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Ambiguity tolerance and intuition in the management styles of selected Iowa school administrators

by

William Patrick Durow

A Dissertation Submitted to the
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CHAPTER I. INTRODUCTION

The Problem

Any discussion of excellence in education in the early 1980s includes the concept of leadership. Usually the discussion of the effective school leader is directed toward a district's administrators such as principals, directors, assistants to the superintendent, and the superintendent himself/herself.

Tradition and common practice continue to find the administrator termed "superintendent" designated as the chief administrator of each of Iowa's school districts. The superintendent's role in achieving educational excellence is crucial: s/he not only advises the board of education in the establishment of district policy but also coordinates the hiring and supervision of principals, who are the agents of educational effectiveness in individual school buildings.

Leadership, as it applies to the superintendent, is a concept of many facets. Sergiovanni defined it as the efficient and effective achievement of objectives (73:330).

Hostetler has reminded us that a significant concern of the leader is ethics, specifically concern for individual persons (38:31).

Sometimes leaders have been described as "mavericks" (57:184). Cuban suggested that conflict is the fuel that feeds the creativity of the leader (16:30).

Given the crucial roles the superintendent must play, an identification of the qualities possessed by those superintendents seen as exemplary by their peers is worthy of study. But this identification

process is no simple task. Engel has written that we really don't know the characteristics of an effective administrator. He suggested that the real exemplary superintendent might do it "with blue smoke and mirrors" (22:39).

Heller stated that the critical characteristic is "the ability to sense potential problems" (33:19). Writing in another journal, Sergiovanni contended that excellence is multi-dimensional, holistic (72:4).

Need for the Study

Given the consistent association of effective administrators with effective schools in the research, a study of some of the qualities possessed by "exemplary" superintendents compared with other superintendents seemed worthy of study. The problem approached in this study was further identification of those qualities. The specific qualities to be examined were ambiguity tolerance, the ability to use intuition in making decisions, career mobility, and job satisfaction. Given the crucial roles the superintendent is expected to play and the lack of conclusive data on "exemplary" superintendents, this study was designed to add clarity.

Similar Recent Research

Three recent doctoral studies at Iowa State University have focused on the "exemplary" superintendent. A doctoral dissertation by Clark Stevens (76) at Iowa State sought information on two dimensions of leadership behavior of "successful" superintendents of districts with

student enrollments of 5,000 or more, comparing them with a "non-successful" sample. The limited scope of the sample studied, however, prevented Stevens from generalizing beyond the scope of the sample and suggested a need for a study of superintendents of districts more similar in size to those in Iowa.

A study by David Haggard (31) sought information on the decision-making behavior of "exemplary" superintendents compared with a randomly selected group. Haggard urged subsequent researchers to seek further indicators for identifying superintendents with exemplary potential.

A 1986 Iowa State researcher, Larry Erion, studied the leadership behavior of 60 Iowa superintendents, 30 of whom were peer-selected as exemplary and another 30 who were randomly selected. Dr. Erion found statistically significant differences between the two groups in the leadership skills of written communication and personal motivation. He urged further study into the reputational survey (peer-selection) process and recommended that his study be replicated with different untested dimensions of management skills which may be integral to the leadership of effective superintendents (24:62,67-68).

These studies triggered the interest of this researcher. The specific questions to be addressed in this study were these: (1) is tolerance for ambiguity a quality more likely to be found in a sample of "exemplary" superintendents than a sample of "other" superintendents; and (2) is a sample of "exemplary" superintendents more likely to use an

intuitive decision-making approach than a sample of "other" superintendents?

In addition, related questions concerning self-expressions of job satisfaction and demographics of career mobility were to be investigated.

The writer intended to measure the degree to which tolerance for ambiguity and an intuitive management style were qualities that distinguish "exemplary" superintendents from those viewed as less effective by peers. Successful completion of this study was intended to serve the purpose of more accurately predicting the aptitude of prospective superintendents, suggesting components of preparation programs for superintendents, and outlining needed competencies to be attained before a person is granted certification as a superintendent.

Definitions

The following operational definitions were utilized in this study:

Superintendent: The chief administrator of a local school district, chosen by a local board of education to be the executive officer of the board.

"Exemplary" superintendents: A pool of 30 Iowa superintendents chosen by their peers from among the superintendents in the 15 Iowa Area Education Agencies by means of a reputational survey. The two superintendents in each area having the highest peer ranking were designated as "exemplary."

"Other" superintendents: A pool of 30 superintendents, also ranked by their peers in each Area Education Agency area by means of the same

reputational survey. The two superintendents in each area accumulating the lowest number of votes from colleagues were designated as "other."

Career mobility: Includes the concepts of "position responsibility, size-of-system responsibility, and frequency of position change." An upwardly mobile administrator is characterized by these types of changes in "position responsibility": (1) on the building level, moving from a position of assistant or associate administrator to head administrator; (2) moving from a building administrative position to a central office position; or (3) moving from a position of central office assistant or director to superintendent.

In terms of "size-of-system responsibility," the upwardly mobile administrator would maintain a 150 percent or greater student/staff responsibility if s/he did not change position responsibility; for example, a superintendent in a district of 2,000 students and 150 staff members would maintain size responsibility if s/he moved to a district of at least 3,000 students and 225 staff.

Regarding frequency, the upwardly mobile administrator would have made at least one move each six years as an administrator, having held at least three administrative positions in his/her career to date.

Considering position and size-of-system responsibility, this writer suggests that each move should be characterized by either increased position responsibility or size-of-system responsibility to be considered a move of upward mobility as defined in this study.

Job satisfaction: Defined in this study in terms of responses made to items 39 and 47 of the instrument (see Appendix A). A high level of

agreement expressed with these two items by the participants was assumed to accurately indicate a high degree of job satisfaction.

Intuitive management: Analyzed through items 1-27 on the questionnaire, an index of each participant's intuitive management style was identified. The terms intuition, intuitive management, and integrated management style are defined conceptually in Chapters II and III.

Ambiguity tolerance: Analyzed by means of responses to items 28-47 on the questionnaire, an index of ambiguity tolerance was identified for each participant. Conceptual definitions for ambiguity tolerance are discussed in Chapter II.

Assumptions

Based on a review of the related literature and the results of a pilot study, this writer has assumed that the aspects of ambiguity tolerance, the use of intuitive or integrated brain management style, and self-expressions of job satisfaction and career mobility in school superintendents were worthy of study as each might pertain to management styles and relative administrative effectiveness. It was likewise assumed that each of these characteristics could be isolated and measured accurately by the instruments chosen. The researcher has assumed that the respondents' self-expressions of job satisfaction and career mobility were accurate. An assumption was made that a clear determination of the brain management style could be obtained for each participant, and that the sample used was representative of the population of Iowa school superintendents.

Sources of Data

The data in the study were gathered through the use of two instruments. The first instrument, the "Career/Demographics Page," instructed each participant to describe each position held during this superintendent's career as a school administrator. The purpose of using this instrument was to gather data to be used in making a determination of the career mobility of each superintendent in the sample.

The second instrument was an amalgam of two parts. Part one, the first 27 questions, was a scale developed by Dr. Weston Agor of the University of Texas at El Paso termed the "TYMS," Test Your Management Style, instrument. A total of 15 of these questions were selected from the Mobius Psi-Ql Test. The other 12 of the TYMS items consisted of statements from the Myers-Briggs Type Indicator, a psychological instrument that measures an individual's ability to use intuition, contrasted with thinking, among other qualities, in making decisions.

Part two of this questionnaire also represented a blended scale. A total of 18 items (items numbered 28-38, 40-46) were chosen from the Rydell-Rosen Ambiguity Tolerance Scale and the Budner Scale of Tolerance-Intolerance of Ambiguity (41:411).

