduled; likes things settled; super dependable; hard, steady worker. **Managerial Weaknesses:** may be impatient; can decide too quickly; very rule-oriented; may be judgmental; may be pessimistic; may be overly competitive.
NT- Visionary-Rational **Managerial Strengths:** architect of change; builder of systems; logical; see long- and short-range implications; intellectually ingenious; adept in technical and administrative areas. **Managerial Weaknesses:** may overlook others' feelings; can be cool and distant; dislikes redundancy; can appear haughty.	**SP- Troubleshooter-Artisan** **Managerial Strengths:** extremely practical; deals with concrete problems; understands systems; welcomes change; understands the internal and external organizational environments; recognizes and uses all resources at hand to solve problems. **Managerial Weaknesses:** impatient with theory and abstractions; may forget commitments and decisions of the past; current demands are preeminent; may be unpredictable and unreliable.

these temperaments have preferred roles and behaviors, as well as specific managerial strengths and weaknesses. Table 1.4 provides a description of the managerial strengths and weaknesses of each of the four temperaments. Research by Roberts (1987) on community college presidents and by Macdaid, McCaulley, and Kainz (1991) on administrators of colleges and technical institutes suggests that community college presidents and college administrators may be over-represented in the NT-Visionary temperament.

Problem Statement

As one examines the literature regarding both managerial roles and type theory, commonalities begin to emerge regarding the descriptions of Baker's twelve managerial roles and the descriptions of the four temperaments. The intent and meanings of the words used in the descriptions of the roles and the temperaments are very often similar and at times the exact same words are used. Tables 1.5, 1.6, and 1.7 are matrices which show the commonalities between the descriptions of the roles and temperaments. An "X" has been placed in the matrix where this author is led by the language and the descriptions to think that one temperament (compared to the other three temperaments) may be more competent in each of the managerial roles. Understandably, this method is subjective and thus is subject to bias, but it does graphically demonstrate how linkages may exist between temperament and competence in managerial roles.

Much research exists on both managerial roles and on type theory. Doty (1995) identified the roles which new community college presidents use most. In replications of

Mintzberg's work Dill (1984), and Hammons and Ivery (1988), used college presidents

Table 1.5

Matrix of Leadership Roles and Temperament.

Leadership Roles				
	NF idealist, catalysts, spokespersons, energizers, personal relationships, diplomatic, warm-hearted, future vision, big picture	**NT** visionaries, architects of systems, builders, rational, knowledgeable, cold, competent, logical, inventors, designers, analysts, organizers, directors, big picture	**SJ** stabilizers, traditionalists, consolidators, guardians, rules, regulations, conforming, meticulous, cautious, dependable	**SP** troubleshooters, negotiators, fire fighters, crises managers, cynical, promoters, tacticians, impact-centered, impulsive, entertaining, spontaneous
Visionary- Thinks globally and of future possibilities, recognizes momentum, applies educational convictions, applies quality concepts.		X		
Task Giver- Defines and structures roles for followers, provides direction, defines standards, biased to action yet flexible, has high expectations, uses authority appropriately.			X	
Motivator- Establishes mutual trust, encourages creative and innovative performance, increases job satisfaction, rewards appropriately, manages individual and organizational stress.	X			
Ambassador- Presides at official functions as a symbol of college or as a symbol of external groups and organizations, promotes goodwill and commitment between organization and stakeholders.				X
Liaison- Develops collaborative relationships with groups or individuals in and out of college service area. Establishes a close bond between the organization and its customers or partners.	X			

Table 1.6

Matrix of Informational Roles and Temperament.

Informational Roles				
	NF idealist, catalysts, spokespersons, energizers, personal relationships, diplomatic, warm-hearted, future vision, big picture	**NT** visionaries, architects of systems, builders, rational, knowledgeable, cold, competent, logical, inventors, designers, analysts, organizers, directors, big picture	**SJ** stabilizers, traditionalists, consolidators, guardians, rules, regulations, conforming, meticulous, cautious, dependable	**SP** troubleshooters, negotiators, fire fighters, crises managers, cynical, promoters, tacticians, impact-centered, impulsive, entertaining, spontaneous
Monitor- Assesses needs of institution, uses them to identify programs and services, evaluates opportunities, develops/analyzes policy, understands the informal organization, employs technology to support decision making, facilitates development and maintenance.		X		
Disseminator- Uses technology, effective techniques for speaking, writing, listening, and reading, effective use of formal/informal communication, coordinates various functions within the organization, identifies talent in staff, develops personnel performance appraisal process.	X			
Advocate- Keeps various segments of the community informed of the organization's progress in fulfilling its mission, deals effectively with mass media, has working knowledge of (federal, state, local) political processes.	X		X	

Table 1.7

Matrix of Decisional Roles and Temperament.

Decisional Roles				
	NF idealist, catalysts, spokespersons, energizers, personal relationships, diplomatic, warm-hearted, future vision, big picture	**NT** visionaries, architects of systems, builders, rational, knowledgeable, cold, competent, logical, inventors, designers, analysts, organizers, directors, big picture	**SJ** stabilizers, traditionalists, consolidators, guardians, rules, regulations, conforming, meticulous, cautious, dependable	**SP** troubleshooters, negotiators, fire fighters, crises managers, cynical, promoters, tacticians, impact-centered, impulsive, entertaining, spontaneous
Change Agent- Sets measurable objectives, develops strategies/plans, develops quality initiatives, makes prudent decisions, designs plans, provides motivation for change, seeks new opportunities.		X		
Disturbance Handler- Identifies problems and works to resolve them, finds alternatives to produce win-win outcomes, resolves conflict and other problems to satisfaction of those involved.				X
Resource Allocator- Develops basic principles of organizational planning, determines span of control, develops budgets, manages time, designs personnel plans, sees employees as human capital.			X	
Negotiator- Represents institutions in major and local negotiations, is skillful in and has working knowledge of group dynamics, conflict resolution, decision making, and problem-solving techniques.	X			X

as populations. As cited previously, research using type theory has been published by Roberts (1987) and by Macdaid, McCaulley, and Kainz (1991) on community college

presidents. Given the amount of research on both and given the commonalities of language shared by the two areas, one would think research would exist which has attempted to link temperament and competence in managerial roles. Anecdotal associations, as has been demonstrated, can be easily made.

What these studies and the literature in general do not present are any empirical data which establish a relationship between temperament and competence levels of college presidents in managerial roles. The specific problem to be resolved in this study is to determine if there is a relationship between temperament and competence in managerial roles in a community college leadership setting. If established empiracally, these relationships could provide valuable insight and understanding into how personality preferences impact community college leadership. Further, if relationships could be established, then college presidents could be alerted to possible strengths and deficiencies in their managerial roles. Rost (1991) suggests that postindustrial leadership is a collaborative endeavor as opposed to the efforts of a single individual. Armed with this knowledge, presidents could assemble stronger, more diverse leadership teams who have skills complementing their individual strengths and weaknesses. Empirical data which establish these relationships could have far reaching implications on community college doctoral programs at universities and on preservice and inservice programs designed to prepare future community college leaders.

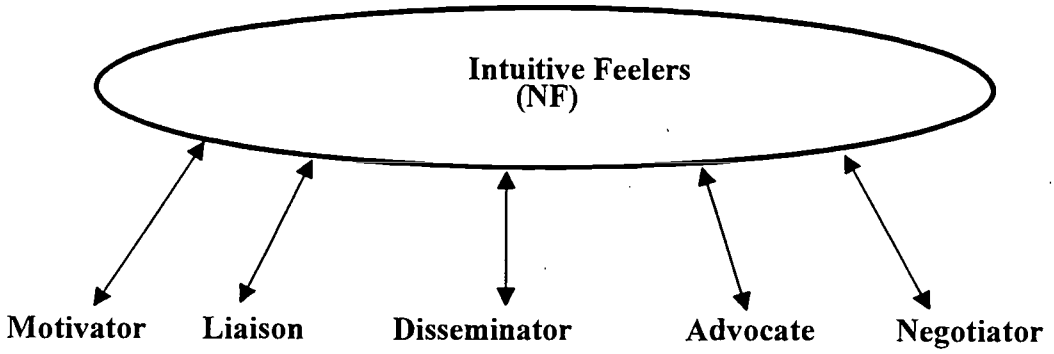

Figure 1.1. Conceptual Linkage of Intuitive Feelers and Managerial Roles

Conceptual Framework

Mintzberg's (1973) work describes in detail the day-to-day managerial roles of chief executive officers. The work of others have replicated his conclusions in a variety of organizations. Baker and others have extended that body of research to community college presidents. Research related to temperament also provides very detailed descriptions of the managerial behavior of the four temperaments.

Anecdotally, it is easy to see a possible link between the temperaments and several of the managerial roles. For example, the intuitive feelers (NF) would seem to be best adapted to the roles of motivator, liaison, disseminator, advocate, and negotiator. Figure 1.1 shows the hypothesized relationship between the intuitive feelers (NF). The lines and arrows in this figure and the subsequent three figures (Figures 1.2-1.4) represent the commonality between the managerial roles and temperament. The intuitive thinkers (NT) would appear to function best in the roles of visionary, monitor, and change agent

(see Figure 1.2). The sensing judgers (SJ) align well with roles of task giver, advocate, and resource allocator (see Figure 1.3). And finally, the sensing perceivers (SP) seem best equipped in the roles of distrubance handler, ambassador, and negotiator (see Figure 1.4). Through the use of specific hypotheses and instruments designed to measure

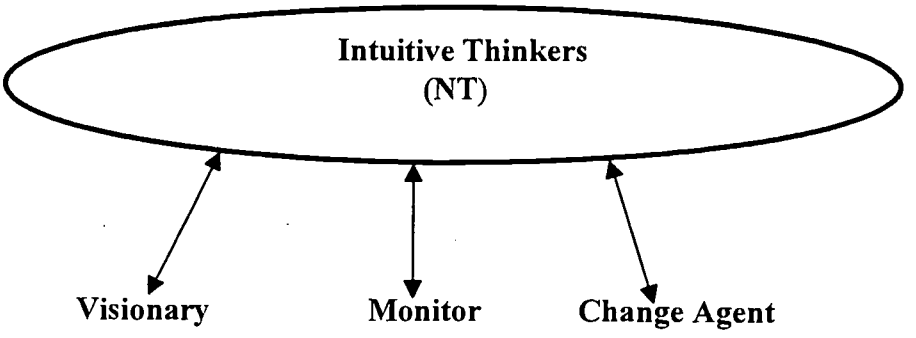

Figure 1.2. Conceptual Linkage of Intuitive Thinkers and Managerial Roles

temperament and competence, this research will determine if a link actually exists.

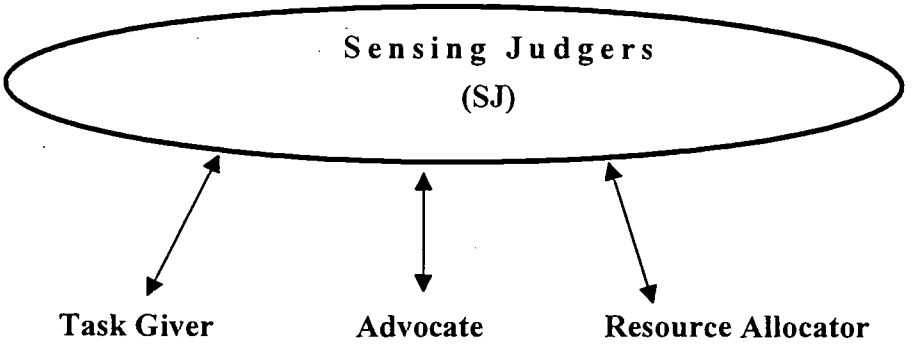

Figure 1.3. Conceptual Linkage of Sensing Judgers and Managerial Roles

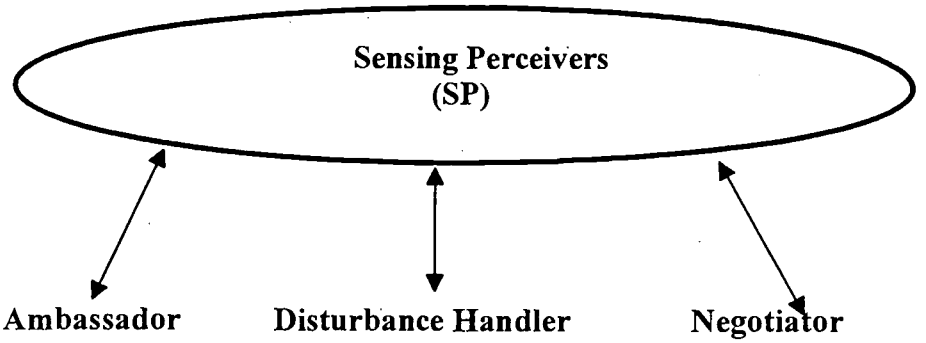

Figure 1.4. Conceptual Linkage of Sensing Percievers and Managerial Roles

Purpose

The purpose of this study is to provide empirical data on the following: (a) whether or not community college presidents, as a group, rate themselves as more competent in some managerial roles and less competent in others and to identify those roles; (b) whether or not community college presidents, as a group, rate themselves as more competent in some managerial categories and less competent in others and to identify those categories; (c) whether or not one temperatment type of community college presidents will rate themselves as more competent than others on each of the twelve managerial roles; (d) whether or not one temperament type of community college presidents will rate themselves as more competent than others on each of the three managerial categories; (e) whether or not community college presidents, when grouped by the four temperaments, rate themselves as more competent in some managerial roles and less competent in others and to identify those roles; (f) whether or not community college presidents, when grouped by the four temperaments, rate themselves as more

competent in some managerial categories and less competent in others and to identify those categories; and, (g) to confirm the temperament distributions for community college presidents.

Research Questions and Hypotheses

The proposed research questions which guide this study are: (a) Do these community college presidents, as a group, rate themselves as more competent in some of the twelve managerial roles and less competent in others?; (b) Do these community college presidents, as a group, rate themselves as more competent in some of the three managerial categories and less competent in others?; (c) For this sample of community college presidents, does one temperament type rate themselves as more competent than the other temperament types on each of the twelve managerial roles?; (d) For this sample of community college presidents, does one temperament type rate themselves as more competent than the other temperament types on each of the three managerial categories?; (e) For this sample of community college presidents, do some community college presidents, when grouped by the four temperaments, rate themselves as more competent in some of the twelve managerial roles and less competent in others?; (f) For this sample of community college presidents, do some community college presidents, when grouped by the four temperaments, rate themselves as more competent in some of the three managerial categories and less competent in others?; and, (g) Will this sample of community college presidents confirm the distributions for temperament suggested by Roberts' (1987) and Macdaid's, et al. (1991) works?

The following null hypotheses will be tested in this study:

H_o^1: For the randomly selected presidents, there is no significant difference in the mean scores of all twelve managerial roles when the presidents are grouped as the total sample.

H_o^2: For the randomly selected presidents, there is no significant difference in the mean scores of all three managerial categories when the presidents are grouped as the total sample.

H_o^3: For the randomly selected presidents, there is no significant difference in the mean scores of the four temperaments on <u>each</u> of the twelve managerial roles.

H_o^{3a}: There is no significant difference in the mean scores of the four temperaments on the **visionary role**.

H_o^{3b}: There is no significant difference in the mean scores of the four temperaments on the **task giver role**.

H_o^{3c}: There is no significant difference in the mean scores of the four temperaments on the **motivator role**.

H_o^{3d}: There is no significant difference in the mean scores of the four temperaments on the **ambassador role**.

H_o^{3e}: There is no significant difference in the mean scores of the four temperaments on the **liaison role**.

H_o^{3f}: There is no significant difference in the mean scores of the four temperaments on the **monitor role**.

H_o^{3g}: There is no significant difference in the mean scores of the four temperaments on the **disseminator role**.

H_o^{3h}: There is no significant difference in the mean scores of the four temperaments on the **advocate role**.

H_o^{3i}: There is no significant difference in the mean scores of the four temperaments on the **change agent role.**

H_o^{3j}: There is no significant difference in the mean scores of the four temperaments on the **disturbance handler role**.

H_o^{3k}: There is no significant difference in the mean scores of the four temperaments on the **resource allocator role**.

H_o^{3l}: There is no significant difference in the mean scores of the four temperaments on the **negotiator role**.

H_o^4: For the randomly selected presidents, there is no significant difference in the mean scores of the four temperaments on <u>each</u> of the three managerial categories.

H_o^{4a}: There is no significant difference in the mean scores of the four temperaments on the **leadership category**.

H_o^{4b}: There is no significant difference in the mean scores of the four temperaments on the **informational category**.

H_o^{4c}: There is no significant difference in the mean scores of the four temperaments on the **decisional category**.

H_o^5: For the randomly selected presidents, there is no significant difference in the mean score of any individual managerial role, when the presidents are grouped by temperament.

H_o^{5a}: There is no significant difference in the mean scores of the **NF presidents** on the twelve managerial roles.

H_o^{5b}: There is no significant difference in the mean scores of the **NT presidents** on the twelve managerial roles.

H_o^{5c}: There is no significant difference in the mean scores of the **SJ presidents** on the twelve managerial roles.

H_o^{5d}: There is no significant difference in the mean scores of the **SP presidents** on the twelve managerial roles.

H_o^6: For the randomly selected presidents, there is no significant difference in the mean score of any individual managerial category, when the presidents are grouped by temperament.

H_o^{6a}: There is no significant difference in the mean scores of the **NF presidents** on the three managerial categories.

H_o^{6b}: There is no significant difference in the mean scores of the **NT presidents** on the three managerial categories.

H_o^{6c}: There is no significant difference in the mean scores of the **SJ presidents** on the three managerial categories.

H_o^{6d}: There is no significant difference in the mean scores of the **SP presidents** on the three managerial categories.

Ho^7: There is no significant difference in the temperament distribution of this sample of community college presidents and the distribution of community college presidents found in Roberts' (1987) study.

Ho^8: There is no significant difference in the temperament distribution of this sample of community college presidents and the distribution of administrators from colleges and technical institutes found in Macdaid's et al. (1991) Atlas of Type Tables.

Key Terms

The following key terms may be useful within the context of this study:

Temperament	One of four categories (NF, NT, SJ, SP), based on type theory, into which everyone can be divided.
Managerial categories	One of three categories in which the act of managing has been subdivided; the twelve managerial roles are divided into one of these three categories; they are based on Mintzberg's work and modified by Baker through research in a community college setting.

Managerial roles	One of twelve roles in which the act of managing has been subdivided; they are based on Mintzberg's work and modified by Baker through research in a community college setting.
STS	Situational Temperament Sorter: an instrument designed to measure temperament; similar to the Myers-Briggs Type Indicator (MBTI) but employing a different scoring scale.
LCAI	Leadership Competencies Assessment Instrument: an instrument designed to measure leader competencies; authored by Baker, based on Mintzberg's managerial roles and modified through research in a community college setting. The survey instrument used in this study is derived from Part I of the LCAI.
MBTI	Myers-Briggs Type Indicator: an instrument designed to measure personality type.

Competence	A natural or acquired facility in a specific activity. For the purpose of this paper, the specific activities are the twelve managerial roles and three managerial categories as self-rated on the survey instrument (Part I of the LCAI).

Summary of Introduction

Rost (1993) suggests that in order to prepare leaders of the new millennium, training programs must prepare and teach future leaders to be more collaborative and should emphasize consensus and cooperation rather than competition and conflict. He defines leadership as what leaders and followers do together for the collective good. Based on this author's search of the literature, there are no studies which attempt to empirically establish a relationship between temperament and competence in managerial roles. As previously discussed, if a relationship were established, information of this nature could affect community college presidential pre-service and in-service training programs, as well as doctoral-level programs at universities which are designed to prepare graduates for the community college presidency. If established, this information could help practicing presidents recruit and design executive-level teams for dealing with various contingencies. The data collected could impact strategic decision making, public relations, and collaborative efforts with peers and subordinates. Most importantly, if a relationship were established, it could help presidents become more aware of their natural

managerial strengths and weaknesses, and thus, better prepare them to successfully deal with the ever complex and expanding challenges which they inevitably must face.

CHAPTER TWO: A REVIEW OF THE LITERATURE

Managerial Roles Theory

Introduction of managerial roles

Mintzberg was one of the earliest researchers to present a taxonomy of managerial roles and, according to Yukl (1989), is one of the most widely known. Mintzberg (1973) identified ten managerial roles which he divided into three categories (interpersonal, informational, and decisional). Mintzberg identified the three roles which dealt with interpersonal behavior as figurehead, leader, and liaison. The three informational roles as monitor, disseminator, and spokesman. He identified the four decisional roles as entrepreneur, disturbance handler, resource allocator, and negotiator. Table 1.1 shows each broad category with their managerial roles. Mintzberg claims that all managers use each of these roles, but the type of organization and the level of the manager's position will determine the how each role is interpreted and enacted (Yukl, 1989).

