SELF-PERCEIVED ADMINISTRATIVE LEADERSHIP STYLES

OF PRESIDENTS, VICE-PRESIDENTS, AND DEANS

IN PUBLIC COMMUNITY AND JUNIOR

COLLEGES IN TEXAS

DISSERTATION

Presented to the Graduate Council of the

University of North Texas in Partial

Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

By

Hamad Abdulkareem Ali, B.S., M.S.

Denton, Texas

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Ali, Hamad Abdulkareem, <u>Self-Perceived Administrative Leadership Styles of Presidents, Vice-Presidents, and Deans in Public Community and Junior Colleges in Texas</u>. Doctor of Philosophy (Higher Education), August, 1994, 198 pp., 35 tables, bibliography, 125 titles.

The major purpose for this study was to determine the self-perceived leadership styles of the presidents, vice-presidents, and deans of public community and junior colleges in Texas in 1994. Administrators' choices of leadership style were also compared with personal characteristics of leaders, such as age, gender, title, number of years in current position, number of years in current institution, number of years in administration, degree earned, number of years in teaching, and number of full-time subordinates. The backgrounds of the administrators, particularly their previous experience, control over their respective budgets, size of their budgets (state, local, other, percentage of workers' compensation), and the ethnicity of leaders, were also examined. The <u>Styles of Leadership Survey</u> and a Demographic Information Form were used to collect the data.

This study revealed that styles 9/9 (collaborative) and 1/1 (bureaucratic) on the <u>Styles of Leadership Survey</u> were the dominant self-perceived leadership styles of

administrators. The personal characteristics of age, gender, current position (title), number of years in current position, number of years in current institution, years of teaching, and number of subordinates were not significant factors in administrators' choice of a leadership style. However, it was found that administrators' educational level and number of years in administration were significant factors in their choice of a leadership style. The ethnicity of a disproportionate number, 65.6%, of the administrators was other than Native American, Hispanic American, African-American, Arabic American, and Asian American. Only 18.6% were Native Americans, 11.5% were African Americans, and 4.9% were Hispanic Americans. The previous background of the administrators who responded had military, civic, political, education, or business leadership experience.

The major recommendation expressed as a result of this study was in the recruitment process. It was recommended that more female administrators and new administrators who have not been in the same college for a long time be considered for employment. It was also recommended that the hiring process include more administrators of other ethnicities in order to match the growing number of faculty and students from other ethnicities.

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I would like to offer my deepest and genuine thanks to my brother Abdulgafer Abdulkareem for his guidance and support throughout my education, including this study. Without his guidance and encouragement this study would not be possible.

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CHAPTER 1

INTRODUCTION

Public community and junior colleges are important
contributors to the enhancement of formal education in the
United States. Pierce (1994) described community colleges
as community based institutions which establish linkages and
partnerships with high schools, universities, community
groups, and employers. These institutions increasingly
deliver high quality programs at times and places convenient
to students. The State of Texas is one of the leading
states in the nation in terms of numbers of population,
number of schools and colleges, educational expenditures,
and density of enrollment of minority students (see Tables
1, 2, 3).

According to the Almanac of Higher Education (1993), in
the fall 1990, 30% of the students in Texas were from
minority groups, which is 6.6% of the U.S. enrollment (the
second in the nation). The leadership styles of community
college leaders provide an important field of study for
further research. Faculty are not considered in this study
in terms of leadership. A lack of research in this area in
the past decade further compounds the need for study of
leadership in Texas community colleges. Therefore,

Table 1

Ethnic Distribution of Texas Population in 1993

Ethnic Group	Percent
American Indian	0.4
Asian	1.9
Black	11.9
White	75.2
Hispanic	25.5
Other & unknown	10.6

Note: Total population was 17,656,000 (3rd in nation). From Almanac of Higher Education (p. 107), 1993, Chicago: University of Chicago Press.

Table 2

Total Fall Enrollment in Texas Public Universities and Public Community Colleges, 1985 to 1992

Year	Public Community Colleges	Public Universities
1985	289,532	361,052
1986	302,085	359,343
1987	321,025	365,882
1988	344,199	385,422
1989	355,478	399,948
1990	371,904	407,809
1991	387,707	407,219
1992	402,719	410,532

Note: From Texas 1992 Comprehensive Annual Financial Report for the years ending 1992, (p. 142). John Sharp, 1992. Austin.

Table 3

Ethnic Enrollment in Texas Public 2-Year Colleges, 1980 to 1990

Year	White	Black	Hispanic	Asian	Indian
1980	175,608	25,540	40,694	2,753	1,061
1985	198,146	28,648	51,616	6,862	1,107
Fall 1986	205,895	29,753	54,575	7,240	1,145
Fall 1987	224,503	31,627	61,887	7,503	1,383
1988	237,658	33,701	68,259	8,577	1,380
1989	243,415	34,718	72,237	9,065	1,288
1990	251,345	35,941	77,343	9,850	1,465

Note: From Statistical Supplement to the Annual Report for years ending 1987, 1988, 1989, 1990 (p. 25) by Kenneth Ashworth, Commissioner of Higher Education. Austin, TX: Texas Higher Education Coordinating Board.

an examination of the leadership styles of top leaders (presidents, vice-presidents, and deans) of public community and junior colleges in the State of Texas is included as part of the study. Significant differences in leadership styles based on leaders' personal characteristics such as age, gender, title, seniority (number of years in present position, number of years in present institution, number of years in administration), number of years in teaching, and number of full-time (non-clerical) employees reporting directly to the specific senior administrator are also examined.

Introduction and Theoretical Rationale

Education provides society with opportunities for structural and social change and thereby helps to maintain social, economic, and political life. Findings from previous research indicate a positive relationship between education and economic, as well as social and political, processes (Schultz, 1961). Formal education, which provides skills, training, concepts, and theoretical vision, makes individuals better employees. Because better-educated employees are considered more productive than less-educated employees, education is viewed as a vehicle for enhancing individuals' lives and for continuing social progress. The focus of this study is on the leadership of community and junior colleges in Texas and the relationship between the administrators' leadership style and the personal and institutional characteristics.

Community colleges have become a major aspect of higher education and of society in general (Boles & Davenport, 1975). Community colleges help produce graduates with a sense of purpose who relate to society, produce and distribute concepts and theories as public goods and services, and create social, political, and economic satisfaction. Community colleges provide opportunities for postsecondary education, 2-year transfer programs, and training and retraining for the nation's work force. They

provide compensatory education and opportunities for life-long learning.

Community colleges have expanded dramatically, in both number and function, since the beginning of this century. In 1900, there were eight junior colleges in the United States, with a total enrollment of 300 students. By 1975 more than 2,500,000 students were enrolled in junior and community colleges (Zwerling, 1976). Most of these students attended public 2-year colleges. Today, there are more than 1,400 community and junior colleges in the United States with 6 million students enrolled for credit (Peterson's guide, 1994).

The leadership styles of administrators in public community and junior colleges are major factors in the establishment and achievement of the schools' goals. The leadership styles of college administrators vary greatly according to the type of institution, the personal characteristics of the top leaders, and the characteristics of the campus community in which the leaders function (Kam, 1982). The job of top leaders differs widely from campus to campus and is defined by the size, type, tradition, and control of each institution. Administrators' positions are also defined, to some degree, by their individual personalities and leadership styles (Carbone, 1981).

Based on his own experience as a university president, Flawn (1990) noted that money is not what attracts

individuals to administrative positions; it is, rather, the prestige of the positions. Community college leaders are faced with the challenges, both on and off campus, of political and economical obstacles as top community college leaders. College presidents are formally recognized as individuals who hold a position of leadership and, thus, are viewed as change makers (Cohen & Roueche, 1969).

According to Green (1969), individuals become leaders in four different ways. One way is through tradition. When a leader dies, a successor often has already been designated as the next leader. The second way is by earning the leadership position as a result of personal capabilities and abilities. A third way is through what Green referred to as take-charge, whereby the strongest person becomes the leader. The fourth way is through election, whereby the majority elects a leader.

The impact of a president's image as a factor in community college leadership merits further examination, however. Whisnant (1990) defined presidential image as the concept that others have of a president's values, beliefs, and ideas as they are projected through his or her behavior, dress, mannerisms, and personal style. According to Vaughan (1989), the current image of community college presidents was shaped in the 1960s and 1970s. At that time, community college presidents were active in promoting their colleges' missions to their legislators, faculties, and communities.

As noted by Vaughan, current community college presidents tend to ignore the contributions of the founding presidents of community colleges. In some ways, however, early community college presidents were better able to execute their roles because their roles were more clearly defined.

Statement of the Problem

The problem of this study concerns the perceived administrative leadership styles of presidents, vice-presidents, and deans of public community and junior colleges in Texas.

Purposes of the Study

The purposes of this study were to (a) determine the self-perceived leadership style of presidents, vice-presidents, and deans of public community and junior colleges in Texas; (b) compare the leadership styles of presidents, vice-presidents, and deans of public community and junior colleges in Texas with regard to the characteristics of age, gender, current administrative level within the institution, years in present position, years at present institution, years of experience in administration, years of experience in teaching, highest degree earned; and (c) compare the leadership styles of leaders of public community and junior colleges in Texas with regard to number of subordinates reporting directly to them.

Hypotheses

The following hypotheses were formulated to guide this research.

1. There will be no significant difference in the leadership styles of administrators in public community and junior colleges in Texas.

2. There will be no significant difference in administrators' leadership styles based on their gender.

3. There will be no significant difference in administrators' leadership styles with regard to their administrative level (title) within an institution.

4. There will be no significant difference in administrators' leadership styles with regard to their age.

5. There will be no significant difference in administrators' leadership styles with regard to their seniority in the position (number of years in current position, institution, and administration).

6. There will be no significant difference in administrators' leadership styles with regard to their years of teaching experience.

7. There will be no significant difference in administrators' leadership styles with regard to their highest degree earned.

8. There will be no significant difference in administrators' leadership styles with regard to their number of subordinates.

In addition to the hypotheses, several supplemental inquiries were considered to solicit information related to the background of the top administrators. Those inquiries include the following:

1. Are the different ethnicities fairly included in top management in community colleges?

2. Are the top leaders in full control of their respective area budgets?

3. What percentage of the top administrators were educated abroad?

4. Are the leaders of community colleges aware of the handling of workers' compensation?

Significance of the Study

This study is justified on several grounds:

1. The lack of knowledge about the perceived administrative leadership's perceived style of community and junior colleges in Texas points to the need for additional research. This study will determine the self-perceived leadership styles of presidents, vice-presidents, and deans in the 1990s.

2. The growing demand for community and junior colleges created by the increasing number of students further complicates the campus environment of these institutions. Therefore, increased skills, interpersonal communication, and a leadership style that transforms these

skills and communication to a reasonable level of implementation become an important issue which needs further discussion. This study should enable top leaders of the public community and junior colleges of Texas to become aware of their current leadership styles and at the same time observe other issues related to the organizational structure of their institution, their level of experience, and their previous background. Understanding these issues and their dominant leadership style should enable them to facilitate policies for improving enrollment and resolving other issues.

3. Because financial resources, namely college budgets, and the budgeting process are important to colleges' success, it is important to determine which administrative style works best. Awareness of their dominant leadership style and the budget size would provide leaders with feedback regarding their performance. A specific budget size and their level of control over it may force leaders to adopt a certain style of leadership or specific administrative behaviors.

4. The increasing number of students from minorities and different cultural backgrounds creates a need to understand which leadership style works best in a changing environment (see Tables 3, 4). As shown in Tables 3 and 4, the number of students enrolled from the various ethnicities is growing. Therefore, a supplemental inquiry into the

ethnicities of leaders as well as their dominant leadership
styles becomes an important issue in this complex
educational environment.

5. The examination of relationships between leadership
style and variables such as gender, age, seniority, number
of subordinates, previous teaching experience, and the
highest college degree earned should facilitate the
educational policy process in terms of increasing
productivity and hiring leaders to these colleges.

6. This study provides enrichment to current knowledge
about the subject and contributes to theory building in the
field of education.

Definition of Terms

For purposes of this study, the following terms are
defined:

Administrator is an officer who directs or superintends
the affairs of a certain department, division, section, and
so forth (Boles & Davenport, 1975).

Community college, according to the American Educators'
Encyclopedia (1982), is a 2-year postsecondary institution
of higher education that is publicly supported and usually
serves a particular community or region. It is authorized
to grant certificates and associate degrees and provides
academic, technical, and vocational courses in order to
serve primarily its taxing district and service area. It is

also directed to offer remedial developmental and continuing education courses and to provide counseling and guidance services.

Concern for people, according to Hall, Harvey, and Williams (1986), is one major dimension of the Styles of Leadership Survey that indicates a leader's behavior toward the human resources of the organization.

Concern for purpose, according to Hall et al. (1986), is the second major dimension of the Styles of Leadership Survey and indicates a leader's behavior and action toward achieving the goals of an organization.

Dean, according to the job description of the Dallas County Community College District (1993), is an administrator who performs administrative and supervisory work in planning, coordinating, and directing the functions of a specific department, such as instruction, support services, and others. Deans perform duties such as development, management, and evaluation of programs in their specific areas, and report directly to the president or the chancellor.

Educational leadership, according to Boles and Davenport (1975), is made up of two essential functions, leading and administering. Leading is a process of assessing performance, identifying individual needs, identifying organizational goals, revising goals, and making decisions. Administering is a process of solving problems,

making decisions, programming, coordinating, resolving conflicts, and appraising.

Junior college is defined in the Dictionary of Education (1973) as a 2-year institution of higher learning; a question has been raised about whether it should be classified as an extension of or as a part of higher education. Sometimes it is regarded as a feeder for 4-year colleges or universities. In most cases, junior colleges grant associate of arts degrees.

Leadership, according to Boles and Davenport (1975), is a practice or behavior conducted by individuals who possess certain influential characteristics that make other people follow certain procedures to achieve goals. Leadership includes functions such as planning, organizing, staffing, directing, and budgeting (Eddy, Miller, Martin, & Stilson, 1985).

Leadership style is defined by Blake, Mouton, and Williams (1981) as the quality of leadership practices used in carrying out the goals of a college, and range from emphasis on human resources to emphasis on carrying out the tasks of the college.

President is defined by Monroe (1972) as an individual who is elected by the board of trustees. The president interprets board policies to the public, students, and faculties. The president assumes leadership for the

development of means and programs for the execution of the
board policies.

Styles of Leadership Survey is a leadership-styles
measuring instrument which was developed by Hall et al.
(1986) to indicate how a leader would lead under a variety
of circumstances. This instrument produces five major
styles of leadership. These styles include 9/9
(collaborative), 5/5 (strategic), 9/1 (directive), 1/9
(supportive), and 1/1 (bureaucratic).

Vice-president is an administrator who manages the
affairs of a major service area of the community college,
such as academic affairs, student services, or physical
plant affairs (Dallas County Community College District,
1993). Knowles (1970) defined vice president as an elected
or appointed administrative officer who may be empowered to
act for the president or chancellor in the latter's absence.

<center>Delimitations</center>

This study was delimited to (a) presidents, vice-
presidents, and deans of public community and junior
colleges in Texas; (b) presidents, vice-presidents, and
deans who were willing to participate by completing and
returning the questionnaire used in this study; and (c) data
collected from the survey used in this study.

Basic Assumptions

The following assumptions were made in carrying out this study:

1. A uniform leadership style exists for Texas public higher education institutions. (This assumption is based on the results of a study conducted by Nwafor (1990) on the leadership styles of presidents of public universities in Texas.)

2. The leadership styles related to Texas public community and junior colleges are common and universal leadership styles and can be applied to different kinds of organizations.

3. The responses on both the SLS and the questionnaire represent the self-reported opinions of the senior administrators of Texas public community and junior colleges.

Organization of the Study

This study is divided into the following five major chapters:

Chapter 1 includes an introduction to the study, the theoretical rational, a statement of the problem, the major purposes, the hypotheses, the research questions, the significance, definition of terms, and delimitations. In addition, this chapter includes basic assumptions related to the study.

The second chapter provides a review of literature related to the topic of leadership. This chapter includes an introduction, clarification of the leadership concept, a brief history of studies related to leadership, the organizational structure in community colleges, current problems facing community and junior college leaders, competencies for effective leadership in community and junior colleges, and a chapter summary and conclusion.

The third chapter includes a description of the procedures used for collection and analysis of the data. This chapter includes a description of the population, the sample, the instrument and demographic data form used, the research design, and procedures used for data analysis.

The fourth chapter includes the presentation of the findings in narrative and tabular form. Tables, which are related to the responses of the subjects, are organized by age distribution, gender distribution, ethnicity distribution, current position title, number of years in present institution, number of years in administration, highest degree earned, number of full-time professional staff reporting directly to the top leaders, level of control over budget, budget size, and former occupation of leaders.

The fifth chapter provides the summary and conclusions of the study, a discussion, and recommendations for future research.

Table 4

Ethnic Enrollment in 2-Year Colleges in the U. S., 1980 to 1990

Year	American Indian	Asian	Black	Hispanic	White
1980	47,000	124,000	472,000	255,000	3,558,000
1982	49,000	158,000	489,000	291,000	3,692,000
1984	46,000	167,000	459,000	289,000	3,514,000
1986	51,000	186,000	467,000	340,000	3,584,000
1988	50,000	19,000	473,000	384,000	3,702,000
1990	54,000	212,000	509,000	414,000	3,918,000

Note: From Almanac of Higher Education (p. 43), 1993, Chicago: University of Chicago Press.

Table 5

Legislative Appropriations for Texas Public Community and Junior Colleges, 1986 to 1993

Year	Revenue
1986	443,411,261
1987	406,257,059
1988	413,583,781
1989	413,583,781
1990	512,063,744
1991	510,374,849
1992	558,164,704
1993	569,065,094

Note: From Statistical Supplement to the annual report on Texas Higher Education Fiscal Year 1986-1993, (1986, p. 125; 1989, p. 121; 1990, p. 123; 1991, p. 118), by Kenneth H. Ashworth, Commissioner of Higher Education. Austin: Texas Higher Education Coordinating Board.

CHAPTER 2

REVIEW OF LITERATURE

Introduction

Leadership is the topic of continuous research. Even
though an extensive amount of research has been conducted,
however, no consensus is evident on what constitutes
effective leadership. This chapter represents a review of
literature related to leadership in general and community
colleges in particular. The many studies which have been
conducted on this topic provide a variety of views of
effective leadership. This chapter includes a brief
overview of the various views of effective leadership and a
clarification of the concept of leadership, which is
distinguished from the concepts of management and
administration.

Scholars in the field of leadership have examined a
variety of styles of leadership. These styles range in
their quality of behavior from leaning toward building
relationships to concentration of tasks as a means of
achieving their intended goals.

Most recent studies of community college leadership
have been related to either problems facing college leaders
or competencies for effective leadership. Other studies

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have been related to specific campuses or specific leadership positions.

This section of the chapter highlights some of the problems that face community college leaders, as well as competencies for effective leadership. Because organizational structure is believed to have a direct effect on the style of leadership adopted by leaders, the most common organizational structures of community and junior colleges are also examined. A chapter summary concludes the chapter.

Clarification of Leadership Concept

For purposes of this research, it is important to distinguish between the concepts of management, leadership, and administration. Gibson, Ivancevich, and Donnelly (1991) defined management as a process, that is, as a series of actions, activities, or operations that lead to some end. In most organizations, that process is undertaken by more than one person. Management performs functions such as planning, organizing, leading, and controlling in order to coordinate the behavior of individuals, groups, and organizations and to attain production efficiency, satisfaction, adaptiveness, development, and survival.

In looking at this definition of management, it can be seen that leadership is a function in management. Many leadership scholars, such as Burns (1978), Cunningham and

William (1973), Fiedler (1967), Kam (1982), Liphan and Getzets (1973), Schuster, Miller, and associates (1989), Stogdill (1974), and Tead (1963), agreed that there is no clear and specific definition of leadership. Researchers have defined leadership based on their own particular points of view.

According to Stogdill (1974), the word leadership did not appear until the early 1800s. Stogdill noted, however, that there are as many definitions of leadership as there are researchers who have attempted to conduct research on the subject. A review of the literature indicates that leadership can be defined, generally, as a function practiced or conducted by individuals who possess influential characteristics or traits or behaviors that make other people (followers) do or follow certain procedures to achieve predetermined goals. This definition includes terms such as influential characteristics, and traits which are associated with power. In leadership there is a practice of power and influence on followers (subordinates); thus, an association exists between leaders and followers.

According to Boles and Davenport (1975), an administrator is a person who puts into effect the policies and rules of an organized group. Administrators are expected to achieve production while preserving organizational structure. Gibson et al. (1991) pointed out that leaders are expected to take initiatives and to

maintain an organization so that it can continue to function well. A leader can also administer.

These definitions indicate that leaders create policies, plans, and initiatives and carry out those policies and plans. Eddy (1993) suggested that higher education leadership should be performed at the highest possible level. Cooperation and understanding between followers and leaders is essential for the existence of leaders and for the achievement of their predetermined goals.

An extensive amount of research has been conducted in the area of leadership. However, most researchers agree that there is no consensus on what constitutes effective leadership. Studies in leadership have gone through stages or periods which have ranged from concentration on the personality or traits of leaders and their behavior to the situations to be managed and the various issues that contribute to effective leadership.