Delimitations

The subjects for the study were 60 Iowa public school superintendents who held their positions during the 1985-86 school year. They were selected during the 1984-85 school year by their peers on the basis of overall administrative effectiveness. Unknown to the participants, the two superintendents in each of the 15 Iowa Area Education Agency areas

selected most frequently by peers were designated as "exemplary," and the two superintendents selected least frequently were designated as "other" for use in this study. All names remained strictly confidential.

Organization of the Study

The study was organized into five chapters. Chapter I, the introduction, presented a statement of the problem, discussed the need for the study, defined terms used in the study, stated hypotheses, listed assumptions, mentioned the sources of the data, noted delimitations, and summarized the organization of the study. Chapter II presented a review of the related literature concerning the need for the study and the variables examined. Chapter III described the research design, the testing of hypotheses, the sample population studied, the means of data collection, and the procedures utilized for statistical analysis. Chapter IV described the findings from an analysis of the data. The final chapter, Chapter V, presented a summary and discussion of the findings and made recommendations for further study.

CHAPTER II. A REVIEW OF RELATED LITERATURE

Much of the writing in recent management journals, particularly those in education, has focused on the concept of leadership. It is not just the leadership of school officials that is under scrutiny, however. The qualities, behaviors, and characteristics of all managers, including those in the private sector, have been studied, analyzed, and measured.

This study chiefly concerned two qualities of leadership in a sample of school superintendents in Iowa: ambiguity tolerance and intuition. Before summarizing the literature regarding these two qualities, a description of the relationship these qualities have to the concept of leadership was undertaken.

Leadership

One reason this study was undertaken was to advance the knowledge about the behavior of effective educational leaders, specifically public school superintendents. Recent management literature has continued to examine the behavior of all leaders, those in the private sector as well as those in the public arena. This literature was found to be extensive. The writer has limited the focus of this summary to a discussion of these concepts: definitions of leadership, conditions in which modern leadership has developed, typical leadership behaviors and activities, qualities of the effective leader, leadership styles, and the approach of the modern effective leader.

Definitions of leadership

Waterman has defined leadership as the ability to coordinate the efforts of others (78:12). Saunders, Phillips, and Johnson defined leaders as those who can synergize other individuals (70:80-82). Effective leadership, they have said, is problem solving. Williams defined leadership as a process, not a personal trait (79:3). "Leadership is a social interaction process" (79:11), he has contended.

In School Administration: Leadership and Interaction, Williams quotes Drucker (20:291) as defining leading as the ability to inspire others, to direct and coordinate their efforts.

In The Situational Leader, Hersey maintained that leadership was any attempt to influence the behavior of another (35:16). "Effective leaders make things happen," he said (35:16).

Conditions in which leadership has developed

Waterman has suggested that the increased specialization in our society has contributed to the problem of complexity in leadership today (78:12). Drucker has stated that, given current attitudes of militancy in school staffs, leadership occurs at upper management levels only through the consent of the staff to be led (20:291). Sudhalter has posited that today's effective leader is not a clone of past management generations but, rather, is an individual and a creative thinker (77:89). We are in the age of what he has termed the "maverick" leader (77:104).

Leadership behaviors and activities

The behaviors of leaders are many and varied. Waterman has said that leadership is decision-making to dispense with crises (78:15). He described a pre-condition to decision-making as ordering, a systematic examination of past events by a leader to make decisions about future events (78:48).

Saunders, Phillips, and Johnson also list decision-making as a major leadership activity (70:83).

Drucker has insisted that the most fundamental activity of leadership is the establishment of good relationships (20:291). Williams has also listed direction, coordination, and participative decision-making as important activities (79:24,41).

Qualities of the effective leader

The tasks performed by a leader have been shown to be a reflection of that leader's qualities of leadership. Williams has written that "alertness and maneuverability accompanied by a sound philosophical orientation are essential ingredients of leadership behavior as the administrator faces challenging tasks related to the solution of group and individual problems" (79:4).

Drucker has said that the effective leader is conscious of time and can anticipate the unexpected (20:291).

Sudhalter has contended that leading others is a learned trait. He has stated further that the effective leader possesses ten qualities; s/he is inspirational, a delegator, perceptive, a good planner and organizer, is able to maintain harmony and equilibrium, assumes responsibility, is a

spokesperson, is able to negotiate effectively, manages crises calmly, and sets realistic goals (77:12). Sudhalter claimed that creative leadership is characterized by enthusiasm for new challenges, which the leader addresses with emerging leadership qualities such as creativity and intuition (77:103), a comment which lends support to the need for a study such as this one to investigate the intuitive abilities of educational leaders.

Leadership style

The term "leadership style" has been defined by Saunders, Phillips, and Johnson as the collection of those qualities that produces the achievement of goals (70:39).

Hersey has defined leadership style as the way the leader appears in the eyes of others (35:27).

According to Williams, the Midwest Administration Center at the University of Chicago has identified three distinct leadership styles: normative, related to concern for the institution; personal, related to the requirements of individuals; and transactional, or responding to the needs of situations (79:9).

Hersey described leadership styles as autocratic (directive, task-oriented), democratic (participative, relationship-oriented), and situational, taking into account both task and relationship factors as well as "follower readiness" (35:6). Most writers on leadership style have commented on the complexity of the leadership task and would agree with Hersey that style is defined through the perception of others.

The modern leader

The modern leader, then, has been described as the person who can focus on situational and personality factors, use his/her status or power effectively, be a person of many qualities, and make positive things happen in an organization through influencing others. According to Hersey, the effective leader understands the behavior of others, can predict future behavior, and is able to direct, change, and control the behavior of others effectively (35:20).

Studies of Superintendent Effectiveness

The top manager, chief decision-maker, and leader of public school districts is the superintendent of schools. Focusing on the complexities faced by superintendents, several writers and researchers have studied leadership qualities and behaviors of superintendents and other top school administrators.

Some organizations and institutions have initiated corresponding studies to pinpoint the skills, qualities, and attitudes of effective administrators. The College of Education at Butler University, for example, is teaching a package of 20 "leadership skills" in its program of preparation for principals. Among those skills was mentioned "coping with challenges such as risk activities or those that are uncomfortable or unfamiliar." Another skill mentioned was "managing conflict and ambiguity" (60:84). A major focal point of this study was to investigate the presence of ambiguity tolerance in two samples of public school superintendents.

McCall has written about one of these research efforts, the NASSP Principals' Assessment Centers. He listed 12 qualities of leadership that are dealt with in this assessment process: judgment, decisiveness, sensitivity, range of interest, personal motivation, educational values, stress tolerance, problem analysis, organizational ability, leadership, and oral and written communication skills (49:33). These 12 qualities were referred to later in this chapter as those researched by Dr. Larry Erion in his 1986 study (24) of a sample of Iowa superintendents.

Iowa State University Studies of Effective Superintendents

Three recent researchers at Iowa State University have studied the leadership behavior of samples of superintendents. A 1973 doctoral dissertation by Clark Stevens (76) sought information on two dimensions of leadership behavior in successful superintendents of districts with enrollments of 5,000 students or more. The nature of the sample studied, however, suggested a need for a study of superintendents in districts more similar in size to those in Iowa. His results were inconclusive regarding the behaviors studied. Stevens recommended that further study be conducted to determine additional leadership variables.

A 1984 study by Dr. David Haggard (31) sought information on the decision-making and thinking style processes utilized by a group of "exemplary" superintendents compared with a randomly selected group. The "exemplary" group was peer-selected by means of a reputational survey. Haggard was able to obtain no firm conclusions and urged subsequent

researchers to seek further indicators for identifying superintendents with exemplary potential.