The three interpersonal roles deal with the manager's ability to create and maintain relationships. These relationships are important to preserve the well-being of the organization. In the role of figurehead, the manager represents his organization to external people or organizations. Often, the figurehead role involves ceremonial or symbolic activities (ribbon cuttings, awards presentations, etc.). In the leader role, the manager provides guidance to subordinates (Yukl, 1989). The leader role includes activities such as motivating, hiring, training, goal setting, firing, and criticizing. The final interpersonal role is that of liaison, in which the manager establishes and maintains

networks internal and external to the organization. These networks are horizontal and hierarchical in nature, and they serve as vital sources of information. They may be formal or informal. Typical liaison activities may include professional meetings, outside boards, clubs, or informal communication with peers or competitors.

The three informational roles--monitor, disseminator, and spokesperson--are derived from the manager's formal authority over an organization. This formal authority gives managers unique access to internal and external informational sources (Wagoner and Hollenbeck, 1992). In the informational roles, managers transmit and receive information. The role of monitor is the role where managers receive information and scan their environment. This information may come from technical reports, meetings, periodicals, or informal sources such as rumors. The information is analyzed to understand internal and external events which affect the performance of their organization.

In the disseminator role, managers disperse information, passing it up to superiors to influence decisions and down to subordinates who may not have access to important information. In the role of disseminator, mangers often interpret or filter information for superiors and subordinates alike.

The spokesman role requires managers to pass information to people or organizations external to their organizational units, allowing them to demonstrate their current knowledge regarding the organization, environment, or technical field. Managers

may fulfill this role through speeches, stockholder reports, memos or through lobbyist or public relations firms (Wagoner and Hollenbeck, 1992).

The final category of managerial roles, and the category which Mintzberg felt was the most crucial (Pugh and Hickson, 1989), is the decisional. In this category there are four roles, and it is in the function of these roles where managers set the direction of their organizations.

In the entrepreneur role, managers initiate change and organizational improvement begins. This change may include reorganization, new products, equipment changes, or other forms of organizational change. The actual follow-through of these changes may be delegated, but it is the manager, acting in the role of entrepreneur, where those initiating decisions are made.

The disturbance handler role is where managers deal with sudden emergencies. These are crises which cannot be overlooked, which must be dealt with immediately. These problems may include conflicts among subordinates, fluctuations in the economy, or damage to physical facilities.

In the role of resource allocator, managers decide which resources are needed by the organization and how those resources will be distributed. Through this role, managers set priorities, provide emphasis, and, in effect, control the direction of the organization. Through the budgetary processes, the manager is able to coordinate and integrate subordinate actions to support the organization's strategic objectives (Yukl, 1989).

The final decisional role is that of negotiator. The level of the organization in which managers serve will determine the level of negotiation. Higher level managers may negotiate external to the organization with labor unions, suppliers, customers, or other stakeholders. Middle-level managers will generally negotiate with internal organizational subunits. Through negotiation, mangers engage in formal bargaining for resources to help ensure the success of their organization.

In a study performed by Kraut, Pedigo, McKenna, and Dunnette (1989), 1,412 managers were surveyed and asked to rank the importance of 57 managerial duties. Statistical analysis reduced these to seven tasks: 1) managing individual performance; 2) instructing subordinates; 3) representing one's staff; 4) managing group performance; 5) planning and allocating resources; 6) coordinating interdependent groups; and, 7) monitoring the business environment. These seven managerial tasks closely mirror Mintzberg's roles. An additional phase to this study asked these managers to rank the importance of the roles in which they functioned. Although managers used all roles, significant differences in rank emerged dependent upon the level in which they were serving in the organization. It was discovered that top level managers ranked the roles of liaison, spokesperson, and resource allocator as the most important. Middle managers ranked leader, liaison, disturbance handler, and resource allocator as most important. And finally, first-line supervisors ranked the leader role as most important because they spend the majority of their time directing non-supervisory personnel.

Mintzberg (1973) and others who have replicated his work through observational studies, indicate that managerial work is a fragmented collection of brief episodes. Through his studies, Mintzberg demonstrated that, contrary to common belief, managers do not spend great amounts of time planning and doing strategic reflective thinking; instead, he found that managers spend about sixty-nine percent of their time in meetings (planned and unplanned), and that those meetings only lasted a little over a hour in length. Most significantly, researchers have determined that managerial work has common managerial roles or tasks which are found in management, regardless of the industry or level of management. Much research has been focused on managerial roles and/or behavior.

From the research related to managerial role theory, several taxonomies of managerial roles or behaviors have emerged. Often differences in the research of managerial roles are subtle and are the result of semantics or of macro/micro groupings. Yukl (1989) suggests three reasons for the differences: a) the purpose of the taxonomy; b) the level of abstraction of the behavioral constructs; and c) the methods used to derive the taxonomies. The research presented here will demonstrate the commonality and similarity of managerial role research and help the reader understand that managers, regardless of the discipline or level of management, have certain roles in common.

Yukl (1989) provides an overview of some of the research and lists the number of categories these researchers use in their taxonomies. For example, Stogdill (1963) used twelve categories; Mahoney, Jerdee, and Carrol (1963, 1965) used eight; Mintzberg

(1973) used twelve; House and Mitchell (1979) used four; Yukl and Nemeroff (1979) used fifteen; and, Luthan and Lockwood (1984) used fifteen categories in their taxonimies. Table 2.1 shows a comparison of these researchers and the number of categories of managerial roles which their taxonomies list.

Table 2.1

A Comparison of the Number of Categories in Managerial Taxonomies. Adapted from Yukl (1989).

	Number of Categories in their Taxonomy
Stogdill (1963)	12
Mahoney, Jerdee, and Carrol (1963, 1965)	8
Mintzberg (1973)	10
House and Mitchell (1974)	4
Yukl and Nemeroff (1979)	15
Luthans and Lockwood (1984)	15

Different researchers often observe the same phenomena, but use different terms and labels to describe it. For example, one of Yukl's (1979) roles is "Managing Conflict and Team Building" but Stodgill (1963) simply calls it "Integration" and Luthans and Lockwood (1984) refer to it as "Managing Conflict." Although each have different labels the same behavior is being observed. Where Yukl (1979) will use two categories called "Representing" and "Networking & Interfacing", Luthans and Lockwood (1984) will combine their observations into one category called "Interacting with Outsiders; Socializing & Politicking." Table 2.2 shows the correspondence and commonality of

four of these various taxonomies. Yukl's taxonomy is used as the foundation for the comparisons in Table 2.2 and demonstrates the overlap in the various taxonomies, and

Table 2.2

A Comparison of Four Major Taxonomies. Adapted from Yukl (1989).

Yukl	Stogdill	House & Mitchell	Luthans & Lockwood
Supporting	Consideration	Supportive Leadership	
Consulting		Participative Leadership	Motivating & Reinforcing
Delegating	Tolerance of Freedom		
Recognizing			
Rewarding			
Motivating	Production Emphasis	Achievement Oriented Leadership	
Managing Conflict & Team Building	Integration		Managing Conflict
Developing			Training & Developing
Clarifying	Initiating Structure	Directive Leadership	
Planning & Organizing			Planning & Coordinating
Problem Solving	Role Assumption; Demand Reconciliation		Problem Solving
Informing			Exchanging Information
Monitoring			Monitoring / Controlling
Representing	Representing; Influencing Superiors		Interacting with Outsiders; Socializing & Politicking
Networking & Interfacing			

clearly shows how semantics and groupings are responsible for much of the differences. Although there are differences, these taxonomies have more commonality than differences.

Using factor analysis, judgmental classification, and theoretical deduction, Yukl (1989) proposed an integrating taxonomy which attempted to encompass and link all of

these various taxonomies together. The resultant taxonomy had four broad categories and eleven middle-range categories. Each of the middle-range categories fell under one of the four broad categories. Under the broad category of influencing people were the two middle-range categories of motivating, and recognizing and rewarding. The second broad category was giving-seeking information which included the middle-range categories of monitor, clarifying, and informing. The third category was building relationships which comprised managing conflict and team building, networking, and supporting. The final broad category was making decisions which encompasses problem solving, planning and organizing, and consulting and delegating.

Many studies (Dill, 1984; Hammons, & Ivery, 1988; Grover, Jeong, Kettenger, & Lee, 1993) have replicated Mintzberg's work in a variety of settings. Baker, in an effort to design an instrument to measure the competency of community college leaders, also based his taxonomy on the work of Mintzberg. Baker, however, modified his taxonomy using the results of a large Delphi study by Thompson (1981) and a factor analysis performed by Doty (1995). Baker (1996) identified twelve managerial roles under three broad categories on his Leadership Competency Assessment Instrument (LCAI). Although this instrument has much in common with Yukl's integrated model and Mintzberg's managerial roles, one important distinction is that Baker's model is based upon results of research derived from community college leaders. Table 2.3 provides a comparison between Yukl's, Mintzberg's and Baker's taxonomies. Again, this table emphasizes the commonality between these roles.

Table 2.3

A Comparison of Yukl, Mintzberg and Baker. Adapted from Yukl (1989) and Baker (1996).

Yukl's Integrating Taxonomy		Mintzberg's Managerial Roles		Baker's Managerial Roles	
Influencing People	Motivating	Interpersonal Roles	Leader	Leadership Roles	Visionary
	Recognizing & Rewarding		Liaison		Task Giver
Giving - Seeking Information	Monitor		Figurehead		Motivator
	Clarifying	Informational Roles	Monitor		Ambassador
	Informing		Disseminator		Liaison
Building Relationships	Managing Conflict & Team Building		Spokesman	Informational Roles	Monitor
	Networking	Decision Making Roles	Entrepreneur		Disseminator
	Supporting		Disturbance Handler		Advocate
Making Decisions	Problem Solving		Resource Allocator	Decisional Roles	Change Agent
	Planning & Organizing		Negotiator		Disturbance Handler
	Consulting & Delegating				Resource Allocator
					Negotiator

Type Theory and Temperament

Introduction of type theory and temperament

As introduced in chapter one, type theory was originated by Swiss psychologist Carl Jung. Through observation of normal people, Jung began to distinguish patterns in human behavior. Jung theorized that these patterns were a result of how people prefer to use their minds. In other words, Jung's theory claims that variation in human behavior was not the result of chance, but instead, it was the result of observable and measurable differences in mental functioning (Roberts, 1987). He believed these preferences were innate and not developed. Jung's 1921 work entitled Psychological Types outlined his theory.

After 18 years of studying Jungian theory, Briggs and Myers in 1941 began trying to design an instrument to operationalize Jung's theory. The instrument they designed came to be known as the Myers-Briggs Type Indicator (MBTI) and measures personality by looking at eight preferences. These eight preferences are arranged on four bi-polar scales (Hirsh and Kummerow, 1990). Scores on the MBTI yield a four-letter preference code-- one preference from each of the four scales. The combination of the four letters comprising the code is called type. The four bi-polar scales used to describe personality or psychological type are: (a) extraversion and introversion; (b) sensing and intuition; (c) thinking and feeling; and (d) judging and perceiving. Table 2.4 shows the four bi-polar scales, the eight preferences which make up each scale, and the eight letters which represents each preference. The Myers Briggs Type Indicator (MBTI) and similar

instruments such as the Situational Temperament Sorter (STS) measure eight personality preferences. When one takes these instruments, four of the eight preferences are identified as a best description of the individual's personality preferences. The four

Table 2.4

The Four Scales, Their Preferences, and the Letters Which Identify Each Preference.

Extraversion--E ----------Introversion--I
Sensing-- S----------Intuition--N
Thinking--T----------Feeling--F
Judging--J----------Perceiving--P

preferences, each identified by a letter, are combined together and are known as type. These instruments will yield sixteen possible types.

Type theory claims everyone uses all eight preferences, but we have innate and distinct biases for four of the preferences (one from each of the four scales). Though we use all preferences, we cannot use both preferences from the same scale at the same time, and we do not use opposing preferences with equal confidence (Myers, 1993). Though these preferences are innate and, therefore, do not change over the course of one's life, theory contends that we do develop and use our nonpreferred functions. This development is affected by maturation and environmental factors. It is the combination

and interaction of these preferences which determine behavior. Type theory postulates that everyone will fit into one of 16 categories derived from all possible combinations of the eight preferences.

Unique vocabulary, behaviors and assumptions are associated with each preference. Extraverts (E) for example are described and associated with the following behaviors and vocabulary: external; outside thrust; blurt it out; breadth; involved with people, things; interaction; action; and do-think-do. Introverts (I) on the other hand are associated with: internal, inside pull, keep it in, depth; work with ideas, thoughts, concentration, reflection, and think-do-think. Just as it is easy to see the clear differences on the Extravert (E) and Intravert (I) scale so also are clear distinctions on the other three

Table 2.5

Vocabulary and Descriptors Associated with Preference. Adapted from: Hirsh & Kummerow (1990).

Extraversion (E) external; outside thrust; blurt it out; breadth; involved with people, things; interaction; action; do-think-do.	**Introversion (I)** internal; inside pull; keep it in; depth; work with ideas, thoughts; concentration; reflection; think-do-think.
Sensing (S) the five senses; what is real; practical; present orientation; facts; using established skills; utility; step-by-step.	**Intuitive (N)** sixth sense, hunches; what could be; theoretical; future possibilities; insights; learning new skills; novelty; leap around.
Thinking (T) head; logical systems; objective; justice; critique; principles; reason; firm but fair.	**Feeling (F)** heart; value system; subjective; mercy; compliment; harmony; empathy; compassionate.
Judging (J) planful; regulate; control; settled; run one's life; set goals; decisive; organized.	**Perceiving (P)** spontaneous; flow; adapt; tentative; let life happen; gather information; open; flexible.

scales. Table 2.5 shows some vocabulary and descriptors associated with each of the four scales with their eight preferences. More detailed descriptions are provided later in this chapter.

Researchers have studied intensely the interactions and resultant behaviors from the various combinations of these preferences. Many theories abound about which scales are the best to combine. By using preferences from less than all four scales, researchers can limit variables, simplify research design, work around the underrepresentation of certain types in the general population, and successfully handle other research-related challenges. Using fewer than all four preferences is very prevalent in type research.

Research which validates the MBTI

Though the most widely used personality assessment instrument (Divito, 1985) in use today, the MBTI was grudgingly and slowly accepted by the psychological community. One reason is that the instrument design is different from many accepted psychological instruments. The use of dichotomous scales in the MBTI versus continuous scales used in traditional test construction has been a major area of concern for some psychologists. The statistical methods commonly used to validate the accepted instruments could not be used on the MBTI. This led psychologist and academics to distrust the instrument (Tischler, 1994). As a result, in an effort to be recognized by the psychological community at large, the designers and practitioners who use the MBTI have gone to extraordinary lengths to provide empirical data validating the instrument.

Tischler (1994) used factor analyses in order to validate the MBTI. Tischler (1994) cited the need for a working-adult, item-level test of validity. His factor analysis was an effort to fill that need. It substantiated four previous efforts (Carlson, 1985; Carlyn, 1977; Myers and McCaulley, 1985; Tischler, 1991), but because of the size of the sample (n = 2,143) used in his study, the results are impressive. This large-sample factor analysis of working adults provided an important finding for academics and psychologists who have questioned the validity of the MBTI. In Tischler's words, "When this information is added to other available statistical results about the MBTI -- e.g., inter-scale versus intra-scale correlations, coefficient alphas, testing against other instruments for convergent and discriminate validity, and the scales relationship to the "Big Five" personality factors -- there is fairly strong evidence that the MBTI is adequate in its ability to measure four distinct scales of human personality (p.30)."

Type-related research involving management, leadership, and managerial roles

A large body of type-related research exits which involves type and management/leadership, and, in a more indirect way, managerial roles. The results of this research is generally reported in several ways. Some of the research describes the behaviors of managers; other research focuses on leader positions within the organization. Some studies look at decisional styles; some examine competitiveness. The research concedes that all sixteen types are found in positions of leadership, but that all sixteen types are not equally represented (Fitzgerald and Kirby 1997). Studies show that

regardless of the kind of organization, people who are thinking (T) and judging (J) tend to be overrepresented in leadership positions.

In repeated studies of many different occupations, the literature repeatedly confirms that executive-level managers are more intuitive (N) and line-level managers are more sensing (S). Ginn (1994), Johnson (1992), Reynierse (1993), and others with samples of airport managers, retail sales representatives, educators, and cross sections of business and industry mangers, have confirmed that the higher managers progress in an organization, the more likely they are to be intuitive (N).

Percival, Smitheram, and Kelly (1992) attempted to determine if type influences conflict-related behavior. They studied two groups: the first group consisted of 160 (86 male, 74 female) subjects and the second, a replication group, was comprised of 180 (47 male, 133 female) subjects. Thinkers (T) are more likely than feelers (F) to compete and less likely to compromise. Feelers (F) are more likely than thinkers (T) to collaborate or accommodate. Feelers (F), as reported by Walck (1991), are more likely to apply participative leader behaviors as opposed to thinkers. One's leadership style is often defined, in part, by one's competitiveness, collaboration, and accommodation. Personality affects the amount of competitiveness, collaboration, and accommodation one possesses. Thus personality is linked to one's leadership style.

Much successful research has been conducted to establish relationships between type and leader behavior. To a lesser degree, research has been conducted to relate type to success in specific occupations. This line of research, known as occupational-fit

theory, has proven unsuccessful. This study will attempt to determine if there is a relationship between temperament and competence in managerial roles. Presently, no published research has related temperament to competence in managerial roles.

Temperament

Keirsey and Bates (1984) in a very popular book, Please Understand Me, introduced a different theory of type which they called temperament. They noted major similarities between their theory of temperament and the MBTI. They found that the MBTI accurately predicted temperament. Temperament was derived from combinations of two preferences from three different scales. Until Keirsey and Bates, these preferences were not commonly combined. These combinations yielded four types (NF, NT, SJ, and SP) which comprise an individual's temperament. Keirsey and Bates (1984) linked these temperaments with the writings and works of Hippocrates, Adickes, Kretschmer, Adler, and Spranger, as well as Jung. Some scholars, most notably Frisbie (1988), challenge some of those linkages. Much research (Walck, 1992; Carskadon, & Cook, 1982; Ware, & Yokomoto, 1985; and others) has been undertaken to determine whose descriptors, Myers' or Keirsey's, are most accurate. Most scholars acknowledge the theoretical differences, but conclude, overall, that there is little difference in accuracy between the Myers and Keirsey descriptors.

The temperaments are derived from a combination of six of the eight preferences. These combinations will yield four temperaments (see Table 2.6). Each individual preference has observable and unique vocabulary, behavior, methods of communication

and traits which make them distinctly different from the other preferences. When these individual preferences are combined, they also produce characteristics which are even more specific and distinct.

Table 2.6

The Six Preferences and Four Temperaments.

The Six Preferences Which Combine to Yield Temperaments	Intuitive (N)		Sensing (S)	
	Thinking (T)	Feeling (F)	Judging (J)	Perceiving (P)
The Four Temperaments	Intuitive Thinker (NT)	Intuitive Feeler (NF)	Sensing Judger (SJ)	Sensing Perceiver (SP)

Keirsey and Bates (1984) give very clear and rich descriptions of their temperaments. These descriptions have been widely used and taught in organizational training and leadership development programs across the country. Detailed descriptions of their temperaments are provided later in this chapter. Table 2.7 shows a brief summary of some of the detailed descriptions given for the four temperaments. Perhaps Keirsey and Bates' greatest contribution with temperament may be in providing a practical and useful way of subdividing the sixteen types into the four temperaments so that studying and understanding type becomes less difficult, cumbersome, and frustrating. These temperaments are expounded upon and exhibited in most contemporary literature which deals with either introductory type theory and organizational management. As one

examines the temperaments, one can begin to see and respect the detail, richness, and diversity of these descriptions.

Table 2.7

Descriptions of Four Temperaments. Adapted from: Berens & Fairhurst (1993).

Idealist- Catalyst-NF **Needs:** Meaning & Significance, Unique Identity. **Values:** Ethics & Morality, Authenticity, Idealized & Meaning World, Self-Actualization, Cooperative Interaction, Unity, Personal Relationships. **Abilities/Roles/Skills:** Advocate or Proponent, Romantic Idealist, Facilitate, Reveal, Counsel, Integrative Thinker, Interpretation, Diplomacy, Catalyst, Mentor or Foreseer. **Behaviors:** Relationship-Centered, Global Language, Metaphors, Credulous, Imagining, Empathic, Inspiring, Future-Oriented, Impressionistic, Praising, Involved, Warm-Hearted, Spiritual, Creating Harmony.
Rational-Visionary-NT **Needs:** Mastery & Self-Control, Knowledge & Competence. **Values:** Concepts & Ideas, Progress, Ultimate Truths or Theories, Intelligence, Scientific Inquiry, Logical Consistency, Expert Relationships. **Abilities/Roles/Skills:** Engineer or Inventor, Perpetual Learner, Categorize, Design, Marshal, Differential Thinker, Analysis, Strategy, Visionary, Organizer or Director. **Behaviors:** Knowledge-Centered, Precise Language, Conditionals, Skeptical, Inventing, Analytical, Problem-Solving, Infinite Time Orientation, Perfectionistic, Critiquing, Oblivious, Cold-Logical, Theoretical, Forming Hypotheses.
Guardian-Traditonalist-SJ **Needs:** Membership or Belonging, Responsibility or Duty. **Values:** Rules & Regulations, Conformity, Preservation of Social Groups, Security, Hierarchical Procedures, Stability, Group/Bonding Relationships. **Abilities/Roles/Skills:** Conservator or Provider, Rule Maker or Enforcer, Provide, Protect, Supervise, Sequential-Thinker, Measurement, Logistics, Stabilizer/Traditonalist, Monitor or Overseer. **Behaviors:** Authority-Centered, Customary Language, Comparisons, Fatalistic, Standardizing, Responsible, Cautious/Careful, Past-Oriented, Meticulous, Appraising, Dependable, Structured, Economical, Stabilizing Organizations.
Artisan-Troubleshooter-SP **Needs:** Freedom to Act on Impulses, Ability to Make an Impact. **Values:** Excitement & Stimulation, Aesthetics, Immediate Adventure, Action, Performance with Skill, Variety, Fraternal Relationships. **Abilities/Roles/Skills:** Player or Performer, Crisis Manager, Perform, Adapt, Promote, Contextual-Thinker, Variation, Tactics, Troubleshooter/Negotiator, Operator or Maneuverer. **Behaviors:** Impact-Centered, Colloquial Language, Storytelling, Cynical, Improvising, Risk-Taking, Fast-Reacting, Present-Oriented, Impulsive, Entertaining, Restless, Spontaneous, Epicurean, Seizing Opportunities.