Early researchers in leadership focused their definitions of effective leadership on the traits of leaders. Leaders were judged by their personalities, intelligence, self-confidence, and other factors. Under this category of leadership studies, President John F. Kennedy in the U. S., Ghandi in India, and Naser in Egypt are considered highly effective leaders. Stogdill (1974) reviewed studies that were conducted on the traits of

leaders from 1904 to 1970. His study revealed the following factors associated with leadership: capacity (with traits such as intelligence, alertness, and judgment), achievement (with traits such as dependability, initiative, and self-confidence), participation (with traits such as activity, adaptability, and humor), status (with traits such as position and popularity), and situation (with traits such as mental level, skills, and status). Stogdill concluded that there is a low positive correlation between leadership effectiveness and variables such as age, height, weight, appearance, physique, and other personal characteristics.

Stogdill (1974) found that, between 1948 and 1970, researchers on the traits of leaders came up with a mixed reaction about the correlation between leadership and traits such as personality, social background, intelligence and ability, social characteristics, and task-related characteristics. Some researchers during this period found varying levels of positivity between those factors and leadership effectiveness, while other researchers found insignificant relationships between those factors and leadership effectiveness.

Some leadership scholars argued that the trait approach failed to describe effective leadership. In the 1940s, researchers began to focus on the behaviors of leaders as a measure of effective leadership. Leaders' behaviors were examined in order to determine the success of their

leadership. The 1940s studies included research at the University of Michigan and Ohio State University. The Ohio State studies were organized by Shartle (1950, cited in Stogdill, 1974) in 1945. A list of 1,800 items describing the behaviors of leaders was sorted and narrowed to 150 items. These 150 items constitute the Leader Behavior Description Questionnaire (LBDQ).

Stogdill (1974) also revealed in his evaluation of leadership research that other studies continued in the same path of the Ohio State University studies such as studies by Hemphill who introduced two major factors that describe leadership behavior--initiating structure, and major consideration. Initiating structure refers to leaders' concern for production as their major interest. On the other hand, major consideration indicates leaders' concern for creating a friendly work atmosphere. Stogdill concluded that, in regard to ideal leaders' behavior, leaders' attitudes toward consideration and structure are not highly related to any measure of leaders' effectiveness.

Another study reviewed by Stogdill (1974) which was related to the behavioral approach was conducted by Blake and Mouton in 1964. Their research led to the creation of the Managerial Grid.

The Managerial Grid has two axles, a horizontal axle and a vertical axle. The horizontal axle represents concern for production, and the vertical axle represents concern for

people. Each axle has points from one to nine. One represents minimal concern and nine represents maximal concern. Five styles of leadership are plotted on the grid. They include 9/1, 1/9, 1/1, 5/5 and 9/9. Blake and Mouton (1964) explained that under style 9/1 individuals are considered as instruments of production and a high emphasis is placed on task and job requirements. The relationship between managers and employees is based on the exercise of authority and obedience.

On the other hand, under style 1/9, individuals are encouraged rather than driven. Here, managers are more cooperative and understanding with employees. Under this style, human relationships are considered important, and the group is considered the key unit of the organization. Friendliness and harmony are desirable among group members.

Style 1/1 managers exert minimum influence in their contacts with employees. Little concern is expressed for both production and people. Managers are considered as message carriers who have minimum contact with employees.

Under style 5/5 managers seek to maintain a balance between people and production. Managers in this style assume that people will work willingly and do as they are told if the reasons for doing so are explained. Enough concern is shown at the individual level to allow adequate production to be achieved.

In style 9/9 managers assume that employees need to know that they are involved and committed to productive work. In this style, the capability of individuals to be involved in organization through commitment to goals is fundamental. The focus of this style is on the improvement of the organization. A true 9/9 style exists when individual goals are in line with those of the organization.

Another study using the behavioral approach was completed by Reddin in 1970. Reddin introduced the 3-D Theory, which is an integration of the managerial grid model. Reddin pointed out that the two dimensions of the managerial grid could be combined to create a third dimension, called integrated style. In this style, managers use maximum task orientation and relationship orientation to produce effectiveness. Integrated managers make sure that everyone understands why and what they are doing.

As research for effective leadership continued, other researchers such as Fiedler (1967), Vroom (1977) and others noted that the trait and behavioral approaches failed to represent effective leadership. They pointed out that effective leadership depends on a combination of personality, task, power, attitude, and perception. These attributes are the basis for the contingency model and the path-goal model. These two models relate to a third approach to describing effective leadership. This is the situational approach. Under this approach effective

leadership depends on a variety of conditions that surround a specific situation.

The Contingency Model was developed by Fiedler (1977). The major assumption of this model is that the effectiveness of a group or organization depends upon the interaction between the leaders' personality and the situation. According to this model, it is more effective to match the goals to which leaders give highest priority with the degree to which the situation gives the leaders control and influence over the outcomes of their decisions. The other factor in this model is the "situational favorableness," which indicates the degree to which leaders have control and influence and, therefore, feel that they can determine the outcome of group interaction. Leaders have more control and influence if (a) their members support them; (b) they know exactly what to do and how to do it; and (c) the organization gives them the means to reward and punish their subordinates.

Path-Goal Model

The path-goal was developed by House in 1971. The major assumption of this model is that leadership effectiveness depends upon the leaders' positive impact on followers' motivation and ability to perform and satisfaction. In this model, leaders' behavior has the following dimensions: initiating structure, consideration,

authoritarianism, hierarchial influence, and closeness of subordinates.

Initiating structure describes the degree to which leaders initiate psychological structure for subordinates by doing such things as assigning particular tasks, specifying procedures to be followed, clarifying their expectations of subordinates, and scheduling work to be done. Leaders' consideration is used to describe the degree to which they create a supportive environment of psychological support, warmth, friendliness, and helpfulness through actions such as being friendly and approachable and looking out for the personal welfare of the group.

Other supporters of the situation approach, in addition to Fiedler (1977) and House (1971), include Vroom (1977) and Argyris (1977). Argyris, who emphasized the idea of changing the status quo, stressed the process of learning. The learning process is a cycle that involves (a) discovering the problem, (b) inventing a solution, (c) producing the invention (performing in terms of actual behavior), and (d) generalizing what has been learned to other settings.

Vroom (1977) pointed out that the behavior of leaders is determined by two classes of variables: (a) attributes of the leaders themselves, and (b) attributes of the situation they encounter. Many differences in the behaviors of leaders can be explained only by examining the joint

effects, including interaction between the two classes of variables.

Fiedler (1977) pointed out that managers should be trained differently. Their training should be based on the leadership situation rather than on changing their personalities. Leadership effectiveness requires a matching of individuals with the proper situations.

As scholars in the leadership area have continued their research in effective leadership behaviors they have introduced several ideas which lead to effective leadership in general. One area relating to leadership is the decision-making process. Blake and Mouton (1961), who stressed the importance of decision making, explained that participation and communication are two important factors in effective decision-making. Effective communication happens when employees and managers communicate with each other freely, with less formality, and with mutual respect and understanding. Effective participation occurs when all parties (employees, managers, and supervisors) of an organization cooperate in setting the goals and agendas of the organization and share the responsibility for actions taken.

Barnard (1968) pointed out that the techniques of communication are an important part of any organization and are the preeminent problems of many. Communication

techniques shape the form and internal economy of organizations.

Drucker (1981, 1992), who conducted extensive research related to effective management behavior in the 1980s and early 1990s, suggested that in order for management to be effective and work to be productive it is necessary to (a) analyze the work itself; (b) understand the steps needed, their sequence, and their integration into an organized process; and (c) systematically provide the information needed. Drucker further warned managers to avoid (a) having lofty objectives and (b) doing many things at the same time. He also noted that managers should establish priorities and should stick to them, avoid having many people to do the same job, and learn from experience.

In 1992, Drucker examined organization structure over the past 35 years. He pointed out that the most important issue in the 1990s is the restructuring of the organization--cutting some levels of management and management jobs. He also described the need for a change in personnel policies related to compensation and promotion.

Organizational Structure in Community and Junior Colleges

Because organizational structure has an effect on the styles of leadership, it is appropriate at this point to examine some of the most prevalent organizational structures of community and junior colleges. Mortimer and McConnell

(1978) indicated that the organizational structure in community colleges depends upon the form and size of the institution. They added that states and local governments also have an effect on the organizational structure of community colleges.

Cohen and Brower (1989) examined various forms of organizational structure in community colleges. The forms they introduced relate to single independent districts, multi-independent districts, state university systems, and branch colleges, state systems and non-campus colleges. In addition there are individual comprehensive colleges that include specialized campuses or clusters organized around curricular themes. Another form of community college organizational structure relates to independent 2-year colleges which may be church related. These structures can be either simple or complex, depending on the number of persons involved in administering or running the affairs of the college. The following elaboration relates to some of the structures described by Cohen and Brower.

Large community colleges: Under this category, the highest rank is considered to be the Board of Trustees. Members of the Board of Trustees are either elected locally or appointed by governors of states. The second position is occupied by presidents and superintendents. Presidents are appointed by the Boards of Trustees. Under the president and superintendent is an assistant to the president and a

dean for institutional research and planning. Under the president also is an assistant for personnel, assistant for business, and assistant for education. Each of these assistants have positions under them. Positions under the personnel assistant include district physicians, a campus personnel dean, a dean of student services, and a dean of arts. Under the business assistant position is a dean of college enterprises, a dean of information management, and a dean of special services. Under the education assistant is the auditorium, the administrative dean of students, and the dean of curriculum.

Multi-college district: The highest position under this category is dominated by the Board of Trustees. This board has a secretary and a hearing secretary. The second position in command is occupied by the chancellor, who has a staff made up of an assistant and an executive secretary to the chancellor. The next line of positions is made up of general counsel, a consulting instructor, a communications services director, an affirmative action programs and services director, and an educational information specialist. The next position in the hierarchy is designated as the vice-chancellor for personnel services. The final main positions are the presidents of the different campuses in the districts.

State community college system: Under this category, the highest position is dominated by the Board of Trustees.

The trustees are appointed by the state governor. The next positions in sequence are the chancellor, executive assistant to the chancellor and the board, and the director of communication.

Positions under the chancellor are an affirmative action officer, a director of policy and budget, and a deputy chancellor who has an assistant and director of planning and research. Under the deputy chancellor, the positions are a vice-chancellor for instruction, a personnel director, a management information system director, a physical services director, and a vice-chancellor for student services.

There are three positions under the vice-chancellor for instruction. They include a director of staff development, a director of institutional services, and a program design director. The one position under the vice-chancellor for students services is the facilities director.

University controlled community college system: Under this system, the highest position is dominated by the university Board of Regents (trustees). The next position in the hierarchy of this system is occupied by the president of the university. Below the president are the chancellors or presidents of the different community colleges in the system. The three divisions under each of the chancellors of the community colleges include academic affairs, administrative affairs, and the employment training office.

It is important to note that these organizational structures for the various community college systems are not absolute structures. Many positions or titles can be created due to differences in educational, economical, and political circumstances.

Leadership Styles

Several scholars in the field of leadership such as Likert (1967), McGregor (1960), Blake and Mouton (1961), Gribbin (1972), and many others, have elaborated on various styles of leadership. The many styles described by researchers are similar in nature, but have different names. Some styles concentrate on the use of power to achieve goals, and others concentrate on democracy--where all parties of an organization participate in the major functions of running the affairs of the organization.

McGregor (1960) introduced two major styles of management practices which he called management strategies, Theory X and Theory Y. The Theory X strategy supports the idea of using power to achieve goals. The major assumptions of this theory are that average individuals (a) dislike work and therefore must be forced to work; (b) like to be directed and wish to avoid responsibility; and (c) have little ambition and want security above all else.

The Theory Y strategy recognizes individuals' abilities and the need to give them a chance in running the affairs of

the organization. This theory assumes that individuals are committed to the achievement of the organization's goal. The major assumptions of this theory are that (a) average individuals' performance of work depends upon controllable conditions--that work could be performed voluntarily or as a source of punishment; (b) threat does not cause individuals to be committed to the achievement of the goals of an organization--that individuals have self-control; (c) the rewards associated with achieving goals are factors in making individuals committed to the goals of an organization; (d) it is natural for individuals to learn and accept responsibility--that lack of ambition and emphasis on security are consequences of experience and are not inherent; (e) individuals are highly capable of creativity in the solutions of the organization's problems; and (f) under conditions of modern industrial life, the intellectual potentialities of average individuals are only partially utilized (McGregor, 1960).

Blake and Mouton (1961) described styles of leadership as chain of command, span of control, and delegation of authority. In the chain of command style, every person in an organization performs his or her duties in accordance with written (determined) policies or guidelines. Each level of management has specific duties. According to Blake and Mouton, this style is ineffective. In the span of control style, managers have authority to control a large

number of employees. This style, according to Blake and Mouton, is time consuming and, therefore, is an ineffective style. The delegation of authority style is practical when higher level managers allow lower level managers or employees authority over specific activities or duties.

Gribbin (1972) described leadership styles in terms of their effect on productivity (in other words, styles that would lead to high productivity, and others that would cause low productivity). According to Gribbin, the first of five unproductive styles is domineering. In this style, the leader dominates most of leadership functions (planning, organizing, staffing, etc.). The second unproductive style is pseudo-democratic. In this style, the leader does not have much confidence in himself or herself. The leader goes with the majority, agrees with what the majority decides, prefers to avoid conflict, and is afraid to oppose the majority. The third style is accommodative. In this style, the leader seems to be insecure or afraid of losing his or her position, prefers not to interfere, and would rather compromise. The fourth style is participative. In this style the leader is supportive and protective of his or her subordinates. As a result, the leader earns the personal loyalty of subordinates. The fifth unproductive style is bureaucratic. In this style the leader uses the power of his or her position. The leader insists that every level of

management follow written rules and that communication be done through proper channels.

In addition to these five styles, Gribbin (1972) described three productive styles of leadership. The first productive style is called directive. In this style, the leader is considered task-oriented, has a forceful personality, and is considered to be fair in dealing with employees and in running the affairs of the organization.

The second productive style is called collaborative. In this style, the leader employs every friendly effort to achieve the goals of the organization. The leader is considered to be cooperative, supportive, and a team builder (Gribbin, 1972).

The third style is the collegial leader. In this style, the leader believes in the abilities of his or her peers. The leader gains the recognition of peers and works for team success. The leader is mutually respectful and self-motivated (Gribbin, 1972).

Likert (1967) described some leadership styles as systems of organizations. One style is called exploitive-authoritative. In this system managers are concerned for physical security, economic security, and desire for status. In this style managers are hostile toward peers, show contempt to subordinates, and distrust others. In this style, cooperative team work is minimal.

Another style described by Likert (1967) is called benevolent-authoritative. In this system managers use rewards and punishments as motives. The leader is hostile toward peers, is dissatisfied with regard to membership in the organization, and maintains little communication toward achieving the goals of the organization.

A third style described by Likert (1967) is called consultative. In this style, managers have a positive attitude and ambitious. Managers have a desire for new experiences and use more rewards than punishments for motives. Managers' attitudes toward peers is positive.

The leadership styles described clearly fall into one of the two categories of factors describing leaders' behavior in the Ohio State studies. These categories are major consideration and initiating structure.

The use of power and bureaucracy in leadership quality has also been observed. Likert (1961) pointed out that style of leadership is the most important factor influencing the goals of an organization. He added that building a cooperative attitude and job satisfaction for employees leads to high productivity. This is not true, however, for all successful managers. Likert explained that for leaders to be effective and communicate effectively they must adapt their behavior and understand the concerns of the individuals with whom they interact.

Both task motivated and relationship motivated leaders, according to Fiedler and Chemers (1974), perform well, but under different conditions. In some situations leaders are forced to be task oriented and in other situations they are forced to be relationship oriented.

Hollander (1978) pointed out that a leader should not have just one style of leadership. Individuals have a variety of characteristics. Some characteristics are more apparent in one person than in another, depending on the environment. Leaders face specific situations that require specific actions. In some situations leaders are required to be autocratic (as in crisis situations). Hollander added that followers also affect leaders' styles. Leaders behave differently with some group members than with others.

A minimum amount of research has been conducted regarding educational leadership in public community/junior colleges (precisely top leadership) in Texas. A database search in November 1993 at the main library of the University of North Texas revealed only one study on the state level. The study was conducted by Glasscock in 1980. Glasscock examined the self-perceived and subordinate-perceived leadership styles of CEOs of campus and district leaders of the public community colleges in Texas.

Glasscock (1980), who used a sample of 40 campus and district administrators, concluded that the campus and district CEOs had different leadership styles. The

administrators' self-perceived styles stressed (a) maximum concern toward individuals and outcomes, and (b) minimum concern for individuals and maximum concern for production. Glasscock found that there are different dominant styles rather than just one dominant self-perceived style.

A variety of other studies in the area of educational leadership in community colleges have been conducted in Texas. However, these studies have been concentrated on specific single campuses or specific administrative positions.

In light of the changes and trends that have occurred since 1980 (more than a decade), it is essential to investigate and study leadership in Texas public community and junior colleges in further detail. The current issues related to community colleges discussed in the following paragraphs also need to be investigated further.

As suggested by Vaughan (1991), community college leaders in the 1990s should look at their current role from a different perspective, a perspective that considers professional renewal as an obligation and right. Vaughan noted that new and vigorous leadership is required in the 1990s for the following reasons:

1. The early founders and aging administrators are retiring.

2. The level of commitment and devotion of new administrators is low.

3. Community college enrollments are uncertain for the future, but the traditional college age is expected to increase by the mid-1990s.

Ethnicity in community colleges is another urgent issue that needs to be addressed in studies of leadership styles in the 1990s. Edwards (1991) predicted that around the year 2000, America will be a nation in which one of every three citizens will be non-white (see Tables 2, 3, 4). Minorities will cover a broader socioeconomic range than ever before. Edwards warned that the issue of ethnicity and gender presents an important challenge of the 1990s which must be considered in order to succeed. Charles (1992) concluded, in his study of the changing role of community college presidents, that an important task in the 1990s must be minority recruitment.

The gender issue also must be considered in studies of leadership. It is essential that women be included in leadership positions. Rosemary (1988), who conducted a study of transactional leadership and the community college president, concluded that women demonstrate greater strength than men in four areas: risk taking, caring and respect for others, acting collaboratively, and trust. Furthermore, the number of women who hold executive positions is rising. Gibson, Evancevich, and Donnelly (1991), reporting on a study by Naisbit and Aburdence, noted that women in the U. S. currently hold about 30% of the 14.2 million

executive, administrative, and management jobs. In addition
to their role in positions of leadership, the female
enrollment in community colleges represents a significant
portion of the schools' total enrollment.

Another issue that contributes to the need to examine
leadership styles in the 1990s is one in which a huge amount
of money is spent, workers' compensation. Fletcher (1992)
found, in her research on workers' compensation, that U. S.
employers are currently paying more than $60 billion a year
into the workers' compensation system. The cost of workers'
compensation is rising at a rate of $7 billion per year.
Workers' compensation now averages about 2.3% of the payroll
for insured and self-insured employers. Nelson (1989)
reported that Texas paid $2,843,456 in 1989 for workers'
compensation. This amount does not include loss to
employers related to job related injuries or assets loss.

Knowledge of budgeting and control of the budget has an
effect on leadership style. In this study, administrators'
level of control over budgets is pointed out.

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Problems and Challenges Facing
Community Colleges

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Those who lead community colleges currently face a
number of challenges and criticisms from various sources.
The identification of these challenges is necessary in order
for community college leaders to be aware of and work toward
dealing with these challenges and finding appropriate

solutions. Several of these important challenges are discussed in the following paragraphs.

Bogue and Saunders (1992) indicated that academic administrators are deeply concerned about the future of their institutions because the outcomes depend heavily on how those institutions are managed or led. Outcomes include student growth, as well as changes in knowledge, skills, and values. Senior administrators are concerned about how their leadership can achieve high quality education under severe economic conditions, especially when higher education institutions must adjust to organized budget cuts.

Sullins (1981) found that community college education has become the target of criticism from a variety of sources in society. Critics believe that community colleges have failed in achieving intended goals such as social mobility, full employment, and the elimination of poverty, among others.

Roe and Baker (1989) pointed out other problems that face community college leaders, such as diminishing financial resources, declining enrollment, aging faculties, and decreasing student skills in the face of demands for higher job skills. During the past decade, colleges and universities have been charged with the correction of weaknesses and inefficiencies in dealing with continued social change and a variety of emerging trends related to

education, such as enrollment and financial resources
(Wolotkiewicz, 1980).

McGrath and Spear (1991) listed other criticisms faced
by community college administrators as (a) open access
policies which, because of minimum admission standards,
allow almost everyone to be admitted; (b) slowness in
developing the curriculum to meet the needs created by
rapidly changing technology and by society; and
(c) weaknesses evident in students' general education and
writing skills. The subject of admissions was also
considered in a 1988 report entitled American Education:
Making It Work by William Bennett, Secretary of Education.
Bennett's report cited evidence of a sharp drop in college
test scores such as the SAT and the ACT and provided
evidence of educational weaknesses that should be seriously
considered by community college administrators.

Dressel (1981) addressed a problem related to
administrators themselves. This problem concerns
administrators' conflict between advancing their personal
interests and working toward achievement of the mission of
their institutions. As noted by Dressel, some leaders are
criticized for being more concerned with how their campuses
look than with the future of their colleges.