A 1986 study by Dr. Larry Erion (24) focused on 12 qualities of leadership behavior in a sample of 60 Iowa public school superintendents, 30 of whom were peer-selected as "exemplary" and another 30 who were randomly selected. Dr. Erion found statistically significant differences between the two groups in the skill areas of written communication and personal motivation. He recommended further study into the reputational survey (peer-selection) process and recommended that the study be replicated with different, untested dimensions of management skill which may be integral to the leadership of effective superintendents (24:62,67-68).

In the preparation of school administrators today, more attention is being given to the effect of unique and unfamiliar situations on the psyche of the administrator, the degree to which individuals are able to manage the accompanying ambiguity, and the relationship of ambiguity management, or tolerance, to the person's job satisfaction and career plans.

Uncertainty

Cunningham has stated that "leadership is very complex, in fact, too complex to understand" (17:17). He explained that change is rampant in our modern society and that "change-saturated environments exact a price of individuals and institutions. Adaptations seldom come easily..." (17:17).

With so much uncertainty present in a world of change, Cunningham has asked why anyone would want to lead (17:18). Leadership programs, he says, attempt to relate skill development to research on leadership.

Defining uncertainty as "partial belief, the inability to give answers with complete certainty" (10:5), Beyth-Marom and Dekel have stated that most people live with uncertainty by using intuition (10:xii).

Agnew and Brown have written that managing uncertainty is an unpleasant thought for many executives because, even during good times, there is more than enough uncertainty to go around (2:48).

Describing the process each individual goes through in handling uncertainty, Gahmberg felt the process was one of transforming an "overcomplex situation into one of manageable form with few elements" (30:137).

Decisions must be made, however, even though uncertainty exists. Martin Lasden has stated that in an age of computer-precise logic, it is the computer itself which has "engendered conditions under which intuitive thinking becomes most valuable: conditions such as fast change, turmoil, and leaps into the unknown" (44:98).

Weston Agor, prolific writer and researcher on intuition and intuitive management, has demonstrated that decisions characterized by uncertainty involve a high degree of risk; require a choice among several plausible options, none of which is clearly supported by available data; or may involve inadequate data or a course of action contrary to that suggested by the data (3:9).

Writing about role conflict and ambiguity, Eisenhauer et al. found that school principals were required to deal with uncertainty caused by the fast-paced, fragmented, and interrupted nature of their typical activities (21:86).

Several writers have spoken of effective means for handling uncertainty. Eisenhauer has suggested that humor and routinization are effective in handling ambiguity and conflict (21:86).

Agnew and Brown have suggested that "the executive brain must draw on its repertoire of intuitions, including 'quick and dirty' rules of thumb, past experience, bits of knowledge and pseudo-knowledge, hunches, escapes, or delays" (2:49). They have stated further that if a manager is unable to transform uncertainty into certainty through rational means, s/he must try to "manufacture" certainty through non-rational (intuitive) or semi-rational (probability-based) systems (2:52). It is noted that these writers have emphasized the prevalence of uncertainty as a condition of today's management arena and have suggested that a sound way to deal with it is through intuition. Be reminded that the goals of this study were to draw conclusions about "exemplary" superintendents and their abilities to use ambiguity tolerance and intuition.

An operational term used consistently throughout this study for uncertainty and complexity was "ambiguity." The ability to manage ambiguity effectively has been referred to as "ambiguity tolerance."

Ambiguity Tolerance

The study of the notion of ambiguity tolerance originated with T. W. Adorno et al. (1), who tried to relate ambiguity

tolerance to an authoritative syndrome, or rigidity. Frenkel-Brunswik referred to intolerance of ambiguity as "rigidity" or "resistance to change" (29:791).

English and English defined ambiguity tolerance as a "willingness to accept a state of affairs capable of alternate outcomes: e.g., feeling comfortable...when faced by a complex social issue in which opposed principles are intermingled. Low ambiguity tolerance is shown by the desire to have everything reduced to black and white" (23:24).

Budner defined intolerance of ambiguity as a "tendency to perceive ambiguous situations as a source of threat and tolerance of ambiguity as an implication that contact with ambiguity is desirable" (14:48). He defined the ambiguous situation as that which cannot be structured or categorized because of insufficient clues. Budner went on to study the ways that persons react to perceived threat and to develop a measurement scale for ambiguity tolerance called the Budner Scale of Tolerance-Intolerance of Ambiguity.

Shavit defined tolerance of ambiguity as "one's openness to complex and inconsistent aspects of given situations" (74:1204).

In a 1978 article, Raphael, Moss, and Cross concluded that there was a need to study issues of intelligence and ambiguity tolerance more closely. They suggested viewing intolerance of ambiguity as an intervening variable reflecting coping skills more frequently than intelligence (66:624-26).

Rushlau defined ambiguity tolerance as "the capacity, inferred from observed behavior, to endure and deal with situations and relationships

the structure of which is not clearly defined" (69:1). The purpose of his study was to answer the question of whether ambiguity tolerance was a trait or a pattern of behavior. He found no appreciable relationship between intelligence and ambiguity tolerance in his sample. Rushlau concluded that ambiguity tolerance was a trait for his controlled sample.

Melvin sought to "examine the relationship between risk-taking and leadership behavior" (51:12). He posited that the ability to accept ambiguity was a mediating factor. Based on his knowledge of the work of Frenkel-Brunswik, Melvin hypothesized that those less tolerant of ambiguity would be more prone to an authoritarian style of leadership. He concluded that there was no significant relationship between the interaction of risk-taking/ambiguity tolerance and the two leadership styles studied. He suggested that further study should consider whether risk-taking orientation was relevant to career choice.

Two researchers have studied the reliability of the prominent scales used to measure ambiguity tolerance/intolerance. MacDonald (47) traced the history of various scales devised to measure ambiguity tolerance and determined that a 20-item Rydell-Rosen Ambiguity Tolerance Scale was quite reliable in reflecting the presence of high ambiguity tolerance in subjects.

Kirton (41) contended that data collection techniques for measuring ambiguity tolerance have not been psychometrically sound. The conflict, as he saw it, was in a scale that measured ambiguity as a desirable state and ambiguity tolerance as an ability to reduce the ambiguity. His

conclusion was that the most valid and reliable measure was a scale composed of elements from the Rydell-Rosen and Budner Scales (41:411).

Ambiguity Tolerance, Job Satisfaction, and Career Mobility

The work of Robert Presthus brought together the concepts of ambiguity tolerance, job satisfaction, and promotional preference (career mobility in the terminology of this study) through what he termed "accommodation theory" (65:49-50). This theory seeks "to predict the influence of job satisfaction and ambiguity tolerance on...upward mobility."

Harlow studied engineers at the University of South Florida to test the accommodation theory on "professional" employees. Her results showed that those engineers most tolerant of ambiguous situations were those who most preferred upward mobility (32:139). Her study also supported Presthus' claims in that she also found engineers having a high degree of job satisfaction to be the most desirous of advancement (32:140).

In a follow-up study to Harlow's work, O'Reilly, Bretton, and Roberts found that engineers who were also managers did not express any significant relationship between upward mobility and ambiguity tolerance. These writers did find results similar to those Harlow found in that the engineers expressing high job satisfaction also expressed high preference for promotion (62:143).

Intuition

> My head tells me he's stone-cold insane. My gut tells me to go with him on this (Don Johnson's character, Sonny Crockett, in the popular television series, Miami Vice).

Referred to consistently as one of the best means to manage ambiguity is the use of intuition. Researchers who have studied successful private and public sector managers consistently identify the use of an intuitive approach as one characteristic of successful executives.

Faced with complexity, insufficient time to gather necessary data, and fast-paced change, intuition becomes a valuable decision-making tool, albeit one that is accompanied by risk (44:100). In fact, reported Agor, many top executives use intuition to help make their most important decisions, often in situations characterized by rapid change and crisis events (3:6).