Descriptions of the Eight Preferences

As previously stated, the eight preferences of personality type have unique and distinctive vocabulary associated with each. This section will examine the characteristics associated with the six individual preferences which, when combined, form temperament, and then will examine the characteristics of the four temperaments which result from the combination.

Intuition (N). People who prefer intuition (N) are characterized as liking to take in information by seeing the big picture. They tend to be imaginative, abstract, and theoretical. They readily see meanings and patterns in facts which other people do not (Myers, 1993). They are oriented to the future, always looking toward future possibilities and asking, "What if?" Intuitives need to see the grand strategy and then they will figure out the details. They tend not to be bound by structure and will get involved at any stage of a project. They do not need information step-by-step because they can recognize the patterns in the facts and can piece the big picture together at any step in the process. They do not trust experience but trust their own inner feelings and inspiration. They do not care if their ideas have ever been tried before. They have a "let's try it and see what happens" attitude.

In work situations, Myers and McCaulley (1985) describe intuitives as liking to solve new problems. They claim intuitives (N) dislike repetition and would rather learn a new skill more than apply that skill. They also say intuitives (N) work in bursts of energy, are enthusiastic, are able to reach conclusions quickly, and are impatient with

routine details. Intuitives (N) can be patient with complicated situations, but dislike taking time for precision. Intuitives (N) follow their inspirations, good or bad, frequently make errors of fact, and often overexaggerate.

Sensing (S). People who are identified as sensing (S) are characterized as preferring to take in information through the senses. They value practicality and focus on what is real and actual. They like information which is concrete and factual, and they are especially good at noticing the details of a situation. They observe, remember, and want information step-by-step and sequential. They are present-oriented. They put a great deal of trust in experience. If they or someone else have done it before, okay. If it has never been done before, sensing people are leery about forging into uncharted territory (Myers, 1993).

In work situations, Myers and McCaulley (1985) describe sensing (S) individuals as disliking new problems unless there are standard ways to solve them. Sensors (S) especially enjoy an established order of doing things, sequential processes, and arrive at conclusions by using step-by-step processes. Sensors (S) would rather use established skills rather learn new skills. They work steadily, are patient with routine details and are realistic about how long it will take to complete a task. Myers and McCaulley (1985) portray sensors (S) as not often inspired, and rarely trusting inspiration. They seldom make errors of fact and tend to be good at precise work.

Feeling (F). People who prefer feeling in decision making like to make decisions based on person-centered values. They tend to make empathetic decisions. They ask

questions such as, "If I do this, how will I feel tomorrow?" or, "If that were me, how would I feel?" or, "How is this going to affect their family?" They want to make decisions by applying their personal values and nearly always err on the side of the individual. Their goal is validation of the individual. They tend to be sympathetic and to assess the impact of their decisions on people. They are tender-hearted, are guided by personal values, are compassionate and accepting, and strive for harmony (Myers, 1993).

In work situations, Myers and McCaulley (1985) claim that people who prefer feeling (F) tend to be very aware of other people and their feelings. They like harmony and enjoy pleasing people. They often let their personal feelings influence their decisions. Feelers (F) need harmony and dislike telling people unpleasant things, and their work efficiency may be badly disrupted by office feuds. They tend to be sympathetic and need occasional praise. Feelers (F) are profoundly people oriented and respond readily to other people's values.

Thinking (T). People who prefer thinking (T) want to make decisions by looking at the logical consequences of a choice or action. Thinking (T) people like to try to remove themselves from a choice or decision. They ask, "What are the facts?" or "What is the rule and consequence?" They divorce their personal feelings from a choice or action. They strive for the impersonal objective truth. They trust their problem-solving abilities. They tend to be analytical, logical problem-solvers. They use cause and effect reasoning, can be tough-minded, and are reasonable and fair (Myers, 1993).

In work situations, Myers and McCaulley (1985) describe thinkers (T) as not readily showing emotion and as being uncomfortable dealing with other people's feelings. They prefer analysis and logic and make decisions impersonally. Thinkers (T) can get along without harmony and often hurt people's feelings without realizing it; consequently, they can reprimand or fire people when necessary. They are firm-minded and need to be treated fairly. Because they tend to be more analytic, they respond more readily to people's thoughts than their to feelings or values.

Judging (J). People who are judging (J) like to live life in a planned, orderly way. They want to regulate and control life. Judging (J) people like to make decisions expeditiously and have things settled. Finishing one project before starting an new one is important to them. They like to make and follow schedules. People who prefer judging (J) tend to be organized, scheduled, systematic, and methodical. They like to have closure--no loose ends. They plan well and, thus, avoid last-minute stresses (Myers, 1993).

In work situations, Myers and McCaulley (1985) declare that judgers (J) work best when they can plan their work and follow the plan. They enjoy having things settled and like making decisions quickly, but sometimes they may decide things too quickly. They tend to focus on one project at a time and dislike interruptions, even if a higher priority project comes along. They want only the essentials needed to begin their work and may not notice new things that need to be done. Once they make a decision, they are satisfied with the decision and do not dwell on the issue or readily reconsider.

Perceiving (P). People who are perceiving (P) like to live life in a flexible, spontaneous way. They want to experience and understand life rather than control it. They do not like making plans and decisions. If they decide too early, then they are locked into a commitment which they may not be able to extract themselves from even if a better option presents itself. They have to trust their resourcefulness and their ability to adapt to the demands of on-the-spot situations because they seldom plan ahead. They tend to be open-ended, spontaneous, casual, flexible, and adaptable. They like changing situations and are motivated by last-minute pressures. They need last minute deadlines to apply the pressure necessary to complete the task (Myers, 1993).

In work situations, Myers and McCaulley (1985) describe perceivers (P) as adapting well to changing situations. They do not mind leaving projects to be finished later, may have too many projects started at the same time, and may have difficulty finishing some projects. They do not like making decisions and may delay unpleasant decisions and/or jobs. Perceivers (P) tend to be curious and readily welcome new ideas and change.

Descriptions of the Four Temperament

Combinations of the six preferences cited above create four temperaments: intuitive feelers (NF), intuitive thinkers (NT), sensing judgers (SJ), and sensing perceivers (SP). Just as the individual preferences have distinct characteristics, so also do temperaments.

Intuitive Feelers (NF). Intuitive feelers (NF) are often called idealists, catalysts, spokespersons, and energizers. They need meaning and significance in their lives. They want to be unique. They value ethics, morality, integrity and authenticity. Personal relationships and unity are important to them. Their abilities and skills allow them to assume the roles of advocates, proponents, and mentors. They tend to be romantic idealists. Their communication style is diplomatic, metaphorical, and global. Their behavior is relationship centered, empathic, inspiring, warm-hearted, harmonious, and spiritual (Beren & Fairhurst, 1993). Intuitive feelers (NF) work by interacting with others utilizing their values and inspirations. They contribute personal or special vision of future possibilities to the organization (Hirsh & Kummerow, 1990). According to Giovannoni, Berens, and Cooper (1990), intuitive feelers (NF) are stressed by situations which are impersonal, insincere, and aloof. They can suffer alienation in situations where their needs for relationships, significance, and esteem are not met. They are most comfortable in circumstances where they are able to express and receive positive regard, validation and support. At work, they promote personal growth and are best used in situations where they can use their promoting and training abilities. They lead by giving praise, and as educators, use group participation and discussion. They are big-picture oriented, relationship-centered, and first ask, "Who?" Their greatest need is authenticity.

Keirsey and Bates (1974) offer several possible weaknesses of the intuitive feeler (NF). One is that they make administrative decisions based upon personal feelings instead of the actual facts. Because they are so relationship-centered, they try to please

all the people all the time. They may avoid unpleasant situations and try to avoid facing difficult responsibilities, especially those dealing with people. Another weakness is that they work in bursts of energy and take on more than they can handle. They often cannot sustain the requisite energy in critical times to see a task through to completion.

Intuitive Thinkers (NT). Intuitive thinkers (NT) are often called visionaries, architects of systems, builders, and rationals. They need mastery, self-control, knowledge, and competence. They value theories, intelligence, scientific inquiry, logic, and consistency. Their abilities and skills allow them to fill roles as inventors, designers, analysts, visionaries, organizers, and directors. Their communication style is precise, cold and logical. Their behavior is knowledge-centered, skeptical, analytical, perfectionistic, and process-centered. Intuitive thinkers (NT) are perpetual learners and highly value competence (Beren & Fairhurst, 1993). Intuitive thinkers (NT) like to work on ideas with ingenuity and logic. They contribute strategy and analyses to the organization. According to Giovannoni, et. al (1990), they are stressed by a fear of incompetence and loss of control. Rigid, dull, and routine environments are offensive to them. They are most comfortable in situations which stimulate them intellectually and allow them control. They often enjoy intellectual criticism. At work they promote efficiency and focus on ideas, systems, and strategies. They can be best used in situations which use their designing and planning abilities. They lead by developing strategies. As educators, they use a lecture style and Socratic questions. They are knowledge centered and, above all, value competence.

Intolerance of subordinates and impatience with routine are possibile weaknesses of intuitive thinkers (NT) identified by Keirsey and Bates (1974). Intuitive thinkers (NT) have an inclination to devalue subordinates who are not as intellectually competent as they are. They often have difficulty with interpersonal transactions because their focus is on the thinking function to the point that they are often unaware of the feelings of others. They tend to expend great energy into the initial creative process of a project, but lose interest after the design is complete. They can be intolerant and impatient with repetition and can feel restless and unfulfilled. They have extremely high standards for themselves and others.

Sensing Judgers (SJ). Sensing judgers (SJ) are called stabilizers, traditionalists, consolidators, and guardians. They need membership and responsibility. They are dutiful. They value rules and regulations, conformity, preservation of social groups, security, hierarchical procedures, and stability. Their abilities and skills allow them to take on roles such as conservators, rule makers, protectors, supervisors, and monitors. Their behavior is authority centered, cautious, meticulous, and dependable. Their communication style uses customary language (Beren & Fairhurst, 1993). The sensing judgers (SJ) work from a sense of responsibility, loyalty and industry. Timely output is their contribution to the organization (Hirsh & Kummerow, 1990). Of all types, they notice the concrete realities and tend to be pessimistic. According to Giovannoni, et. al (1990), they are stressed by situations where disrespect for authority, dereliction, insubordination, and disobedience are common. They function best in situations where

they are given clear directions from authority and can take responsibility for meeting their obligations. At work, sensing judgers (SJ) promote structure and focus on services to people and data monitoring. They work best in situations which can use their administering and serving strengths. They lead by communicating caution. As educators they use lecture and highly structured learning situations. They are authority centered and most highly value belonging.

Keirsey and Bates (1974) listed as possible weaknesses of the sensing judger (SJ) an inclination to make decisions too quickly and an impatience with projects which are filled with complexity and ambiguity. They generally do not respond to change well, especially in fast-moving environments. They can make value judgments about people which can create negative tension-filled work situations. They can be overly pessimistic.

Sensing Perceivers (SP). Sensing perceivers (SP) are called troubleshooters, negotiators, fire fighters, and artisans. They need freedom to act on impulses and the ability to make an impact. They value excitement, stimulation, aesthetics, adventure, and fraternal relationships. They are action oriented. Their abilities and skills often find them in roles such as players, performers, crisis managers, promoters, tacticians, troubleshooters and negotiators. Their behavior is impact-centered, cynical, impulsive, entertaining, and spontaneous. In their communication they are adaptable and use colloquial language. They are able to communicate with people at all levels of an organization or society. They seek opportunities, are improvising, and are risk taking (Beren & Fairhurst, 1993). Sensing perceivers (SP) are action oriented and use

cleverness and timeliness. Their ability to handle unexpected and uncommon crises is their contribution to the organization (Hirsh & Kummerow, 1990). According to Giovannoni, et. al (1990), the sensing perceivers (SP) have a talent for improvisation and a craving for action. Boredom is their chief enemy. Routine, wordiness, abstraction, constraint and lock-step procedure are stressful to them. They are most comfortable in an open environment which allows competition, freedom to act on impulses, and constant change. At work, they promote opportunity and focus on manipulation of data, promotion of objects and entertainment. They are best used in roles where they can produce or perform. They lead by taking charge. As educators they prefer activity and hands-on learning. They are impact-centered and value freedom above all.

Keirsey and Bates (1974) cite that possible weaknesses of the sensing perceivers are an inclination to be impatient with abstractions. They can react negatively to extreme change. They tend to resist structure. Of all the temperaments, the sensing perceivers (SP) are most likely to drop out of formal education. They may have difficulty honoring past commitments and decisions.

A Summary of the Research

As reviewed, a large body of research is available which replicates and enlarges Mintzberg's original work. Replications have been done across numerous disciplines and at various managerial levels. His model has been widely accepted and adapted.

There has been a tremendous amount of research which links type to many aspects of leadership and management. Individual preferences have been linked to

behaviors associated with leadership styles, ascendency to higher-level positions, etc. Research has been completed on various aspects of temperament. Rich descriptions are available, and those descriptions have been empirically shown to be accurate.

However, absent from the literature have been any attempts to link temperament with managerial roles. Walck's (1997) exhaustive literature review of research linking type and leadership yields nothing which ties temperament and competence of managerial roles. Type distributions for community college presidents are unclear and outdated. Roberts (1987) uses a sample of all community college presidents but the size (n = 34) is small and, therefore, not generalizable. Macdaid's, et al. (1995) distribution, though a large sample, is not purely a community college president sample. Their sample includes unspecified administrators from colleges and technical colleges. We are left to assume that this sample includes some community college presidents, and one wonders if this sample is representative of the population of community college presidents. Thus, while large bodies of research exist for both managerial role and type theory, serious gaps remain which link the two.

CHAPTER THREE: RESEARCH METHODOLOGY

Research Design

This research study utilized a cross-sectional design. The data was collected using a mailed survey. Statistical methods were employed from which conclusions were inferred regarding the competence of community college presidents in managerial roles, the relationship of temperament to those managerial roles, and the temperament distribution for community college presidents.

Population and Sample

The target population for this study was the 463 presidents of community colleges whose institutions are members of the American Association of Community Colleges (AACC), and who preside over single, stand-alone campuses of less than 5000 students and answer to a local governing board. The AACC definition of a community college is colleges who award primarily the Associate Degree and are regionally accredited. A randomly selected sample of 300 community college presidents was selected from this population and invited to participate in the study. Homogeneous sampling techniques make it possible to select a sample of similar cases (Gall, Borg, & Gall, 1996) and control for variables of institutional size and governance. Limiting these variables allows more confidence in the results of the data related to the variables this study is attempting to measure, namely, temperament and competence in managerial roles.

A list of 545 college presidents who presided over single, stand-alone campuses of 5000 students or less was obtained from the AACC membership database. This list

represented all 50 states as well as Puerto Rico and the Eastern Caroline Islands. According to information received from the Association of Community College Trustees (ACCT), community colleges in eleven states do not have local governing boards, therefore colleges from those states were eliminated. The eleven states eliminated were: Alabama, Connecticut, Delaware, Hawaii, Maine, Minnesota, New Hampshire, Rhode Island, South Dakota, Tennessee, and Vermont. In addition, only community colleges located on Indian reservations in the state of North Dakota have local governing boards; all other community colleges within the state do not have local governing boards. Consequently, community colleges from North Dakota located on reservations were retained in the study and all others were eliminated. This process yielded a population of 463 presidents from thirty-nine states, Puerto Rico and the Eastern Caroline Islands who presided over institutions which met the study criteria.

The sample of 300 presidents invited to participate in the study was chosen using a random number table (Rand Corporation, 1955, pp. 99-100). The random number table contains twenty columns of random five digit numbers. Numbers were chosen beginning at the top of column one moving down to the bottom of column one, then proceeding to the top of column two and in a like manner moving through each successive column on the table. The first three digits of the five-digit numbers were used the first time through the table. If the first three digits matched the file number for a president from the population database, then that president was selected as a sample subject. If the first three digits were greater than 463 or if the number repeated itself, then those numbers

were omitted and the next number was considered. Once all the numbers on the table were expended, the procedure was repeated but the last three digits of the five digit number was used. This method allowed a random sample of 300 presidents to be chosen from the 463 presidents of the population.

Instrumentation

The instruments used for this study were:

1. Situational Temperament Sorter (STS). A copy of the STS is in Appendix A. The STS was designed by Baker (1999) and has been primarily used in a higher education settings. It was first copyrighted in 1992. The instrument has undergone several revisions, the latest of which was 1999. The STS measures preference on each of the four MBTI scales:

Table 3.1

Split-Half Reliability (Friedman 1995).

Demo	E-I		S-N		T-F		J-P	
	MBTI	STS	MBTI	STS	MBTI	STS	MBTI	STS
Male N=123	0.81	0.83	0.87	0.81	0.86	0.83	0.80	0.82
Female N=184	0.82	0.82	0.87	0.84	0.83	0.80	0.84	0.83

extravert/intravert, sensing/intuitive, thinking/feeling, and, judging/perceiving. The STS categorizes each subject into one of the four temperament types. The STS, unlike the traditional MBTI, uses a magnitude scaling technique as opposed to a forced-choice method. Psychometric testing on the instrument was performed by Baker (1993) during

the time period from 1988 to 1993. The sample for this testing was 307 master's degree students enrolled in the Central Michigan University Canadian program. The STS has split-half reliability correlations which are .80 or higher when correlated to the MBTI. The test-retest reliability correlations are .67 or higher when correlated to the MBTI. Table 3.1 shows Split-Half Reliability of the STS and the MBTI. Table 3.2 shows Test-Retest Reliability of the STS and the MBTI. These correlations demonstrate that the STS is as reliable as the MBTI. As established by the literature in Chapter Two, the MBTI has been exhaustively subjected to rigorous research during its twenty-year construction and especially since its release for public use in the mid-1960s. The most

Table 3.2

Test-Retest Reliability (Friedman 1995).

Demo	E-I		S-N		T-F		J-P	
	MBTI	STS	MBTI	STS	MBTI	STS	MBTI	STS
Male N=33	0.80	0.76	0.69	0.73	0.73	0.67	0.73	0.69
Female N=70	0.83	0.75	0.78	0.81	0.77	0.73	0.81	0.79

recent changes to the STS are the results of Campbell's (1999) study in which a factor analysis was performed as a test for validity, defined as the usefulness and appropriateness of inferences made from tests (Gall, Borg, & Gall, 1996). Gall, Borg, and Gall (1996) define correlational coefficients as the mathematical expression of both the direction and magnitude of the relationship between two variables. The factor analysis performed by Campbell (1999) identified all scales measured in the STS. Table

3.3 demonstrates the results of Campbell's (1999) factor analysis. Only two of the thirty-two items on the instrument did not have matching correlational coefficients. Both of these items were on the E-I scale which has no effect on temperament since that scale is not used to determine temperament. One item on the S-N scale appears to have been reversed. Based on his research, Campbell (1999) concluded that the STS does identify

Table 3.3

Factor Analysis Intercorrelational Scores for STS Scales (Campbell 1999).