Additional challenges and ambiguities faced by
community college leaders were described by Cohen and March
(1986). They pointed out two challenges that merit the

attention of community college leaders. First, college leaders should understand the goals of their colleges and how they can be achieved. Community college leaders are currently expanding their schools' missions and programs in order to recover from shortages in enrollment and financial resources that have often thwarted achievement of the original goals of community colleges. A second challenge mentioned by Cohen and March concerns power. Mortimer and McConnell (1978) and Zoglin (1976) also addressed this idea with what they called sharing the authority. This challenge can be explained in terms of how much the leader can achieve and how powerful he or she is. Mortimer and McConnell pointed out that, at the time of their study, several groups were trying to gain influence in running the affairs of community colleges. Such groups included coordinating boards, governors, presidents, faculties and students, and boards of trustees. Each group was pushing for a greater share of control of the campuses and, as a result, was creating a high level of competition among top leaders of the colleges.

Lewis (1989), who conducted a study on community college presidents from 1969 to 1989, found that the greatest change during that period was that the decision-making process, which was once exclusively the domain of the president, had become a more democratic and participatory process. He found that trustees, students, and faculties

had become involved in decision making. A drawback to this process, as noted by Lewis, is that the president's role has become increasingly political.

The various challenges discussed in this section are important considerations for community college leaders. Their awareness of these challenges should prompt them to examine their current leadership styles and, thus, to become more effective in achieving their schools' goals and missions.

Leadership Competencies

The following explanation of literature concerning competencies needed for effective higher education leadership is provided because of the need for community college leaders to take note of these competencies and to adjust their leadership styles in order to develop more effective strategies for meeting the goals of their colleges.

Tead (1963) identified the following 10 qualities necessary in leaders: physical and nervous energy, sense of purpose and direction, enthusiasm, friendliness and affection, integrity, technical mastery, decisiveness, intelligence, teaching skills, and faith. Fisher (1984) added that college presidents must have a desire to impact others and to be influential and strong.

Eaton (1981), who emphasized a need for strategy focus, noted that community college leaders should be more risk-oriented, and that the mechanisms of change should be made available. Finally, Eaton noted, leaders need to have a comprehensive understanding of the goals and needs of their institutions and of their subordinates.

Duncan (1988) conducted a study to identify the competencies desired in future CEOs of American community and junior colleges. He found that the major need is for institutional revitalization and renewal, including strategic planning, risk-taking, change in community relations, and institution survival. Community college leaders need to set their priorities so that more work and resources are devoted to vital and important issues.

Like Eaton (1981), Vaughan (1989) stressed the necessity of change in achieving the goals of community colleges. He supported the idea of changing leadership to meet the needs of a new era in higher education. Miller and Eddy (1983) suggested that leaders create distance between themselves and their various constituencies by delegating authority.

Hammons and Keller (1990) identified the following competencies as necessary for future community college presidents:

1. Presidents should have the ability to know when and when not to delegate authority.

2. Presidents should be aware of how to attract and select good quality people.

3. Presidents should have the ability to know when and how to make difficult and sound decisions.

4. Presidents should possess interpersonal skills. They should be able to interact effectively with a variety of individuals, both inside and outside the college, including trustees and political groups.

5. Presidents should have a thorough knowledge of the mission and purposes of the community college, should be committed to the college mission, and should have the ability to communicate this commitment to various constituencies.

Hammons and Keller (1990) also identified the following personal characteristics that community college presidents should possess:

1. Presidents should possess the judgement to choose effectively among alternative courses of action.

2. Presidents should demonstrate commitment to a course of action, to principles, and to the institution.

3. Presidents should have the integrity necessary to inspire others to trust their words and actions. In other words, presidents should stand on principle and be devoted to what is right and just.

4. Presidents should demonstrate flexibility, a positive attitude, energy, wellness, and a sense of responsibility.

Whisnant (1990), who stressed the idea of vision, noted Parks' observation that leadership cannot exist in the absence of vision. Presidents should have the ability to visualize how resources, personnel, and policy can be combined to achieve the advancement of an institution and its educational goals. After the establishment of a vision, presidents should work toward influencing others in order to achieve this vision. Trust, good judgment, and expertise were all described by Whisnant as essential elements in the development of a presidential image.

According to Green (1988), however, vision and personal values are not the dominant factors in describing successful leaders. Green, instead, emphasized the idea of strengthening presidential leadership through learning from previous leadership-development programs and constant research for methods of effectiveness.

Sammartino (1982) indicated, from his own experience as a college president, that the position requires dedication, appreciation, and the sacrifice of personal pleasure. In addition, presidents must make decisions related to all parties who have a relationship with the college. Such parties include other presidents, trustees, public

relations, groups, instructors, students, fund-raising
alumni, parents, and others.

Polk (1978) and Richardson and Bender (1972) noted the
importance of the relationship between presidents and their
boards of trustees. According to these researchers, it is
important and constructive for college presidents to have
mutual cooperation with the board of trustees. Presidents
should also develop a professional relationship with their
faculties and should be involved in community planning.
Polk added that presidents must be flexible, use good
judgment, delegate authority, and earn the confidence of
their staffs. Presidents should also be self-starters.

Community college presidents can benefit from a
thorough understanding of the competencies necessary to cope
with the challenges they face. According to Stewart (1982),
community college administrators must start by recognizing
their constituencies, such as faculty, staff, trustees, and
students. They should possess administrative know-how and
experience in planning and budgeting and should be involved
in their communities so that they can cultivate connections
with a variety of individuals.

Duncan and Harlacher (1991) suggested that community
college presidents should emphasize teamwork. They should
also have self-confidence, ambition and drive, persistence,
consistency, compassion, people-orientation, friendliness,
firmness, trustworthiness, integrity, honesty, wisdom, and

energy--all important characteristics for effective leadership.

Based on a 1978 study, Vaughan emphasized that community college presidents should pay attention to educational issues and should be aware of what is going on in various academic departments. Vaughan explained that presidents should expend effort for educational development for all segments of the college community by maintaining a balance between the needs of the various groups on the campus (faculty, students, and administrators). Vaughan also noted that presidents should communicate with the college community and should exhibit involvement in the literature of community college administration through published articles and attendance at conferences related to community college administration.

Tead (1963) identified a list of techniques for practicing leadership. The list includes giving orders and commendations, maintaining personal bearings, taking suggestions, strengthening a sense of group identify, showing care in introduction to groups, creating group self-discipline, and correcting problems and disputes.

In a paper presented at the annual convention of the American Association of Community and Junior Colleges, Shaw (1989) listed several measures that are necessary in meeting future challenges to build communities:

1. Leaders should educate boards of trustees and presidential research committees about the tasks of leadership in the new era.

2. Leaders should build recipitivity to women and minorities in leadership positions among boards and staff members. This brings new energy and thoughts to the search for effectiveness in achieving college goals. Modgil, Verma, Mallick, and Modgil (1986), who shared and supported this idea, pointed out a strong need to take a new look at education and to simultaneously consider all ethnic groups in society. In other words, a variety of groups must be reflected and involved in educational planning and in the curriculum.

3. Leaders should educate internal constituencies about consensus building, teamwork, information sharing, and shared decision making.

In a paper presented at a conference of the League for Innovation in the Community College (Leadership 2000), Fryer (1989) explained that the ability of community colleges to effectively fulfill the important roles assigned to them by society is determined by those in positions of authority in the institution. Leaders must encourage independent initiative and evoke a spirit of commitment and community within the college.

Understanding the organizational culture is an important point in creating effective educational

leadership. Chaffee and Tierney (1988) pointed out that institutions are influenced by powerful external factors such as demographics, economics, and political conditions. Institutions are also shaped by strong forces from within. These internal forces have their roots in the history of the organization and derive their strength from the values, traditions, processes, and goals held by those who are heavily involved in running and organizing the institution. Chaffee and Tierney indicated that culture has three major dimensions: (a) structure, which refers to the ways in which the organization achieves its activities; (b) environment, which includes but is not limited to the objective context of people, events, demands, and constraints in which an institution finds itself; and (c) values, which includes the beliefs, norms, and priorities held by members of the institution.

Chapter Summary

This chapter began with an introduction that identified the purposes and organization of the chapter. The concept of leadership was then distinguished from the concepts of management and leadership.

The next part of the chapter included a review of literature conducted in the search for effective leadership. As pointed out, early studies in leadership were focused on the traits of leaders as major factors that would lead to

effective leadership. Later studies opposed that idea and pointed out that the behavior of leaders is more representative of leaders' effectiveness. These studies included research at the University of Michigan and Ohio State and by Blake and Mouton (1961), Reddin (1970), and others. The supporters of the behavioral approach introduced two major dimensions for describing leaders' behaviors. Those two factors were initiating structure and major consideration. Another team of scholars, including Fiedler (1970), House (1971), and others, introduced still other ideas for describing leadership effectiveness. They suggested that effective leadership depends on the situation to be managed rather than on the traits or behaviors of the leaders.

As research for effective leadership has continued, researchers have suggested a variety of views and ideas that contribute to effective leadership practices. Such ideas effect decision making, communication, and the organizational structure.

The remainder of this chapter includes elaboration on various leadership styles that have been examined by scholars in the study of leadership. As pointed out, these styles are similar in nature and are highly dependent on the views of early studies conducted in leadership, such as the traits approach, the behavioral approach, and the situational approach. Most styles range from leaning toward

building relationships to a concentration on tasks and duties as a means of achieving organizational goals.

Following the section on leadership styles, a brief review of some of the educational research conducted in community college leadership is provided. This part of the chapter includes some of the urgent issues that indicate the need for further research in community college leadership. These are followed by an examination of important areas affecting leadership styles, such as the organizational structure in community colleges, problems currently facing community college leadership, and effective leadership competencies.

In this study an attempt was made to examine the quality of leadership in public community/junior colleges in the State of Texas. In the last decade or so, several issues and trends have occurred that emphasize the need for further examination of leadership styles. These issues include leadership behavior, enrollment, minorities, ethnicity, and gender.

As part of achieving this goal (examining leadership style) several issues are discussed in this chapter, including classification of the leadership concept, examination of literature related to leadership effectiveness, the organizational structure, problems facing community college leaders, and competencies for effective leadership practices. These issues are discussed because

they have a strong impact on the leadership styles of administrators. These issues--particularly knowledge of current problems facing community college leaders and competencies for effective leadership--should serve as a guide for the self-evaluation of community college leaders. In other words, community college leaders should ask themselves if they have these problems or issues on their respective campuses. Additionally, discussion of these issues should accompany efforts to identify dominant leadership styles so that community college leaders get additional feedback. If they find that some of the problems exist on their respective campuses, they may need to adopt leadership styles other than those currently being used.

In conclusion, the following points were offered by Pruitt (1988) for those who seek a high position in community college leadership, such as the presidency: (a) the presidency is a serious job and the individual seeking that position must have the personal desire and commitment for the job and the experience and skills necessary for the job; (b) presidents should not take the position lightly or be secluded in the office, at the same time, however, they should enjoy themselves. Community college administrators must also deal with continuous developments and changes in society (Wolotkiewicz, 1980), such as computer technology, the magnitude of society's problems, and economic hardships.

CHAPTER 3

PROCEDURES FOR COLLECTION AND

ANALYSIS OF DATA

Introduction

This study was designed to determine the predominant
self-perceived administrative leadership styles of top
leaders (presidents, vice-presidents, and deans) of Texas
public community and junior colleges in the 1990s. The
leadership styles of leaders were compared with their
personal characteristics, including age, gender, current
position title, seniority (number of years in current
position, number of years in present institution, and number
of years in administration), highest degree earned, and
number of full-time professional staff (non-clerical)
reporting directly to the administrators. In addition,
issues that are considered essential in the 1990s, and which
could have an effect (directly or indirectly) on the
managerial style of leaders, were examined. Issues examined
were related to minorities, ethnicities, budgets, and budget
control.

The Styles of Leadership Survey and a demographic
information form were mailed or personally delivered to 97
senior administrators of Texas public community and junior

colleges. The mailing of the instruments was begun on January 21, 1994. The last response was received by April 11, 1994. A total of 62% of the surveys were received and were usable for research and data analysis. Nine percent of the responses were not complete and, therefore, were excluded from the study.

The Styles of Leadership Survey was used to determine the predominant self-perceived leadership styles of the senior administrators of Texas public community and junior colleges. The demographic information form was used to solicit information related to the personal characteristics of the senior administrators and their colleges.

The statistical techniques used in this study included corrected chi-square, one-way analysis of variance, t-test, and multiple comparisons (particularly Fisher's least-significant difference test). These statistics were conducted using the statistical package called SAS. Included in this chapter are sections describing the research design, the population, the selection of the sample, procedures for collection of data, selection of the instruments, and the procedures used for data analysis.

Research Design

This study is based on survey research. A survey instrument (Styles of Leadership Survey) and a demographic information form were mailed to senior administrators of

Texas public community and junior colleges. Both instruments were used to determine administrators' predominant leadership styles and compare them with personal characteristics of the administrators (such as age, gender, current position title, seniority, years of teaching, highest degree earned, etc.). Bailey (1987) points out that survey research is efficient for measuring individuals' present level of occupation and is also effective for prediction.

Presidents, vice-presidents, and deans of the public community and junior colleges in Texas were the main subjects in this study. A copy of the cover letter and procedures for collecting data were provided to the University of North Texas Review Board for the Protection of Human Subjects in Research for their approval. On January 14, 1994, a letter of approval from Sandra Terrell, Chair of Institution Review Board, was received (Appendix H).

Description of the Population

Administrators from a total of 42 public community and junior colleges in Texas were considered as the population for this study. These colleges are listed as members in the Association of Texas Colleges and Universities in the Texas Higher Education Directory 1992-93 (Appendix B). Some of the colleges have multiple campuses; however, not all campuses were listed. The list included 10 public junior

colleges and 32 public community colleges. For research purposes and data analysis, the data were divided into two major categories: public community colleges and public junior colleges. The administrators included were presidents, vice-presidents, and deans of the colleges (the highest three administrative positions). No assistant or associate deans, or academic division deans were included.

Some of the colleges included had deans of the various services whose positions were under the presidents (Dean of Instruction, Dean of Students, etc.). Other colleges had vice-presidents of the various services who were not deans. Still other colleges had directors of the various services, rather than deans or vice-presidents, whose duties were the same as those of the vice-presidents and deans.

The three top administrative positions (presidents, vice-presidents, and deans) from each college were surveyed (42 x 3), yielding a total of 126 administrators. It is important to note that there were more than three deans or three vice-presidents at each of the colleges. However, there was only one president at each college. Therefore, for an equal representation of the positions, one dean, one vice-president, and one president from each college were included. For colleges that had vice-presidents only, two vice-presidents and the president were considered, and for colleges with only deans, two deans and the president were included.

Vice-presidents and deans were chosen on an arbitrary basis so that all services were included (academic affairs, student services, etc.). The names and addresses of the administrators were obtained from the <u>Texas Higher Education Directory</u> (1992-93).

During the delivery of the instruments, it was observed that some of the public community colleges had a wide range of senior administrators who held positions as directors. Thus, it was considered essential to include some of those positions as part of the population.

The list in Appendix (B) includes only two campuses of the Dallas County Community College System. Only four of the top administrators from these campuses initially responded to the survey. In order to include an adequate representation of the leadership in the Dallas County Community College System, two other campuses were chosen to participate in the survey.

<center>Sample</center>

The sample representing the 10 public junior colleges was made up of 27 top administrators. The sample representing the 32 public community colleges was made up of 70 top administrators. Thus, the representative sample included 97 top administrators. The subsample sizes were based on the following formula developed by McCall (1980):

$$\underline{n}^{-1} = \underline{N}^{-1} + \underline{e}^2 \, [\underline{Z}2 \, \pi(1 = \pi)]^{-1}$$

where:

$\underline{n}^1$ = the estimated number of individuals necessary in the sample for desired precision and confidence.

π = the preliminary estimate of the proportion in the population.

$\underline{Z}$ = the two-tailed value of the standardized normal deviation associated with the desired level of confidence.

$\underline{e}$ = the acceptable error or half of the maximum acceptable confidence interval.

$\underline{N}$ = the number of individuals or entities in the population.

($\underline{e}$) is estimated to be 0.05.

($\underline{N}$) = 30 for public junior colleges.

($\underline{N}$) = 96 for public community colleges.

(π) = 0.50.

($\underline{Z}$) = 1.64 under a .90 confidence level.

McCall (1980) explained that when there is no prior information about the π, an estimate should be made. McCall added that $\pi(1 - \pi)$ produces a maximum value when π is 0.50.

Procedures for Collection of Data

On January 14, 1994, 97 letters (Appendix A) were mailed to the top leaders of the Texas public community and junior colleges. The letter explained that they would receive a survey instrument and a demographic information form (DIF).

On January 21, 1994, packets in large envelopes were mailed to the administrators. Each packet contained a copy of the <u>Styles of Leadership Survey</u> instrument (Appendix C); the demographic information form (Appendix D); a self-addressed, stamped return envelope; a small self-addressed, stamped envelope; a form for requesting an abstract of the study (Appendix F); and a cover letter (Appendix E). In the cover letter the administrators were instructed to complete the survey instrument and the demographic information form and to return them in the enclosed envelope. The administrators were also assured that if they wished to receive an abstract of the study, they could do so by filling in the enclosed address form and returning it by separate mail in the small envelope provided.

In addition to the 51 packets mailed, 46 identical packets were personally delivered to other administrators in the sample. Four days after mailing the instruments, telephone calls were made to ensure that the administrators had received the packets.

All of the instruments and demographic information forms that were mailed or delivered to the administrators were identified with symbols or numbers to help in determining which administrators had responded. The symbols and numbers corresponded to those on a list of respondents' names. Responses from the public community colleges were tracked through the requests for abstracts of the study

which required that each respondent include his or her name
and address.

Approximately one month after mailing and delivering
the packet containing the Styles of Leadership Survey and
the demographic information form, follow-up letters were
mailed to the administrators (Appendix G). One week after
mailing the follow-up letters, telephone calls were made to
the administrators to encourage them to respond.

Selection of the Instrument

After an exhaustive review of several instruments, the
Styles of Leadership Survey, developed by Hall, Harvey, and
Williams (1986, Appendix C), was determined to be the most
appropriate for this study. The Styles of Leadership Survey
is based on a two-dimensional grid analysis of leadership
practices similar to the one developed by Blake, Mouton, and
Williams (1961). The two dimensions included were concern
for people and concern for purpose. This instrument was
designed to provide individuals with information about the
way they lead, or would lead, under a variety of conditions.
The instrument affords self-assessments of leadership
behaviors and yields analysis of overall leadership style,
including the following four components of leadership:
philosophy, planning and goal setting, implementation, and
performance evaluation.

In relation to the <u>Styles of Leadership Survey</u>, Hall et al. (1986) explained that norms provide a reference point in the form of standardized T scores, so that the respondents can compare their leadership practices with those of others. T-scores have been generated from a substantial normative sample of individuals who have completed the <u>Styles of Leadership Survey</u>. The current normative sample is 2,844. According to Hall et al., the median coefficient of stability for this instrument is greater than 0.70.

Best (1977) pointed out that a correlation coefficient of 0.60 to 0.80 indicates substantial reliability. Burns (1980) stressed that for a test-retest reliability coefficient to be significant, it should be in the range of 0.75 to 0.85. In the <u>Eighth Mental Measurement Year Book</u>, Buros (1978) revealed that the <u>Styles of Leadership Survey</u> test-retest reliability coefficient is 0.75. Therefore, the instrument is substantially reliable. Hall et al. (1986) and Buros also revealed that the instrument has been used in publications, including doctoral dissertations, master's theses, and other research projects. The sample for which this instrument was used in arriving at the coefficient for stability included leaders from educational, civic, business, industry, government, and service organizations. The average age of those comprising the sample was 37.7 years, and the range was from 17 to 69 years. The average

number of followers supervised by the sample members was 34, with a range from 4 to 403.

The instrument has a total of 60 questions which are related to the four major categories of leadership--philosophy, planning and goal setting, implementation, and performance evaluation. Each category has 15 questions and is divided into three sub-categories--A, B, and C. Each sub-category has five statements. The subjects are asked to distribute the five statements (a, b, c, d, and e) on a scale with a range from 1 to 10, where 1 represents the lowest and 10 represents the highest characteristic of the subject.

The data collected using the <u>Styles of Leadership Survey</u> were plotted on the leadership grid model which employs a <u>vertical axis</u> and a <u>horizontal axis</u>, each scaled one through nine. The horizontal axis represents leaders' concern for purpose, and the vertical axis represents leaders' concern for people. A showing of one on either axis indicates low concern, and nine indicates high concern.

Five major styles of leadership are plotted on the grid (five quadrants). These styles include 1/1, 1/9, 9/1, 9/9, and 5/5. Style 1/1 represents minimal concern for people and for purpose. Style 1/9 represents minimal concern for purpose and maximal concern for people. Style 9/1 represents maximal concern for purpose and minimal concern for people. Style 9/9 represents maximal concern for both

people and purpose. Finally, Style 5/5 represents a balanced concern for both people and purpose. Hall et al. (1986) described the five styles of leadership as follows:

Style 9/1 is referred to as directive leadership. The primary concern is for output. Subordinates are expected only to follow directions given to them, they cannot participate in any management function.