Definitions of intuition

"A feeling in my bones; a hunch." These are some of the phrases from folklore used to define intuition. More carefully phrased definitions are many.

Intuition is a sensation, an inner feeling that guides us and shows us how to act, Beyth-Marom has said. She defined it as "a personal thinking tool that we use without asking how it really functions. Intuition comes from life's experiences..." (10:xii).

Bastick has defined intuition as "the flashes that illuminate our logical slogging and leave a glowing satisfaction of true meaning" (9:1). Intuition produces educated guesses, guesstimates, when decisions need to

be made more speedily than data definition and logical analysis will allow, Bastick has contended.

Agor has quoted Carl Jung as defining intuition as one of the four basic psychological functions along with thinking, feeling, and sensation (7:49).

Lasden has mentioned the phrases, "a process of quick rationalization, pre-cognition, and extra-sensory perception" (44:100) to define intuition.

Intuition has also been defined as another way of knowing, as non-verbal perception and cognition (39:74). It has been called a way of recognizing the possibilities in any situation (3:6).

Folklore definition has intuition described as mysterious and sometimes as a feminine trait, which has tended to make masculine, logical managers less apt to use it (3:6).

William C. McGinnis, city manager of Crescent City, California, has offered the following humorous definition of intuition:

> I believe that good intuitive decisions are directly proportional to one's years of challenging experience, plus the number of related and worthwhile years of training and education, all divided by lack of confidence or the fear of being replaced (50:8).

Brain hemisphericity

Many of those attempting to explain or define intuition have done so in terms of the findings of researchers who have studied the hemispheres of the brain. Agor has stated that the right side of the brain sees broad possibilities, is insightful, and forms general ideas. The left side, he

says, sees facts and is very practical. According to Agor, the person who uses an integrated brain style has a vision of the future and is responsive to practicalities (5:23).

Lasden has written that linear thinking is a left brain activity, emotion and intuition having origins in the brain's right side (44:100).

Most writers claim that the integrated style is best. Robert Denhardt of the University of Kansas has stated:

> It may be that a humanistic theory of organization and a humanistic orientation to administrative behavior require a balancing of the rational and the intuitive (19:250).

McGinnis has theorized that of the six keys he defines as vital to strategic planning, three are systematically oriented (left brain): intelligence, organizational balance, and analysis. Three others, innovation, proactivity, and risk-taking, are intuitively-oriented activities (50:48-49). He has stated that the relationship between the two sets of keys must be an interactive one to develop appropriate strategies.

Right brain, left brain conflict

Bastick has stated that intuition is basic to the educational process but is neglected by teachers who insist on reason (9:10).

Thomas Isaack has reported that Chester Barnard, noted management scholar, insisted that logical reasoning be balanced with intuition; in fact, he claimed intuition to be primary to logical thought (39:75). Isaack defined the left hemisphere as the "intellect" and the right half

as "intuition," which processes information in a simultaneous rather than linear fashion.

Properties of intuition

Many are the properties described as elements of the intuitive process. Bastick listed these ten: quick and immediate; emotional involvement; pre-conscious processing; contrast with abstract reasoning, logical, analytical thought; influenced by experience; understanding through feeling, emotive not tactile; associated with creativity; associated with egocentricity; not 100 percent correct; and a global knowledge approach (9:25).

Sprecher listed a property of intuition as a subconscious "program" transmitted from one generation to the next, sometimes thought of as mysterious, feminine (75:18).

Ideal conditions

Intuition is best exercised in ideal conditions, Agor has stated. He lists those as a high level of uncertainty, little previous precedent to guide action, variables that are not scientifically predictable, limited facts, facts that fail to clearly establish direction for action, several plausible alternative solutions (with good arguments for each), and limited time combined with pressure to come up with the "right" decision (3:9). Agor has also specified a number of relaxation techniques and mental exercises designed to activate better intuition for decision-making (3:13).

On the contrary, the ability to perform intuitively is said to be limited by several sets of circumstances. Feinberg et al. has said that intuition cannot be influenced by wishful thinking, selective perception, mental rigidity, or judgments based on personal inclination (25:16).

Intuition cannot identify the specific facts with which it associates. Another obstacle to understanding intuition, stated Isaack, is that repeat demonstrations cannot be performed to meet scientific standards (39:75).

Errors in use of intuition

Errors in the use of intuition, Agor has stated, seem more apt to be caused by failing to follow intuition. Other common errors, he has stated, are caused by failure to be honest, to remain unattached, to react to time pressures, or to act without being relaxed or confident (3:10-11).

Teaching and developing intuition

To develop intuitive skills, Agor has advised belief, practice, and an environment supportive of intuitive skills (7:49). The teaching of intuitive managerial skills has reached business schools of the highest reputation, such as Stanford and the Sloan School of Management at M.I.T. (44:104).

Isaack has suggested that conscious attention be given to exercise of intuition in management programs (39:74). He claims that exercises such as analogy, reversal thinking, random word stimulation, exposure to the irrelevant, and exercises with opposites and contradictions promote intuitive thinking (39:75-77).

Agor has stated that the development of intuitive skills requires a support group (3:15) because of the bias western culture carries for intellect and against intuition.

Intuitive Management

In what circumstances, then, do managers use intuitive skills? Agor has defined intuitive management as the ability to make management decisions successfully on the basis of feelings. In his research with over 2,000 managers in business, education, government, the military, and health professions, Agor found that top managers in each field rated higher than middle- and low-level managers in use of intuition to make decisions. He also concluded that managers who use higher levels of intuition are likely to be effective in personnel, crisis management, and public affairs or public relations (7:49,52). Agor has said that right brain, intuitive managers consider feelings before facts and favor inductive reasoning. He liked the integrated style in which right brain and left brain styles are used interchangeably as a situation demanded.

Describing a series of experiments with chief executive officers in the late 1960s at the New Jersey Institute of Technology, Lasden stated that 80 percent scored above the levels allowed by chance on pre-cognitive and intuitive powers (44:100).

Agreeing with Agor, Lasden claimed intuition to be particularly effective in hiring (44:101). He quoted Bill Synnott of the First National Bank of Boston as saying: "Intuition is always more valuable in managing people than in dealing with things" (44:101).

Michael McGinnis has quoted Henry Mintzberg as arguing that truly outstanding managers are those who can combine intuition and analysis (50:45). McGinnis goes on to state that American managers have good analytical techniques but have failed to integrate these well with intuitive skills such as risk-taking, management of innovation, and communication (50:50).

Intuition in the present and future

In some measure of disagreement, Agor has stated that managers are significantly more comfortable using intuition than they were ten years ago. He claimed the difference is due to a climate characterized by rapid change and crisis events (3:5).

Cunningham has also suggested that leaders of the future face the problems of needing to focus on the present and future simultaneously. He points to intuition, saying "from this point forward, leaders may have to start trusting their intuition, which could prove to be an extremely valuable decision-making tool" (17:20).

Speaking further of the power of intuition, Roberds-Baxter has stated that:

> Intuitives tend to be visionaries, focusing on what might be possible. They are most content with problems that require new designs and different solutions. Intuitives do their best work when they are conceptualizing new ways and working with abstractions. To intuitives, synonyms for intelligence are flashes of creativity and the ability to grasp complexities (68:9).

Summary

Chapter II, the review of related literature, discussed theories of leadership, studies of superintendent effectiveness, uncertainty and ambiguity, ambiguity tolerance, and intuition. Citations were made to relate past research to the need for a study of ambiguity tolerance and intuition in "exemplary" public school superintendents.