Items & Coef. Scores	E Scale	I Scale	S Scale	N Scale	T Scale	F Scale	J Scale	F Scale
Item	2b	2a	4b	4a	1a	1b	3a	3b
Score	0.34	-0.11	-0.42	0.42	0.64	-0.64	0.75	-0.75
Item	5b	5a	9a	9b	7a	7b	6a	6b
Score	0.82	-0.82	-0.59	0.59	0.74	-0.74	0.78	-0.78
Item	8a	8b	11b	11a	13a	13b	10a	10b
Score	0.61	-0.61	-0.85	0.85	0.68	-0.68	0.54	-0.54
Item	15a	15b	12a	12b	16b	16a	14a	14b
Score	0.49	-0.49	-0.75	0.75	0.73	-0.73	0.38	-0.38
Item	19a	19b	17b	17a	22a	22b	18b	18a
Score	0.54	-0.54	-0.80	0.80	0.49	-0.49	0.26	-0.26
Item	21a	21b	25a	25b	24b	24a	20b	20a
Score	0.81	-0.81	-0.44	0.44	0.32	-0.32	0.32	-0.32
Item	29b	29a	30a	30b	27a	27b	23b	23a
Score	-0.09	0.09	0.82	-0.82	0.57	-0.57	0.25	-0.25
Item	32a	32b	31a	31b	28a	28b	26a	26b
Score	0.75	-0.75	-0.62	0.62	0.66	-0.66	0.68	-0.68

both psychological types and temperament and "...is an appropriate tool for research utilizing psychological type, temperament type, and preference type identification and/or

the measurements of their strengths (p. 133)." Baker's (1999) revision of the STS has incorporated Campbell's (1999) recommendations, which has made the Fourth Edition even more reliable and valid than the 1992 Third Edition used by Campbell (1999), Calvert (1998), and Friedman (1995). The STS was chosen for this study because it has been shown to be a reliable instrument, and because it can determine temperament for the sample by having subjects respond to thirty-two questions as opposed to one hundred twenty-six for the MBTI (Form G). It is felt that the shorter instrument would be an advantage in increasing the return rate for the two instruments, especially when considered with the demographic information which the subjects will be asked to provide.

2. Leadership Competencies Assessment Instrument, Part I (LCAI). A copy of the LCAI is in Appendix B. To measure the level of competence of managerial roles, Part I of the LCAI was used as a survey instrument. The LCAI is an instrument also designed by Baker (1999). It is theoretically based upon the work of Mintzberg (1973) and Drucker (1967). Its purpose is to guide leadership development programs for community college administrators. The LCAI has undergone several revisions and now is in its fourth edition, copyrighted in 1999. The LCAI lists questions in which individuals rate their current competencies in managerial roles, leadership values, and leadership skills. Part I of the LCAI allows individuals to self-rate themselves utilizing a seven-point Likert-type scale (7 = high; 1 = low) on the twelve managerial roles. For this study, the Likert scale was modified to a five-point scale (5=high; 1=low) to accommodate for the use of a standard NCS Scoring Sheet. Part I is heavily based on

Mintzberg's work, as modified by Baker. As discussed in Chapter Two, Mintzberg identified ten roles; Baker expanded those roles by two to respond to the development of transformational leadership theories. Research in a community college setting was achieved by Thompson (1981), Ludwig (1986), Doty (1995), and Chen (1996). Baker also renamed the three categories and reorganized the roles within those categories based upon their work. Baker labeled the three managerial categories as leadership, informational, and decisional. Embedded throughout these three categories were the twelve managerial roles. Baker's managerial roles are: visionary, task giver, motivator, ambassador, liaison, monitor, advocate, change agent, disturbance handler, resource allocator and negotiator. Figure 1.3 shows the three managerial categories and each of the twelve roles. The LCAI allowed the community college presidents in this study to rate their present competence on each of the twelve managerial roles to be examined. Part I of the LCAI was chosen because it clearly lays out and defines each of Baker's managerial roles. Frankfort-Nachmias & Nachmias (1992) indicate that validity evidence is often non-existent, and one has to evaluate an instrument by other characteristics and assume its validity. The LCAI Part I has extremely high face validity, it closely mirrors Mintzberg's groundbreaking work on managerial roles, and, as demonstrated in chapter two, it closely compares to Yukl's (1989) integrating taxonomy which was the result of a meta-analysis of research on managerial roles.

Data Collection

Data collection was achieved through mailed surveys. Gall, Borg and Gall (1996) indicate that precontacting subjects will improve the response rate for mailed surveys. Therefore, the 300 randomly selected presidents were sent letters (see Appendix C) explaining the nature of the research and were invited and encouraged to participate. Presidents who indicated a willingness to participate in the study were sent an initial mailing consisting of a letter of instruction (see Appendix D), the two survey instruments (STS and LCAI), and a prepaid return mailer. Follow-up letters and additional surveys were mailed to nonrespondents three weeks after the initial mailing. Six weeks after the initial mailing, a final letter and surveys were sent via registered mail to the nonrespondents. Research indicates that four or more follow-ups do not significantly increase the return rate over three follow-ups (Gall, Borg, & Gall, 1996).

Data Analysis

Research Question One and Related Hypothesis. Do these community college presidents, as a group, rate themselves as more competent in some of the twelve managerial roles and less competent in others?

H_o^1: For the randomly selected presidents, there is no significant difference in the mean scores of all twelve managerial roles when the presidents are grouped as the total sample.

The analysis for this question utilized sixty-six separate t-tests. In SAS, all sixty-six pairwise differences were computed using the PROC UNIVARIATE function

which automatically yields a paired t-test p-value. It was determined at the beginning of this study that the null hypothesis would be rejected at the $p<.05$ level of significance. Because there are sixty-six t-tests, one must compare the p-value to .05 / 66 = .00076. If the p-value for a pair is less than .00076, then one can be assured that the means are different for that pair and the null hypothesis can be rejected. The means of the variables were rank-ordered and comparisons made.

Research Question Two and Related Hypothesis. Do these community college presidents, as a group, rate themselves as more competent in some of the three managerial categories and less competent in others?

H_o^2: For the randomly selected presidents, there is no significant difference in the mean scores of all three managerial categories when the presidents are grouped as the total sample.

The analysis for this question utilized three separate t-tests. In SAS, all three pairwise differences were computed using the PROC UNIVARIATE function which automatically yields a paired t-test p-value. It was determined at the beginning of this study that the null hypothesis would be rejected at the $p<.05$ level of significance. Because there are three t-tests, one must compare the p-value to .05 / 3 = .016. If the p-value for a pair is less than .016, then one can be assured that the means are different for that pair and the null hypothesis can be rejected. The means of the variables were rank-ordered and comparisons made between the variables.

Research Question Three and Related Hypothesis. For this sample of community college presidents, does one temperament type rate themselves as more competent than the other temperament types on each of the twelve managerial roles?

H_o^3: For the randomly selected presidents, there is no significant difference in the mean scores of the four temperaments on each of the twelve managerial roles.

H_o^{3a}: There is no significant difference in the mean scores of the four temperaments on the **visionary role**.

H_o^{3b}: There is no significant difference in the mean scores of the four temperaments on the **task giver role**.

H_o^{3c}: There is no significant difference in the mean scores of the four temperaments on the **motivator role**.

H_o^{3d}: There is no significant difference in the mean scores of the four temperaments on the **ambassador role**.

H_o^{3e}: There is no significant difference in the mean scores of the four temperaments on the **liaison role**.

H_o^{3f}: There is no significant difference in the mean scores of the four temperaments on the **monitor role**.

H_o^{3g}: There is no significant difference in the mean scores of the four temperaments on the **disseminator role**.

H_o^{3h}: There is no significant difference in the mean scores of the four temperaments on the **advocate role**.

H_o^{3i}: There is no significant difference in the mean scores of the four temperaments on the **change agent role.**

H_o^{3j}: There is no significant difference in the mean scores of the four temperaments on the **disturbance handler role**.

H_o^{3k}: There is no significant difference in the mean scores of the four temperaments on the **resource allocator role**.

H_o^{3l}: There is no significant difference in the mean scores of the four temperaments on the **negotiator role**.

The analyses for this question utilized an analysis of variance (ANOVA). Separate calculations were prepared for each of the twelve managerial roles. These analyses allowed us to determine if a statistically significant difference exists between the means of the temperaments on each of the managerial roles. If the F-statistic or p-value indicated that significant differences did exist between the means of the temperaments, and the null hypothesis was rejected, then follow-up manipulations, known as multiple comparison tests or post hoc tests, were applied by SAS to determine which temperament means are significantly different from the others. It was determined at the beginning of this study that the null hypothesis would be rejected at the $p<.05$ level of significance.

Research Question Four and Related Hypothesis. For this sample of community college presidents, does one temperament type rate themselves as more competent than the other temperament types on each of the three managerial categories?

H_o^4: For the randomly selected presidents, there is no significant difference in the mean scores of the four temperaments on each of the three managerial categories.

H_o^{4a}: There is no significant difference in the mean scores of the four temperaments on the **leadership category**.

H_o^{4b}: There is no significant difference in the mean scores of the four temperaments on the **informational category**.

H_o^{4c}: There is no significant difference in the mean scores of the four temperaments on the **decisional category**.

The analyses for this question utilized an analysis of variance (ANOVA). Separate calculations were prepared for each of the three managerial categories. These analyses allowed us to determine if a statistically significant difference exists between the means of the temperaments on each of the managerial categories. If the F-statistic or p-value indicated that significant differences did exist between the means of the temperaments, and the null hypothesis was rejected, then follow-up manipulations, known as multiple comparison tests or post hoc tests, were applied by SAS to determine which temperament means are significantly different from the others. It was determined at the beginning of this study that the null hypothesis would be rejected at the $p<.05$ level of significance.

Research Question Five and Related Hypothesis. For this sample of community college presidents, do some community college presidents, when grouped by the four

temperaments, rate themselves as more competent in some of the twelve managerial roles and less competent in others?

H_o^5: For the randomly selected presidents, there is no significant difference in the mean score of any individual managerial role, when the presidents are grouped by temperament.

H_o^{5a}: There is no significant difference in the mean scores of the **NF presidents** on the twelve managerial roles.

H_o^{5b}: There is no significant difference in the mean scores of the **NT presidents** on the twelve managerial roles.

H_o^{5c}: There is no significant difference in the mean scores of the **SJ presidents** on the twelve managerial roles.

H_o^{5d}: There is no significant difference in the mean scores of the **SP presidents** on the twelve managerial roles.

The analysis for this question utilized sixty-six separate t-tests for each of the temperaments in the twelve managerial roles. In SAS, all sixty-six pairwise differences were computed using the PROC UNIVARIATE function which automatically yields a paired t-test p-value. It was determined at the beginning of this study that the null hypothesis would be rejected at the $p<.05$ level of significance. Because there are sixty-six t-tests, then one must compare the p-value to $.05 / 66 = .00076$. If the p-value for a pair is less than .00076, then one can be assured that the means are different for that

pair and the null hypothesis can be rejected. The means of the variables were rank-ordered and comparisons made.

Research Question Six and Related Hypothesis. For this sample of community college presidents, do some community college presidents, when grouped by the four temperaments, rate themselves as more competent in some of the three managerial categories and less competent in others?

H_o^6: For the randomly selected presidents, there is no significant difference in the mean score of any individual managerial category, when the presidents are grouped by temperament.

H_o^{6a}: There is no significant difference in the mean scores of the **NF presidents** on the three managerial categories.

H_o^{6b}: There is no significant difference in the mean scores of the **NT presidents** on the three managerial categories.

H_o^{6c}: There is no significant difference in the mean scores of the **SJ presidents** on the three managerial categories.

H_o^{6d}: There is no significant difference in the mean scores of the **SP presidents** on the three managerial categories.

The analysis for this question utilized three separate t-tests for each of the temperaments in the three managerial categories. In SAS, all three pairwise differences were computed using the PROC UNIVARIATE function which automatically yields a paired t-test p-value. It was determined at the beginning of this study that the null

hypothesis would be rejected at the $p<.05$ level of significance. Because there are three t-tests, one must compare the p-value to $.05 / 3 = .016$. If the p-value for a pair is less than .016, then one can be assured that the means are different for that pair and the null hypothesis can be rejected. The means of the variables were rank-ordered and comparisons made between the variables.

Research Question Seven and Related Hypotheses. Will this sample of community college presidents confirm the distributions for temperament suggested by Roberts' (1987) and Macdaid's, et al. (1991) works?

H_o^7: There is no significant difference in the temperament distribution of this sample of community college presidents and the distribution of community college presidents found in Roberts' (1987) study.

H_o^8: There is no significant difference in the temperament distribution of this sample of community college presidents and the distribution of administrators from colleges and technical institutes found in Macdaid's et al. (1991) Atlas of Type Tables.

The analyses for these questions utilized the two group Chi-square test for homogeneity. These analyses allowed one to determine if the distributions proposed by Roberts (1987) and Macdaid et al. (1991) match the distribution found in this sample. It was determined at the beginning of this study that the null hypothesis would be rejected at the $p<.05$ level of significance.

Limitations and Delimitations

According to Babbie (1995) the weaknesses of the survey method of study are: (a) that standardized surveys are sometimes superficial -- they do not always get to the root of the problem one is trying to assess; (b) they do not allow for follow-up as an interview method might; (c) they may be inflexible and may not be easily modified once designed and distributed; and (d) survey research is generally weak on validity due to artificiality -- they can only collect data by self-reports of past action or hypothetical future action.

This study has several limitations. Two limitations of this study are that the LCAI is subject to both artificiality and response set. Gall, Borg, and Gall (1996) define response set as individuals responding to survey questions with a predisposition rather than a true response. Response set can bias or skew the data. The LCAI asks subjects to rate their level of competence on the twelve managerial roles. Essentially, what the researcher receives is the subjects' perception of their competence which may, or may not, be based on reality. This perception may be under- or overinflated depending on the individual. Another limitation of the study may be that the researcher has no control over who responds to the survey and the response rate. Although the survey may have been random when it was mailed, the response to the survey may not have been random. This lack of control may introduce unknown variables into the study which may skew the results unintentionally.

Summary of Research Methodology

This chapter has specifically outlined the methodology employed in this study. The target population and sampling methods were described. Instruments to be employed to capture the data were reported. Research questions with their corresponding null hypotheses were presented, as well as the statistical methods employed to aid in understanding the significance of the data. And finally, some of the limitations and delimitations of this study were discussed.

CHAPTER FOUR: RESULTS

This chapter reports the results of the data collected in this study and their analyses. Survey response rates and descriptive data which demonstrate the representiveness of the sample is provided. Demographic data collected from this sample of community college presidents is presented. Finally, the results of the twenty-seven null hypotheses tested in this study are reported.

Response Rate

Data collection was achieved through mailed surveys. Gall, Borg and Gall (1996) indicate that precontacting subjects will improve the response rate for mailed surveys. Therefore, the 300 randomly selected presidents were sent letters (see Appendix C) explaining the nature of the research and were invited and encouraged to participate. 142 presidents indicated a willingness to participate in the study and were sent an initial mailing consisting of a letter of instruction (see Appendix D), the two survey instruments (STS and LCAI), and a prepaid return mailer. Eighty-eight subjects responded to the initial mailing. Fifty-four follow-up letters and additional surveys were mailed to nonrespondents three weeks after the initial mailing. Thirty-one subjects responded to the second mailing. Six weeks after the initial mailing, a final letter and surveys were sent via registered mail to the remaining twenty-nine nonrespondents. Research indicates that four or more follow-ups do not significantly increase the return rate over three follow-ups (Gall, Borg, & Gall, 1996). Five subjects responded to the final mailing

for a total of 124 responses from the 142 subjects who agreed to participate in the study. This represents an 87% (124/142) response rate for the study. Of the 124 returned

Table 4.1

Survey Response Rate Summary.

	Number Mailed	Number Returned	Percentage
Initial Mailing	142	88	62%
1st Follow-up Mailing	54	31	57%
2nd Follow-up Mailing	29	5	17%
Total	225	124	55%
Unusable Surveys = 5; Total Usable Surveys= 119 **Total Response Rate = 124 / 142 = 87%**			

surveys, five were unusable because they were not filled out completely. This process yielded 119 usable surveys from thirty-two states from which data analysis could be performed. Table 4.1 summarizes the survey response rate.

The population for this study was 463 college presidents. The random sample of 300 presidents represented 64.7% (300 / 463) of the population. The 142 presidents who agreed to participate in the study represented 30.6% (142 / 463) of the population and 47.3% (142 /300) of the random sample. The 119 usable surveys for this study represented 25.7% (119 / 463) of the population and 39.6% (119 / 300) of the random sample.

Demographics

This section will report the demographic data collected from study participants. There were six demographic questions asked in this study. These six questions provided information on: gender, age, race, years in current position, total years as a college president, and highest degree earned. The purpose for asking these questions was to get a better description of who the participants were and how representative they were of the study population and of the total population of community college presidents. Overall, of the 119 presidents who responded:

- 28.57% (34) were intuitive feelers (NF)
- 35.29% (42) were intuitive thinkers (NT)
- 30.25% (36) were sensing judgers (SJ), and
- 5.88% (7) were sensing perceivers (SP).

When gender was examined, results showed that of the 119 respondents, 82.35% (98) were male and 17.65% (21) were female. When temperament and gender were considered together:

- of the 34 intuitive feelers (NF), 88.24% (30) were male and 11.76% (4) were female
- of the 42 intuitive thinkers (NT), 76.19% (32) were male and 11.76% (10) were female
- of the 36 sensing judgers (SJ), 26.05% (31) were male and 4.20% (5) were female, and

- of the 7 sensing perceivers (SP), 71.43% (5) were male and 28.57% (2) were female.

Table 4.2 provides a more detailed breakdown of the data as they relate to gender. Significant to note is that nearly half (10 of 21) female presidents in this study are intuitive thinkers (NT).

There were five age groupings on the survey. Those age groupings were: 61 years and above, 60-55 years, 54-49 years, 48-43 years, and, 42 years and below. For this

Table 4.2

Temperament and Gender.

Frequency Percent Row Pct Column PCT	Male	Female	Total
NF	30 25.21 88.24 30.61	4 3.36 11.76 19.05	34 28.57
NT	32 26.89 76.19 32.65	10 8.40 23.81 47.62	42 35.29
SJ	31 26.05 86.11 31.63	5 4.20 13.89 23.81	36 30.25
SP	5 4.20 71.43 5.10	2 1.68 28.57 9.52	7 5.88
Total	98 82.35	21 17.65	119 100.00

question, one respondent, an Intuitive Thinker (NT), did not reveal his/her age, therefore there were 118 responses. Of the 118 respondents:

- 67.8% (80) were in the two oldest categories reporting themselves as being fifty-five years of age or older
- 1.69% (2) respondents reported that they were in the youngest category of 42 years of age or younger.

Table 4.3

Temperament and Age.

Frequency Percent Row Pct Column Pct	61 and over	60-55	54-49	48-43	42 and under	Total
NF	6 5.08 17.65 22.22	15 12.7 44.12 28.30	7 5.93 20.59 30.43	5 4.24 14.71 38.46	1 0.85 2.94 50.00	34 28.81
NT	11 9.32 26.83 40.74	16 13.56 39.02 30.19	9 7.63 21.95 39.13	4 3.39 9.76 30.77	1 0.85 2.44 50.00	41 34.75
SJ	7 5.93 19.44 25.93	19 16.10 52.78 35.85	6 5.08 16.67 26.09	4 3.39 11.11 30.77	0 0.00 0.00 0.00	36 30.51
SP	3 2.54 42.86 11.11	3 2.54 42.86 5.66	1 0.85 14.29 4.35	0 0.00 0.00 0.00	0 0.00 0.00 0.00	7 5.93
Total	27 22.88	53 44.92	23 19.49	13 11.02	2 1.69	118 100.00

Both of the respondents who reported their age as 42 years or younger were Intuitives:

one an intuitive feeler (NF) and one an intuitive thinker (NT). Table 4.3 provides a more detailed presentation of the data collected regarding temperament and age.

Data collected on race grouped respondents under five categories. Those categories were: Black, White, Hispanic, Asian, and Other. Reported data show that of

Table 4.4

Temperament and Race.

Frequency Percent Row Pct Column Pct	Black	White	Hispanic	Other	Total
NF	1 0.84 2.94 50.00	32 26.89 94.12 30.19	0 0.00 0.00 0.00	1 0.84 2.94 33.33	34 28.57
NT	0 0.00 0.00 0.00	39 32.77 92.86 36.79	3 2.52 7.14 37.50	0 0.00 0.00 0.00	42 35.29
SJ	1 0.84 2.78 50.00	31 26.05 86.11 29.25	3 2.52 8.33 37.50	1 0.84 2.78 33.33	36 30.25
SP	0 0.00 0.00 0.00	4 3.36 57.14 3.77	2 1.68 28.57 25.00	1 0.84 14.29 33.33	7 5.88
Total	2 1.68	106 89.08	8 6.72	3 2.52	119 100.00

the 119 community college presidents who participated in this study:

- 89% (106) were White
- 6.72% (8) were Hispanic

- 2.53% (3) were Other, and
- 1.68% (2) were Black.

No respondents reported themselves as Asian. A more detailed presentation on the data collected on temperament and race is provided in Table 4.4.

The question regarding years in current position grouped the respondents into four categories. Those categories were: 10 years and above, 9-7 years, 6-4 years, and, 3 years

Table 4.5

Temperament and Years in Current Position.