Style 1/9 is referred to as supportive leadership style. The primary concern here is people and their relationships. This kind of leader prefers to let things stay the same in conflict situations. However, the leader under this style cannot achieve long-term satisfaction in their followers.

Style 1/1 is referred to as bureaucratic leadership. Under this style, the leader exerts minimum effort to achieve the goals of the organization or to build constructive relationships. This kind of a leader tries to avoid conflict and believes that people and goals are in conflict.

Style 5/5 is referred to as strategic leadership style. The leader under this style takes a moderate position, in other words, the leadership position is that the job must be done and at the same time individuals' needs should be respected. The leader can be manipulative.

Style 9/9 is referred to as collaborative leadership style. This leader believes that work is healthy for

people. According to this kind of a leader, people and purposes are interdependent. This leader believes that people should work together as a team, and that their feelings should be dealt with positively to keep their morale high. This leader believes in individuals' desire for advancement, and in their suggestions and participation in issues related to increasing efficiency.

The Styles of Leadership Survey identifies a dominant style and a back-up style for leaders. As stated early, the Styles of Leadership Survey produces five raw scores. After the transformation of the raw score to t-scores, the t-scores are arranged in sequence with the highest on top. The difference between each two consecutive styles represents the leaders' insistence of moving to the next style. The higher the difference, the less likely the leader will adopt the next immediate style and vice-versa. The Styles of Leadership Survey also provides major strengths of the leader in each specific area of the four components of leadership (philosophy, planning and goal setting, implementation, and performance evaluation) because each area has a subtotal (score).

Demographic Information Form

The demographic information form (Appendix D) was constructed for this study, and validated by a group of top administrators including vice-presidents and deans at a

public community college. It includes information related to leaders' age, gender, current position title, seniority (number of years in current position, number of years in current institution, and number of years in administration), highest degree earned, number of years in teaching and number of full-time professional staff (non-clerical) reporting directly to the top leaders.

Additionally, the demographic information form was used to solicit information related to the distribution of the different ethnicities, the backgrounds of the leaders (former experience), and the size, level of control over the budget, and portion of the budget related to workers' compensation.

Procedures for Data Analysis

This study is considered to be a correlational study (leadership styles are the dependent variables and personal characteristics are the independent variables). All of the hypotheses were tested at the 0.05 level of significance.

The raw data collected through the <u>Styles of Leadership Survey</u>, which represent the scores of styles of leadership, were transformed to $\underline{t}$-scores as described in the instrument manual. Hall et al. (1986) reported that the $\underline{t}$-scores have a mean of 50 and a standard deviation of 10.

The <u>Styles of Leadership Survey</u> produces 5 major scores for each respondent. Each score represents a leadership style as follows:

<u>Score</u>		<u>Leadership Style</u>
1	. . . .	9/9 (collaborative)
2	. . . .	5/5 (strategic)
3	. . . .	9/1 (directive)
4	. . . .	1/9 (supportive)
5	. . . .	1/1 (bureaucratic)

Each score represents the strength of four components of leadership (philosophy, planning and goal setting, implementation, and performance evaluation). The statistical package called SAS was used in the analysis of the data.

The data obtained from the <u>Styles of Leadership Survey</u> that relate to Hypothesis 1 are nominal. Hypotheses 2 through 8 have continuous and interval data.

Hypothesis 1 was tested by implementing corrected chi-square ($\underline{X}^2$). Hypotheses 2 through 8 were tested using one-way analysis of variance, Fisher's least-significant test, and $\underline{t}$-test.

Several researchers such as Kachigan (1986), Kerlinger (1986), and Thomas and Young (1987) reported that chi-square

is the appropriate method for testing the significance level of nominal data. In addition, Best (1977) stated that the chi-square test applies only to variables that are expressed in frequency counts (such as those related to Hypothesis 1 of this study). Each respondent's instrument produced five scores which were transformed to t-scores as provided in the instrument manual. The highest t-score of the five scores represented the score of that specific respondent. Consequently, a frequency count of the styles was conducted and arranged into tables to see how many respondents fell under each style (score). The score with the highest frequency represented the predominant style of leaders.

Burns (1980) pointed out that chi-square is used to compare observed frequencies to expected frequencies. He adds that when a chi-square is calculated for a sample having only two categories, a small correction is recommended. After subtracting expected frequencies from observed frequencies, 0.5 should be subtracted from each difference found.

Borg and Gall (1971) explained that when frequency data are grouped into more than four cells, a more complex chi-square test should be used. They suggest the use of Yate's (1934) correction or Fisher's (1974) exact test. Yate's correction formula was used in this study:

$$X^2 = \sum \frac{[O - E - .50]^2}{E}$$

Hypotheses 2 through 8 were tested using one-way analysis of variance, $\underline{t}$-test, and multiple comparison. The analysis of variance and $\underline{t}$-test were conducted using raw score means of leadership styles that fell under the personal characteristics of the top administrators (age, gender, current position title, etc.).

In one-way analysis of variance, researchers suggest that it is not enough to find only the significance of the $\underline{F}$-ratio. If the $\underline{F}$-ratio is found to be significant, then multiple comparison should be used.

Kachigan (1986) pointed out that there are a variety of multiple comparisons techniques which are named after the researchers who introduced them. They include Fisher, Scheffeé, Tukey, Duncan and Newman, Keules, and Dunnet. Kachigan explained that it is difficult to choose one approach over the others. McMillan and Schumaker (1984) pointed out that the results of these tests are similar, but that they differ in the obtained significance of the difference between means. If a test allows low difference, it is called liberal. On the other hand, if the test allows high difference, it is called conservative. McMillan and Schumaker listed Fisher's level of significant difference test as the most liberal and Scheffeé's test as the most

conservative. Therefore, Fisher's least-significant difference test was more appropriate for this study:

$$t2/2v\sqrt{\frac{2MS}{n}}$$

In testing Hypothesis 3, the t-test was used, because there are only two categories (male and female).

In summarizing data from the demographic information form, frequency counts and percentages were used extensively. All of the frequencies, percentages, and totals were distributed in tables for appropriate analysis. Data related to the additional inquiries (ethnicities, control over budgets and budget size, former background of the administrators, and their education abroad) are explained in percentages and frequency statistics. These inquiries were included to provide information about the administrators' backgrounds rather than to compare them with leadership styles.

Chapter Summary

This chapter includes an introduction that identifies information related to the survey in this study, a description of the research design, and a description of the population and procedures for selection of the two instruments used, which were the Styles of Leadership Survey

and a demographic information form. Also included in this chapter is a thorough description of the procedures used in collecting data, and the statistical analysis used in this study.

CHAPTER 4

PRESENTATION AND ANALYSIS OF DATA

Introduction

The statistical methods and analysis of the data used
in this study are described in this chapter. The
Demographic Information Form (Appendix D) was used to obtain
data related to the personal characteristics of the top
leaders of Texas public community and junior colleges.
Those characteristics, which are the independent variables,
include age, gender, current position, number of years in
current institution, number of years in current position,
and number of years in administration, highest degree
earned, number of years in teaching, and number of full-time
professional staff (non-clerical) reporting directly to the
top leader. Furthermore, the Demographic Information Form
was used to obtain information related to leadership styles,
such as background, ethnicity, and level of control over
budget. In addition to the Demographic Information Form,
the Styles of Leadership Survey (Appendix C) was used to
determine the dominant self-perceived leadership styles of
the leaders.

The second part of this chapter includes a description
of the statistical analyses used in this study. The

analyses were related directly to the testing of the hypotheses. The <u>Styles of Leadership Survey</u>, developed by Hall, Harvey, and Williams (1986), was the major instrument used in this study. All of the information gathered through the Demographic Information Form and the <u>Styles of Leadership Survey</u> is presented in tabular form. Results of the statistical analyses performed are also included as tables. This study was undertaken to describe the self-perceived leadership styles of presidents, vice-presidents, and deans of Texas public community and junior colleges in the 1990s. The Leadership Grid Model, described by Hall et al., was used as the major base for this study.

<center>Description of the Sample</center>

In January 1994, <u>Styles of Leadership Survey</u> and Demographic Information Form survey instruments were mailed or personally delivered to 97 presidents, vice-presidents, and deans in Texas public community and junior colleges. The population of this study was 126 senior administrators. By March 21, 1994, 61 senior administrators had returned usable instruments. The Demographic Information Form revealed information related to the independent variables, such as gender, age, and position (title). Responses to the <u>Styles of Leadership Survey</u> revealed information related to the self-perceived leadership styles of the senior administrators (the dependent variable).

Statistical significance was set at 0.05 for the testing of the hypotheses. Statistical analyses were made in order to determine the self-perceived leadership styles of the senior administrators of Texas public community and junior colleges. The statistical analysis was also performed to determine whether the independent variables (personal characteristics of the top leaders) had made a difference in the leaders' adoption of leadership styles.

Analysis of the Data

The statistical analysis used for the demographic information was a descriptive analysis. The demographic information included the independent variables, such as age, gender, current position (title), and seniority. Dependent variables were the self-perceived leadership styles of the senior administrators, which included 9/9, 5/5, 9/1, 1/9, and 1/1.

Description of the Data Used for
Statistical Analysis

The information obtained from both the <u>Styles of Leadership Survey</u> and the Demographic Information Form was used in analyzing the data. The scores obtained from the SLS were used in two forms (raw score means and T-scores). The T-scores were used to determined the dominant self-perceived leadership styles of the administrators. Raw scores were transferred to T-scores, as shown in the

instrument manual (Hall et al., 1986). The T-scores have a mean of 50 and a standard deviation of 10. The T-scores, according to Hall et al., reduces the bias of the responses, if any exists, and provide a more accurate picture of the perceived leadership styles.

Raw score means were used in testing all of the hypotheses, which are stated in the null form in Chapter 1. All of the hypotheses were tested at the 0.05 level of significance.

Hypothesis 1, which concerned the dominate leadership styles of the administrators, was tested using the corrected chi-square. Hypothesis 2, concerning the gender of leaders, was tested using the t-test. Hypotheses 3 through 8 were tested using one-way analysis of variance. Furthermore, multiple comparisons were conducted based on the F value. If the F value was found to be significant, a multiple comparison was conducted. The least significant different test was used in the multiple comparisons. It is important to point out that Hypothesis 5, concerning seniority of leaders, has 3 tests. They include number of years in present position, number of years in present institution, and number of years in administration. Data related to the research questions were introduced only to elaborate on the background of the leaders and are not compared with leadership styles. They were analyzed using frequency and percentages.

Responses by Institutional Category

The distribution of responses of administrators by category are presented in Table 6. As shown in Table 6, 44% of the respondents, or 43 administrators, were from public community colleges and 27% of the respondents, or 18 administrators, were from public junior colleges.

Table 6

Distribution of Responses of Top Leaders of Public Community and Junior Colleges in Texas by Type of Institution

Type of Institution	Response	
	Number	Percent
Public community colleges	43/70	44
Public junior colleges	18/27	18
Total	61/97	62

Predominant Leadership Styles of Administrators in Texas Public Community and Junior Colleges

The first objective for this study was to determine the self-perceived predominant leadership styles of top administrators. The distribution of administrators based upon their self-perceived leadership styles is shown in Table 7. The data collected using the Styles of Leadership

Survey, and shown in Table 7, reveal that styles 9/9 and 1/1 were equally likely to be chosen. Of the 34.4% senior administrators who chose style 9/9, 16 were from public community colleges and 5 were from public junior colleges. Of the 34.4% who chose style 1/1, 15 were from public community colleges and 6 were from public junior colleges. Of the 16% administrators who chose style 1/9, 7 were from public community colleges and 3 were from public junior colleges. Only 5% of the administrators chose style 9/1.

Table 7

Leadership Style Characteristics of Top Administrators of
Public Community and Junior Colleges in Texas

| | Institution Categories | | | |
Number of Years at Present Institution	Public Comm. Colleges	Public Jr. Colleges	Number	Percent
9/9--collaborative	16	5	21	34.4
5/5--strategic	4	2	6	9.8
9/1--directive	1	2	3	4.9
1/9--supportive	7	3	10	16.4
1/1--bureaucratic	15	6	21	34.4
Total	43	18	61	100.0

As indicted from the data in Table 7, styles 1/1 and 9/9 were chosen most frequently. The corrected chi-square test was performed, at the 0.05 level of significance, to

determine whether a uniform style existed for the
administrators. The calculated value of corrected chi-
square was 21.61, and the critical value (table value) was
9.49 under 4 degrees of freedom (summarized in Table 8).
Therefore, the null hypothesis was rejected leading to the
conclusion that there was a difference in the leadership
styles of the administrators.

Table 8

Leadership Style Distribution of Top Administrators of
Public Community and Junior Colleges in Texas

	Frequency of Highest Mean Scores for Leadership Style on the Styles of Leadership Survey	
Leadership Style	Expected Response	Actual Response
9/9--collaborative	12.20	21
5/5--strategic	12.20	6
9/1--directive	12.20	3
1/9--supportive	12.20	10
1/1--bureaucratic	12.20	21

Note: N = 61, DF = 4, critical value = 9.49, level of
confidence = p .05.

The second major objective of this study was to compare
administrators' leadership styles with personal
characteristics such as age, gender, position (title), years
in present position, years at present institution, years of

administration, years of teaching, and highest degree earned. These comparisons are presented in the following sections.

Relationship Between Age of Administrators and Leadership Style

The distribution of the age of the senior administrators is shown in Table 9. Age ranges used in the Demographic Information Form were below 30, 30 to 39, 40 to 49, 50 to 59, and 60 or more years of age. The majority of the respondents were in the 50 through 59 year range. Of the 54% respondents in this category, 24 administrators were from public community colleges and 9 administrators were from public junior colleges. Of the almost 28% of the respondents between the ages of 40 and 49 years, 13 administrators were from public community colleges and 4 administrators were from public junior colleges. A small percentage of the administrators, 15.5%, were 60 or more years of age. In this range, 4 administrators were in public junior colleges. Of the very small percentage of the administrators who were between the ages of 30 and 39 years, 2 were from public community colleges and 2 were from public junior colleges. None of the senior administrators were younger than 30 years of age.

Table 9

Age Distribution of Top Administrators of Public Community
and Junior Colleges in Texas

Age of Administrators	Institution Classification		Number	Percent
	Public Comm. College	Public Jr. College		
Less than 30 years	0	0	0	0.00
30 to 39 years	2	2	4	6.55
40 to 49 years	13	4	17	27.86
50 to 59 years	24	9	33	54.00
60 or more years	4	3	7	11.50
Total	43	18	61	

One-way analysis of variance was conducted at the 0.05
level to test the relationship between age and leadership
style, as summarized in Table 10. The critical value of F
under DF of 3,57 was higher than the F values for all the
styles in Table 10. Therefore, the null hypothesis
concerning the relationship between age and leadership style
was retained. This indicates that age was not a significant
factor in adopting a leadership style.

Relationship Between Administrators' Gender and Leadership Style

The distribution of the administrators based on gender
is shown in Table 11. The majority, 85%, of the
administrators were male; 36 were from public community
colleges and 16 were from public junior colleges.

Table 10

One-Way Analysis of Variance of Leadership Styles of Top
Administrators of Public Community and Junior Colleges
in Texas Based on Age Range

Leadership Style	Raw Score Mean Based on Age of the Top Administrator							
	0-30 N=0	30-39 N=4	40-49 N=17	50-59 N=33	60+ N=7	SD	F-value	P-value
9/9--collaborative	0	80.50	90.29	87.12	86.00	9.45	1.30	.2832
5/5--strategic	0	78.75	71.76	71.82	69.29	9.45	.88	.4583
9/1--directive	0	67.00	58.35	57.42	59.00	10.92	.92	.4370
1/9--supportive	0	74.00	72.53	69.41	68.00	11.32	.55	.6476
1/1--bureaucratic	0	35.50	37.00	42.70	43.14	9.05	2.09	.1115

Note. DF = 3,57 P > 0.05 is significant.

Table 11

Distribution of Top Administrators of Public Community and
Junior Colleges in Texas Based on Gender

Gender of Top Administrators	Institution Classification		Number	Percent
	Public Comm. Colleges	Public Jr. Colleges		
Male	36	16	52	85.24
Female	7	2	9	14.75
Total	43	18	61	100.00

A t-test was performed at the 0.05 level of significance, as shown in Table 12 with 59 degrees of freedom. The t-test was used because there were two independent groups, male and female. As shown in Table 12, no significant difference was evident in administrators' choice of leadership style based on their gender. Therefore, the null hypothesis concerning gender and leadership style was retained. This indicates that gender is not a significant factor in administrators adoption of a leadership style.

Table 12

T-Test Results on Leadership Styles of Top Administrators of
Public Community and Junior Colleges in Texas Based on
Gender

Leadership Style	Raw Score Means Based on Gender				
	Gender	N	SD	t-value	Two-Tailed Probability
9/9--collaborative	Male	52	9.20	-1.50	0.1633
	Female	9	10.52		
5/5--strategic	Male	52	9.46	0.83	0.4242
	Female	9	9.43		
9/1--directive	Male	52	10.66	0.04	0.9681
	Female	9	12.86		
1/9--supportive	Male	52	11.73	1.22	0.2370
	Female	9	7.00		
1/1--bureaucratic	Male	52	9.22	0.94	0.3681
	Female	9	9.75		

Note. N = 61, DF = 59, P > 0.05 is significant.

Relationship Between Administrators' Leadership Style and Current Administrative Level (Title)

The distribution of the senior administrators into various position titles is shown in Table 13. About 30% of the respondents were presidents; 12 were from public community college and 5 were from public junior colleges. Of the 24% who were vice-presidents, 10 were from public community colleges and 5 were from public junior colleges. Of the almost 40% who were deans, 18 were from public community colleges and 6 were from public junior colleges. The 8% of the respondents who indicated the other category were directors.

Table 13

Distribution of Top Administrators of Public Community and Junior Colleges in Texas Based on Their Titles

| Title | Institution Category | | Number | Percent |
	Public Comm. Colleges	Public Jr. Colleges		
President	12	5	17	27.9
Vice President	10	5	15	24.6
Dean	18	6	24	39.3
Other	3	2	5	8.2
Total		18	61	100.0

One-way analysis of variance was conducted, at the 0.05 level of significance, to test the relationship between leadership styles and the title of the administrators. These data are summarized in Table 14. As shown in Table 14, no significant preference was evident for a specific style. The calculated F value was smaller than the critical value for all the styles. Therefore, the null hypothesis concerning leadership styles and title of administrators was retained. This indicates that administrators' titles are not a significant factor in their choice of a leadership style.

Table 14

One-Way Analysis of Variance of Leadership Styles of Top Administrators of Public Community and Junior Colleges in Texas Based on Current Title

	Raw Score Means Based on Current Title of the Top Administrators						
Leadership Style	Other N=3	President N=17	Vice-President N=15	Dean N=24	SD	F-value	P-value
9/9--collaborative	79.60	86.53	87.40	89.75	9.36	1.71	0.1755
5/5--strategic	73.20	70.35	72.80	72.33	9.62	0.24	0.8710
9/1--directive	60.00	58.53	61.20	56.46	11.00	0.61	0.6133
1/9--supportive	73.80	67.41	69.53	72.17	11.26	0.78	0.5119
1/1--bureaucratic	31.20	40.59	42.00	41.92	9.05	2.08	0.1126

Note. DF = 3,57, P > 0.05 is significant.

Distribution of Senior Administrators
Based on Seniority in Leadership

It is important to note that the seniority factor is made up of three independent variables--number of years in current position, number of years in current institution, and number of years in administration. Responses related to each of these variables are presented in the following section.

Distribution of Senior Administrators Based on
Number of Years in Current Position

The distribution of administrators based on number of years in their current position is shown in Table 15. The majority of administrators had been in their current position for 10 years or more. Of the 34% in this category, 13 were from public community colleges and 8 were from public junior colleges. Of the 16% who had been in their current position for 1 year, 8 were from public community colleges and 2 were from public junior colleges. Of the 31% of the respondents who had been in their current position for 2 to 5 years, 14 were from public community colleges and 5 were from public junior colleges. Of the 18% of the administrators who had been in their current position for 6 to 9 years, 8 were from public community colleges and 3 were from public junior colleges.

One-way analysis of variance was performed at the 0.05 level of significance to test the relationship between

Table 15

Number of Years in Present Position of Top Administrators of
Public Community and Junior Colleges in Texas

| Number of Years in Present Position | Institution Category | | | |
	Public Comm. Colleges	Public Jr. Colleges	Number	Percent
0-1 year	8	2	10	16.4
2 to 5 years	14	5	19	31.1
6 to 9 years	8	3	11	18.0
10 or more years	13	8	21	34.4
Total	43	17	61	100.0

administrators' years in position and leadership style. As
shown in the F-value column of Table 16, all of the values
are smaller than the critical value under 0.05; therefore,
the null hypothesis concerning leadership style and number
of years in present position was retained for all leadership
styles. This finding points out that number of years in
current position was not a significant factor in
administrators' choice of a leadership style.