Definitions of leadership were listed. Conditions in the modern time, the "Age of Information," were shown to have impacted the behavior of modern leaders, the qualities they possess, and the leadership styles that characterize the effective leader. The shift in leadership style from an autocratic mode to a more participative one was noted in successful managers.

Several studies concerning the effectiveness of school administrators were reviewed. It was noted that educational institutions and professional associations have tried to identify the skills and qualities of effective educational leaders. Three recent Iowa State University studies of "exemplary" superintendents were cited to show the difficulty in clearly establishing the qualities of the "exemplary" superintendent. One study did identify personal motivation and written communication skill as qualities more likely to be present in the "exemplary" superintendent than in a control group superintendent.

The relationship of those recent studies of "exemplary" superintendents to the present study was clarified through developing the need to investigate other qualities, ambiguity tolerance and intuition, in the "exemplary" superintendent.

The writer reviewed literature related to the hypotheses of this study: uncertainty and ambiguity, ambiguity tolerance, and intuition. Extensive review of the literature concerning intuition included definitions, brain hemisphericity, properties of intuition, ideal conditions for the exercise of intuitive powers, the potential for error in the use of intuition, development and teaching of intuition, and use of intuition by public and private sector managers.

CHAPTER III. METHODS AND PROCEDURES

The purpose of this study was to determine if tolerance for ambiguity and a management style that utilizes intuition were more characteristic of a group of peer-selected "exemplary" superintendents than a group of "other" superintendents who ranked at the low end of a peer-selected ranking based on overall performance. A secondary purpose was to measure any demographic relationships between the two groups in terms of the responses individuals made concerning their own job satisfaction and career mobility.

This chapter describes the selection of the sample; development of the measurement instruments, including the pilot study; the methods of data collection; the hypotheses to be tested; and the methods chosen for the treatment and analysis of the data.

Selection of the Sample

Two sample groups were drawn from the population of public school superintendents in Iowa. A pool of "exemplary" superintendents was identified through the use of a reputational survey that was administered to all the superintendents in each of the state's 15 Area Education Agency areas.

Researcher Larry Erion requested superintendents in each area to name the two superintendents from that area who were "exemplary" when considering the overall performance of each individual in the categories of personnel, curriculum, collective bargaining, and planning. The

superintendents in Dr. Erion's sample held their positions during the 1984-85 school year.

This researcher used the same list of "exemplary" superintendents as those identified by Dr. Erion. Where an identified "exemplary" superintendent no longer held a position in the area that selected him/her, the next highest vote-getter was moved up on the list to become one of the two "exemplaries" from that area. The process used by Dr. Erion and adopted by this researcher was similar to that used by Iowa State researcher Haggard as well.

In contrast to the randomly selected group of "other" superintendents used in the Haggard and Erion studies, this researcher selected the other group from those superintendents receiving the lowest vote totals. This procedure was used to attempt to distinguish between "exemplary" and "other" superintendents. In the Haggard and Erion studies, members of the "other" sample could have ranked nearly as high in the peer selection as some members of the "exemplary" sample. Two were selected from each area for a total of 30. When ties in vote totals were present, the two lowest vote-getters were determined by selecting from those tied in alphabetical order.

The Pilot Study

In development of the data gathering instrument and the hypotheses tested in this study, a pilot study (see Appendix A) was conducted during the spring of 1984. With the help of Dr. Ross Engel, this researcher's major professor and the supervisor of the studies conducted by Haggard, Stevens, and Erion, a sub-sample of 23 Iowa public school superintendents

was identified. Based on the peer-rating used in the Haggard study, this group was divided into a group of 11 "exemplary" superintendents and 12 "other" superintendents.

They were asked to complete an instrument composed of the 18 items on ambiguity tolerance Kirton suggested, the two questions dealing with job satisfaction, and one question concerning career mobility.

All 23 superintendents completed and returned the pilot instrument. Responses significant at the .05 level of confidence were obtained on six of the 18 items dealing with ambiguity tolerance, when the two samples were compared (see Appendix B). In five of the six instances, the "exemplary" sample showed numerically higher responses, and on one item the expected responses were reversed, with the "other" sample showing a higher numerical response.

As a result of the pilot study, the decision was made to proceed; the question dealing with career mobility was replaced by the Career/Demographics Page; and the hypotheses were written in final form.

Development of the Measurement Instruments

Two instruments were used to collect the data for analysis in this study. One, a Career/Demographics Page (see Appendix C), developed by this researcher, requested information concerning all current and previous administrative positions held. The instrument requested position titles, number of years each position was held, and numbers of students and staff supervised.

The second instrument (see Appendix D), one of 47 items, was an amalgam of several parts. Part one, the first 27 questions, was a scale

developed by Dr. Weston Agor of the University of Texas at El Paso, termed the "TYMS," Test Your Management Style, instrument. The first 15 of these 27 questions Agor selected from the Mobius Psi-Q1 test. These items allowed managers to express the brain dominant style they actually used on the job to make decisions. This test was designed to measure "para-normal abilities, pre-cognition, and intuition springing from the right hemisphere" (71:160-61). The validity and reliability of the Mobius Psi-Q1 was established through national administrations to over 15,000 Omni Magazine readers in 1981-82, with total correct responses received from enough participants to exceed the "chance" figure (71:160-61), but only at an .0625 level of statistical significance.

The final 12 TYMS items consisted of statements Agor selected from the Myers-Briggs Type Indicator, a psychological instrument that measures the ability to use intuition, contrasted with straight cognition, in making decisions. Reviewing the MBTI in the Mental Measurements Yearbook (15:974-75), Coan (in (15)) has stated that the correlations between the pairs of scales tested are all necessarily close to -1.00. He reported:

> There is now a substantial body of empirical data gathered on the use of the MBTI. It would be fair to say that the group differences and correlations are broadly supportive of the construct validity of the scales (15:974-75).

Agor himself has administered the 27-item TYMS to over 2,000 executives in business, government, education, the military, and health fields. He discussed his testing procedures extensively in Intuitive Management (6:21-25). Agor's studies showed that the top managers in every type of organization scored higher in their ability to use intuition

than managers lower in rank. Agor reported results to be obtained at the .05 level of statistical significance (3:7).

Items 1 through 27 instructed participants to choose a response from either two or three alternatives.

Part two of this questionnaire also represented a blended scale. A total of 18 items, those numbered 28 to 38 and 40 to 46, were selected by Kirton from the Rydell-Rosen Ambiguity Tolerance Scale (41:411) and the Budner Scale of Tolerance-Intolerance of Ambiguity (41:411). After study, Kirton reduced the total of 36 items to 18. He reported internal reliability with his main sample of 286 to be .86, and similar results with a replication sample of 276.

Two other items completed the instrument. Items 39 and 47 were used to obtain a self-estimate of degree of job satisfaction.

All of the last 20 items in the instrument utilized a Likert scale response design with these elements:

7 strongly agree

6 moderately agree

5 slightly agree

3 slightly disagree

2 moderately disagree

1 strongly disagree.

The number 4 choice, originally intended to correspond with a response of "undecided," was not used in order to force respondents to select a level of agreement or disagreement with each item.

Methods of Data Collection

Data in this study were collected by means of correspondence mailed to the 60 participants in mid-March, 1986. Each packet contained a cover letter (see Appendix E), the Career/Demographics Page, the 47-item questionnaire, and a stamped envelope for return. Identification numbers were used to identify members of each group and to account for returns.

The participants were very cooperative in completing the instruments. A total of 49 responses were received by April 12, 1986. At that point, a first follow-up letter (see Appendix F) and an additional packet of materials were mailed to the 11 non-respondents. A total of five additional responses were received by April 23, 1986.