Frequency Percent Row Pct Column Pct	10 or more years	9-7 years	6-4 years	3 or less years	Total
NF	10 8.4 29.41 25.00	4 3.36 11.76 28.57	7 5.88 20.59 30.43	13 10.92 38.24 30.95	34 28.57
NT	13 10.92 30.95 32.50	5 4.20 11.90 35.71	10 8.40 23.81 43.48	14 11.76 33.33 33.33	42 30.29
SJ	14 11.76 38.89 35.00	4 3.36 11.11 28.57	5 4.20 13.89 21.74	13 10.92 36.11 30.95	36 30.25
SP	3 2.52 42.86 7.50	1 0.84 14.29 7.14	1 0.84 14.29 4.35	2 1.68 28.57 4.76	7 5.88
Total	40 33.61	14 11.76	23 19.33	42 35.29	119 100.00

and less. Reported data show that of the 119 community college presidents who responded to the study:

- 33.61% (40) had been in their current position 10 years or more
- 11.76% (14) had been in their current position 9-7 years
- 19.33% (23) had been in their current position 6-4 years, and
- 35.29% (42) had been in their current position 3 years or less.

Table 4.5 provides a more detailed description of the data regarding temperament and years in current position of these college presidents.

The question regarding total years as a college president used the same categories as the question regarding years in current position. Those categories were: 10 years and above, 9-7 years, 6-4 years, and, 3 years and less. Reported data show that of the 119 community college presidents who responded to the study:

- 46.22% (55) had served 10 years or more as a college president
- 10.92% (13) had served 9-7 years as a college president
- 15.13% (18) had served 6-4 years as a college president, and
- 27.73% (33) had served 3 years or less as a college president.

Table 4.6 provides a more detailed description of the data regarding temperament and total years as a college president.

The final demographic question asked the study population to report the highest educational degree they had earned. The response categories were: doctorate, masters,

baccalaureate, and other. Of the 119 community college presidents who responded to this study, reported data show:

- 90.76% (108) have earned a doctoral degree, and
- 9.24% (11) have earned a master's degree.

No respondents reported a baccalaureate or other degree as the highest degree earned. Table 4.7 provides a more detailed presentation on the data regarding temperament and highest degree earned.

Table 4.6

Temperament and Total Years Served as a President.

Frequency Percent Row Pct Column Pct	10 or more years	9-7 years	6-4 years	3 or less years	Total
NF	17 14.29 50.00 30.91	4 3.36 11.76 30.77	3 2.52 8.82 16.67	10 8.40 29.41 30.30	34 28.57
NT	17 14.29 40.48 30.91	5 4.20 11.90 38.46	9 7.56 21.43 50.00	11 9.24 26.19 33.33	42 35.29
SJ	17 14.29 47.22 30.91	3 2.52 8.33 23.08	5 4.20 13.89 27.78	11 9.24 30.56 33.33	36 30.25
SP	4 3.36 57.14 7.27	1 0.84 14.29 7.69	1 0.84 14.29 5.56	1 0.84 14.29 3.03	7 5.88
Total	55 46.22	13 10.92	18 15.13	33 27.73	119 100.00

Findings

This study was guided by seven research questions which in turn generated twenty-seven separate null hypotheses. This section will present the research questions and an individual data analysis and summary for each of the twenty-seven hypotheses.

Table 4.7

Temperament and Highest Degree Earned.

Frequency Percent Row Pct Column PCT	Doctoral Degree	Master's Degree	Total
NF	32 26.89 94.12 29.63	2 1.68 5.88 18.18	34 28.57
NT	39 32.77 92.86 36.11	3 2.52 7.14 27.27	42 35.29
SJ	30 25.21 83.33 27.78	6 5.04 16.67 54.55	36 30.25
SP	7 5.88 100.00 6.48	0 0.00 0.00 0.00	7 5.88
Total	108 90.76	11 9.24	119 100.00

Research Question One and Related Hypothesis. Do these community college presidents, as a group, rate themselves as more competent in some of the twelve managerial roles and less competent in others?

H_o^1: For the randomly selected presidents, there is no significant difference in the mean scores of all twelve managerial roles when the presidents are grouped as the total sample.

The analysis for this question utilized sixty-six separate t-tests. In SAS, all sixty-six pairwise differences were computed using the PROC UNIVARIATE function which automatically yields a paired t-test p-value. It was determined at the beginning of this study that the null hypothesis would be rejected at the $p<.05$ level of significance. Because there are sixty-six t-tests, one must compare the p-value to .05 / 66 = .00076. If the p-value for a pair is less than .00076, then one can be assured that the means are different for that pair and the null hypothesis can be rejected. The means of the variables were rank-ordered and comparisons made. Fourteen of the sixty-six t-tests (21%) showed significant differences in the mean scores when the presidents were grouped as the total sample. Table 4.8 summarizes the data from those fourteen t-tests which show significant differences on the managerial roles of this sample of community college presidents. The null hypothesis was rejected.

Research Question Two and Related Hypothesis. Do these community college presidents, as a group, rate themselves as more competent in some of the three managerial categories and less competent in others?

H_o^2: For the randomly selected presidents, there is no significant difference in the mean scores of all three managerial categories when the presidents are grouped as the total sample.

The analysis for this question utilized three separate t-tests. In SAS, all three pairwise differences were computed using the PROC UNIVARIATE function which automatically yields a paired t-test p-value. It was determined at the beginning of this

Table 4.8

Data for the Fourteen t-Tests Which Show Significant Differences in Mean Scores of Community College Presidents in Managerial Roles When Grouped as a Total Sample.

Managerial Roles & Means Tested	DF	t Value	P Value
Visionary (4.31) - Task Giver (4.02)	118	3.74	0.0003*
Visionary (4.31)- Monitor (4.05)	118	3.47	0.0007*
Visionary (4.31)- Disseminator (3.93)	118	4.89	<0.0001*
Visionary (4.31)- Resource Allocator (3.98)	118	4.28	<0.0001*
Visionary (4.31)- Negotiator (4.04)	118	3.67	0.0004*
Ambassador (4.46) -Task Giver (4.02)	118	4.69	<0.0001*
Ambassador (4.46) - Motivator (4.06)	118	4.49	<0.0001*
Ambassador (4.46) - Monitor (4.05)	118	4.2	<0.0001*
Ambassador (4.46) - Disseminator (3.93)	118	5.8	<0.0001*
Ambassador (4.46) - Advocate(4.11)	118	3.93	0.0001*
Ambassador (4.46) - Change Agent (4.11)	118	3.72	0.0003*
Ambassador (4.46) - Distrubance Handler (4.08)	118	4.04	<0.0001*
Ambassador (4.46) - Resource Allocator (3.98)	118	5.28	<0.0001*
Ambassador (4.46) - Negotiator (4.04)	118	4.5	<0.0001*

*Significant at p< .00076
N=119

study that the null hypothesis would be rejected at the $p<.05$ level of significance. Because there are three t-tests, one must compare the p-value to .05 / 3 = .016. If the p-value for a pair is less than .016, then one can be assured that the means are different for that pair and the null hypothesis can be rejected. The means of the variables were rank-ordered and comparisons made between the variables. Two of the three t-tests (66.66%) showed significant differences in the mean scores when the presidents were grouped as the total sample. Table 4.9 summarizes the data from those two t-tests which show significant differences on the managerial categories of this sample of community college presidents. The null hypothesis was rejected.

Table 4.9

Data for the Two t-Tests Which Show Significant Differences in Mean Scores of Community College Presidents in Managerial Categories When Grouped as a Total Sample.

Managerial Categories & Means Tested	DF	t Value	P Value
Leadership (4.21) - Informational (4.03)	118	4.27	<0.00017*
Leadership (4.21) - Decisional (4.05)	118	3.86	0.0002*

*Significant at $p< .016$
N=119

Research Question Three and Related Hypothesis. For this sample of community college presidents, does one temperament type rate themselves as more competent than the other temperament types on each of the twelve managerial roles?

H_o^3: For the randomly selected presidents, there is no significant difference in the mean scores of the four temperaments on each of the twelve managerial roles.

The analyses for this question utilized an analysis of variance (ANOVA). Separate calculations were prepared for each of the twelve managerial roles. These analyses allowed us to determine if a statistically significant difference exists between the means of the temperaments on each of the managerial roles. If the F-statistic or p-value indicated that significant differences did exist between the means of the temperaments, and the null hypothesis was rejected, then follow-up manipulations, known as multiple comparison tests or post hoc tests, were applied by SAS to determine which temperament means are significantly different from the others. It was determined at the beginning of this study that the null hypothesis would be rejected at the $p<.05$ level of significance.

H_o^{3a}: There is no significant difference in the mean scores of the four temperaments on the **visionary role**.

After the aforementioned analysis, it was determined that significant differences did exist between the means of the four temperaments on the visionary role. The null

Table 4.10

Mean Scores of the Four Temperaments on the Visionary Role.

Visionary Role	NF	NT	SJ	SP
Means	4.47	4.38	4.03	4.57
F Value	4.14			
R^2 Value	0.097			
P Value	0.0079*			

*Significant at $p<0.05$

hypothesis was rejected. Post hoc tests indicate that intuitive feelers (NF), intuitive thinkers (NT) and sensing perceivers (SP) all rate themselves higher in competence on

the visionary role than do sensing judgers (SJ). There was no significant difference between intuitive feelers (NF), intuitive thinkers (NT) and sensing perceivers (SP) in the visionary role. Table 4.10 provides a summary of the data.

H_o^{3b}: There is no significant difference in the mean scores of the four temperaments on the **task giver role**.

After the aforementioned analysis, it was determined that no significant differences exist between the means of the four temperaments on the task giver role. The null hypothesis was not rejected. Table 4.11 provides a summary of the data.

Table 4.11

Mean Scores of the Four Temperaments on the Task Giver Role.

Task Giver Role	NF	NT	SJ	SP
Means	3.88	4.1	4.11	3.71
F Value	1.25			
R^2 Value	0.032			
P Value	**0.2942			

**Not significant at $p<0.05$

H_o^{3c}: There is no significant difference in the mean scores of the four temperaments on the **motivator role**.

After the aforementioned analysis, it was determined that significant differences exist between the means of the four temperaments on the motivator role. The null hypothesis was rejected. Post hoc tests indicate that intuitive feelers (NF) rate themselves higher in competence on the motivator role than do sensing judgers (SJ). There were no significant differences between intuitive feelers (NF), intuitive thinkers

(NT), and sensing perceivers (SP) nor between intuitive thinkers (NT), sensing judgers (SJ) and sensing perceivers (SP) in the motivator role. Table 4.12 provides a summary of the data.

Table 4.12

Mean Scores of the Four Temperaments on the Motivator Role.

Motivator Role	NF	NT	SJ	SP
Means	4.27	4.12	3.86	3.71
F Value	2.78			
R^2 Value	0.068			
P Value	0.0440*			

*Significant at $p<0.05$

H_o^{3d}: There is no significant difference in the mean scores of the four temperaments on the **ambassador role**.

After the aforementioned analysis, it was determined that no significant differences did exist between the means of the four temperaments on the ambassador role. The null hypothesis was not rejected. Table 4.13 provides a summary of the data.

Table 4.13

Mean Scores of the Four Temperaments on the Ambassador Role.

Ambassador Role	NF	NT	SJ	SP
Means	4.53	4.36	4.47	4.43
F Value	0.33			
R^2 Value	0.00857			
P Value	**0.8026			

**Not significant at $p<0.05$

H_o^{3e}: There is no significant difference in the mean scores of the four temperaments on the **liaison role**.

After the aforementioned analysis, it was determined that significant differences exist between the means of the four temperaments on the liaison role. The null hypothesis was rejected. Post hoc tests indicate that intuitive feelers (NF) rate

Table 4.14

Mean Scores of the Four Temperaments on the Liaison Role.

Liaison Role	NF	NT	SJ	SP
Means	4.53	4.19	4.03	3.86
F Value	3			
R^2 Value	0.073			
P Value	0.0334*			

*Significant at $p<0.05$

themselves higher in competence on the liaison role than do sensing judgers (SJ) and sensing perceivers (SP). There were no significant differences between intuitive feelers (NF) and intuitive thinkers (NT) nor between intuitive thinkers (NT), sensing judgers (SJ) and sensing perceivers (SP) in the liaison role. Table 4.14 provides a summary of the data.

H_o^{3f}: There is no significant difference in the mean scores of the four temperaments on the **monitor role**.

After the aforementioned analysis, it was determined that no significant differences exist between the means of the four temperaments on the monitor role. The null hypothesis was not rejected. Table 4.15 provides a summary of the data.

Table 4.15

Mean Scores of the Four Temperaments on the Monitor Role.

Monitor Role	NF	NT	SJ	SP
Means	4.06	4.02	4.08	4
F Value	0.07			
R^2 Value	0.001			
P Value	**0.9778			

**Not significant at p<0.05

H_o^{3g}: There is no significant difference in the mean scores of the four temperaments on the **disseminator role**.

After the aforementioned analysis, it was determined that no significant differences exist between the means of the four temperaments on the disseminator role. The null hypothesis was not rejected. Table 4.16 provides a summary of the data.

Table 4.16

Mean Scores of the Four Temperaments on the Disseminator Role.

Disseminator Role	NF	NT	SJ	SP
Means	3.94	3.98	3.89	3.86
F Value	0.12			
R^2 Value	0.003			
P Value	**0.9485			

**Not significant at p<0.05

H_o^{3h}: There is no significant difference in the mean scores of the four temperaments on the **advocate role**.

After the aforementioned analysis, it was determined that significant differences did exist between the means of the four temperaments on the advocate role. The null

Table 4.17

Mean Scores of the Four Temperaments on the Advocate Role.

Advocate Role	NF	NT	SJ	SP
Means	4.26	4.02	4.19	3.43
F Value	2.91			
R^2 Value	0.071			
P Value	0.0374*			

*Significant at $p<0.05$

hypothesis was rejected. Post hoc tests indicate that intuitive feelers (NF), intuitive thinkers (NT) and sensing judgers (SJ) all rate themselves higher in competence on the advocate role than do sensing perceivers (SP). There were no significant differences between intuitive feelers (NF), intuitive thinkers (NT) and sensing judgers (SJ). Table 4.17 provides a summary of the data.

H_o^{3i}: There is no significant difference in the mean scores of the four temperaments on the **change agent role.**

After the aforementioned analysis, it was determined that no significant differences exist between the means of the four temperaments on the change agent role. The null hypothesis was not rejected. Table 4.18 provides a summary of the data.

Table 4.18

Mean Scores of the Four Temperaments on the Change Agent Role.

Visionary Role	NF	NT	SJ	SP
Means	4.12	4.19	4.06	3.86
F Value	0.56			
R^2 Value	0.014			
P Value	**0.6429			

**Not significant at $p<0.05$

H_o^{3j}: There is no significant difference in the mean scores of the four temperaments on the **disturbance handler role**.

After the aforementioned analysis, it was determined that no significant differences exist between the means of the four temperaments on the disturbance handler role. The null hypothesis was not rejected. Table 4.19 provides a summary of the data.

Table 4.19

Mean Scores of the Four Temperaments on the Disturbance Handler Role.

Disturbance Handler Role	NF	NT	SJ	SP
Means	4.15	4.1	3.92	4.43
F Value	1.56			
R^2 Value	0.04			
P Value	**0.2022			

**Not significant at $p<0.05$

H_o^{3k}: There is no significant difference in the mean scores of the four temperaments on the **resource allocator role**.

After the aforementioned analysis, it was determined that no significant differences exist between the means of the four temperaments on the resource allocator role. The null hypothesis was not rejected. Table 4.20 provides a summary of the data.

Table 4.20

Mean Scores of the Four Temperaments on the Resource Allocator Role.

Resource Allocator Role	NF	NT	SJ	SP
Means	3.97	3.98	3.89	4.43
F Value	1.11			
R^2 Value	0.028			
P Value	**0.3499			

**Not significant at $p<0.05$

H_o^{31}: There is no significant difference in the mean scores of the four temperaments on the **negotiator role**.

After the aforementioned analysis, it was determined that no significant differences exist between the means of the four temperaments on the negotiator role. The null hypothesis was not rejected. Table 4.21 provides a summary of the data.

Table 4.21

Mean Scores of the Four Temperaments on the Negotiator Role.

Visionary Role	NF	NT	SJ	SP
Means	4.18	4.02	3.92	4.14
F Value	0.76			
R^2 Value	0.02			
P Value	**0.5167			

**Not significant at $p<0.05$

Research Question Four and Related Hypothesis. For this sample of community college presidents, does one temperament type rate themselves as more competent than the other temperament types on each of the three managerial categories?

H_o^4: For the randomly selected presidents, there is no significant difference in the mean scores of the four temperaments on each of the three managerial categories.

The analyses for this question utilized an analysis of variance (ANOVA). Separate calculations were prepared for each of the three managerial categories. These analyses allowed us to determine if a statistically significant difference exists between the means of the temperaments on each of the managerial categories. If the F-statistic or p-value indicated that significant differences did exist between the means of the temperaments, and the null hypothesis was rejected, then follow-up manipulations, known as multiple comparison tests or post hoc tests, were applied by SAS to determine which temperament means are significantly different from the others. It was determined at the beginning of this study that the null hypothesis would be rejected at the $p<.05$ level of significance.

H_o^{4a}: There is no significant difference in the mean scores of the four temperaments on the **leadership category**.

After the aforementioned analysis, it was determined that no significant differences exist between the means of the four temperaments on the leadership category. The null hypothesis was not rejected. Table 4.22 provides a summary of the data.

Table 4.22

Mean Scores of the Four Temperaments on the Leadership Category.

Leadership Category	NF	NT	SJ	SP
Means	4.34	4.23	4.1	4.06
F Value	2.12			
R^2 Value	0.052			
P Value	**0.1			

**Not significant at $p<0.05$

H_o^{4b}: There is no significant difference in the mean scores of the four temperaments on the **informational category**.

After the aforementioned analysis, it was determined that no significant differences exist between the means of the four temperaments on the informational category role. The null hypothesis was not rejected. Table 4.23 provides a summary of the data.

Table 4.23

Mean Scores of the Four Temperaments on the Informational Category.

Informational Category	NF	NT	SJ	SP
Means	4.09	4.01	4.06	3.76
F Value	0.87			
R^2 Value	0.022			
P Value	**0.4			

**Not significant at $p<0.05$

H_o^{4c}: There is no significant difference in the mean scores of the four temperaments on the **decisional category**.

After the aforementioned analysis, it was determined that no significant differences exist between the means of the four temperaments on the decisional category. The null hypothesis was not rejected. Table 4.24 provides a summary of the data.

Table 4.24

Mean Scores of the Four Temperaments on the Decisional Category.

Decisisonal Category	NF	NT	SJ	SP
Means	4.1	4.07	3.94	4.21
F Value	0.97			
R^2 Value	0.025			
P Value	**0.4			

**Not significant at $p<0.05$

Research Question Five and Related Hypothesis. For this sample of community college presidents, do some community college presidents, when grouped by the four temperaments, rate themselves as more competent in some of the twelve managerial roles and less competent in others?

H_o^5: For the randomly selected presidents, there is no significant difference in the mean score of any individual managerial role, when the presidents are grouped by temperament.

The analysis for this question utilized sixty-six separate t-tests for each of the temperaments in the twelve managerial roles. In SAS, all sixty-six pairwise differences

were computed using the PROC UNIVARIATE function which automatically yields a paired t-test p-value. It was determined at the beginning of this study that the null hypothesis would be rejected at the $p<.05$ level of significance. Because there are sixty-six t-tests, one must compare the p-value to .05 / 66 = .00076. If the p-value for a pair is less than .00076, then one can be assured that the means are different for that pair and the null hypothesis can be rejected. The means of the variables were rank-ordered and comparisons made.

H_o^{5a}: There is no significant difference in the mean scores of the **NF presidents** on the twelve managerial roles.

After the aforementioned analysis, none of the sixty-six t-tests showed significant differences in the mean scores of the intuitive feeler (NF) presidents on the twelve managerial roles. The null hypothesis was not rejected.

H_o^{5b}: There is no significant difference in the mean scores of the **NT presidents** on the twelve managerial roles.

After the aforementioned analysis, none of the sixty-six t-tests showed significant differences in the mean scores of the Iituitive thinker (NT) presidents on the twelve managerial roles. The null hypothesis was not rejected.

H_o^{5c}: There is no significant difference in the mean scores of the **SJ presidents** on the twelve managerial roles.

After the aforementioned analysis, three of the sixty-six t-tests (4.5%) showed significant differences in the mean scores of the sensing judger (SJ) presidents on the

twelve managerial roles. Sensing judger (SJ) presidents rated their competence in the ambassador role as significantly higher than their competence in the motivator, disseminator, and resource allocator roles. Table 4.25 summarizes the data from those three t-tests which showed significant differences on the managerial roles of sensing judger (SJ) presidents. The null hypothesis was rejected.

Table 4.25

Data for the Three t-Tests Which Show Significant Difference in Mean Scores of **SJ Presidents** in Managerial Roles.

Managerial Roles & Means Tested	DF	t Value	P Value
Ambassador (4.47) - Motivator (3.86)	35	4.78	<0.0001*
Ambassador (4.47) - Disseminator (3.89)	35	4.55	<0.0001*
Ambassador (4.47) - Resource Allocator (3.89)	35	3.89	0.0005*

*Significant at p< .00076
N=36

H_o^{5d}: There is no significant difference in the mean scores of the **SP presidents** on the twelve managerial roles.