Relationship Between Leadership Style and Number of Years in Current Institution

The distribution of the administrators based on number
of years in current institution is shown in Table 17. As

Table 16

One-Way Analysis of Variance of Leadership Styles of Top
Administrators of Public Community and Junior Colleges
in Texas Based on Number of Years in Present Position

| | Raw Score Means Based on Number of Years in Present Position | | | | | | |
| | 0-1 N=10 | 2-5 N=19 | 6-9 N=11 | 10+ N=21 | SD | F-value | P-value |
Leadership Style							
9/9--collaborative	88.30	86.83	87.45	87.76	9.75	0.08	0.9727
5/5--strategic	75.80	71.74	69.73	71.52	9.49	0.77	0.5174
9/1--directive	61.90	56.74	58.18	58.62	11.04	0.48	0.6967
1/9--supportive	74.50	73.58	64.82	68.29	10.86	2.75	0.0924
1/1--bureaucratic	41.90	38.53	42.91	40.90	9.39	0.60	0.6178

Note. DF = 3,57, P > 0.05 significant.

Table 17

Number of Years at Present Institution of Top Administrators
of Public Community and Junior Colleges in Texas

| Number of Years at Present Institution | Institution Category | | | |
	Public Comm. College	Public Jr. College	Number	Percent
0 to 1 year	5	1	6	9.8
2 to 5 years	7	4	11	18.0
6 to 9 years	8	1	9	14.8
10 or more years	23	12	35	57.4
Total	43	18	61	100.0

shown in Table 17, the majority of administrators, 57%, had been in their current institution for 10 years or more; 23 administrators were from public community colleges and 12 were from public junior colleges. Of the almost 15% who had been in their current institution for 6 to 9 years, 8 were from public community colleges and 1 was from a public junior college. Of the 18% who had been at their current institution for 2 to 5 years, 7 were from public community colleges and 4 were from public junior colleges. The administrators, about 10%, who had been at their current institution for 1 year or less included 5 who were from public community college and 1 from a public junior college.

One-way analysis of variance was conducted, at the 0.05 level of significance, to test the significance of choosing a style based on number of years in present institution. As shown in Table 18, the calculated F values are all smaller than the critical value of F; therefore, the null hypothesis concerning leadership style and number of years in present institution was retained for all leadership styles. This finding indicates that number of years in present institution is not a significant factor in administrators' choice of a leadership style.

Table 18

One-Way Analysis of Variance of Leadership Styles of Top
Leaders of Public Community and Junior Colleges in Texas
Based on Years in Present Institution

	Raw Score Means Based on Years in Present Position						
Leadership Style	0-1 N=6	2-5 N=11	6-9 N=9	10+ N=35	SD	F- value	P- value
9/9--collaborative	85.17	86.09	88.89	87.89	9.70	0.27	0.8454
5/5--strategic	74.33	72.45	70.67	71.74	9.63	0.19	0.9021
9/1--directive	57.83	53.36	63.67	58.89	10.75	1.55	0.2111
1/9--supportive	71.83	75.27	64.44	70.03	11.02	1.64	0.1906
1/1--bureaucratic	40.33	35.35	42.22	41.97	9.19	1.40	0.2347

Note. DF = 3,57, P > 0.05 is significant.

Relationship Between Leadership Style and
Number of Years in Administration

The distribution of the administrators based on number
of years in administration is shown in Table 19. Clearly,
the great majority of administrators, almost 87%, had been
in administration for more than 10 years. Of the 53 who had
been administrators 10 years or more, 37 were from public
community colleges and 16 were from public junior colleges.
None of the administrators had been in administration for 1
year or less. A small percentage, 8%, had been in
administration for 2 to 5 years, 3 from public community
colleges and 2 from public junior colleges. Also, a very
small percentage had been in administration for 6 to 9

Table 19

Number of Years in Administration of Top Administrators in
Public Community and Junior Colleges in Texas

Number of Years in Administration	Institution Category			
	Public Comm. Colleges	Public Jr. Colleges	Number	Percent
0 to 1 year	0	0	0	0.00
2 to 5 years	3	2	5	8.20
6 to 9 years	3	0	3	4.92
10 or more years	37	16	53	86.89
Total	43	18	61	

years, 3 from public community colleges and none from public
junior colleges.

One-way analysis of variance was performed, at the 0.05
level of significance, to test the relationship between
number of years as an administrator and administrators'
choice of leadership style. Data in the F values
(calculated) column of Table 20 reveal a significant
relationship between years in administration and
administrators' choice of leadership style 1/9. The
calculated value is greater than the critical value;
therefore, the null hypothesis concerning leadership style
and number of years in administration was rejected for style
1/9, directive, and retained for all other four styles.

Table 20

One-Way Analysis of Variance of Leadership Styles of Top
Administrators of Public Community and Junior Colleges
in Texas Based on Years in Administration

Leadership Style	Raw Score Means Based on Number of Years in Administration				SD	F-value	P-value
	0-1 N=0	2-4 N=5	6-9 N=3	10+ N=53			
9/9—collaborative	0	81.00	95.33	87.60	9.33	2.27	0.1123
5/5—strategic	0	77.20	77.00	71.19	9.37	1.39	0.2562
9/1—directive	0	63.40	54.33	58.26	10.94	0.73	0.4862
1/9—supportive	0	72.20	89.67	69.06	10.42	5.64	0.0058
1/1—bureaucratic	0	36.60	43.67	40.91	9.35	0.64	0.5289

Note. DF = ,57, P > .05 is significant

The least significance difference test was performed to
see which group mean of the number of years categories
differed significantly from other means for leadership style
1/9. As shown in Table 21, a significant difference was
found, at the 0.05 level, between categories two and three,
and categories two and four. It can be seen that the group
with a range of 6 to 9 years had a higher mean than did the
group with 10 years and more, and also a higher mean than
the group with 2 to 5 years. This finding indicates that
the group with 6 to 9 years preferred style 1/9 more than
did the group with 2 to 5 years and the group with 10 years
and more.

Table 21

Least Significant Difference Test for Differences in Means
for 1/9 Leadership Style of Senior Administrators of Texas
Public Community and Junior Colleges Based on Years in
Administration

Category	Years of Administration	Number	Mean	1	2	3	4
1	0 to 1 year	0	0				
2	2 to 5 years	5	72.20			*	*
3	6 to 9 years	3	89.67				
4	10 or more years	53	69.06				

*Denotes pairs of groups different at the 0.05 level of
significance.

Relationship Between Leadership Styles and Degrees Earned

The distribution of administrators based on their
highest degree earned is shown in Table 22. There were no
administrators who did not have a degree, and only two
administrators whose highest degree was a bachelor's degree.
Of the 39 administrators, almost 64%, who had a doctorate
degree, 29 were from public community colleges and 10 were
from public junior colleges. Of the almost 33% who held a
master's degree, 13 administrators were from public
community colleges and 7 were from public junior colleges.

One-way analysis of variance, at the 0.05 level of
significance, was performed to test the relationship between
administrators' highest degree earned and their choice of a

Table 22

Highest Degree Earned by Top Administrators of Public
Community and Junior Colleges in Texas

| | Institution Category | | | |
Degrees Earned	Public Comm. Colleges	Public Jr. Colleges	Number	Percent
Bachelors' degree	1	1	2	3.3
Master's degree	13	7	20	32.8
Doctorate degree	29	10	39	63.9
Total	43	18	61	100.0

leadership style. Data in Table 23, particularly the F-values (calculated) reveal that administrators' highest degree earned was related significantly to their choice of leadership style 1/1. The critical value is smaller than the calculated value; therefore, the null hypothesis concerning leadership style and the highest degree earned was rejected for style 1/1. However, the calculated F-value is smaller than the critical values of F for all the other leadership styles; therefore, the null hypothesis was retained for all leadership styles except style 1/1. The least significant difference test was performed to determine which group means of the degree categories differed significantly from the others. The data shown in

Table 23

One-Way Analysis of Variance of Leadership Styles of Top
Administrators of Public Community and Junior Colleges
in Texas Based on Highest Degree Earned

	Raw Score Means Based on Highest Degree Earned					
Leadership Style	Bachelor's $\underline{N}=2$	Master's $\underline{N}=20$	Doctorate $\underline{N}=39$	SD	$\underline{F}$- value	$\underline{P}$- value
9/9--collaborative	88.00	85.20	88.56	9.55	0.82	0.4444
5/5--strategic	63.50	72.60	72.08	9.45	0.85	0.4333
9/1--directive	52.50	61.45	57.28	10.84	1.29	0.2827
1/9--supportive	68.00	73.00	69.08	11.22	0.83	0.4319
1/1--bureaucratic	26.50	44.60	39.41	8.72	5.07	0.0093

Note. DF = 3,57, $\underline{P}$ > .05 significant.

Table 24 reveal that significant differences were found
between doctorate degree holders' group means and those of
bachelor's degree holder's group means and master's degree
holders group means, and master's degree holders and
bachelor's degree holders means. Mean differed
significantly from bachelor's group mean and master's group
mean and the group of doctorate degree. This indicates that
the bachelor's degree group preferred style 1/1 more than
did administrators with doctorate degrees and master's
degrees.

Table 24

Least Significant Difference Test in Means for Leadership
Style 1/1 of Senior Administrators of Texas Public
Community and Junior Colleges

				Groups		
Category	Degree Groups	Number	Mean	1	2	3
1	Bachelor's	2	59.7		*	*
2	Master's	20	44.60			*
3	Doctorate	39	39.41			

*Denotes pairs of groups significant difference at the 0.05
significance level.

Relationship Between Administrators' Years of
Teaching and Choice of Leadership Styles

The distribution of administrators based on number of
years in teaching is shown in Table 25. The distribution
shows that the majority of the administrators, 47%, had
taught for 10 years or more, 20 from public community
colleges and 9 from public junior colleges. About 20% of
the administrators had taught for at least 1 year, 9 from
public community colleges and 3 from public junior colleges.
Of the slightly more than 21% of the administrators who had
taught for 2 to 5 years, 9 were from public community
colleges and 4 were from public junior colleges. About 11%
had taught for 6 to 9 years, 5 in public community colleges
and 2 in public junior colleges.

Table 25

Number of Years in Teaching of Top Administrators of Public
Community and Junior Colleges in Texas

Number of Years in Teaching	Institution Category			
	Public Comm. Colleges	Public Jr. Colleges	Number	Percent
0 to 1 year	9	3	12	19.7
2 to 5 years	9	4	13	21.3
6 to 9 years	5	2	7	11.5
10 of more years	20	9	29	47.5
Total	43	18	61	100.0

One-way analysis of variance was calculated, at the
0.05 level of significance, to test the relationship between
administrators' number of years of teaching and their choice
of a leadership style. As shown in Table 26, the calculated
F-values are smaller than the critical value of F at the
0.05 level of significance; therefore, the null hypothesis
concerning leadership style and number of years in teaching
was retained. This finding indicates that administrators'
number of years in teaching is not a significant factor in
their choice of a leadership style.

Table 26

One-Way Analysis of Variance of Leadership Styles of Top
Leaders of Public Community and Junior Colleges in Texas
Based on Years in Teaching

| Leadership Style | Raw Score Means Based on Number of Years in Teaching | | | | | | |
	0-1 N=12	2-5 N=13	6-9 N=7	10+ N=29	SD	F-value	P-value
9/9--collaborative	85.42	87.53	88.86	87.90	9.71	0.24	0.8646
5/5--strategic	70.75	69.62	68.57	74.34	9.37	1.27	0.2938
9/1--directive	58.92	59.77	49.57	59.90	10.67	1.87	0.1456
1/9--supportive	72.50	70.31	71.14	69.24	11.41	0.24	0.8650
1/1--bureaucratic	38.92	41.38	37.71	41.83	9.40	0.543	0.6564

Note. DF = 3,57, P > 0.05 is significant.

The Relationship Between Number of Staff
Reporting to the Senior Administrators and
Leadership Role

The third objective of this study was to compare the
leadership style with the institutional characteristic of
number of full-time professional staff (non-clerical) who
report directly to the administrators.

Data in Table 27 show the distribution of the number of
full-time staff members who report to the administrators.
None of the categories of number of staff members was
indicated by a majority of the administrators. Of the 24%
of administrators who had 10 or more staff members reporting
directly to them, 17 were from public community colleges and
4 were from public junior colleges. Of the 36% of

Table 27

Number of Staff Reporting Directly to Top Administrators of
Public Community and Junior Colleges in Texas

| Number of Staff Reporting to Top Administrators | Institution Category | | | |
	Public Comm. Colleges	Public Jr. Colleges	Number	Percent
0 to 1 staff	2	2	4	6.6
2 to 5 staff	7	7	14	23.0
6 to 9 staff	17	5	22	36.1
10 or more staff	17	4	21	34.4
Total	43	18	61	100.0

administrators who had 6 to 9 staff members reporting
directly to them, 17 were from public community colleges and
5 were from public junior colleges. A very low percentage,
about 7%, of the administrators had only one staff member
reporting directly to them; 2 administrators in public
community colleges and 2 in public junior colleges. Of the
23% of administrators who had 2 to 5 staff members reporting
directly to them, 7 were from public community colleges and
7 were from public junior colleges.

One-way analysis of variance was calculated, at the
0.05 level of significance, to compare administrators'
leadership style with the number of full-time professional
staff who report directly to them. Data summarized in Table
28 show that all of the F-values (calculated) were smaller

Table 28

One-Way Analysis of Variance of Leadership Styles of Top
Administrators of Public Community and Junior Colleges in
Texas Based on Number of Full-Time Professional Staff

	Raw Score Means Based on Number of Full-Time Staff Reporting to the Administrators						
Leadership Style	0-1 N=4	2-5 N=14	6-9 N=22	10+ N=21	SD	F-value	P-value
9/9--collaborative	78.75	87.00	87.77	89.05	9.44	1.35	0.2673
5/5--strategic	72.50	71.50	69.68	74.57	9.44	0.98	0.4096
9/1--directive	63.75	55.64	57.95	59.95	10.96	0.76	0.5193
1/9--supportive	74.50	67.29	69.23	72.71	11.22	0.91	0.4398
1/1--bureaucratic	43.00	40.71	39.77	41.19	9.49	0.17	0.9184

Note. DF = 3.57, $P > 0.05$ is significant.

than the critical F value for all of the leadership styles;
therefore, the null hypothesis concerning leadership style
and number of staff reporting directly to the administrators
was retained for all leadership styles. This finding
indicates that number of staff members who report to
administrators is not a significant factor in their choice
of a leadership style.

Research Questions

Data related to the research questions were analyzed
using frequency and percentage statistics. Analysis of the
data is explained in the following section.

Distribution of Ethnicities of Top Leaders in
Texas Public Community and Junior Colleges

The first research question concerned the distribution of the various ethnicities of senior administrators. Data in Table 29 show the distribution of the ethnicities of the administrators. The ethnicities included in the Demographic Information Form were Native American, Hispanic-American, Asian-American, Arabic-American, African-American, and other. It is important to note here that the other category referred to non-Hispanic or Native American whites. A great majority, about 66%, of the respondents were categorized in the _other_ category, 30 from public community colleges and 10 from public junior colleges. Of the 18% of the administrators who were Native American, 8 were from public community colleges and 3 were from public junior colleges. Of the almost 5% of respondents who were Hispanic-American, 1 was from a public community college and 1 was from a public junior college. Seven, or 11.5%, of the administrators were African-Americans. None of the administrators were Asian-American or Arab-Americans.

As shown in Table 29, the various ethnicities were not evenly distributed. More than 65% of the administrators were categorized as _other_ (administrators who were non-Native American or non-Hispanic, African, Asian, or Arab American).

Table 29

Distribution of Top Leaders of Texas Public Community and
Junior Colleges Based on Ethnicity

| Ethnicity | Institution Category | | Number | Percent |
	Public Comm. Colleges	Public Jr. Colleges		
Native American	8	3	11	18.0
Hispanic American	1	2	3	4.9
Asian American	0	0	0	0.0
Arabic American	0	0	0	0.0
African American	4	3	7	11.5
Other	30	10	40	65.6
Total	43	18	61	100.0

The third research question concerned administrators'
educational background, particularly whether they were
educated abroad.   Data in Table 30 show the distribution of
administrators who were and were not educated abroad.
Responses indicated that none of the administrators were
educated abroad.   This statistic was not intended to test
for a relationship between leadership style and education
abroad, but was included only as a reference to the
background of the administrators.

Table 30

Responses of Top Leaders in Texas Public Community and
Junior Colleges in the State Regarding Their Education
Abroad

Educated Abroad	Institution Classification		Number	Percent
	Public Comm. Colleges	Public Jr. Colleges		
Yes	0	0	0	0.0
No	43	18	61	100.0
Total	43	18	61	100.0

Another question asked in reference to the background
of the administrators concerned their previous experience in
education. Unfortunately, only about 34% of the respondents
revealed their previous experience. Data in Table 31 show
the distribution of the respondents' previous experience.
The largest percentage, 33%, of the administrators who
answered this question had academic leadership experience,
10% were church leaders, 14% were corporate officers, 10%
were political leaders, and 33% were military officers.

In relation to the leaders' background in the budgeting
process, the following three areas were examined: size of
budget, level of control over budget, and workers'
compensation portion of the budget. Unfortunately, several
administrators did not reveal the size of their budgets or
the portion spent on workers' compensation. These data are
presented in Tables 32, 33, and 34.

Table 31

Distribution of Senior Administrators of Texas Public
Community and Junior College who Responded to This
Question Based on Previous Background

Previous Background	Number	Percent
Academic leaders	7	33
Church leaders	2	10
Corporate officers	3	14
Political leaders	2	10
Military officers	7	33
Total	21	100

Table 32

Distribution of Administrators Based on Their Level of
Control Over Budget

Responses	Institutional Category Public Comm. Colleges	Public Jr. Colleges	Number	Percent
Have full control over budget	21	13	34	55.73
President controls budget	4	0	4	6.55
Control is a group decision	17	5	22	36.06
Have no control over budget	1	0	1	1.63
Total	43	18	61	

Table 33

Distribution of Funds by Source

Dollar Amount Category	State Fund	Local Fund	Other Funds
Less than a million	13	5	7
1 to 5 million	0	24	20
6 to 10 million	25	11	7
11 to 15 million	5	8	10
16 to 20 million	1	0	0
20+ million	4	0	0
Total	48	48	44

Table 34

Distribution of Administrators Based on the Percentage of Budget Spent on Workers' Compensation

Workers' Compensation	Number	Percent
Less than 1% of budget	22	73.33
1% or more of budget	8	76.66
Total	30	

Forty-eight administrators revealed that their budget size came from state and from local funds. Forty-four administrators revealed that their budget size came from other funds.

In regard to the portion of the budget spent on workers' compensation, the categories ranged from less than 1% of the budget to 1.5% of the budget. Only 50% of the

respondents responded to this question. This could indicate (in terms of background) that the administrators who did not respond to this question either were not aware of the percentage spent on workers' compensation or that the money was spent under a name other than workers' compensation.

The major point from this information is that the budget is an essential factor in the development of major service areas of a college. Budget size can determine whether the school has a high or low level of flexibility in the development of new programs and services for the surrounding community. Administrators' leadership style can also be affected by the size of the budget. A leader with a small budget size cannot be as flexible in terms of decision making, planning, and other management functions as a leader with a large budget. The fact that 34.4% of the administrators had adopted style 1/1 could be a result of small budget size, which means the administrators had limited choices because of their resources. A severely limited budget provides no support for leaders to use their abilities to initiate changes and developments. The administrators may have been forced to adopt style 1/1 because of limited budgets.

CHAPTER 5

SUMMARY, FINDINGS, CONCLUSIONS, DISCUSSION,

AND RECOMMENDATIONS

This chapter includes a brief summary of the
demographic data and the statistical analysis related to the
testing of the hypotheses, the conclusions of the study, and
a discussion of the findings. In addition, a list of
recommendations for leaders of Texas public community and
junior colleges and suggestions for future research are
provided.

Summary of the Study

The problem of this study concerned the self-perceived
administrative leadership styles of senior administrators in
Texas public community and junior colleges in the 1990s.
This study was designed to identify the predominant self-
perceived administrative leadership styles of the top
leaders and to compare those styles with the personal
characteristics (independent variables) of the
administrators, such as gender, age, current position title,
number of years in present position, number of years in
present institution, number of years in administration,

number of years of teaching, and number of full-time staff (non-clerical) who report directly to the administrators.

Also explored in this study were factors that affect leadership style, such as the distribution of ethnicity among the top leadership of Texas public community and junior colleges, budget size and the level of control of administrators over the budget, and the percentage of the budget spent for workers' compensation. The _Styles of Leadership Survey_, developed by Hall, Harvey, and Williams (1986), and the Demographic Information Form, constructed for this study, were used to achieve these goals. The population of this study included presidents, vice-presidents, and deans of Texas public community and junior colleges. The colleges were divided into two groups, public community colleges and public junior colleges. The population included 126 administrators. A sample of 97 administrators was chosen to participate in this study. This sample represents more than 75% of the population. Although 70% of the sample responded, only 62% of the responses were usable for data analysis. Eight percent of the responses were not complete and, therefore, were not used.

The data obtained from the Demographic Information Form were arranged into tables and analyzed in a descriptive form. Data from the SLS, especially the five styles of leadership, were also arranged in tabular form and include

the results of the statistical analysis. Statistical
analysis was performed using statistical analysis software.