A second follow-up mailing (see Appendix G) was made to the six non-respondents, again requesting their participation and emphasizing the need for complete returns. Four of these six superintendents responded by May 5, and one other completed and returned the instruments June 26, 1986.

The lone remaining non-respondent was contacted by telephone in late June, and his data were received on July 12, 1986, which completed a 100 percent return.

Hypotheses Tested

The hypotheses tested were the following:

Ho: There is no difference in the degree of ambiguity tolerance expressed by the "exemplary" sample of superintendents when compared with the "other" sample. Ho: $U1 = U2$.

Ho: There is no difference in the frequency of use of an intuitive or integrated brain management style when the "exemplary" sample of superintendents is compared with the "other" sample. Ho: U1 = U2.

The alternative hypotheses tested were these:

Ha: There is a higher degree of ambiguity tolerance expressed by the "exemplary" sample of superintendents than by the "other" sample. Ha: U1 > U2.

Ha: There is more frequent use of intuition and an integrated brain management style by the "exemplary" sample of superintendents than by the "other" sample. Ha: U1 > U2.

Differences in demographic/career data were measured by means of an arithmetic process. No hypotheses were stated concerning these data, and no statistical procedures were employed. It was this researcher's contention, however, that the "exemplary" sample of superintendents would tend to be more upwardly mobile and satisfied in their career choices as school administrators than members of the "other" sample.

Data Treatment and Analysis

Both the Career/Demographics Page and the questionnaire yielded data that were analyzed in this study. The purpose of this section is to describe the types of data generated and the means selected for its analysis.

Career/Demographics Page

The data generated by this instrument were analyzed to determine a relative career mobility status for each participant. In accordance with the operational definition of "career mobility" presented in Chapter I, the data for each participant were analyzed according to these steps.

1. The number of changes in administrative positions was determined to answer the question of whether the superintendent had two or more. In order to be considered "upwardly mobile," the answer to this question had to be "yes."

2. A determination was then made to see if the changes in position were made on the average of one every six years of the superintendent's career.

The figure of six years was chosen after consultation with David Alvord of the Administrative Services Section of the Iowa Department of Education. Mr. Alvord provided data to the writer that indicated that the average number of years experience in the current district of all Iowa superintendents during the 1985-86 school year was 8.7 years. Table 1 shows a distribution of average years of experience in their current district for all superintendents categorized by size of district.

A change of position once every six years was chosen by the writer because it indicated that a superintendent was changing positions somewhat faster, nearly one-third faster, in fact, than the state average. From the data supplied by Alvord, Table 2 shows the frequency distribution of superintendents with six years or less experience in their current districts in 1985-86.

Table 1. Distribution of average years of experience in current district of all Iowa superintendents in 1985-86 classified by size of district

District size	Average years in district
0 - 249	5.7
250 - 399	7.5
400 - 599	8.9
600 - 999	10.2
1000 - 2499	9.9
2500 - 7499	9.3
7500+	6.0

Table 2. Distribution of Iowa superintendents with six years or less experience in their current district during the 1985-86 school year categorized by district size

District size	Number of superintendents	Percentage of superintendents of this size district
0 - 249	37	72.5
250 - 399	53	58.9
400 - 599	47	50.0
600 - 999	38	39.6
1000 - 2499	30	41.7
2500 - 7499	13	54.2
7500+	5	71.4
All districts (n=438)	223	50.9

Again, the answer to this question had to be "yes" for the superintendent to be considered "upwardly mobile."

3. Each change in administrative position was analyzed to determine if there were changes in position or size-of-system responsibility, as specified in the definition. In order to be considered "upwardly mobile" with respect to these two factors, more than 50 percent of all moves had to have shown the specified increases in either position or size of system responsibility.

In summary, then, the data of the Career/Demographics Page for each respondent were analyzed to determine the number of changes in position, the time frame in which the changes occurred, and changes in position and size-of-system responsibility. Based on the data, each superintendent was labeled "upwardly mobile" or "not upwardly mobile."

The questionnaire

The data generated by the questionnaire were of several types. This section was written to list the types of data generated. Each body of data was statistically analyzed by means of a one-tailed "pooled t" test to determine significant differences between the "exemplary" sample and the "other" sample.

The respondents' self-expressions of job satisfaction were measured by their responses to items 39 and 47. Responses were made to a six-point Likert scale.

Three scores indicative of each respondent's dominant brain style were determined by responses to items 1 through 15. Following Agor's

formula for analyzing these items, right brain, left brain, and integrated brain scores were calculated.

Analysis of items 16 through 27 yielded a score indicating whether each respondent favored an "intuitive" style or a "thinking" style.

Finally, analysis of questions 28 through 38 and 40 through 46 provided a score indicative of tolerance for ambiguity, enabling this researcher to make comparisons between samples on that characteristic.

Analyzing each of these bodies of data by means of a one-tailed "pooled t" test, it was possible to determine those null hypotheses that could be rejected at the .05 confidence level.

Summary

The purpose of this chapter was to describe the research methods and procedures utilized. The chapter described the selection of the sample, the pilot study, the development of the measurement instruments employed, the structure and results of the pilot study, the strategies employed for the collection of data, the null and alternative hypotheses tested, and lastly, the types of data generated and means selected for analysis of that data.

CHAPTER IV. FINDINGS

The purpose of this study was to compare two samples of Iowa public school superintendents to determine if "exemplary" superintendents were more likely to demonstrate higher degrees of the qualities of ambiguity tolerance and intuitive decision-making than a sample of "other" superintendents. After the data were collected, the statistical analyses described in Chapter III were applied. Chapter IV was written to summarize the career/demographic data and to discuss the results of each of the hypotheses.

Profile of the Respondents

The total sample was composed of 60 Iowa public school superintendents. Through a peer-selection process, one-half of the total sample was identified as "exemplary." This sample included two superintendents from each of the state's 15 Area Education Agency areas. The remaining 30 participants, the "other" sample, represented the two superintendents from each area ranking lowest in the peer-selection results. All participants responded to a Career/Demographics Page (see Appendix C) and a 47-item questionnaire (see Appendix D) that was an amalgam of several parts.

Career/demographic data

The first page of the instrument, the Career/Demographics Page, asked each respondent to describe the characteristics of all administrative positions held in the past and present. Each respondent was asked to list the title of each position held, the number of years the position was

held, the number of students supervised, and the number of all staff members supervised.

Table 3 shows a distribution of the respondents according to the student enrollment of each superintendent's current district. All members of the "exemplary" sample were superintendents of districts with student enrollment of at least 600, while only 56.7 percent of the "other" sample administered districts of that size. A total of 43.3 percent of the "other" superintendents administered districts with student enrollments smaller than 600.

Based on a review of related literature, this writer contended that the "exemplary" sample would show a higher degree of upward mobility, as defined in Chapter I, than the "other" sample. It was only to examine this contention that the Career/Demographics Page was used in this study.

Table 4 shows the distribution of the total sample according to the number of years of experience in the current district. The average number of years of such experience was found to be 12.4 years for the "exemplary" sample, 11.3 years for the "other" sample, and 11.9 years for the total sample of 60.

Tables 5 and 6 summarize the findings of the Career/Demographics Page for both samples. The "exemplary" sample averaged 2.83 changes in position over the participants' combined careers. The "other" sample averaged 2.40 changes in position during those participants' careers.