After the aforementioned analysis, none of the sixty-six t-tests showed significant differences in the mean scores of the sensing perceiver (SP) presidents on the twelve managerial roles. The null hypothesis was not rejected.

Research Question Six and Related Hypothesis. For this sample of community college presidents, do some community college presidents, when grouped by the four

temperaments, rate themselves as more competent in some of the three managerial categories and less competent in others?

H_o^6: For the randomly selected presidents, there is no significant difference in the mean score of any individual managerial category, when the presidents are grouped by temperament.

The analysis for this question utilized three separate t-tests for each of the temperaments in the three managerial categories. In SAS, all three pairwise differences were computed using the PROC UNIVARIATE function which automatically yields a paired t-test p-value. It was determined at the beginning of this study that the null hypothesis would be rejected at the $p<.05$ level of significance. Because there are three t-tests, one must compare the p-value to .05 / 3 = .016. If the p-value for a pair is less than .016, then one can be assured that the means are different for that pair and the null hypothesis can be rejected. The means of the variables were rank-ordered and comparisons made between the variables.

H_o^{6a}: There is no significant difference in the mean scores of the **NF presidents** on the three managerial categories.

After the aforementioned analysis, two of the three t-tests (66.66%) showed significant differences in the mean scores of the intuitive feeler (NF) presidents in the three managerial categories. Intuitive feeler (NF) presidents rate themselves as significantly more competent on the leadership category than on the informational or decisional categories. There were no significant differences between the informational or

decisional categories for intuitive feeler (NF) presidents.. Table 4.26 summarizes the data from the two t-tests which showed significant differences on the managerial categories for intuitive feeler (NF) presidents. The null hypothesis was rejected.

Table 4.26

Data for the Two t-Tests Which Show Significant Difference in Mean Scores of the **NF Presidents** in Managerial Categories.

Managerial Categories & Means Tested	DF	t Value	P Value
Leadership (4.36) - Informational (4.09)	33	2.71	0.0107*
Leadership (4.36) - Decisional (4.10)	33	2.78	0.0090*

*Significant at $p < .016$
N=34

H_o^{6b}: There is no significant difference in the mean scores of the **NT presidents** on the three managerial categories.

After the aforementioned analysis, one of the three t-tests (33.33%) showed significant differences in the mean scores of the intuitive thinker (NT) presidents in the three managerial categories. Intuitive thinker (NT) presidents rate themselves as significantly more competent on the leadership category than on the informational category. There were no significant differences between the leadership and decisional categories nor between the informational and decisional categories for intuitive thinker (NT) presidents. Table 4.27 summarizes the data from the t-test which showed significant differences on the managerial categories of intuitive thinker (NT) presidents. The null hypothesis was rejected.

Table 4.27

Data for the One t-Test Which Showed Significant Difference in Mean Scores of the **NT Presidents** in Managerial Categories.

Managerial Categories & Means Tested	DF	t Value	P Value
Leadership (4.23) - Informational (4.01)	41	3.21	0.0026*

*Significant at p< .016
N=42

H_o^{6c}: There is no significant difference in the mean scores of the **SJ presidents** on the three managerial categories.

After the aforementioned analysis, none of the three t-tests showed significant differences in the mean scores of sensing judger (SJ) presidents on the three managerial categories. The null hypothesis was not rejected.

H_o^{6d}: There is no significant difference in the mean scores of the **SP presidents** on the three managerial categories.

After the aforementioned analysis, none of the three t-tests showed significant differences in the mean scores of sensing perceiver (SP) presidents on the three managerial categories. The null hypothesis was not rejected.

Research Question Seven and Related Hypotheses. Will this sample of community college presidents confirm the distributions for temperament suggested by Roberts' (1987) and Macdaid's, et al. (1991) works?

The analyses for this question utilized the two-group Chi-square test for homogeneity. These analyses allowed one to determine if the distributions proposed by

Roberts (1987) and Macdaid, et al. (1991) match the distribution found in this sample. It was determined at the beginning of this study that the null hypothesis would be rejected at the $p<.05$ level of significance.

H_o^7: There is no significant difference in the temperament distribution of this sample of community college presidents and the distribution of community college presidents found in Roberts' (1987) study.

A two-group Chi-square test for homogeneity was performed for Roberts' (1987) sample and Athans' (2000) sample. The Chi-square test indicated that there was no significant difference in the temperament distribution of the two samples. The null hypothesis was not rejected. The Chi-square test for this hypothesis is contained in Table 4.28.

H_o^8: There is no significant difference in the temperament distribution of this sample of community college presidents and the distribution of administrators from colleges and technical institutes found in Macdaid's, et al. (1991) Atlas of Type Tables.

A two-group Chi-square test for homogeneity was performed for Macdaid's, et al. (1991) sample and Athans' (2000) sample. The Chi-square test indicated that there was no significant difference in the temperament distribution of the two samples. The null hypothesis was not rejected. The Chi-square test for this hypothesis is contained in Table 4.29.

Table 4.28

Chi-square Table for Roberts' (1987) Temperatment Distribution and Athans' (2000) Temperament Distribution.

Frequency Percent Row Pct Column PCT	NF	NT	SJ	SP	Total
Athans N = 119	34 22.2 28.57 79.07	42 27.45 35.29 68.85	36 23.53 30.25 85.71	7 4.58 5.88 100.00	119 77.78
Roberts N = 34	9 5.88 26.47 20.93	19 12.42 55.88 31.15	6 3.92 17.65 14.29	0 0.00 0.00 0.00	34 22.22
Total	43 28.10	61 39.87	42 27.45	7 4.58	153 100.00

Statistics for Table

Statistics	DF	Value	Prob
Chi-square	3	6.3836	0.0944
Liklihood Ratio Chi-square	3	7.846	0.493
Mantel-Haenszel Chi-square	1	1.7814	0.182
Phi Coefficient		0.2043	
Contingency Coefficient		0.2001	
Cramer's V		0.2043	

Table 4.29

Chi-square Table for Macdaid's, et al. (1991) Temperatment Distribution and Athans' (2000) Temperament Distribution.

Frequency Percent Row Pct Column PCT	NF	NT	SJ	SP	Total
Athans N = 119	34 7.39 28.57 25.00	42 9.13 35.29 27.63	36 7.83 30.25 25.53	7 1.52 5.88 22.58	119 25.87
Macdaid's, et al. N = 341	102 22.17 29.91 75.00	110 23.91 32.26 72.37	105 22.83 30.79 74.47	24 5.22 7.04 77.42	341 74.13
Total	136 29.57	152 33.04	141 30.65	31 6.74	460 100.00

Statistics for Table

Statistics	DF	Value	Prob
Chi-square	3	0.4829	0.9226
Liklihood Ratio Chi-square	3	0.4851	0.9222
Mantel-Haenszel Chi-square	1	0.0236	0.8779
Phi Coefficient		0.0324	
Contingency Coefficient		0.0324	
Cramer's V		0.0324	

Summary

This chapter has presented the findings of this research effort. Information regarding the survey return rates were provided. The answers to the demographic questions posed by this study were presented providing a profile for this sample of community college presidents. Each of the twenty-seven null hypotheses posed by this study along with the statistical analyses employed and data results were presented. The final chapter (Chapter Five: Discussion) will conclude this study with a discussion of the findings, conclusions and implications, and suggestions for additional research on the topic of temperament and competence.

CHAPTER FIVE: DISCUSSION

This, the final chapter of this research study, begins with a discussion on the representiveness of the study sample. Data results from the analyses of the twenty-seven null hypotheses have been used to attempt to answer the seven research questions which guided the study. In addition, the findings, contributions and implications, and suggestions for additional research generated by this research effort are also discussed.

Sample Representativeness

One of the limitations of this study, previously outlined in chapter three, was being assured that the responses to the survey are random. Great care was taken to insure a 300 subject random sample of the 463 community college presidents who comprised the population for the study were invited to participate. Only 142 of the 300 agreed to participate; only 124 returned the surveys; and only, 119 of the returned surveys were usable. In the end, a usable sample of 119 subjects who represent 25.7% (119 / 463) of the population was obtained, but what we do not know is if this sample of 119 subjects is representative of the population. Only randomization can assure representativeness, but we cannot be certain that the returned surveys were returned randomly. One can estimate the randomness of the sample by comparing the descriptive analyses of the demographic data collected with like demographic data from the population from which the sample was chosen.

An inquiry was made to the American Association of Community Colleges (AACC) for a demographic breakdown of the original population which they supplied for

this study. Specifically, age, gender, ethnicity, and highest degree earned was requested for this population of community college presidents of single, stand-alone campuses of 5000 students or less who are governed by a local governing board. In the past, AACC has not collected this data. Recently, they began collecting data on gender and ethnicity, but only have gender related data on 87.3% of the population and ethnicity related data on 68.1% of the population.

Regarding the gender of this population, AACC reported that 12.8% were unknown, 24% were female and 76% were male. Table 5.1 provides a comparison of the AACC population demographic data and the study sample demographic data on gender.

Table 5.1

Comparison of AACC Population Data and Study Sample Data on Gender.

	Male	Female
AACC Population Data	76%	24%
Study Sample Data	82.35%	17.65%

Regarding ethnicity for this population, AACC reported that 31.9% were unknown, 4.5% were African American, 1% were Asian, 1.9% were Hispanic, 4.2% were Native American, and 88.5% were White. Table 5.2 provides a comparison of the AACC population demographic data and sample demographic data on ethnicity.

Table 5.2

Comparison of AACC Population Data and Study Sample Data on Ethnicity.

	Black	White	Hispanic	Other
AACC Population Data	4.5%	88.5%	1.9%	5.2%
Study Sample Data	1.68%	89.08	6.72	2.52

When examining the ethnicity of this sample and population one might suggest that Blacks and Asians are under-represented. It is important to remember that this population is comprised of presidents of single stand-alone campuses of 5000 students or less. Community college campuses whose presidents are Black or Asian would most likely come from California and large urban areas. It is also likely that campuses from California and large urban areas would have student populations greater than 5000 students, would probably have multiple campuses, and therefore, be excluded from this population. It is reasonable to assume, in terms of ethnicity, that this sample accurately represents this population of college presidents.

Given the meticulous effort expended to insure a random sample was invited to participate, given that the study sample represented a national sample where thirty-two of thirty-nine eligible states were represented, given that the sample represented 25.7% of the population, and given that the gender and ethnic breakdown of the study sample and

population pretty closely mirror each other, one can reasonably assume that this sample is representative of the population.

Research Questions

Research Question One. Do these community college presidents, as a group, rate themselves as more competent in some of the twelve managerial roles and less competent in others? Yes, based upon the data presented in the previous chapter, this sample of 119 college presidents rated themselves higher in competence on two of the twelve managerial roles. Those two roles were ambassador and visionary. The mean score for ambassador was 4.46 (out of a possible 5) which was statistically greater than the following nine managerial roles: task giver, motivator, monitor, disseminator, advocate, change agent, disturbance handler, resource allocator, and negotiator. The mean score for visionary was 4.31 (out of 5) which was statistically greater than the following five managerial roles: task giver, monitor, disseminator, resource allocator, and negotiator. Other than the two roles cited here, there were no significant differences among the other roles.

Research Question Two. Do these community college presidents, as a group, rate themselves as more competent in some of the three managerial categories and less competent in others? Yes, based upon the data presented in the previous chapter, this sample of 119 college presidents rated themselves higher in competence on one of the three managerial categories. That category was leadership. It stands to reason that leadership would be ranked higher because the sample rated themselves high in the

ambassador and visionary roles which are two of the four managerial roles which comprise the leadership category. The leadership category was rated statistically greater than both the informational and decisional categories. There were no differences between the informational and decisional categories.

Research Question Three. For this sample of community college presidents, does one temperament type rate themselves as more competent than the other temperament types on each of the twelve managerial roles? This question generated twelve separate null hypotheses--one for each of the twelve managerial roles. Of the twelve null hypotheses, four (33.33%) were rejected which leads one to believe that, yes, there may be differences related to temperament on the managerial roles. The four roles which showed statistical differences were: visionary, motivator, liaison, and advocate. In the visionary role, presidents who were intuitive feelers (NF), intuitive thinkers (NT), and sensing perceivers (SP) all rated themselves as more competent than did sensing judgers (SJ). In the motivator role, presidents who were intuitive feelers (NF) rated themselves as more competent than did sensing judgers (SJ). In the liaison role, presidents who were intuitive feelers (NF) rated themselves as more competent than did sensing judgers (SJ) and sensing perceivers (SP). In the advocate role, presidents who were intuitive feelers (NF), intuitive thinkers (NT), and sensing judgers (SJ) all rated themselves as more competent than did sensing perceivers (SP).

Research Question Four. For this sample of community college presidents, does one temperament type rate themselves as more competent than the other temperament

types on each of the three managerial categories? This question generated three separate null hypotheses--one for each of the three managerial categories. Of the three null hypotheses, none of the three were rejected which leads one to believe that there are not differences related to temperament on the managerial categories. This, too, stands to reason. Since only four of the twelve managerial roles showed statistical differences, those four when combined with the other eight were not sufficiently strong to statistically outweigh the eight.

Research Question Five. For this sample of community college presidents, do some community college presidents, when grouped by the four temperaments, rate themselves as more competent in some of the twelve managerial roles and less competent in others? This question generated four separate null hypotheses--one for each of the four temperament types. Of the four null hypotheses, one (25%) was rejected which leads one to believe that college presidents, when grouped by temperament, may feel more competent in some roles and less competent in other roles. Sensing judgers (SJ) rated themselves as being more competent on the ambassador role than they did on the roles of motivator, disseminator and resource allocator. The other three temperaments did not rate themselves as being more competent on some on the managerial roles and less competent in others. Although means scores on the twelve managerial roles did vary, the differences were not significant. Intuitive feelers (NF), intuitive thinkers (NT), and sensing perceivers (SP) did not show significant differences. Only the sensing judgers (SJ) showed significant differences on this question.

Research Question Six . For this sample of community college presidents, do some community college presidents, when grouped by the four temperaments, rate themselves as more competent in some of the three managerial categories and less competent in others? This question generated four separate null hypotheses--one for each of the four temperament types. Of the four null hypotheses, two (50%) were rejected which leads one to believe that college presidents, when grouped by temperament, may feel more competent in some categories and less competent in other categories. Intuitive feelers (NF) rated their competence in the leadership category as being significantly greater than the informational and decisional categories. Intuitive thinkers (NT) rated their competence in the leadership category as being significantly greater than the only the informational category. Sensing judgers (SJ) and sensing perceivers (SP) did not rate themselves as being more competent on some on the managerial categories and less competent in others. Although for sensing judgers (SJ) and sensing perceivers (SP) the means scores on the three managerial categories did vary, the differences were not significant.

Research Question Seven. Will this sample of community college presidents confirm the distributions for temperament suggested by Roberts' (1987) and Macdaid's, et al. (1991) works? This question generated two separate null hypotheses--one for each of the two distributions to which this sample was compared. Of the two null hypotheses, none were rejected which suggests that there are no significant differences in the

temperament distributions of Athans' (2000) study and Roberts' (1987) study nor between Athans' (2000) study and Macdaid's, et al. (1991) study.

Contributions and Implications

The most significant contributions of this study are fourfold: 1) it does establish that there are statistical differences on how the four temperaments rate their competence on the managerial roles and categories; 2) it confirms Roberts' (1987) and Macdaid's, et al. (1991) temperament distributions for college presidents; 3) it reasonably establishes the representativeness of the study sample from which conclusions may be drawn concerning the population; and, 4) it provides a rich springboard from which other temperament- and competence-related studies can be generated. The remainder of this chapter provides a discussion of each of those contributions and also looks at each of the four temperaments, what this study reveals about them, and provides recommendations for future research.

In chapter one of this study, it was hypothesized (see Tables 1.5, 1.6, and 1.7) that certain temperaments would rate themselves higher on some of the managerial roles than on others. In those tables there were fourteen predictions made based on the literature presented in chapter two. Table 5.3 provides a concise overview of the predictions made in chapter one. As demonstrated in chapter four and discussed again in this chapter, this study confirms that there are indeed statistical differences in the mean scores of the way temperaments rate themselves on the managerial roles. If one were to do a comparison of

just mean scores, one would find that mean scores from the study population confirmed that nine of the fourteen (64%) were accurate predictions. Using a point system to

Table 5.3
Results of Predictions from Tables 1.5, 1.6, & 1.7.

Role	NF	NT	SJ	SP
Visionary	4.47	4.38	4.03	4.57
Giver	3.88	4.1	4.11*	3.71
Motivator	4.27*	4.12	3.86	3.71
Ambassador	4.53	4.36	4.47	4.43
Liaison	4.53*	4.19	4.03	3.86
Monitor	4.06	4.02	4.08	4
Disseminator	3.94	3.98	3.89	3.86
Advocate	4.26*	4.02	4.19*	3.43
Change Agent	4.12	4.19*	4.06	3.86
Disturbance Handler	4.15	4.1	3.92	4.43*
Resource Allocator	3.97	3.98	3.89	4.43
Negotiator	4.18*	4.02	3.92	4.14*

* Indicates correct predictions
Shaded cells are the predictions made from Tables 1.5, 1.6, & 1.7

evaluate the predictions where four points is awarded for a correct first choice, three points for a second choice, two points for a third, and one point for a fourth, then the accuracy percentage rises dramatically. Under this point system, there are fifty-six possible points for a 100% accuracy rate. Based on the predictions in chapter one, forty-six of the possible fifty-six points were registered for an 82% accuracy rate. Ranking means as a measure clearly confirms that predictions, with reasonable accuracy, can be made about temperament and competence. This study, however, used a more stringent standard of measure--analysis of variance and individual t-tests. When these more stringent standards were applied, statistical differences did emerge although, as one might expect, not as clearly as with the less stringent standard. The accuracy of the predictions made by ranking the means, and the establishment of statistical differences between the mean scores lead one to believe that there is a clear relationship between temperament and competence and begs for more research on the subject. The fact, however, that statistical differences were established was an important finding of this study. Most of the twenty-seven null hypothesis tested in this study were designed to test whether significant differences did exist. In that regard, the study was successful.

The second contribution that this study made was that it confirmed Roberts' (1987) and Macdaid's, et al. (1991) temperament distributions. Two, two-way Chi-square tables, presented in chapter four, confirmed that there were no statistical differences between Robert's (1987) and Athans' (2000) distribution nor between Macdaid's, et al. (1991) and Athans's (2000) distribution for temperament of college presidents. An

additional two-way Chi-square table analysis was performed for Roberts' (1987) and Macdaid's, et al. (1991) distributions. This was not reported in chapter four because the formal null hypotheses being tested did not require this additional analysis. This additional Chi-square analysis revealed that there were statistical differences between Roberts' (1987) and Macdaid's (1991) distributions. When one compares the numbers and percentages on each of the tables, one finds that Roberts' (1987) numbers are low, Macdaid's, et al.(1991) are high, and Athans'(2000) fall in between. The result is that the analysis between Roberts' (1987) (low) and Athans' (2000) (middle) produce no significant differences, but the Chi-square value is .09 which indicates that differences may exist but not at the .05 level of significance. Likewise, the analysis between Athans' (2000) (middle) and Macdaid's, et al. (1991) (high) produce no significant differences. However, when the two extremes are tested, Roberts' (1987) (low) and Macdaid's, et al. (1991) (high), significant differences emerge. This, along with the other information presented in chapter two, make a strong case that Athans' (2000) temperament distribution is the most accurate for community college presidents. Given that Athans' (2000) sample of community college presidents had a larger number of participants (N=119) than Roberts' (1987) sample of college presidents (N=34), given that Macdaid's, et al. (1991) sample was not a pure community college president sample and included unspecified administrators from colleges (undefined) and technical colleges, and given that the numbers and percentages from Athans's (2000) sample fall between the extremes of Roberts' (1987) and Macdaid's, et al. (1991) samples and the law of

regression-to-the-mean supports Athans' (2000) distribution, then a strong case exists which supports the distribution for temperament among community college presidents as being best portrayed by Athans' (2000) study sample.

As discussed earlier in this chapter, there is strong evidence to cause one to believe that this sample is representative of the study population. To review that evidence, one might again scrutinize the following four points made earlier: 1) the meticulous effort expended to insure a random sample was invited to participate; 2) the study sample represented a national sample where thirty-two of thirty-nine eligible states were represented; 3) the sample represented 25.7% of the population; and, 4) the gender and ethnic breakdown of the study sample and population pretty closely mirror each other. Given the above evidences, one can reasonably relate the demographic data and the other data collected by this study regarding temperament and competence in the managerial roles of community college presidents to the population from which the sample was drawn.

The last major contribution of this study is that it generates a number of questions which can serve as initial starting points for future research studies regarding temperament and competence in managerial roles. As previously presented, the accuracy of predictions made by the ranking of the means collected and the statistical differences formally established by this study indicate a potent demand for further research. This study provides a framework for replication studies to confirm the results presented here.

Specific recommendations for future research shall be addressed in a later section of this chapter.

When examining the strengths and weaknesses of the entire sample of presidents by a ranking of the mean scores, the managerial role of ambassador was ranked the highest and the role of disseminator was ranked the lowest. Each of the four temperaments ranked the ambassador role as either the highest or second-to-the-highest of the twelve managerial roles. Likewise, each of the four temperaments ranked the role of disseminator either the lowest or second-to-the-lowest of the twelve roles.