Summary of Findings

The findings of this study are presented in two major
categories. The first category represents data obtained
from the Demographic Information Form which relates to
characteristics of the administrators, such as age, gender,
and ethnicity. The second major category of presentation of
data relates to statistical analysis of the data obtained
from respondents on the two instruments (relationships
between leaders' characteristics and their leadership
scores).

Descriptive Data Analysis

The following findings are related to the demographic
information:

1. Eighty-five percent of the top administrators of
Texas public community and junior colleges are male.

2. More than half of the administrators are other than
Hispanic-American (4.9%), African-American (11.5%), Native-
American (18%), Arabic-American (0.0%), or Asian-American
(0.0%). The majority, clearly, are whites (65.5%).

3. More than half, 54%, of the administrators are
between 50 and 59 years of age.

4. The respondents who answered the survey instruments
are about fairly represented; about 28% were presidents,

about 25% were vice-presidents, and about 40% were deans. The number of deans is slightly higher because there are actually more deans than vice-presidents in Texas public community colleges. Also, as stated earlier in the description of the population and sample, two deans and a president or two vice-presidents and a president, or a dean, a vice-president, and a president from every college represented the population.

5. More than one-third of the administrators had been in their current position for more than 10 years. Also, one-third had been in their current positions for 2 to 5 years.

6. More than one-half, 57.4%, of the administrators had been at their current institution for more than 10 years.

7. A clear majority of the administrators, 86.9%, had been in administration for more than 10 years.

8. More than one-half, 63.9%, of the administrators held doctorate degrees.

9. Close to half of the administrators, 47.5%, had taught for more than 10 years.

10. One-third of the administrators had 10 full-time staff who reported to them and about one-third had 6 to 9 staff who reported to them.

11. None of the administrators were educated abroad.

12. Styles 9/9 and 1/1 were equally likely to be chosen by the administrators, 34.4% chose style 9/9 and the same percentage chose style 1/1. Thus, the predominant administrative styles of the administrators of Texas public community and junior colleges surveyed were 1/1 and 9/9.

13. With regard to the budget spent on workers' compensation, the categories ranged from 1% of the budget to 1.5% of the budget.

Summary of Statistical Data Analysis

This summary of data is based on the results of the tests of the hypotheses of this study reported by the administrators who fully answered the survey instruments.

Hypothesis 1: A significant difference was evident, at the 0.05 level of significance, in the administrative leadership styles of top administrators of Texas public community colleges.

Hypothesis 2: No significant difference was found in administrators' leadership styles, at the 0.05 level of significance, based on gender.

Hypothesis 3: No significant difference was found in the administrators' leadership styles, at the 0.05 level of significance, based on administrators' age.

Hypothesis 4: No significant difference was found in the administrators' leadership styles, at the 0.05 level of

significance, based on the position (title) of the administrator.

Hypothesis 5: For this hypothesis three tests were performed--number of years in present position, number of years in present institution, and number of years in administration. No significant difference was evident, at the 0.05 level of significance, in the administrators' leadership styles based on years in present position. No significant difference was found, at the 0.05 level of significance, in the administrators' leadership styles based on the administrators' number of years in present institution. A significant difference was found in the administrators' leadership styles (particularly style 1/9), at the 0.05 level of significance, based on administrators' number of years in administration. A significant difference was found between the means of the group who had been in administration for 6 to 9 years, and in groups with 2 to 5 years and 6 to 9 years. The group with 6 to 9 years had the highest mean. They showed a higher preference for style 1/9 than did administrators with 10 or more, or 2 to 5 years.

Hypothesis 6: A significant difference was found in the administrators' leadership styles, particularly style 1/1, at the 0.05 level of significance, based on administrators' highest degrees earned. A significant difference was found in means of groups with master's and bachelor's degrees, groups with bachelor's and doctorate

degrees, and groups with master's and doctorate degrees. The group with master's degrees had the highest mean and, therefore, exhibited a higher preference for style 1/1 than did administrators with bachelor's and doctorate degrees.

Hypothesis 7: No significant difference was found, at the 0.05 level of significance, in the administrative leadership styles of administrators based on their number of years of teaching experience.

Hypothesis 8: No significant difference was found, at the 0.05 level of significance, in the administrative leadership styles of administrators based on the number of full-time professional staff reporting to them.

Based on the findings of this study, there does not appear to be a uniform leadership style among public community and junior college administrators in Texas. This conclusion is based on statistical analysis in the leadership styles using chi-square at the 0.05 level of significance. Analysis at the 0.05 level of significance indicates that age, gender, number of years in present position, position (title), number of years in present institution, number of subordinates, and years of teaching experience are not significant factors in administrators' choice of a leadership style. However, factors that were significant in administrators' choice of a leadership style, at the 0.05 level of significance, were number of years in administration and highest degree earned.

Conclusions

As a result of this study the following conclusions are drawn:

1. Styles 9/9 (collaborative) and 1/9 (supportive) are the dominant self-perceived leadership styles of Texas public community college and junior college administrators.

2. Administrators between the ages of 40 and 49 years have a high preference for style 9/9 (collaborative).

3. Style 1/1 (bureaucratic) seems to be preferred by administrators between the ages of 50 and 59 years.

4. Style 9/9 (collaborative) seems to be highly preferred by deans and presidents more often than by vice-presidents or directors.

5. Administrators who have been in their current positions for more than 10 years seem to prefer style 1/1 (bureaucratic).

6. Style 1/1 (bureaucratic) also seems to be preferred by administrators who have been in administration for more than 10 years.

7. Administrators who hold doctorate degrees seem to prefer style 1/1 (bureaucratic) more than do administrators with master's degrees.

8. Number of subordinates and number of years in teaching do not significantly affect administrators' choice of a leadership style.

9. Administrators between the ages of 50 and 59 years seldom prefer style 5/5 (strategic).

10. Style 1/9 (supportive) seems to be preferred by male administrators who have been in their current position for 2 to 5 years.

11. There is a large gap in the ethnicity of administrators. The majority of administrators are other than Native-American or African-Americans. Native Americans are 18%, African Americans are 11.5%, and Hispanic Americans are 4.9% of the administrators in Texas public community colleges and junior colleges.

12. Administrators are unlikely to receive their education abroad.

Discussion

The major aim for this study was to contribute to leadership effectiveness. Results of this study reveal that administrators choice of a leadership style is not affected by their gender, age, position, number of subordinates, title, or seniority. However, this study revealed that number of years in administration and the degree held had an effect on administrators' choice of a leadership style. Hall et al. (1986) pointed out that as people grow older they rely more on style 1/9 (supportive). The findings of this study are in disagreement with those of Hall et al. In this study, only 2 administrators between the age of 30 and

39 years chose style 1/9 (supportive), and 5 between the age of 40 and 49 years chose style 1/9 (supportive). None of the administrators who were 60 years or older chose this style.

Nwafor (1990) found in his study of leadership styles of presidents of Texas public universities that position, number of staff (subordinates), number of years in an institution, years of teaching, and gender were not significant factors in administrators' choice of a leadership style. The results of this study support Nwafor's conclusion. Nwafor pointed out that the factors that make a difference in administrators' choice of leadership styles are age, years in present position, years in administration, education level, and the size of the institution. This study also supported these findings except for age, which was not found to be a significant factor.

The percentages of students and administrators in public community colleges vary among ethnicities. In Texas public community colleges, 4% of the students and 18% of the administrators are Native Americans, 11.9% of the students and 11.5% of the administrators are African Americans, and 25.5% of the students and 4.9% of the administrators are Hispanic Americans.

Glasscock (1980) found that 45% of the chief executive officers of Texas public community colleges preferred style

9/9 (collaborative). Results of this study revealed that the percentage, after about a decade and a half, was 34.4%. Glasscock also found that personal and institutional characteristics were not significant factors in administrators' choice of leadership style. The results of this study also support Glasscock's conclusion, except for educational level and number of years in administration, which affected administrators' choice of a leadership style.

Recommendations

As a result of this study the following recommendations are made to administrators in Texas public community and junior colleges.

In the area of recruitment of administrators:

1. Consideration should be given to hiring female administrators and various ethnicities, particularly African-Americans and Hispanic-Americans. This study revealed that only 15% of the administrators were female, only about 5% were Hispanic American, and only 11% were African-American. More than 65% were non-Hispanic American or African-American.

2. Administrators, particularly presidents, should be considered from backgrounds besides education, such as military, business, and civic backgrounds. As described in Table 31, about one-third of the respondents to the background question reported that they had military

leadership experience and 14% had business leadership experience. It could be beneficial to consider these backgrounds for future recruitments.

3. More consideration should be given to hiring young people or employees who have not been in the same institution for a long time. This could bring a high level of energy and enthusiasm to the institution. This study revealed that more than 65% of the administrators were from the age of 50 to 60 or over, and at the same time, about 57% had been in the same institution for 10 or more years.

4. Top administrators should be kept up-to-date on various issues related to community colleges through frequent conferences.

5. Administrators should take a look at leadership functions in colleges abroad and compare them with functions in the U.S. so that functions can be adopted that could be of benefit to the college. Community college leaders from other countries should be invited to exchange ideas. This recommendation is based on the fact that 100% of the administrators had not received their education abroad. Although this is not considered a negative factor, it would be a learning experience to exchange ideas.

6. Financing regulations, where they exist, should be evaluated by administrators, especially in areas other than state funds. As shown in Table 33, no uniform distribution

of funds was found. Some colleges receive more funds from local communities and other sources than others.

In addition, the following recommendations are made for future research:

1. A similar study of leadership styles should be done for Texas private 2-year colleges to determine the preferred leadership styles in 2-year institutions of higher education (public and private).

2. The decision making process should be examined. A suggested title is "Who is in Control of the Community Colleges?"

3. A study similar to this should be conducted to investigate possible relationships between administrators' choice of a leadership style and other independent variables, such as enrollments of the institution and number of programs of study offered by the college.

APPENDIX A

PRELIMINARY LETTER

Department of Counseling,
Development, and Higher Education
University of North Texas
Denton, Texas 76203

Dear _____ :

    In the next few days you will receive a research
questionnaire entitled the Styles of Leadership Survey and a
Demographic Data Form. These instruments are part of a
dissertation study which is approved by the Department of
Counseling, Development, and Higher Education and encouraged
by the North Texas Community and Junior College Consortium
at the University of North Texas. The research, entitled
"Self-Perceived Administrative Leadership Styles of
Presidents, Vice-Presidents, and Deans in Public Community
and Junior Colleges in Texas," will provide important
information regarding the leadership styles of junior and
community college administrators throughout Texas.

    A self-addressed, stamped envelope will be provided for
return of the instruments. Your answers will be strictly
confidential and will be used only for purposes of this
research. Please do not sign either of the instruments.

    The success of this project is highly dependent upon
your answering every item on the survey and the data form.
Please accept our thanks, in advance, for your valuable help
in completing this important research project.

Hamed Ali
Doctoral Candidate in Higher
   Education
Denton, Texas 76201
(XXX) XXX-XXXX

Dr. John P. Eddy   Dr. Jesse Jones, Director
Professor of Higher Education   North Texas Community and
University of North Texas   Junior College Consortium
Denton, Texas 76203   (XXX) XXX-XXXX
(XXX) XXX-XXXX

APPENDIX B

LIST OF PUBLIC COMMUNITY AND JUNIOR

COLLEGES IN TEXAS

Public Community and Junior Colleges in Texas

Alvin Community College, Alvin
Amarillo College, Amarillo
Angelina College, Lufkin
Blinn College, Brenham
Brazosport College, Lake Jackson
Brookhaven College, Farmers Branch
Clarendon College, Clarendon
College of the Mainland, Texas City
Collin County Community College District,
 McKinney
Cooke County College, Gainesville
Del Mar College, Corpus Christi
El Paso Community College District, El Paso
Galveston College, Galveston
Grayson County College, Denison
Hill College, Hillsboro
Houston Community College System, Houston
Howard County Junior College District,
 Big Spring
Kilgore College, Kilgore
Laredo Junior College, Laredo
Lee College, Baytown
McLennan Community College, Waco
Midland College, Midland
North Harris Montgomery Community
 College District, Houston
North Lake College, Irving
Odessa College, Odessa
Panola College, Carthage
Paris Junior College, Paris
Ranger Junior College, Ranger
St. Phillip's College, San Antonio
San Antonio College, San Antonio
San Jacinto College - Pasadena
South Plains College, Levelland
Southwest Texas Junior College, Uvalde
Tarrant County Junior College District,
 Fort Worth
Temple Junior College, Temple
Texarkana College, Texarkana
Trinity Valley Community College, Athens
Tyler Junior College, Tyler
Vernon Regional Junior College, Vernon
Victoria College, The, Victoria
Weatherford College, Weatherford
Wharton County Junior College, Wharton

APPENDIX C

SURVEY INSTRUMENT

STYLES OF LEADERSHIP SURVEY

BY
JAY HALL, PH.D.
JERRY B. HARVEY, PH.D.
MARTHA S. WILLIAMS, PH.D.

TELEOMETRICS INTERNATIONAL

Styles of Leadership Survey

Please Read Carefully. The purpose of this survey is to provide you with information about the way you lead or would lead under a variety of conditions. A wide range of leadership situations is covered in order to provide you with meaningful information about yourself.

Instructions. This survey contains a total of 60 leadership alternatives presented five at a time under each of twelve different situations. As you consider each situation, please read all five alternatives presented and select the alternative that is most characteristic of you. Enter the letter which represents that alternative on the scale at a point which indicates how characteristic that alternative is of what you would do or feel.

Next, select the alternative that is *least* characteristic of you and enter that letter at the appropriate place on the scale. Once letters representing what is *most* and *least* characteristic of you have been entered, place the remaining three letters on the scale according to how characteristic each of those is of you.

For example, you might answer as follows for a set of five alternatives.

Completely Characteristic ___ : b : : c : a : : d : : : e : Completely Uncharacteristic

10   9   8   7   6   5   4   3   2   1

On a survey like this there are no right or wrong answers. Instead, the *best* response to each situation is to arrange the five alternatives in the way that is most representative of you. Remember that the purpose of this instrument is to provide you with data about yourself, so answer as you think you would do, not as you think you should.
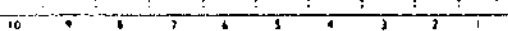
I. Concerning a philosophy of leadership. The opinions and attitudes held, and the assumptions a person makes, regard to the . . . . of that individual's leadership philosophy. This personal philosophy . . . . person leads, but the degree of success the individual is likely to achieve as a leader. . . . . areas of philosophic concern to leaders.

A. Most leaders recognize the fact that a variety of goals or needs — both individual and organizational — operate in the average work situation. In general, how do you view the relative importance of these?

   a. I feel that I can best insure a smooth-running organization by first attending to the needs of the members and providing the conditions for high morale.

   b. I feel that, while the needs of both individual members and the organization are important considerations, in the final analysis the needs of the organization should prevail.

   c. I feel that the needs of the organization come first, and that members are obligated to sacrifice their personal goals, when necessary, in order to maintain a high quality of performance.

   d. I feel that the needs of both individual members and the organization are equally important in determining the quality of organizational performance and that neither can be sacrificed if optimal results are to be obtained.

   e. I feel that the tasks of the organization are dictated primarily by organizational charters and that the individual member — regardless of tasks or needs — can do little to alter them significantly.

   Completely Characteristic ___:___:___:___:___:___:___:___:___: Completely Uncharacteristic
                               10   9   8   7   6   5   4   3   2   1
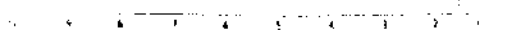
B. The leader's job is to accomplish work through people. What relationship between leaders and other members do you feel to be the most effective for accomplishing this?

   a. I feel that the best relationship is one in which the leader plans and directs the work of the members and the members implement these plans and directions in a reasonable period of time.

   b. I feel that the best relationship is one in which the leader and members work together in meeting organizational goals and individual needs for job satisfaction.

   c. I feel that the best relationship is one characterized by autonomy in the work situation and minimal contact between the leader and other members.

   d. I feel the best relationship is one in which both the leader and the members are willing to "give a little and take a little" when necessary to get the job done.

   e. I feel that the best relationship is one in which the leader ultimately places emphasis on the morale and well-being of other members rather than on the requirements of the job.

   Completely Characteristic :___:___:___:___:___:___:___:___:___: Completely Uncharacteristic
                               10   9   8   7   6   5   4   3   2   1

C. Evaluation of organizational effectiveness is the leader's way of isolating areas needing improvement and of determining how well his or her group has achieved its goals. The way in which evaluation is handled often affects both planning and implementation functions for attaining future objectives. How do you feel the evaluation function should be handled?

   a. I feel evaluation should be used to stimulate interest, develop high morale, and provide for individual growth within the organization and, therefore, I should encourage members to make their own evaluations of the way in which the organization is functioning.

   b. I feel that evaluations should be treated as a shared responsibility and, therefore, the members and I should meet together to critique, evaluate, and plan improvements in the functioning of the organization.

   c. I feel that, on the basis of reports, comparisons with the performance of others and my knowledge of the various task requirements, I should personally evaluate each member's performance and determine the areas in which improvements are needed.

   d. I feel that in order to place the responsibility for evaluating organizational effectiveness where it may best be used, I should pass on to the other members any evaluative comments and suggestions for improvement made to me by "V.I.P.'s" from our own and other organizations.

   e. I feel that, after consulting with the other members individually, I should make an overall report and then meet with them in order to encourage improvement in the areas I have decided require it.

   Completely Characteristic ___:___:___:___:___:___:___:___:___: Completely Uncharacteristic
                               10   9   8   7   6   5   4   3   2   1

APPENDIX D

QUESTIONNAIRE

Please check ( ) or complete the blanks below as they apply to you.

1. Gender
    ( ) Male
    ( ) Female

2. Ethnicity:
    ( ) Native American   ( ) Arabic American
    ( ) Hispanic American   ( ) African American
    ( ) Asian American   ( ) Other _____

3. Age:
    ( ) Below 30   ( ) 50-59
    ( ) 30-39   ( ) 60 or over
    ( ) 40-49

4. Current position title:
    ( ) President   ( ) Other (please specify)
    ( ) Vice-President   _____
    ( ) Dean

5. Number of years in present position:

    ( ) 0-1   ( ) 6-9
    ( ) 2-5   ( ) 10 or over (please
                             specify)
                             _____

6. Number of years at present institution:
    ( ) 0-1   ( ) 6-9
    ( ) 2-5   ( ) 10 or over (please
                             specify
                             _____

7. Number of years in administration:
    ( ) 0-1   ( ) 6-9
    ( ) 2-5   ( ) 10 or over (please
                             specify)
                             _____

8. Highest degree earned:
    ( ) Bachelors   ( ) No degree
    ( ) Masters   ( ) Other (please specify)
    ( ) Doctorate   _____

9. Educated abroad:
    ( ) Yes (where) _____
    ( ) No

10. What is your background and identity by experience:
( ) Former military officer
( ) Former corporate officer
( ) Former leader of _____ (state position)

11. Number of years in your former vocation:
( ) 0-1   ( ) 6-9
( ) 2-5   ( ) 10 or over (please
                              specify)

_____

12. Number of years in teaching:
( ) 0-1   ( ) 6-9
( ) 2-5   ( ) 10 or over (please
                              specify)

_____

13. Number of full-time professional staff (non-clerical)
reporting directly to you.
( ) 0-1   ( ) 6-9
( ) 2-5   ( ) 10 or over (please
                              specify)

_____

14. What is the budget of your community college:
( ) $ _____ State funding total
( ) $ _____ Local community total
( ) $ _____ Other funding

15. What percentage of your budget goes to worker's
compensation claims:
*_____

16. Level of control over respective area budget:
( ) I have full control over it
( ) The president controls it
( ) It is a group decision
( ) I have no control over it

APPENDIX E

COVER LETTER

Dear _____:

We are asking for your help. Please take a minute to read this letter. A study of the self-perceived leadership styles of administrators in public community and junior colleges in Texas in the 1990s is being conducted. This study is approved by the Department of Counseling, Development, and Higher Education and encouraged by the North Texas Community and Junior College Consortium at the University of North Texas.

Enclosed with this letter is a personal data questionnaire, a survey instrument, and a small envelope. The questionnaire asks for demographic information and the survey instrument asks for information related to your self-perceived leadership style. For confidentiality, please do not include your name or address on the survey instrument or the questionnaire. No identification of any names will be made in reporting the results of this study.

We hope that you will take a few minutes to complete the questionnaire and the survey instrument and to return them in the enclosed self-addressed, stamped envelope. This study will provide important information regarding the leadership styles of presidents, vice-presidents, and deans in public community and junior colleges throughout Texas.

If you wish to receive an abstract of the results of this study, please indicate by using the enclosed form and envelope through separate mail. In this way the information from the questionnaire and the survey instrument will remain anonymous. Again, thank you very much for your help and cooperation.

Hamed Ali
Doctoral Candidate in Higher
  Education
Denton, Texas 76201
(XXX) XXX-XXXX

Dr. John P. Eddy
Professor of Higher Education
University of North Texas
Denton, Texas 76203
(XXX) XXX-XXXX

Dr. Jesse Jones, Director
North Texas Community and
  Junior College Consortium
(XXX) XXX-XXXX

APPENDIX F

FORM FOR REQUESTING ABSTRACT

OF THE COMPLETED STUDY

Name:

_____

        First   Middle Initial   Last

Address:

_____

_____

_____

_____

I would like to receive an abstract of this completed study.
      Yes (   )   No (   )

Please send it to the above address.