A summary of Tables 5 and 6 showed that the "exemplary" sample included 13 (43.3%) superintendents who were upwardly mobile and 17 (56.7%) who were not upwardly mobile, according to the definition, while

Table 3. Distribution of "exemplary" and "other" respondents by current district student enrollment

District size	Exemplaries (n=30)		Others (n=30)	
	No.	Percent	No.	Percent
0 - 249			4	13.3
250 - 399			4	13.3
400 - 599			5	16.7
600 - 999	7	23.3	8	26.7
1000 - 2499	12	40.0	8	26.7
2500 - 7499	10	33.3	1	3.3
7500 +	1	3.3		
Totals	30	99.9	30	100.0

Table 4. Distribution by "exemplary" and "other" respondents by number of years employed in current district

Years in this district	Exemplaries (n=30)		Others (n=30)		Total sample (n=60)	
	No.	Percent	No.	Percent	No.	Percent
1			1	3.3	1	1.7
2	1	3.3			1	1.7
3	2	6.7			2	3.3
4	1	3.3	1	3.3	2	3.3
5	1	3.3			1	1.7
6	2	6.7	3	10.0	5	8.3
7	2	6.7	3	10.0	5	8.3
8	3	10.0	2	6.7	5	8.3
9	1	3.3	3	10.0	4	6.7
10	1	3.3	1	3.3	2	3.3
11	2	6.7	2	6.7	4	6.7
12	1	3.3	2	6.7	3	5.0
13	1	3.3	1	3.3	2	3.3
14			3	10.0	3	5.0
15	2	6.7	1	3.3	3	5.0
16	2	6.7	2	6.7	4	6.7
17			2	6.7	2	3.3
18	2	6.7			2	3.3
19	1	3.3			1	1.7
20	1	3.3	2	6.7	3	5.0
21	2	6.7			2	3.3
24	1	3.3			1	1.7
26	1	3.3			1	1.7
30	1	3.3			1	1.7

	Exemplaries	Others	Total sample
Average years experience in current position	12.43	11.27	11.85

Table 5. Summary of the responses to a Career/Demographics Page by a sample of superintendents labeled "exemplary"

No.	Position changes	Two or more?	Defined time frame?	Position responsi-bility?	Size responsi-bility?	Upwardly mobile?
1	4	yes	no[a]	2	2	no
2	3	yes	yes	1	2	yes
3	4	yes	no[a]	1	3	no
4	3	yes	no[a]	1	1	no
5	1	noa	no	1	0	no
6	4	yes	yes	4	1	yes
7	1	no[a]	no	1	1	no
8	2	yes	yes	2	0	yes
9	6	yes	yes	1	6	yes
10	4	yes	yes	0[a]	2[a]	no
11	3	yes	yes	1	1	yes
12	2	yes	no[a]	1	0	no
13	1	no[a]	no	1	0	no
14	2	yes	no[a]	0	2	no
15	4	yes	yes	1	2	yes
46	3	yes	no[a]	1	2	no
47	1	no[a]	no	1	0	no
48	3	yes	yes	1	2	yes
49	4	yes	yes	1	2	yes
50	3	yes	yes	1	1	yes
51	4	yes	no[a]	0	1	no
52	2	yes	no[a]	0	1	no
53	3	yes	yes	1	3	yes
54	4	yes	yes	1	2	yes
55	3	yes	yes	1	2	yes
56	3	yes	no[a]	1	3	no
57	2	yes	yes	0[a]	1[a]	no
58	1	no[a]	no	1	1	no
59	2	yes	no[a]	1	1	no
60	3	yes	yes	1	3	yes

Summary

Mobile	13	43.3%
Not mobile	17	56.7%

[a]First factor in the sequence that caused the superintendent to be considered "not mobile."

Table 6. Summary of the responses to a Career/Demographics Page by a sample of superintendents labeled "other"

No.	Position changes	Two or more?	Defined time frame?	Position responsi-bility?	Size responsi-bility?	Upwardly mobile?
16	3	yes	yes	1	2	yes
17	3	yes	no[a]	1	1	no
18	4	yes	no[a]	1	3	no
19	2	yes	no[a]	1	1	no
20	3	yes	no[a]	0	0	no
21	5	yes	yes	2	1	yes
22	2	yes	no[a]	1	1	no
23	2	yes	no[a]	1	2	no
24	4	yes	yes	2	1	yes
25	2	yes	no[a]	1	1	no
26	1	no[a]	no	1	1	no
27	1	no[a]	no	1	1	no
28	2	yes	no[a]	1	1	no
29	1	no[a]	no	1	1	no
30	2	yes	no[a]	1	2	no
31	6	yes	yes	3	2	yes
32	2	yes	yes	1	1	yes
33	4	yes	yes	0[a]	2[a]	no
34	2	yes	yes	0	2	yes
35	0	no[a]	no	0	0	no
36	4	yes	yes	2	2	yes
37	1	no[a]	no	1	0	no
38	3	yes	no[a]	1	1	no
39	1	no[a]	no	0	1	no
40	2	yes	no[a]	1	1	no
41	3	yes	no[a]	1	3	no
42	0	no[a]	no	0	0	no
43	2	yes	no[a]	0	2	no
44	1	no[a]	no	1	1	no
45	4	yes	yes	2	1	yes

Summary

Mobile	8	26.7%
Not mobile	22	73.3%

[a]First factor in the sequence that caused the superintendent to be considered "not mobile."

the "other" sample had 8 (26.7%) superintendents who were upwardly mobile and 22 (73.3%) who were not upwardly mobile.

In summary, then, the findings suggest that the typical "exemplary" superintendent in this study had held more positions and was slightly more upwardly mobile than a representative superintendent from the "other" sample, even though the "exemplary" superintendent had averaged about one more year's experience in the current district. The respondents in the "exemplary" sample all administered districts of 600 students or more, while 43.3 percent of the superintendents in the "other" sample administered districts of fewer than 600 students.

Job satisfaction

In completing the questionnaire, each superintendent responded to two items concerning his/her feelings of job satisfaction. These items were numbered 39 and 47 and were formulated by the writer. To respond to these items, each superintendent indicated a degree of agreement or disagreement using the following Likert-type scale:

7 strongly agree

6 moderately agree

5 slightly agree

3 slightly disagree

2 moderately disagree

1 strongly disagree.

A summary of these responses is shown in Table 7.

All 60 superintendents responded to both items. The mean response of the "exemplary" superintendent sample was higher (showed a greater degree

Table 7. Summary of mean responses to two questionnaire items concerning job satisfaction by two samples of superintendents

Item no.	Exemplaries (n=30) Mean	Others (n=30) Mean
39	6.067	5.567
47	6.467	6.000
Overall sample mean	6.2667	5.7833

of agreement) than the mean of the "other" sample for each item: .500 greater on item number 39 and .467 greater on item number 47. The overall sample mean for both questions was 6.267 for the "exemplary" sample and 5.783 for the "other" sample.

The findings suggest that the typical "exemplary" superintendent in this study was somewhat more satisfied with his/her career choice as a school administrator than the typical superintendent from the "other" sample.

Hypothesis Number One

There is no difference in the degree of ambiguity tolerance expressed by the "exemplary" sample of superintendents when compared with that expressed by the "other" sample (Ho: U1 = U2).

This hypothesis was formulated to determine if the differences in levels of ambiguity tolerance present in "exemplary" leaders and executives, as suggested in the review of literature, were present in two samples of public school superintendents as well.

An ambiguity tolerance score was determined for each respondent through individual responses to 18 items on the questionnaire: items numbered 28 through 38 and 40 through 46. Each respondent was asked to express a degree of agreement or disagreement with each of the 18 statements using the following Likert-type scale:

7 strongly agree

6 moderately agree

5 slightly agree

3 slightly disagree

2 moderately disagree

1 strongly disagree.

Mean scores for the respondents in each sample were calculated and are shown in Table 8. The one-tailed estimate of the variance for ambiguity tolerance scores was examined, and it showed no significant difference in the variance. A "pooled t" test was used to test the null hypothesis against the directional alternative hypothesis (Ha: U1 > U2). The resulting one-tailed t-statistic was found to be .4600.