The ambassador role is described as one who presides at official functions as a symbol of the college or as a symbol of external groups and organizations, and as one who promotes goodwill and commitment between the organization and its stakeholders. One of the major functions of being a community college president requires an individual to serve as a figurehead. Each president must fulfill those duties and must possess the natural ability, or develop the ability, to function well as an ambassador. Certainly the ambassador role is a responsibility that each must do often and, therefore, each has ample opportunity to practice this role. Perhaps this explains why each of the temperaments rate themselves high on the ambassador role.

Each of the temperaments rated themselves low on the role of disseminator. The disseminator role is described as one who uses technology, effective techniques for speaking, writing, listening, and reading, effective use of formal/informal communication, coordinates various functions within the organization, and as one who

identifies talent in staff and develops the personnel performance appraisal process. When trying to determine why all four of the temperaments would rate themselves low on the disseminator role one might consider the age of the sample. When age is examined, 67.8% (80 / 118) of the sample were fifty-five years of age and older and 87% (103 / 118) of the sample were forty-nine years of age and older. Technology is one of the first descriptors used to define disseminator. Older individuals, as a general rule, are not as current or comfortable with technology as younger individuals. International Business Machines (IBM) introduced their first desktop computer in 1982. This was a watershed year and arguably began the information/technology era in which we now live. Most individuals, forty-nine years of age and older, would have finished their college education by 1982 and presumably would not have as much experience with current technology as the younger individuals. Lack of comfort with technology may be a determining reason why each of the temperaments rated themselves low on the disseminator role. Another reason for the low rating on the disseminator role might be that college presidents are involved less and less with the daily internal operations of the college. The role of disseminator puts a lot of emphasis on the internal organizational and personnel issues which are often delegated to the chief academic officer.

The following several pages will discuss the individual temperaments and what this study specifically revealed about each. First to be discussed will the be the statistically significant findings of this study. Second are points of discussion resulting from rank-ordering the means.

Intuitive Feelers (NF). Intuitive feelers (NF) had more instances of statistical significance than any other temperament in this study. Intuitive feelers (NF) rated themselves statistically higher than sensing judgers (SJ) on the visionary role, motivator role, and liaison role. They rated themselves statistically higher than sensing perceivers (SP) on the liaison role and on the advocate role. Intuitive feelers (NF) also rated themselves significantly higher on the leadership category than they did on either the informational or decisional categories.

Descriptive statistics, though not a stringent as the analysis of variance or the individual t-tests, provide some useful insights. Using means as a measure, the thirty-four intuitive feelers (NF) participating in this study rated their competence highest on the roles of ambassador (4.53 mean) and liaison (4.53 mean). They rate their competence lowest on the roles of task giver (3.88 mean) and disseminator (3.94 mean). When one ranks mean scores on the managerial categories, intuitive feelers (NF) rank the leadership category first (4.36 mean); the decisional category second (4.10 mean); and, the informational category last (4.09 mean).

As discussed in chapters one and two, each of the temperaments have distinct and unique managerial strengths and weaknesses (see Table 1.4). Keirsey and Bates (1984) list the strengths of intuitive feelers (NF) as their communication skills, their commitment to people, and their ability to show appreciation for others. The intuitive feelers (NF) in this study confirm Keirsey and Bates (1984) descriptions of managerial strengths. The managerial roles of ambassador and liaison ranked highest in this study for intuitive

feelers (NF). The description of ambassador has already been discussed. The liaison role is described as one who develops collaborative relationships with groups or individuals in and out of college service area, and as one who establishes a close bond between the organization and its customers or partners. In order to be competent in the roles of ambassador and liaison, strong interpersonal and communication skills are a requirement.

The intuitive feelers (NF) in this study, along with disseminator, ranked the role of task giver as the lowest of the managerial roles. The task-giver role is described as one who defines and structures roles for followers, provides direction, defines standards, is biased to action yet flexible, has high expectations, and as one who uses authority appropriately. Keirsey and Bates (1984) list the managerial weaknesses of intuitive feelers (NF) as poor time management skills, a failure to prioritize, and the tendency to avoid unpleasant situations. In order to be a competent task giver, one must be able to provide subordinates with timely instructions with priorities and standards clearly stated. Timely follow-up with subordinates requires the time management skills necessary to prompt follow-up and will often involve unpleasant situations if subordinates are not meeting the requisite standard. The appropriate use of authority often involves unpleasant decisions and situations. The rank-ordered means of this study confirm both the managerial strengths and weaknesses outlined in the literature.

Intuitive Thinkers (NT). Intuitive thinkers (NT) rated themselves statistically higher than sensing judgers (SJ) on the visionary role and the advocate role. They rated

themselves statistically higher on the leadership category than they did on the informational category.

Descriptive statistics again provide some useful insights. Using means as a measure, the forty-two intuitive thinkers (NT) participating in this study rated their competence highest on the roles of visionary (4.38 mean) and ambassador (4.36 mean). They rate their competence lowest on the roles of resource allocator (3.98 mean) and disseminator (3.98 mean). When one ranks mean scores on the managerial categories, intuitive thinkers (NT) rank the leadership category first (4.23 mean); the decisional category second (4.07 mean); and, the informational category last (4.01 mean).

Keirsey and Bates (1984) label the Intuitive Thinker (NT) as visionaries and list their strengths as their intellect, their ability to think globally, to see the long- and short-range implications of decisions and to use logic to initiate change to build organizational systems. The intuitive thinkers (NT) in this study confirm Keirsey and Bates (1984) descriptions of managerial strengths. The managerial roles of ambassador and visionary ranked highest in this study for intuitive thinkers (NT). The description of ambassador has already been discussed. The visionary role is described as one who thinks globally and of future possibilities, recognizes momentum, applies educational convictions, and applies quality concepts. In order to be competent in the managerial role of visionary, a presidents must be able to see the long- and short-range implications of decisions or, in other words, to think globally and recognize future possibilities. In addition, they must use their intellect and logic to initiate change in order to build the

institution or, in other words, apply educational convictions. One can easily see how the descriptors of both the visionary role and the description of intuitive thinkers (NT) have much in common. The rank-ordered means supports the literature for intuitive thinkers (NT).

The intuitive thinkers (NT) in this study, along with disseminator, ranked the role of resource allocator as the lowest of the managerial roles. The resource allocator role is described as one who develops basic principles of organizational planning, determines span of control, develops budgets, manages time, designs personnel plans, and sees employees as human capital. Keirsey and Bates (1984) list the managerial weaknesses of intuitive thinkers (NT) as the tendency to overlook the feelings of others, a dislike for redundancy, and poor interpersonal skills. In order to be a competent resource allocator, one must be able to abide a certain degree of redundancy. Many of the duties associated with the resource allocator by definition require a certain amount of detail and redundancy. The rank-ordered means of this study confirm the managerial strengths and weaknesses of intuitive thinkers (NT) as outlined in the literature.

Sensing Judgers (SJ). Sensing judgers (SJ) rated themselves statistically higher than sensing perceivers (SP) on the advocate role. When analyzed as a group, sensing judgers (SJ) were the only temperament that rated their competence on some roles statistically higher than other roles. Sensing judgers (SJ) rated themselves significantly higher on the ambassador role than they did on the motivator role, the disseminator role, and the resource allocator role.

Descriptive statistics for the sensing judgers (SJ) provide the following observations. Using means as a measure, the thirty-six sensing judgers (SJ) participating in this study rated their competence highest on the roles of ambassador (4.47 mean) and advocate (4.19 mean). They rate their competence lowest on the roles of motivator (3.86 mean), resource allocator (3.89 mean), and disseminator (3.89 mean). When one ranks means scores on the managerial categories, sensing judgers (SJ) rank the leadership category first (4.1 mean); the informational category second (4.06 mean); and, the decisional category last (3.94 mean).

Keirsey and Bates (1984) list the strengths of sensing judgers (SJ) as their decisiveness, dependability, understanding of organizational values, and their ability to create and sustain stability. The sensing judgers (SJ) in this study confirm Keirsey and Bates (1984) descriptions of managerial strengths. The managerial roles of ambassador and advocate ranked highest in this study for sensing judgers (SJ). The description of ambassador has already been discussed. The advocate role is described as one who keeps various segments of the community informed of the organization's progress in fulfilling its mission, deals effectively with mass media, and has working knowledge of (Federal, state, local) political processes. In order to be competent in the managerial role of advocate, a president must be good at detail precision work required to understand the laws, statutes, and regulations which guide (Federal, state, and local) political processes. In addition, their ability to inform the public of the organization's goals and objectives provides stability for the organization. One can easily see how the descriptors of both the

advocate role and the description of sensing judgers (SJ) have much in common. The rank-ordered means of the participants in this study supports the literature for sensing judgers (SJ).

The sensing judgers (SJ) in this study, along with disseminator, ranked the roles of motivator and resource allocator as the lowest of the managerial roles. The disseminator role and resource allocator roles have been previously discussed. The role of motivator is described as one who establishes mutual trust, encourages creative and innovative performance, increases job satisfaction, rewards appropriately, and manages individual and organizational stress. Keirsey and Bates (1984) list the managerial weaknesses of sensing judgers (SJ) as being impatient, very rule-oriented, judgmental and pessimistic. In order to be a competent motivator, one must possess a degree of charisma. All of the descriptors used to describe the weaknesses of sensing judgers (SJ) are anti-charasmatic. Sensing judgers (SJ) ranked themselves low on the role of resource allocator. This is the only role where the use of rank-ordered means, as a comparison, appears to be at variance with the literature. The literature suggests that the strengths of the sensing judgers (SJ) would be well suited to competence in the managerial role of resource allocator. With this one exception, the rank-ordered means of this study confirm the managerial strengths and weaknesses of sensing judgers (SJ) as outlined in the literature.

Sensing Perceivers (SP). Sensing perceivers (SP) had the least instances of significance than any of the four temperaments. Sensing perceivers (SP) rated themselves statistically higher than sensing judgers (SJ) on the visionary role.

Once again, descriptive statistics provide some useful insights. Using means as a measure, the seven sensing perceivers (SP) participating in this study rated their competence highest on the roles of visionary (4.57 mean), ambassador (4.43 mean), disturbance handler (4.3 mean) and resource allocator (4.3 mean). They rate their competence lowest on the roles of advocate (3.43 mean), task giver (3.71 mean), and disseminator (3.71 mean). When one ranks means scores on the managerial categories, sensing perceivers (SP) rank the decisional category first (4.21 mean); the leadership category second (4.06 mean); and, the informational category last (3.76 mean). Of the four temperaments, sensing perceivers (SP) were only ones to rate themselves highest in a managerial category different from leadership. Intuitive feelers (NF), intuitive thinkers (NT) and sensing judgers (SJ) all rated themselves highest on the leadership category, but sensing perceivers (SP) rated themselves highest in the decisional category.

Keirsey and Bates (1984) label the sensing perceivers (SP) as troubleshooters and list their strengths as their practicality, their ability to deal with concrete problems, and their ability to use all resources at hand to solve organizational challenges. The sensing perceivers (SP) in this study confirm Keirsey and Bates (1984) descriptions of managerial strengths. The managerial roles of ambassador, visionary, disturbance handler, and resource allocator ranked highest in this study for sensing perceivers (SP).

The descriptions of ambassador, visionary, and resource allocator have already been discussed. The disturbance handler role is described as one who identifies problems, works to resolve them, finds alternatives to produce win-win outcomes, and resolves conflict and other problems to the satisfaction of those involved. Can there be a better description of a troubleshooter? In order to be competent in the managerial role of disturbance handler, a president must be able to be able to deal in a practical manner with concrete problems, and must be able to use the resources at hand to help resolve conflict for all parties. The roles of visionary, disturbance handler and resource allocator are all well suited to the description of sensing perceivers (SP). Again the rank-ordered means support the literature for sensing perceivers (SP).

The sensing perceivers (SP) in this study, along with disseminator, ranked the roles of task giver and advocate as the lowest of the managerial roles. Each of these roles have been previously described. Keirsey and Bates (1984) list the managerial weaknesses of sensing perceivers (SP) as impatience with theory and abstractions, forgetful of past commitments and decisions, and the tendency to be unpredictable and unreliable. In order to be a competent task giver, one must be consistent in giving instructions and following up on those directives. Consistency is an important trait of an effective advocate. The ability to deal effectively with the theory and abstractions of laws and regulations regarding the different political entities is important for an advocate. One can easily see that based upon the description given for sensing perceivers (SP), the managerial roles of disseminator, task giver and advocate would be most difficult. The

rank-ordered means of this study, again, confirm the managerial strengths and weaknesses of sensing perceivers (SP) as outlined in the literature.

Recommendations for Future Research

This section will discuss four recommendations for future research. Those four recommendations are: 1) exact replication studies; 2) studies designed to replicate the research questions used in this study, but employ different methodologies; 3) a modified replication where a different scale is used on the LCAI; and 4) a study with a female community college president sample to determine if, as this study suggests, nearly half of all female community college presidents are intuitive thinkers (NT).

The first two recommendations are closely related. The first recommendation is for an exact replication of this study. The second is for research efforts with the same goals and research questions as this study, but different instruments and methodology are used to answer those questions. In social science research, because of all the variables associated with people cannot be controlled, cause and effect is difficult to establish. Only through repeated studies conducted over time can one begin to establish the credibility, reliability, and validity of the findings of a single study. Repeated studies using the same methodology assure credibility and reliability. Repeated studies using the same research questions and goals but different methodology assure validity.

The third recommendation suggests a replication of this study with a modified scale on the LCAI. It was hoped that the data derived from this study would be useful for designing preservice and inservice programs to prepare community college presidents.

Unfortunately, because of the Likert scale used on the LCAI, the data which showed statistical differences were not in a configuration for useful application. Use of the Likert scale on the LCAI allowed respondents to score some managerial roles equal to other roles. As a result, differences of strengths and weaknesses did not emerge as clearly as they might have. Instead of using the Likert scale on the LCAI, it would have been have been more useful to have the presidents rank-order, from strongest to weakest, each of the twelve managerial roles. This forced-choice ranking would have prevented presidents from rating themselves equally on any of the managerial roles. The data provided would have been in a more useful and applicable form. One would still be able, through analysis of variance and individual t-tests, to determine statistical differences between temperaments on the managerial roles. Forced choice ranking would clarify how each of the four temperaments rank themselves, in terms of strengths and weaknesses. The way the data emerged from this study, one can determine that certain temperaments rate themselves higher than other temperaments on some managerial roles, but cannot determine if they if they feel strong in those roles or if the other temperaments are weak in those roles. By utilizing a forced choice response, one would know how each of the temperaments rate themselves on the managerial roles in terms of strengths and weaknesses. By having the data in this form, one could make suggestions for self-development and training programs for college presidents.

The fourth recommendation was generated from the demographic data garnered from this study. When examining gender, this study revealed that 47.62% (10 of 21) of

the female community college presidents who participated in this study were intuitive thinkers (NT). This deviates considerably from the temperament distribution of females in the general population. Macdaid et al. (1991) report the distribution of female intuitive thinkers (NT) in the general population as being only 14.37% of the population. Macdaid et al. (1991) data are derived from the Center for Applications of Psychological Type (CAPT) database which contains 32731 records. The literature, presented in chapter two, leads us to believe that there should be an over-representation of intuitive thinkers (NT) serving as college presidents, but the magnitude of this over-representation petitions for further investigation. A study using a totally female community college sample would help answer this question.

Summary

This study began with a brief review of descriptive leadership studies which attempted to identify and define what leaders do on a daily basis. These managerial roles, defined by Mintzberg (1973), Yukl, (1989), Baker (1996) and others, were presented in detail in chapter two. Also presented was literature which described personality or type theory. Keirsey and Bates (1984) introduced the four temperaments and the work of Berens and Fairhurst (1993) and others was presented. Anecdotal associations were made between the managerial roles and temperament. Based upon the literature, predictions were made which linked competence on the managerial roles and temperament. The specific problem to be resolved in this study was to determine if there was a relationship between temperament and competence in managerial roles in a community college

leadership setting. To that end, this study made four major contributions: 1) it does establish that there are statistical differences on how the four temperaments rate their competence on the managerial roles and categories; 2) it confirms Roberts' (1987) and Macdaid's, et al. (1991) temperament distributions for college presidents; 3) it reasonably establishes the representativeness of the study sample from which conclusions may be drawn concerning the population; and, 4) it provides a rich springboard from which other temperament- and competence-related studies can be generated. In addition to the formal analysis tested, use of descriptive statistics, primarily the rank-ordering of means, provided a foundation for discussion and confirmed the predictions made and anecdotal associations suggested by the literature. Suggestions were made for future research which will substantiate the credibility, reliability and validity of the findings of this study. Continued temperament- and competence-related research holds great promise for helping community college presidents prepare themselves for the many challenging and varied roles with which they will face as they perform their duties.

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APPENDIX A: Situational Temprament Sorter (STS)

The Situational Temperament Sorter

by

George A. Baker III

Some concepts were adapted from:
Kiersey Bates, *Temperament Sorter,* and
Dayton Roberts, *Identifying Your Psychological Traits.*

College Planning Systems
George A. Baker III, Director

Situational Temperament Sorter

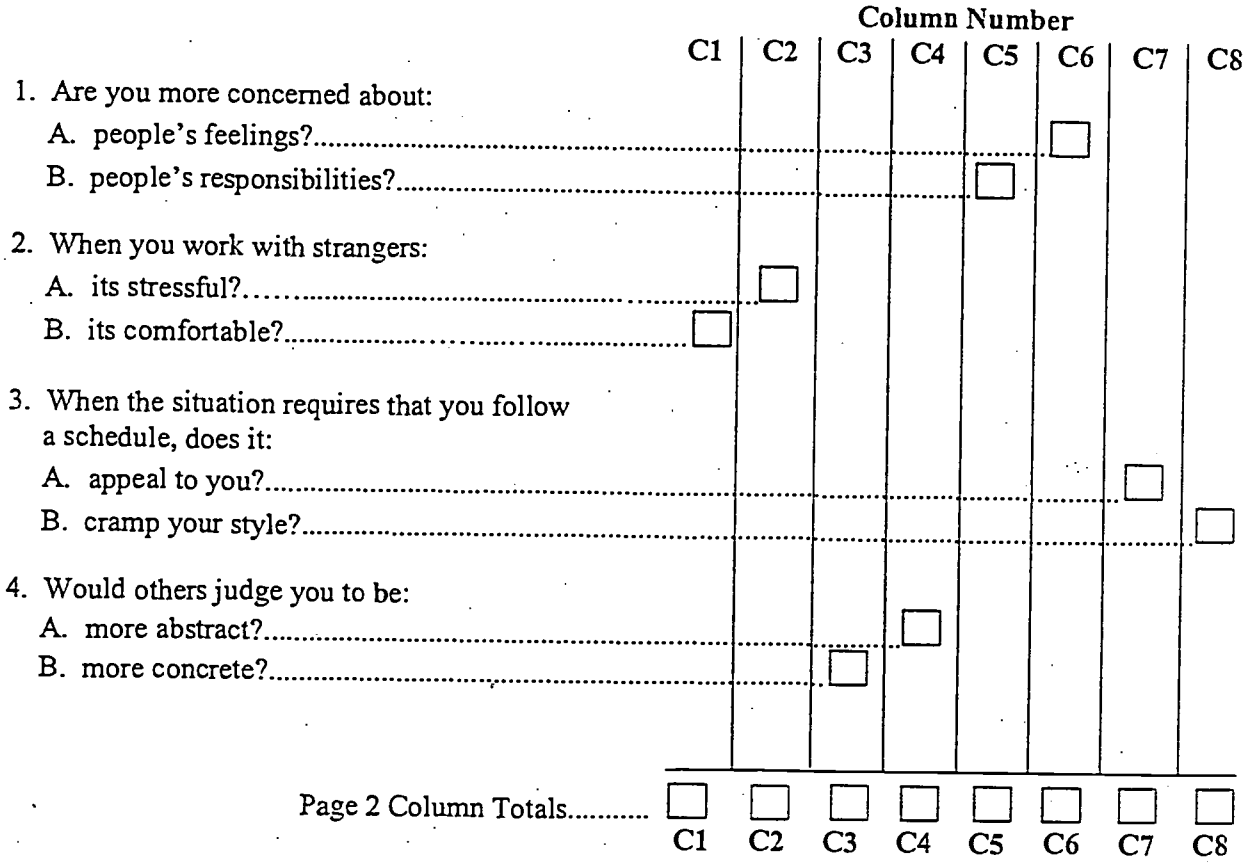
Instructions: The Situational Temperament Sorter (STS) is designed to describe your personality by identifying four personality types which best reflect your temperament. Below, you will be presented with a series of statements, followed by a pair of responses. However, you are not limited to choosing one response over the other; instead, you can assign points to each response according to how strongly you believe that response applies to you in situations that you have experienced. You will have 9 points to divide between each pair of responses.