APPENDIX G

FOLLOW-UP LETTER

February 16, 1994

Dear _____:

The survey instrument Styles of Leadership and a demographic data form were mailed to you over two weeks ago. This letter is a reminder of the importance of your completion of these instruments. Your help in gathering data for this study will be greatly appreciated. Without your help by returning these instruments, this research project (dissertation) will not be possible.

Thank you very much for your help in making this study a success. Please return the demographic data form and the Styles of Leadership Survey together. If I can be of any help, please call me at (XXX)XXX-XXXX or leave a message at (XXX)XXX-XXXX.

Sincerely,

Hamad Ali

APPENDIX H

APPROVAL LETTER FROM THE INSTITUTIONAL

REVIEW BOARD

University of North Texas

January 14, 1994

Ali Hamad
2413 W. Hickory #506
Denton, TX 76201

Dear Mr. Hamad:

Your proposal entitled "Self Perceived Administrative Leadership Styles of Presidents, Vice-Presidents, and Deans in Public Community and Junior Colleges in Texas," has been approved by the IRB and is exempt from further review under 45 CFR 46.101.

If you have any questions, please contact me at (817) 565-3946.

Good luck on your project.

Sincerely,

Sandra Terrell, Chair
Institutional Review Board

ST/tl

APPENDIX I

RAW DATA

Table 35

Raw Data

Respondent	Survey Question													Raw Scores				
	a	b	c	d	e	f	g	h	i	j	k	l	m					
1	0	0	1	4	1	3	3	3	2	3	1	9/9	94	94	68	66	57	40
2	1	0	3	3	0	0	0	3	2	1	3	1/1	44	84	55	55	58	44
3	0	0	0	2	3	1	1	3	2	0	2	1/9	86	60	86	59	86	36
4	0	0	0	3	2	1	3	1	1	3	3	9/9	83	83	71	49	65	41
5	0	0	0	3	0	3	3	3	2	3	3	5/5	62	94	86	68	54	30
6	0	0	1	3	2	1	3	3	1	3	3	1/1	58	81	75	63	73	58
7	0	0	0	3	0	3	3	3	2	1	2	1/1	53	87	72	55	65	37
8	0	0	0	3	1	3	3	3	2	3	3	1/1	37	74	62	52	56	37
9	0	0	0	3	0	2	2	3	2	1	2	1/1	48	89	61	60	72	48
10	1	0	2	2	2	0	3	3	1	0	2	9/9	100	100	66	66	68	29
11	0	0	2	2	1	1	3	3	1	0	2	1/1	59	76	64	69	60	44
12	0	0	0	4	2	3	3	3	2	3	3	9/9	100	100	81	55	46	23
13	1	0	0	2	2	3	3	3	2	1	3	1/1	41	83	77	63	65	41
14	1	0	0	4	0	3	3	3	2	3	2	1/1	41	82	71	64	63	41
15	0	0	1	3	2	3	3	3	2	0	1	1/1	63	83	78	72	84	63

(table continues)

Respondent	Survey Question a	b	c	d	e	f	g	h	i	j	k	l	m	Raw Scores				
16	0	0	0	3	0	2	2	3	2	2	2	1/1	41	81	65	56	63	41
17	1	0	1	3	0	1	1	3	2	3	1	5/5	88	88	88	52	55	41
18	0	1	3	3	1	0	0	3	2	3	2	5/5	83	90	83	63	73	37
19	0	0	0	3	0	2	2	3	2	3	2	1/1	56	89	71	64	51	40
20	0	1	0	2	1	2	2	3	2	0	3	9/9	110	110	71	61	69	32
21	0	1	0	2	1	0	3	3	1	1	2	1/1	43	79	74	71	70	43
22	0	1	0	2	1	1	3	3	2	1	3	9/9	101	101	66	62	65	40
23	0	0	0	3	0	3	2	3	2	1	2	9/1	84	82	79	84	75	47
24	0	0	0	2	2	0	3	3	2	2	2	9/9	98	98	76	55	79	40
25	0	0	0	1	2	1	3	1	1	3	3	5/5	85	74	85	64	81	47
26	0	0	0	3	2	0	3	2	1	3	3	1/9	97	95	96	80	97	65
27	1	0	0	3	2	3	3	3	1	3	1	9/9	100	100	74	53	74	35
28	0	0	1	4	2	2	3	3	1	3	3	9/9	83	83	71	58	76	61
29	1	0	0	3	1	2	3	3	2	3	3	5/5	85	80	85	73	75	37
30	1	1	0	3	1	2	2	3	2	2	1	1/1	51	98	73	50	55	51
31	0	0	0	3	1	3	3	3	2	1	1	1/1	55	72	60	47	80	55
32	0	0	0	3	1	1	2	3	2	3	3	9/9	91	91	79	78	84	46
33	0	0	0	3	0	0	0	3	2	3	3	1/1	48	75	80	69	68	48

(table continues)

Respondent	Survey Question													Raw Scores				
	a	b	c	d	e	f	g	h	i	j	k	l	m					
34	0	0	1	4	0	3	3	3	1	3	1	9/9	94	94	66	62	74	39
35	1	0	2	2	1	1	3	3	2	3	3	9/9	95	95	71	63	64	33
36	0	0	0	3	2	1	1	3	2	3	2	9/9	95	95	53	38	61	27
37	0	1	0	2	2	1	3	2	1	0	3	9/9	98	98	55	43	78	32
38	0	0	0	3	2	3	3	3	2	3	2	1/1	40	92	52	41	64	40
39	0	0	0	2	1	0	0	3	2	3	3	1/9	89	91	83	54	89	44
40	0	0	1	3	0	0	0	3	2	1	2	9/9	97	97	68	49	67	35
41	0	0	1	3	2	3	3	3	1	3	2	5/5	82	80	82	72	58	39
42	0	0	0	3	2	3	3	3	2	0	2	9/9	96	96	66	39	76	36
43	0	0	0	3	0	1	1	3	2	3	3	1/9	84	87	75	63	84	36
44	1	0	0	3	1	3	3	3	2	3	1	1/1	43	88	80	50	64	43
45	1	0	0	4	2	3	3	3	1	3	0	9/1	58	77	64	58	90	58
46	0	0	1	3	2	1	1	3	2	3	2	1/1	46	90	72	48	77	46
47	1	0	0	3	0	2	3	3	1	3	2	9/9	87	87	64	57	65	36
48	0	0	0	3	0	2	3	3	1	1	2	1/1	51	85	69	41	76	51
49	1	0	1	3	1	1	1	3	1	0	1	1/9	82	72	73	59	82	48
50	0	1	0	2	2	2	2	3	1	0	0	1/1	53	78	77	70	60	53
51	1	1	1	1	3	1	1	1	0	1	0	1/9	72	86	72	70	72	27

Respondent	a	b	c	d	e	f	g	h	i	j	k	l	Raw Scores					
													m					
52	1	0	3	1	2	1	1	1	1	0	1	9/1	77	88	81	77	67	34
53	1	0	3	3	2	3	3	3	1	3	2	9/9	100	100	68	60	70	45
54	0	0	3	1	3	0	0	1	1	0	0	1/9	76	74	77	57	76	34
55	0	0	0	2	2	3	3	3	2	1	1	9/9	97	97	81	56	65	33
56	0	0	0	2	0	1	1	3	2	2	3	1/9	86	98	62	46	86	36
57	1	0	0	4	0	3	3	3	2	2	1	1/1	40	72	64	50	70	40
58	0	0	3	2	3	2	2	3	2	2	1	9/9	82	82	60	50	51	22
59	1	0	0	2	3	3	3	3	2	1	2	1/9	84	96	71	64	84	37
60	0	1	0	3	2	1	1	3	0	0	1	9/9	90	90	55	35	64	26
61	0	0	3	2	2	1	1	2	2	2	3	1/9	94	93	80	40	94	34

Note. a = college type (0=community, 1=junior), b = gender (0=male, 1=female), c = race (0=other, 1=Native American, 2=Hispanic American, 3=African American), d = age (0=below 30, 1=30-39, 2=40-49,3=50-59, 4=60+), e = position (title) (0=president, 1=vice president, 2=dean, 3=other), f = years in present position (0=0-1, 1=2-5, 2=6-9, 3=10+), g = years in present institution (0=0-1, 1=2-5, 2=6-9, 3=10+), h = years in administration (0=0-1, 1=2-5, 2=6-9, 3=10+), i = degree earned (0=bachelor, 1=masters, 2=doctorate), j = years of teaching (0=0-1, 1=2-5, 2=6-9, 3=10+), k = full-time staff (0=0-1, 1=2-5, 2=6-9, 3+10+), l = favorite leadership style (9/9 = collaborative, 5/5=strategic, 9/1=directive, 1/9=supportive, 1/1=bureaucratic), m = scores of favorite style.

APPENDIX J

COMPUTER PRINTOUT OF

DATA ANALYSIS

FREQUENCY IN CHARACTERISTIC VARIABLES OF LEADERSHIP STYLES
OF THE TOP ADMINISTRATORS IN PUBLIC COMMUNITY
AND JUNIOR COLLEGES IN TEXAS

JUNIR	Frequency	Percent	Cumulative Frequency	Cumulative Percent
COMMUNITY	43	70.5	43	70.5
JUNIOR	18	29.5	61	100.0

GENDER	Frequency	Percent	Cumulative Frequency	Cumulative Percent
MALE	52	85.2	52	85.2
FEMALE	9	14.8	61	100.0

RACE	Frequency	Percent	Cumulative Frequency	Cumulative Percent
NATIVE AMERICAN	11	18.0	11	18.0
HISPANIC AMERICA	3	4.9	14	23.0
AFRICAN AMERICA	7	11.5	21	34.4
OTHER	40	65.6	61	100.0

AGE	Frequency	Percent	Cumulative Frequency	Cumulative Percent
30-39	4	6.6	4	6.6
40-49	17	27.9	21	34.4
50-59	33	54.1	54	88.5
60+	7	11.5	61	100.0

PSTN	Frequency	Percent	Cumulative Frequency	Cumulative Percent
PRESIDENT	17	27.9	17	27.9
VICE-PRES	15	24.6	32	52.5
DEAN	24	39.3	56	91.8
OTHER	5	8.2	61	100.0

FREQUENCY IN CHARACTERISTIC VARIABLES
OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS
IN PUBLIC COMMUNITY AND JUNIOR COLLEGES IN TEXAS

EMPLY	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0-1	10	16.4	10	16.4
2-5	19	31.1	29	47.5
6-9	11	18.0	40	65.6
10+	21	34.4	61	100.0

INSTR	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0-1	6	9.8	6	9.8
2-5	11	18.0	17	27.9
6-9	9	14.8	26	42.6
10+	35	57.4	61	100.0

ADMIN	Frequency	Percent	Cumulative Frequency	Cumulative Percent
2-5	5	8.2	5	8.2
6-9	3	4.9	8	13.1
10+	53	86.9	61	100.0

DEGREE	Frequency	Percent	Cumulative Frequency	Cumulative Percent
BACHELOR	2	3.3	2	3.3
MASTERS	20	32.8	22	36.1
PHD	39	63.9	61	100.0

TEACH	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0-1	12	19.7	12	19.7
2-5	13	21.3	25	41.0
6-9	7	11.5	32	52.5
10+	29	47.5	61	100.0

FREQUENCY IN CHARACTERISTIC VARIABLES OF LEADERSHIP
STYLES OF THE TOP ADMINISTRATORS IN PUBLIC
COMMUNITY AND JUNIOR COLLEGES IN TEXAS

FULLT	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0-1	4	6.6	4	6.6
2-5	14	23.0	18	29.5
6-9	22	36.1	40	65.6
10+	21	34.4	61	100.0

STYLEX		Frequency	Percent	Cumulative Frequency	Cumulative Percent
9/9	Collarative	21	34.4	21	34.4
5/5	Strategic	6	9.8	27	44.3
9/1	Directive	3	4.9	30	49.2
1/9	Supportive	10	16.4	40	65.6
1/1	Bureaucratic	21	34.4	61	100.0

FREQUENCY IN CHARACTERISTIC VARIABLES OF LEADERSHIP
STYLES OF THE TOP ADMINISTRATORS BY WHETHER
PUBLIC COMMUNITY OR JUNIOR
COLLEGES IN TEXAS

---------------------------------JUNIR=COMMUNITY-----------------------------

GENDER	Frequency	Percent	Cumulative Frequency	Cumulative Percent
MALE	36	83.7	36	83.7
FEMALE	7	16.3	43	100.0

RACE	Frequency	Percent	Cumulative Frequency	Cumulative Percent
NATIVE AMERICAN	8	18.6	8	18.6
HISPANIC AMERICA	1	2.3	9	20.9
AFRICAN AMERICA	4	9.3	13	30.2
OTHER	30	69.8	43	100.0

AGE	Frequency	Percent	Cumulative Frequency	Cumulative Percent
30-39	2	4.7	2	4.7
40-49	13	30.2	15	34.9
50-59	24	55.8	39	90.7
60+	4	9.3	43	100.0

PSTN	Frequency	Percent	Cumulative Frequency	Cumulative Percent
PRESIDENT	12	27.9	12	27.9
VICE-PRES	10	23.3	22	51.2
DEAN	18	41.9	40	93.0
OTHER	3	7.0	43	100.0

EMPLY	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0-1	8	18.6	8	18.6
2-5	14	32.6	22	51.2
6-9	8	18.6	30	69.8
10+	13	30.2	43	100.0

FREQUENCY IN CHARACTERISTIC VARIABLES OF LEADERSHIP
STYLES OF THE TOP ADMINISTRATORS BY WHETHER
PUBLIC COMMUNITY OR JUNIOR
COLLEGES IN TEXAS

------------------------------ JUNIR=COMMUNITY------------------------------

INSTR	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0-1	5	11.6	5	11.6
2-5	7	16.3	12	27.9
6-9	8	18.6	20	46.5
10+	23	53.5	43	100.0

ADMIN	Frequency	Percent	Cumulative Frequency	Cumulative Percent
2-5	3	7.0	3	7.0
6-9	3	7.0	6	14.0
10+	37	86.0	43	100.0

DEGREE	Frequency	Percent	Cumulative Frequency	Cumulative Percent
BACHELOR	1	2.3	1	2.3
MASTERS	13	30.2	14	32.6
PHD	29	67.4	43	100.0

TEACH	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0-1	9	20.9	9	20.9
2-5	9	20.9	18	41.9
6-9	5	11.6	23	53.5
10+	20	46.5	43	100.0

FULLT	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0-1	2	4.7	2	4.7
2-5	7	16.3	9	20.9
6-9	17	39.5	26	60.5
10+	17	39.5	43	100.0

FREQUENCY IN CHARACTERISTIC VARIABLES OF LEADERSHIP
STYLES OF THE TOP ADMINISTRATORS BY WHETHER
PUBLIC COMMUNITY OR JUNIOR
COLLEGES IN TEXAS

------------------------------JUNIR=COMMUNITY------------------------------

STYLEX	Frequency	Percent	Cumulative Frequency	Cumulative Percent
9/9 Collarative	16	37.2	16	37.2
5/5 Strategic	4	9.3	20	46.5
9/1 Directive	1	2.3	21	48.8
1/9 Supportive	7	16.3	28	65.1
1/1 Bureaucratic	15	34.9	43	100.0

FREQUENCY IN CHARACTERISTIC VARIABLES OF LEADERSHIP
STYLES OF THE TOP ADMINISTRATORS BY WHETHER
PUBLIC COMMUNITY OR JUNIOR
COLLEGES IN TEXAS

---------------------------------- JUNIR=JUNIOR---------------------------

GENDER	Frequency	Percent	Cumulative Frequency	Cumulative Percent
MALE	16	88.9	16	88.9
FEMALE	2	11.1	18	100.0

RACE	Frequency	Percent	Cumulative Frequency	Cumulative Percent
NATIVE AMERICAN	3	16.7	3	16.7
HISPANIC AMERICA	2	11.1	5	27.8
AFRICAN AMERICA	3	16.7	8	44.4
OTHER	10	55.6	18	100.0

AGE	Frequency	Percent	Cumulative Frequency	Cumulative Percent
30-39	2	11.1	2	11.1
40-49	4	22.2	6	33.3
50-59	9	50.0	15	83.3
60+	3	16.7	18	100.0

PSTN	Frequency	Percent	Cumulative Frequency	Cumulative Percent
PRESIDENT	5	27.8	5	27.8
VICE-PRES	5	27.8	10	55.6
DEAN	6	33.3	16	88.9
OTHER	2	11.1	18	100.0

EMPLY	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0-1	2	11.1	2	11.1
2-5	5	27.8	7	38.9
6-9	3	16.7	10	55.6
10+	8	44.4	18	100.0

FREQUENCY IN CHARACTERISTIC VARIABLES OF LEADERSHIP
STYLES OF THE TOP ADMINISTRATORS BY WHETHER
PUBLIC COMMUNITY OR JUNIOR
COLLEGES IN TEXAS

------------------------------- JUNIR=JUNIOR---------------------------

INSTR	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0-1	1	5.6	1	5.6
2-5	4	22.2	5	27.8
6-9	1	5.6	6	33.3
10+	12	66.7	18	100.0

ADMIN	Frequency	Percent	Cumulative Frequency	Cumulative Percent
2-5	2	11.1	2	11.1
10+	16	88.9	18	100.0

DEGREE	Frequency	Percent	Cumulative Frequency	Cumulative Percent
BACHELOR	1	5.6	1	5.6
MASTERS	7	38.9	8	44.4
PHD	10	55.6	18	100.0

TEACH	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0-1	3	16.7	3	16.7
2-5	4	22.2	7	38.9
6-9	2	11.1	9	50.0
10+	9	50.0	18	100.0

FULLT	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0-1	2	11.1	2	11.1
2-5	7	38.9	9	50.0
6-9	5	27.8	14	77.8
10+	4	22.2	18	100.0

FREQUENCY IN CHARACTERISTIC VARIABLES OF LEADERSHIP
STYLES OF THE TOP ADMINISTRATORS BY WHETHER
PUBLIC COMMUNITY OR JUNIOR
COLLEGES IN TEXAS

---------------------------------- JUNIR=JUNIOR ----------------------------

STYLEX	Frequency	Percent	Cumulative Frequency	Cumulative Percent
9/9 Collarative	5	27.8	5	27.8
5/5 Strategic	2	11.1	7	38.9
9/1 Directive	2	11.1	9	50.0
1/9 Supportive	3	16.7	12	66.7
1/1 Bureaucratic	6	33.3	18	100.0

TTEST PROCEDURE

Variable: SCORE99   9/9 Collarative

GENDER	N	Mean	Std Dev	Std Error	Variances	T	DF	Prob>|T|
MALE	52	86.61538462	9.20603776	1.27664774	Unequal	-1.5023	10.2	0.1633
FEMALE	9	92.22222222	10.52114273	3.50704758	Equal	-1.6530	59.0	0.1036

For H0: Variances are equal, F' = 1.31   DF = (8,51)   Prob>F' = 0.5235

****

Variable: SCORE55   5/5 Strategic

GENDER	N	Mean	Std Dev	Std Error	Variances	T	DF	Prob>|T|
MALE	52	72.38461538	9.46438908	1.31247462	Unequal	0.8301	11.0	0.4242
FEMALE	9	69.55555556	9.43545324	3.14515108	Equal	0.8283	59.0	0.4108

For H0: Variances are equal, F' = 1.01   DF = (51,8)   Prob>F' = 1.0000

****

Variable: SCORE91   9/1 Directive

GENDER	N	Mean	Std Dev	Std Error	Variances	T	DF	Prob>|T|
MALE	52	58.51923077	10.66879339	1.47949545	Unequal	0.0410	10.0	0.9681
FEMALE	9	58.33333333	12.86468033	4.28822678	Equal	0.0468	59.0	0.9628

For H0: Variances are equal, F' = 1.45   DF = (8,51)   Prob>F' = 0.3950

****

Variable: SCORE19   1/9 Supportive

GENDER	N	Mean	Std Dev	Std Error	Variances	T	DF	Prob>|T|
MALE	52	70.84615385	11.73963392	1.62799431	Unequal	1.2263	16.9	0.2370
FEMALE	9	67.33333333	7.07106781	2.35702260	Equal	0.8671	59.0	0.3894

For H0: Variances are equal, F' = 2.76   DF = (51,8)   Prob>F' = 0.1295

                                    TTEST of TWO MEANS

                                      TTEST PROCEDURE

Variable: SCORE11   1/1 Bureaucratic

GENDER	N	Mean	Std Dev	Std Error	Variances	T	DF	Prob>|T|
MALE	52	41.17307692	9.22851751	1.27976512	Unequal	0.9400	10.6	0.3681
FEMALE	9	37.88888889	9.75249256	3.25083085	Equal	0.9780	59.0	0.3321

For H0: Variances are equal, F' = 1.12   DF = (8,51)   Prob>F' = 0.7360

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   20
    OF PUB COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO GENDER   21:49 Friday, April 22, 1994
           ANALYSIS OF VARIANCE - 9/9 Collarative

                  General Linear Models Procedure
                     Class Level Information

              Class   Levels   Values

              GENDER   2   FEMALE MALE

              Number of observations in data set = 51

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   110
OF PUB COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO YEARS OF ADMINISTRATION
                ANALYSIS OF VARIANCE - 9/9 Collarative   21:49 Friday, April 22, 1994

                        General Linear Models Procedure
                           Class Level Information

                    Class   Levels   Values

                    ADMIN   3   10+ 2-5 6-9

                Number of observations in data set = 61

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   111
OF PUB COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO YEARS OF ADMINISTRATION
ANALYSIS OF VARIANCE - 9/9 Collarative   21:49 Friday, April 22, 1994

General Linear Models Procedure

Dependent Variable: SCORE99   9/9 Collarative

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	395.70326838	197.85163419	2.27	0.1123
Error	58	5053.34591195	87.12665365		
Corrected Total	60	5449.04918033			

	R-Square	C.V.	Root MSE		SCORE99 Mean
	0.072619	10.67462	9.33416593		87.44262295

Source	DF	Type I SS	Mean Square	F Value	Pr > F
ADMIN	2	395.70326838	197.85163419	2.27	0.1123

Source	DF	Type III SS	Mean Square	F Value	Pr > F
ADMIN	2	395.70326838	197.85163419	2.27	0.1123

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   112
OF PUB COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO YEARS OF ADMINISTRATION
                ANALYSIS OF VARIANCE - 9/9 Collarative   21:49 Friday, April 22, 1994

                        General Linear Models Procedure

                         T tests (LSD) for variable: SCORE99

        NOTE: This test controls the type I comparisonwise error rate not the experimentwise
              error rate.