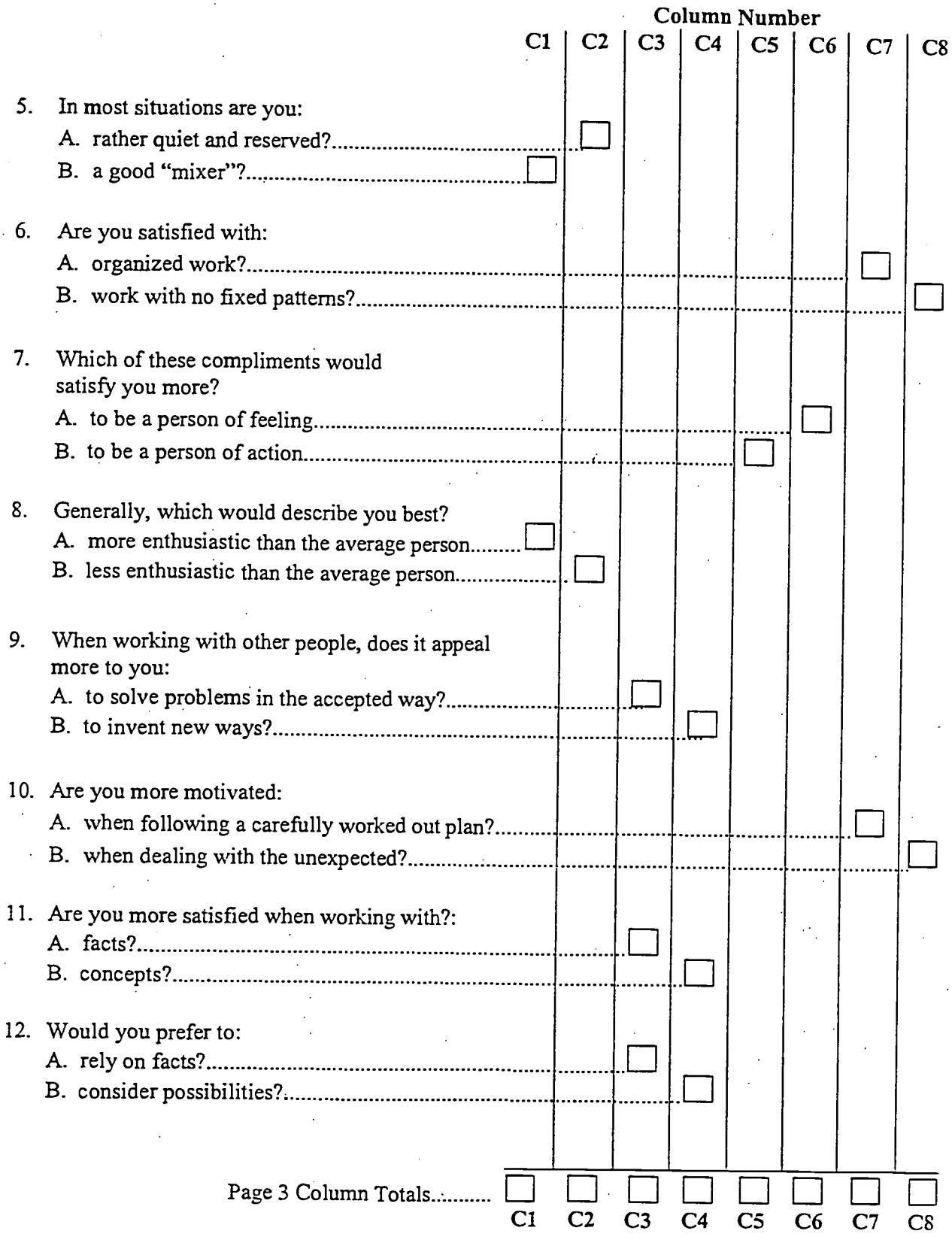
Example:

0. In a large group, do you more often:
   A. Introduce other..... 7
   B. Get introduced..... 2

In this case, the respondent allocated 7 points to A and 2 points to B because she believed that, in most situations, she introduced others but occasionally, she was introduced.

Part I. For each item below, please divide a total of 9 points between the two responses. Allocate more points to the answer that expresses how you feel or act in most situations. Please try to use zeros or nines only if you feel very strongly about a particular pair of responses. At the end of each page, add the responses for each column and record them in the spaces provided.

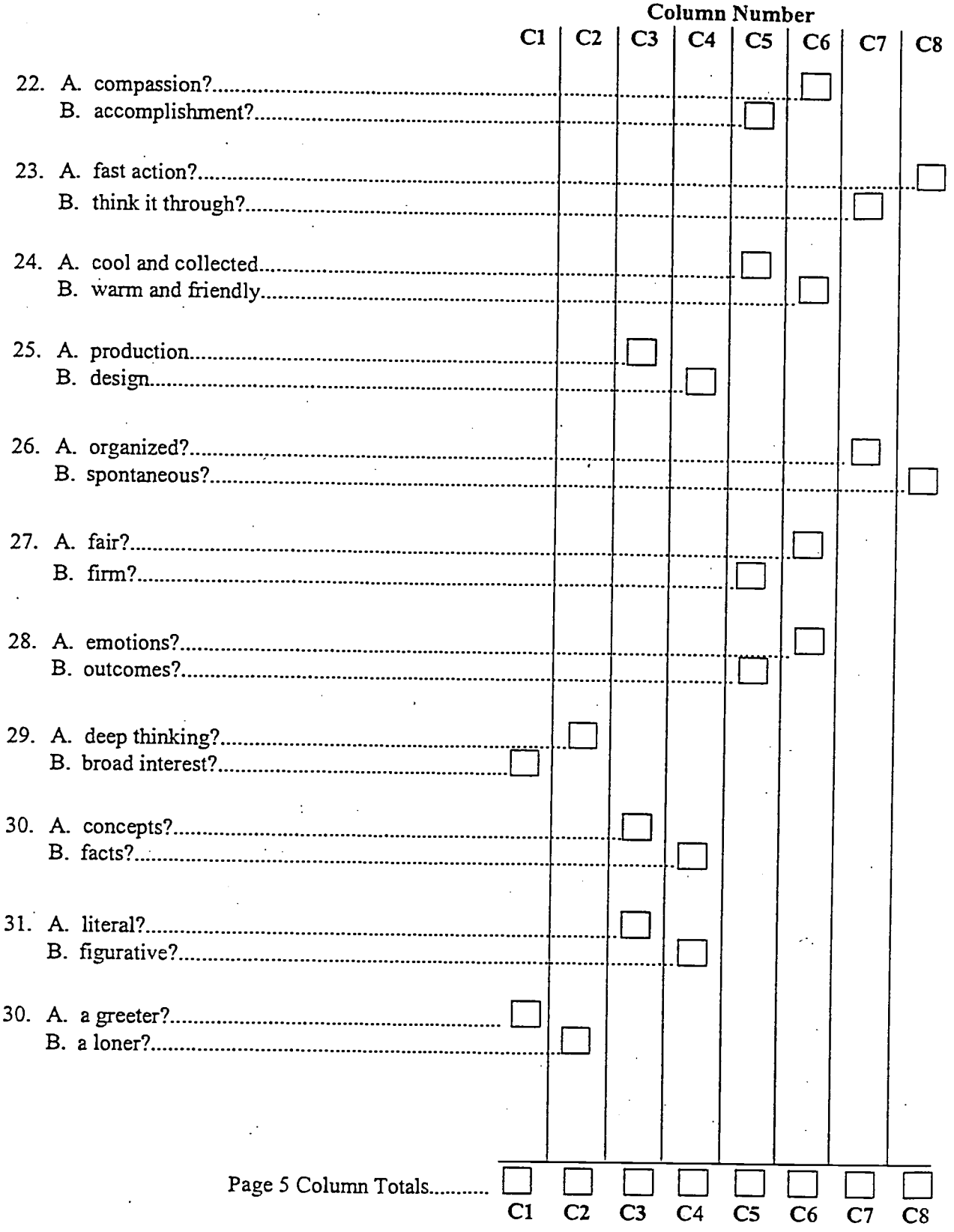



Column Number
C1 C2 C3 C4 C5 C6 C7 C8
5. In most situations are you:
A. rather quiet and reserved?
B. a good "mixer"?
6. Are you satisfied with:
A. organized work?
B. work with no fixed patterns?
7. Which of these compliments would satisfy you more?
A. to be a person of feeling
B. to be a person of action
8. Generally, which would describe you best?
A. more enthusiastic than the average person
B. less enthusiastic than the average person
9. When working with other people, does it appeal more to you:
A. to solve problems in the accepted way?
B. to invent new ways?
10. Are you more motivated:
A. when following a carefully worked out plan?
B. when dealing with the unexpected?
11. Are you more satisfied when working with?:
A. facts?
B. concepts?
12. Would you prefer to:
A. rely on facts?
B. consider possibilities?
Page 3 Column Totals
C1 C2 C3 C4 C5 C6 C7 C8

Column Number

	C1	C2	C3	C4	C5	C6	C7	C8
13. When solving problems, do you:								
A. consider the feelings of others?						☐		
B. use logic to arrive at a solution?					☐			
14. When you need to accomplish a task, do you:								
A. often wait until later?								☐
B. generally complete it quickly?							☐	
15. In most situations, are you:								
A. energized through working with others?	☐							
B. somewhat drained after working with others?		☐						
16. In critical situations, do you tend:								
A. to be less sympathetic					☐			
B. to show much sympathy						☐		
17. Do you prefer:								
A. learning concepts?				☐				
B. learning facts?			☐					
18. Are you more::								
A. structured?							☐	
B. adaptable?								☐
19. When you work with others, people can determine your interests:								
A. right away?	☐							
B. only after they really get to know you?		☐						
20. When working, do you:								
A. change your mind often								☐
B. stick with your plan?							☐	
21. In a group setting, do you generally:								
A. initiate conversation?	☐							
B. listen to conversation?		☐						
Page 4 Column Totals	☐	☐	☐	☐	☐	☐	☐	☐
	C1	C2	C3	C4	C5	C6	C7	C8

Part II. Please allocate most of your 9 points to the word that appeals to you more often in the following pairs.



Scoring

Step 1. Transfer the column totals for each page in the appropriate spaces below. Add each column to determine the totals for all pages.

	Column Number							
	C1	C2	C3	C4	C5	C6	C7	C8
Page 2 Column Totals.....	☐	☐	☐	☐	☐	☐	☐	☐
Page 3 Column Totals.....	☐	☐	☐	☐	☐	☐	☐	☐
Page 4 Column Totals.....	☐	☐	☐	☐	☐	☐	☐	☐
Page 5 Column Totals.....	☐	☐	☐	☐	☐	☐	☐	☐
Column totals for all pages	☐	☐	☐	☐	☐	☐	☐	☐
	C1	C2	C3	C4	C5	C6	C7	C8

Step 2. Transfer your column totals to the spaces provided below. Then, in *each pair,* find the column number for which your score was the highest. Circle the letter associated with the column with the highest number. For example, if your score for column C2 was higher than for column C1, circle E instead of I.

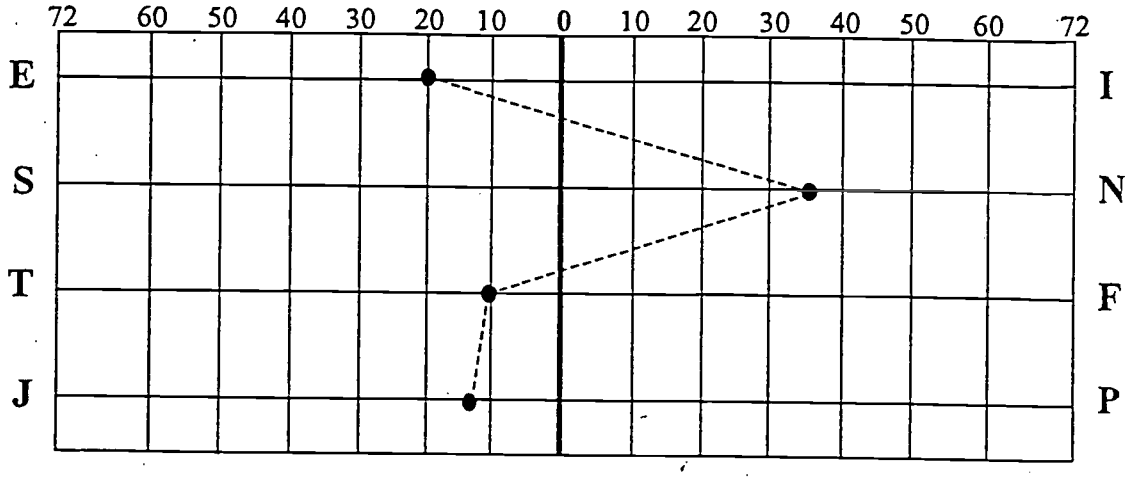
C1 ____ E	C3 ____ S	C5 ____ T	C7 ____ J
C2 ____ I	C4 ____ N	C6 ____ F	C8 ____ P
Difference ____	Difference ____	Difference ____	Difference ____

Step 3. For each pair, subtract the lowest column value from the highest column value. Record the difference in the space provided (see example below).

Example

C1 46 (E)	C3 18 S	C5 41 (T)	C7 42 (J)
C2 26 I	C4 54 (N)	C6 31 F	C8 30 P
Difference 20	Difference 36	Difference 10	Difference 12

Step 4. Plot the differences on the grid below. Start from the centerline and move toward the letter for which your score was the highest. In the example, the score for E (46) was highest. The difference between the E and I types (20) is plotted on the left of center on the E--I line, as shown below. When you have carefully plotted your four points, connect them with lines, as illustrated below.



This chart relates situational temperament to the side of the brain that is believed to control certain types of mental functions. The points plotted on the chart represent the extent to which you tend to employ one type of brain function more than the other in the situations presented in this instrument. The so-called left-brain functions are on the left side of the chart and the right-brain functions are on the right side of the chart.

Left-Brain Orientation		Right-Brain Orientation	
Type	Skills	Type	Skills
E	is a greeter of people communicates freely acts quickly has broad interests	is careful with details works well alone thinks before acting concentrates deeply	I
S	makes incremental decisions is good with data is good at precision relies on facts	reaches quick conclusions is good with concepts is good at abstract work grasps possibilities	N
T	analytical cool logical subtle	persuasive conciliatory warm sympathetic	F
J	organized decides quickly	adaptable makes empathetic decisions	P

APPENDIX B: Leadership Competencies Assessment Instrument (LCAI)

Assessment of Managerial Roles (LCAI)

The following instrument is adapted from *Part I-Leadership Roles: The Influencing Roles* of:

Leadership Competencies Assessment Instrument (LCAI)
4th Revision
January 1999
Dr. George A. Baker III
@College Planning Systems

The Leadership Competencies Assessment Instrument (LCAI) is divided into three parts. Part I seeks perceptions of the roles you play regarding the mission and goals of the organization. Part II seeks your perceptions of the values and emotions involved in leading others, and Part III seeks your perceptions regarding the leadership skills you apply in working with others.

Demographic information: Please fill in the corresponding **circle on the NCS Answer Sheet** which best describes your personal demographics:

1. Gender:
   a) Male b) Female

2. Age:
   a) 61 and above b) 60 - 55 c) 54 - 49 d) 48-43 e) 42 and below

3. Race:
   a) Black b) White c) Hispanic d) Asian e) Other

4. Years in Current Position:
   a) 10 and above b) 9 - 7 c) 6 - 4 d) 3 and below

5. Total Years as a College President:
   a) 10 and above b) 9 - 7 c) 6 - 4 d) 3 and below

6. Highest degree earned:
   a) Doctorate b) Masters c) Bachelors d) Other

Directions: Please fill in the corresponding **circle on the NCS Answer Sheet** which best indicates your level of competence (a natural or acquired facility in a specific activity) on each of the Managerial Roles listed below. A "1" on the scale indicates a low level of competence, a "5" on the scale indicates a high level of competence.

Managerial Roles	Level of Competence Low High 1 2 3 4 5
Leadership Roles	
7. **Visionary**- I think globally and of future possibilities, recognize momentum, apply educational convictions, and apply quality concepts.	Low High 1 2 3 4 5
8. **Task Giver**- I define and structure roles for followers, provide direction, define standards, am biased to action yet flexible, have high expectations, and use authority appropriately.	Low High 1 2 3 4 5
9. **Motivator**- I establish mutual trust, encourage creative and innovative performance, increase job satisfaction, reward appropriately, and manage individual and organizational stress.	Low High 1 2 3 4 5
10. **Ambassador**- I preside at official functions as a symbol of the college or as a symbol of external groups and organizations, promoting goodwill and commitment between organization and stakeholders.	Low High 1 2 3 4 5
11. **Liaison**- I develop collaborative relationships with groups or individuals in and out of my service area establishing a close bond between the organization and its customers or partners.	Low High 1 2 3 4 5
Informational Roles	
12. **Monitor**- I assess the needs of the institution, use them to identify programs and services, evaluate opportunities, develop/analyze policy, understand the informal organization, employ technology to support decision making, and facilitate development and maintenance.	Low High 1 2 3 4 5
13. **Disseminator**- I use technology; use effective techniques for speaking, writing, listening, and reading; make effective use of formal/informal communication; identify talent in staff; and develop personnel performance appraisal processes.	Low High 1 2 3 4 5
14. **Advocate**-I keep various segments of the community informed of the organization's progress in fulfilling its mission, deal effectively with mass media, and have working knowledge of (federal, state, local) political processes.	Low High 1 2 3 4 5
Decisional Roles	
15. **Change Agent**- I set measurable objectives, develop strategies/plans, develop quality initiatives, make prudent decisions, design plans, provide motivation for change, and seek new opportunities for the organization.	Low High 1 2 3 4 5
16. **Disturbance Handler**- I identify problems and work to resolve them, find alternatives to produce win-win outcomes, and resolve conflict and other problems in the best interest of the organization and community.	Low High 1 2 3 4 5
17. **Resource Allocator**- I develops basic principles of organizational planning, determine spans of control, develop budgets, manage time, design personnel plans, and see employees as human capital.	Low High 1 2 3 4 5
18. **Negotiator**- I represent the institution in major and local negotiations and am skillful in and have working knowledge of group dynamics, conflict resolution, decision making, and problem-solving techniques.	Low High 1 2 3 4 5

APPENDIX C: Letter of Invitation

Date

TITLE FNAME LNAME
POSITION
COLLEGE
ADDRESS
CITY, STATE, ZIP

Dear TITLE LNAME:

The National Initiative for Leadership and Institutional Effectiveness (NILIE) is engaged in a research project to determine the relationship between temperament and competence in managerial roles community college presidents. A random search of the American Association of Community Colleges (AACC) database yielded your name and institution as a possible study participant. This correspondence is to invite you to be a participant in the study.

Participation in the study will involve responding to 30 items on the Situational Temperament Sorter (STS) and 17 items on Part I of the Leadership Competencies Assessment Instrument (LCAI). It is anticipated that you will be able to complete both instruments in twenty minutes or less. The advantages of your participation are fourfold: 1) you will have the satisfaction of helping contribute to the body of research related to community college leadership; 2) you will receive your STS scores and a description of your temperament type; 3) you will receive an individual report of your scores on the LCAI with a breakdown of how your scores compare with other college presidents who participate in this study; and, 4) you will receive an abstract of the study.

Your responses and the responses of all participants in this research project will be treated with strict confidentiality. Your responses will only be available to the researchers involved with this study and no data from individual participants will be shared without your personal permission. Should you decide to participate, on your approval we will provide you with surveys and prepaind return mailers.

If you are willing to participate in this project, please fill in the enclosed card and return it via US mail today. A high response rate for survey instruments add to the validity of the findings of a research project and enable a researcher to more accurately relate the findings of the study to the larger population. Your assistance in this research effort is greatly appreciated.

Thank you.

Sincerely,

Stephen L. Athans, Researcher
National Initiative for Leadership
& Institutional Effectiveness

George A. Baker III, Director
National Initiative for Leadership
& Institutional Effectiveness

APPENDIX D: Letter of Instruction

Date

TITLE FNAME LNAME
POSITION
COLLEGE
ADDRESS
CITY, STATE, ZIP

Dear TITLE LNAME:

Thank you for agreeing in advance to participate in this study. Through this study and NILIE's efforts to assist community colleges, we are attempting to determine the relationship between temperament and competence in the managerial roles of community college presidents. Enclosed you will find the following:

- 1 copy of the Situational Temperament Sorter (STS)
- 1 copy of the Leadership Competencies Assessment Instrument (LCAI) with NCS scoring sheet
- 1 #2 lead pencil
- 1 prepaid mailer

Please take a few minutes and complete the two instruments, seal the instruments in the prepaid mailer, and return the mailer to us prior to DATE. Your prompt attention to this task will facilitate the timely completion of this research effort. For those who do not respond by the return date, follow-up letters and surveys will be mailed two weeks following the initial mailing. Your response and the responses of all participants in this research project will be treated with the strictest confidentiality.

Thank you for your support of this project.

Sincerely,

Stephen L. Athans, Researcher
National Initiative for Leadership
& Institutional Effectiveness

George A. Baker III, Director
National Initiative for Leadership
& Institutional Effectiveness

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