            Alpha= 0.05 Confidence= 0.95 df= 58 MSE= 87.12665
                        Critical Value of T= 2.00172

        Comparisons significant at the 0.05 level are indicated by '***'.

ADMIN Comparison	Lower Confidence Limit	Difference Between Means	Upper Confidence Limit	
10+ - 2-5	-2.137	6.604	15.345	
10+ - 6-9	-18.818	-7.730	3.359	
2-5 - 10+	-15.345	-6.604	2.137	
2-5 - 6-9	-27.978	-14.333	-0.688	***
6-9 - 10+	-3.359	7.730	18.818	
6-9 - 2-5	0.688	14.333	27.978	***

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   113
OF PUB COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO YEARS OF ADMINISTRATION
                ANALYSIS OF VARIANCE - 5/5 Strategic   . 21:49 Friday, April 22, 1994

                    General Linear Models Procedure
                        Class Level Information

                    Class   Levels   Values

                    ADMIN   3   10+ 2-5 6-9

            Number of observations in data set = 61

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   114
OF PUB COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO YEARS OF ADMINISTRATION
                      ANALYSIS OF VARIANCE - 5/5 Strategic   21:49 Friday, April 22, 1994

General Linear Models Procedure

Dependent Variable: SCORE55   5/5 Strategic

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	245.02121868	122.51060934	1.39	0.2562
Error	58	5096.91320755	87.87781392		
Corrected Total	60	5341.93442623			

	R-Square	C.V.	Root MSE		SCORE55 Mean
	0.045868	13.02582	9.37431672		71.96721311

Source	DF	Type I SS	Mean Square	F Value	Pr > F
ADMIN	2	245.02121868	122.51060934	1.39	0.2562

Source	DF	Type III SS	Mean Square	F Value	Pr > F
ADMIN	2	245.02121868	122.51060934	1.39	0.2562

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   115
OF PUB COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO YEARS OF ADMINISTRATION
                ANALYSIS OF VARIANCE - 5/5 Strategic   21:49 Friday, April 22, 1994

General Linear Models Procedure

T tests (LSD) for variable: SCORE35

NOTE: This test controls the type I comparisonwise error rate not the experimentwise
error rate.

Alpha= 0.05 Confidence= 0.95 df= 58 MSE= 87.87751
Critical Value of T= 2.00172

Comparisons significant at the 0.05 level are indicated by '***'.

ADMIN Comparison	Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
10+ - 2-5	-14.790	-6.011	2.767
10+ - 6-9	-16.948	-5.811	5.325
2-5 - 10+	-2.767	6.011	14.790
2-5 - 6-9	-13.504	0.200	13.904
6-9 - 10+	-5.325	5.811	16.948
6-9 - 2-5	-13.904	-0.200	13.504

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   115
OF PUB COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO YEARS OF ADMINISTRATION
               ANALYSIS OF VARIANCE- 9/1 Directive   21:49 Friday, April 22, 1994

                        General Linear Models Procedure
                           Class Level Information

              Class   Levels   Values

              ADMIN   3   10+ 2-5 6-9

         Number of observations in data set = 61

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   117
OF PUB COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO YEARS OF ADMINISTRATION
                ANALYSIS OF VARIANCE- 9/1 Directive   21:49 Friday, April 22, 1994

General Linear Models Procedure

Dependent Variable: SCORE91   9/1 Directive

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	175.07734818	87.53867409	0.73	0.4862
Error	58	6954.16855346	119.89945782		
Corrected Total	60	7129.24590164			

	R-Square	C.V.	Root MSE		SCORE91 Mean
	0.024558	18.72033	10.94986109		58.49180328

Source	DF	Type I SS	Mean Square	F Value	Pr > F
ADMIN	2	175.07734818	87.53867409	0.73	0.4862

Source	DF	Type III SS	Mean Square	F Value	Pr > F
ADMIN	2	175.07734818	87.53867409	0.73	0.4862

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   118
OF PUB COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO YEARS OF ADMINISTRATION
                    ANALYSIS OF VARIANCE- 9/1 Directive   21:49 Friday, April 22, 1994

General Linear Models Procedure

T tests (LSD) for variable: SCORE91

NOTE: This test controls the type I comparisonwise error rate not the experimentwise
error rate.

Alpha= 0.05 Confidence= 0.95 df= 58 MSE= 119.8995
Critical Value of T= 2.00172

Comparisons significant at the 0.05 level are indicated by '***'.

ADMIN Comparison	Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
10+ - 2-5	-15.390	-5.136	5.118
10+ - 6-9	-9.077	3.931	16.939
2-5 - 10+	-5.118	5.136	15.390
2-5 - 6-9	-6.940	9.067	25.074
6-9 - 10+	-16.939	-3.931	9.077
6-9 - 2-5	-25.074	-9.067	6.940

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   119
OF PUB COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO YEARS OF ADMINISTRATION
                  ANALYSIS OF VARIANCE - 1/9 Supportive   21:49 Friday, April 22, 1994

                        General Linear Models Procedure
                            Class Level Information

                    Class   Levels   Values

                    ADMIN   3   10+ 2-5 6-9

            Number of observations in data set = 61

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   120
OF PUB COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO YEARS OF ADMINISTRATION
ANALYSIS OF VARIANCE - 1/9 Supportive   21:49 Friday, April 22, 1994

General Linear Models Procedure

Dependent Variable: SCORE19   1/9 Supportive

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	1225.14576760	612.57288380	5.64	0.0058
Error	58	6298.29685535	108.59132509		
Corrected Total	60	7523.44262295			

	R-Square	C.V.	Root MSE		SCORE19 Mean
	0.162844	14.81734	10.42071615		70.32786885

Source	DF	Type I SS	Mean Square	F Value	Pr > F
ADMIN	2	1225.14576760	612.57288380	5.64	0.0058

Source	DF	Type III SS	Mean Square	F Value	Pr > F
ADMIN	2	1225.14576760	612.57288380	5.64	0.0058

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   121
OF PUB COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO YEARS OF ADMINISTRATION
                ANALYSIS OF VARIANCE - 1/9 Supportive   21:49 Friday, April 22, 1994

General Linear Models Procedure

T tests (LSD) for variable: SCORE19

NOTE: This test controls the type I comparisonwise error rate not the experimentwise
error rate.

Alpha= 0.05 Confidence=.0.95 df= 58 MSE= 108.5913
Critical Value of T= 2.00172

Comparisons significant at the 0.05 level are indicated by '***'.

ADMIN Comparison	Lower Confidence Limit	Difference Between Means	Upper Confidence Limit	
10+ - 2-5	-12.902	-3.143	6.615	
10+ - 6-9	-32.989	-20.610	-8.231	***
2-5 - 10+	-6.615	3.143	12.902	
2-5 - 6-9	-32.700	-17.467	-2.233	***
6-9 - 10+	8.231	20.610	32.989	***
6-9 - 2-5	2.233	17.467	32.700	***

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   122
OF PUB COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO YEARS OF ADMINISTRATION
ANALYSIS OF VARIANCE 1/1 Bureaucratic   21:49 Friday, April 22, 1994

General Linear Models Procedure
Class Level Information

Class	Levels	Values
ADMIN	3	10+ 2-5 6-9

Number of observations in data set = 61

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   123
OF PUB COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO YEARS OF ADMINISTRATION
ANALYSIS OF VARIANCE 1/1 Bureaucratic   21:49 Friday, April 22, 1994

General Linear Models Procedure

Dependent Variable: SCORE11   1/1 Bureaucratic

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	112.68699866	56.34349933	0.64	0.5289
Error	58	5074.39496855	87.48956842		
Corrected Total	60	5187.08196721			

	R-Square	C.V.	Root MSE		SCORE11 Mean
	0.021725	22.98827	9.35358586		40.68852459

Source	DF	Type I SS	Mean Square	F Value	Pr > F
ADMIN	2	112.68699866	56.34349933	0.64	0.5289

Source	DF	Type III SS	Mean Square	F Value	Pr > F
ADMIN	2	112.68699866	56.34349933	0.64	0.5289

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   124
OF PUB COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO YEARS OF ADMINISTRATION
                    ANALYSIS OF VARIANCE 1/1 Bureaucratic   21:49 Friday, April 22, 1994

                          General Linear Models Procedure

                          T tests (LSD) for variable: SCORE11

         NOTE: This test controls the type I comparisonwise error rate not the experimentwise
               error rate.

              Alpha= 0.05 Confidence= 0.95 df= 58 MSE= 87.48957
                        Critical Value of T= 2.00172

         Comparisons significant at the 0.05 level are indicated by '***'.

ADMIN Comparison	Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
10+ - 2-5	-4.454	4.306	13.065
10+ - 6-9	-13.873	-2.761	8.351
2-5 - 10+	-13.065	-4.306	4.454
2-5 - 6-9	-20.740	-7.067	6.607
6-9 - 10+	-8.351	2.761	13.873
6-9 - 2-5	-6.607	7.067	20.740

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   123
   OF PUB COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO DEGREE RECIEVED
                ANALYSIS OF VARIANCE - 9/9 collarative   21:49 Friday, April 22, 1994

                        General Linear Models Procedure
                            Class Level Information

            Class   Levels   Values

            DEGREE   3   PHD BACHELOR MASTERS

            Number of observations in data set = 61

General Linear Models Procedure

Dependant Variable: SCORE99   9/9 Collarative

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	150.25943674	75.12971837	0.82	0.4444
Error	58	5298.78974359	91.35844385		
Corrected Total	60	5449.04918033			

	R-Square	C.V.	Root MSE		SCORE99 Mean
	0.027575	10.93078	9.55816111		87.44262295

Source	DF	Type I SS	Mean Square	F Value	Pr > F
DEGREE	2	150.25943674	75.12971837	0.82	0.4444

Source	DF	Type III SS	Mean Square	F Value	Pr > F
DEGREE	2	150.25943674	75.12971837	0.82	0.4444

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   127
   OF PUB COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO DEGREE RECIEVED
              ANALYSIS OF VARIANCE - 9/9 Collarative   21:49 Friday, April 22, 1994

                        General Linear Models Procedure

                         T tests (LSD) for variable: SCORE99

         NOTE: This test controls the type I comparisonwise error rate not the experimentwise
               error rate.

              Alpha= 0.05 Confidence= 0.95 df= 58 MSE= 91.35844
                        Critical Value of T= 2.00172

         Comparisons significant at the 0.05 level are indicated by '***'.

		Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
DEGREE	Comparison			
PHD	- BACHELOR	-13.307	0.564	14.436
PHD	- MASTERS	-1.898	3.364	8.626
BACHELOR	- PHD	-14.436	-0.564	13.307
BACHELOR	- MASTERS	-11.389	2.800	16.989
MASTERS	- PHD	-8.626	-3.364	1.898
MASTERS	- BACHELOR	-16.989	-2.800	11.389

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   128
      OF PUB COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO DEGREE RECIEVED
                  ANALYSIS OF VARIANCE - 5/5 Strategic   21:49 Friday, April 22, 1994

                          General Linear Models Procedure
                            Class Level Information

            Class   Levels   Values

            DEGREE   3   PHD BACHELOR MASTERS

            Number of observations in data set = 61

General Linear Models Procedure

Dependent Variable: SCORE55 5/5 Strategic

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	151.86519546	75.93259773	0.85	0.4333
Error	58	5190.06923077	89.48395225		
Corrected Total	60	5341.93442623			

	R-Square	C.V.	Root MSE		SCORE55 Mean
	0.028429	13.14431	9.45959578		71.96721311

Source	DF	Type I SS	Mean Square	F Value	Pr > F
DEGREE	2	151.86519546	75.93259773	0.85	0.4333

Source	DF	Type III SS	Mean Square	F Value	Pr > F
DEGREE	2	151.86519546	75.93259773	0.85	0.4333

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   150
     OF PUB COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO DEGREE RECIEVED
                    ANALYSIS OF VARIANCE - 5/5 Strategic   21:49 Friday, April 22, 1994

                          General Linear Models Procedure

                          T tests (LSD) for variable: SCORE55

        NOTE: this test controls the type I comparisonwise error rate not the experimentwise
              error rate.

              Alpha= 0.05 Confidence= 0.95 df= 58 MSE= 89.48395
                          Critical Value of T= 2.00172

        Comparisons significant at the 0.05 level are indicated by '***'.

	DEGREE Comparison	Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
PHD	- BACHELOR	-5.151	8.577	22.305
PHD	- MASTERS	-5.731	-0.523	4.685
BACHELOR	- PHD	-22.305	-8.577	5.151
BACHELOR	- MASTERS	-23.143	-9.100	4.943
MASTERS	- PHD	-4.685	0.523	5.731
MASTERS	- BACHELOR	-4.943	9.100	23.143

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   131
   OF PUB COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO DEGREE RECIEVED
              ANALYSIS OF VARIANCE- 9/1 Directive   21:49 Friday, April 22, 1994

                        General Linear Models Procedure
                           Class Level Information

            Class   Levels   Values

            DEGREE   3   PHD BACHELOR MASTERS

            Number of observations in data set = 61

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   132
OF PUB COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO DEGREE RECIEVED
ANALYSIS OF VARIANCE- 9/1 Directive   21:49 Friday, April 22, 1994

General Linear Models Procedure

Dependent Variable: SCORE91   9/1 Directive

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	303.89846574	151.94923287	1.29	0.2827
Error	58	6825.34743590	117.67840407		
Corrected Total	60	7129.24590164			

	R-Square	C.V.	Root MSE		SCORE91 Mean
	0.042627	18.54613	10.84796774		58.49180328

Source	DF	Type I SS	Mean Square	F Value	Pr > F
DEGREE	2	303.89846574	151.94923287	1.29	0.2827

Source	DF	Type III SS	Mean Square	F Value	Pr > F
DEGREE	2	303.89846574	151.94923287	1.29	0.2827

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   133
OF FUB COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO DEGREE RECIEVED
ANALYSIS OF VARIANCE- 9/1 Directive   21:49 Friday, April 22, 1994

General Linear Models Procedure

T tests (LSD) for variable: SCORE91

NOTE: This test controls the type I comparisonwise error rate not the experimentwise
      error rate.

Alpha= 0.05 Confidence= 0.95 df= 58 MSE= 117.6784
         Critical Value of T= 2.00172

Comparisons significant at the 0.05 level are indicated by '***'.

	DEGREE Comparison	Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
PHD	- BACHELOR	-10.961	4.782	20.525
PHD	- MASTERS	-10.140	-4.168	1.804
BACHELOR	- PHD	-20.525	-4.782	10.961
BACHELOR	- MASTERS	-25.054	-8.950	7.154
MASTERS	- PHD	-1.804	4.168	10.140
MASTERS	- BACHELOR	-7.154	8.950	25.054

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   134
OF PUB COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO DEGREE RECIEVED
ANALYSIS OF VARIANCE - 1/9 Supportive   21:49 Friday, April 22, 1994

General Linear Models Procedure
Class Level Information

Class   Levels   Values

DEGREE   3   PHD BACHELOR MASTERS

Number of observations in data set = 61

General Linear Models Procedure

Dependent Variable: SCORE19   1/9 Supportive

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	214.67339218	107.33669609	0.85	0.4319
Error	58	7308.76923077	126.01326260		
Corrected Total	60	7523.44262295			

	R-Square	C.V.	Root MSE		SCORE19 Mean
	0.028534	15.96176	11.22556291		70.32786885

Source	DF	Type I SS	Mean Square	F Value	Pr > F
DEGREE	2	214.67339218	107.33669609	0.85	0.4319

Source	DF	Type III SS	Mean Square	F Value	Pr > F
DEGREE	2	214.67339218	107.33669609	0.85	0.4319

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   136
OF FOR COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO DEGREE RECIEVED
ANALYSIS OF VARIANCE - 1/9 Supportive   21:49 Friday, April 22, 1994

General Linear Models Procedure

T tests (LSD) for variable: SCORE19

NOTE: This test controls the type I comparisonwise error rate not the experimentwise
error rate.

Alpha= 0.05 Confidence= 0.95 df= 58 MSE= 126.0133
Critical Value of T= 2.00172

Comparisons significant at the 0.05 level are indicated by '***'.

DEGREE Comparison		Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
PHD	- BACHELOR	-15.214	1.077	17.368
PHD	- MASTERS	-10.103	-3.923	2.257
BACHELOR	- PHD	-17.368	-1.077	15.214
BACHELOR	- MASTERS	-21.664	-5.000	11.666
MASTERS	- PHD	-2.257	3.923	10.103
MASTERS	- BACHELOR	-11.664	5.000	21.664

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   137
     OF PUB COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO DEGREE RECIEVED
          ANALYSIS OF VARIANCE 1/1 Bureaucratic   21:49 Friday, April 22, 1994

General Linear Models Procedure
Class Level Information

Class   Levels   Values

DEGREE   3   PHD BACHELOR MASTERS

Number of observations in data set = 61

General Linear Models Procedure

Dependent Variable: SCORE11   1/1 Bureaucratic

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	772.34606978	386.17303489	5.07	0.0093
Error	58	4414.73589744	76.11613616		
Corrected Total	60	5187.08196721			

	R-Square	C.V.	Root MSE		SCORE11 Mean
	0.148898	21.44206	8.72445621		40.68852459

Source	DF	Type I SS	Mean Square	F Value	Pr > F
DEGREE	2	772.34606978	386.17303489	5.07	0.0093

Source	DF	Type III SS	Mean Square	F Value	Pr > F
DEGREE	2	772.34606978	386.17303489	5.07	0.0093

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   139
   OF PUB COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO DEGREE RECIEVED
             ANALYSIS OF VARIANCE 1/1 Bureaucratic   21:49 Friday, April 22, 1994

                       General Linear Models Procedure

                       T tests (LSD) for variable: SCORE11

        NOTE: This test controls the type I comparisonwise error rate not the experimentwise
              error rate.

           Alpha= 0.05 Confidence= 0.95 df= 58 MSE= 76.11614
                     Critical Value of T= 2.00172

        Comparisons significant at the 0.05 level are indicated by '***'.

		Lower Confidence Limit	Difference Between Means	Upper Confidence Limit	
DEGREE	Comparison				
PHD	- BACHELOR	0.249	12.910	25.572	***
PHD	- MASTERS	-9.993	-5.190	-0.387	***
BACHELOR	- PHD	-25.572	-12.910	-0.249	***
BACHELOR	- MASTERS	-31.052	-18.100	-5.148	***
MASTERS	- PHD	0.387	5.190	9.993	***
MASTERS	- BACHELOR	5.148	18.100	31.052	***

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   140
OF PUB COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO YEARS OF TEACHING
ANALYSIS OF VARIANCE - 9/9 collarative   21:49 Friday, April 22, 1994

General Linear Models Procedure
Class Level Information

Class   Levels   Values

TEACH   4   0-1 10+ 2-5 6-9

Number of observations in data set = 61

ONE WAY ANALYSIS OF VARIANCE OF LEADERSHIP STYLES OF THE TOP ADMINISTRATORS   141
OF PUB COMM AND JR COLLEGES IN TEXAS WITH REGARDS TO YEARS OF TEACHING
ANALYSIS OF VARIANCE - 9/9 Collarative   21:49 Friday, April 22, 1994

General Linear Models Procedure

Dependent Variable: SCORE99   9/9 Collarative

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	69.35494640	23.11831547	0.24	0.8646
Error	57	5379.69423393	94.38060060		
Corrected Total	60	5449.04918033			

	R-Square	C.V.	Root MSE		SCORE99 Mean
	0.012728	11.11011	9.71496786		87.44262295

Source	DF	Type I SS	Mean Square	F Value	Pr > F
TEACH	3	69.35494640	23.11831547	0.24	0.8646

Source	DF	Type III SS	Mean Square	F Value	Pr > F
TEACH	3	69.35494640	23.11831547	0.24	0.8646

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