The null hypothesis was not rejected for this hypothesis because there was not a significant difference in mean scores between the "exemplary" and "other" samples.

Hypothesis Number Two

There is no difference in the preference for use of an integrated or intuitive brain management style when an "exemplary" sample of superintendents is compared with an "other" sample (Ho: U1 = U2).

This hypothesis was formulated to determine differences between the samples in their preference for use of right brain and integrated brain management styles and their preference for using an intuitive approach in making decisions on the job.

A right brain, left brain, and integrated brain score was determined for each individual through responses to items 1 through 15 of the

Table 8. Tests for significant differences between the mean ambiguity tolerance scores of two samples of superintendents

Item no.	Exemplaries (n=30) Mean	Others (n=30) Mean
28	4.500	4.067
29	6.100	6.100
30	4.483	4.033
31	4.867	4.759
32	2.667	2.833
33	4.800	5.172
34	3.900	3.733
35	4.467	3.833
36	4.100	3.800
37	4.933	4.867
38	3.933	3.633
40	2.467	2.300
41	3.800	3.500
42	3.400	3.267
43	3.133	3.276
44	3.667	3.900
45	3.267	3.300
46	4.933	4.400

Exemplaries	Others	Two-tailed estimate of the variance	One-tailed t-statistic
4.0780	3.9310	.8390	.4600

questionnaire, using the formula Agor specified for scoring the TYMS. Individual responses were coded for computer analysis. Table 9 shows the responses of each sample, distributed by type of brain score, to items 1 through 15.

The one-tailed estimate of the variance for integrated brain scores was examined. It was concluded that there was a significant difference in the variance. A "separate t" test was used to test the mean scores. On the basis of the one-tailed t-statistic of .5350, the null hypothesis, as it concerned integrated brain score means, was not able to be rejected.

The one-tailed estimate of the variance for right brain scores was studied, and it was determined that there was a significant difference in the variance. As a result, the "separate t" test was used to test the mean scores. On the basis of the one-tailed t-statistic of .4450, the null hypothesis related to right brain mean scores was not able to be rejected.

An "intuitive" score was calculated based on the response of participants to items 16 through 27. Individual responses were again coded for computer analysis. Table 10 shows the responses of each sample, distributed by intuitive and thinking scores, to each item, 16 through 27.

The one-tailed estimate of the variance for intuitive scores was examined. It was concluded that there was no significant difference in the variance. A "pooled t" test was applied to the mean scores. The one-tailed t-statistic was found to be -.2600.

Table 9. Distribution of right brain, left brain, and integrated brain responses by two samples of superintendents; mean scores; estimates of variance; and t-statistics

Item no.	Exemplaries (n=30)		Others (n=30)	
	No.	Percent	No.	Percent
Item 1				
Right	4	13.3	3	10.0
Left	2	6.7	10	33.4
Integrated	24	80.0	17	56.7
Item 2				
Right	5	16.7	4	13.3
Left	11	36.7	13	43.3
Integrated	14	46.7	13	43.3
Item 3				
Right	8	26.7	10	33.3
Left	14	46.7	15	50.0
Integrated	8	26.7	5	16.7
Item 4				
Right	5	16.7	4	13.3
Left	20	66.7	20	66.7
Integrated	5	16.7	6	20.0
Item 5				
Right	2	6.7	1	3.3
Left	14	46.7	20	66.7
Integrated	14	46.7	9	30.0
Item 6				
Right	0	0.0	1	3.3
Left	4	13.3	12	40.0
Integrated	26	86.7	16	53.3
No response	0	0.0	1	3.3
Item 7				
Right	5	16.7	3	10.0
Left	13	43.3	19	63.3
Integrated	12	40.0	8	26.7
Item 8				
Right	0	0.0	0	0.0
Left	18	60.0	16	53.3
Integrated	12	40.0	14	46.7

Table 9. Continued

Item no.	Exemplaries (n=30) No.	Exemplaries (n=30) Percent	Others (n=30) No.	Others (n=30) Percent
Item 9				
Right	11	36.7	10	33.3
Left	7	23.3	5	16.7
Integrated	12	40.0	15	50.0
Item 10				
Right	1	3.3	0	0.0
Left	22	73.3	20	66.7
Integrated	7	23.3	9	30.0
No response	0	0.0	1	3.3
Item 11				
Right	4	13.3	3	10.0
Left	0	0.0	1	3.3
Integrated	26	86.7	26	86.7
Item 12				
Right	2	6.7	2	6.7
Left	15	50.0	20	66.7
Integrated	13	43.3	8	26.7
Item 13				
Right	3	10.0	3	10.0
Left	6	20.0	10	33.3
Integrated	21	70.0	17	56.7
Item 14				
Right	22	73.3	23	76.7
Left	1	3.3	1	3.3
Integrated	7	23.3	6	20.0
Item 15				
Right	12	40.0	14	46.7
Left	11	36.7	11	36.7
Integrated	7	23.3	5	16.7

Preferred brain style	Mean scores Exemplaries	Mean scores Others	Two-tailed estimate of the variance	One-tailed t-statistic
Integrated	2.6012	2.5047	.0010	.5350
Right	2.5407	2.4637	.0310	.4450

Table 10. Distribution of intuitive and thinking responses by two samples of superintendents; mean scores; estimates of variance; and t-statistics

Item no.	Exemplaries (n=30)		Others (n=30)	
	No.	Percent	No.	Percent
Item 16				
Intuitive	7	23.3	6	20.0
Thinking	23	76.7	24	80.0
Item 17				
Intuitive	10	33.3	14	46.7
Thinking	20	66.7	16	53.3
Item 18				
Intuitive	12	40.0	9	30.0
Thinking	18	60.0	21	70.0
Item 19				
Intuitive	12	40.0	9	30.0
Thinking	18	60.0	21	70.0
Item 20				
Intuitive	10	33.3	11	36.7
Thinking	20	66.7	19	63.3
Item 21				
Intuitive	12	40.0	13	43.3
Thinking	17	56.7	17	56.7
No response	1	3.3	0	0.0
Item 22				
Intuitive	8	26.7	7	23.3
Thinking	21	70.0	23	76.7
No response	1	3.3	0	0.0
Item 23				
Intuitive	23	76.7	20	66.7
Thinking	6	20.0	10	33.3
No response	1	3.3	0	0.0
Item 24				
Intuitive	19	63.3	14	46.7
Thinking	10	33.3	16	53.3
No response	1	3.3	0	0.0

Table 10. Continued

Item no.	Exemplaries (n=30) No.	Exemplaries (n=30) Percent	Others (n=30) No.	Others (n=30) Percent
Item 25				
Intuitive	7	23.3	4	13.3
Thinking	22	73.3	26	86.7
No response	1	3.3	0	0.0
Item 26				
Intuitive	4	13.3	4	13.3
Thinking	25	83.3	26	86.7
No response	1	3.3	0	0.0
Item 27				
Intuitive	8	26.7	8	26.7
Thinking	21	70.0	22	73.3
No response	1	3.3	0	0.0

Decision-making style	Mean scores: Exemplaries	Mean scores: Others	Two-tailed estimate of the variance	One-tailed t-statistic
Intuitive	1.6885	1.7246	-.3340	-.2600

The null hypothesis was not rejected for the intuitive mean scores because there was not a statistically significant difference between the "exemplary" and the "other" sample.

Summary

This chapter described the analysis of the demographic data concerning upward mobility, responses to two questions concerning self-expressions of job satisfaction, and the participant responses to the scales devised to measure ambiguity tolerance and use of intuitive processes. After statistical calculations were made, it was shown that the null hypothesis was not able to be rejected concerning ambiguity tolerance. Nor was the null hypothesis concerning right brain, integrated brain, and intuitive decision-making style able to be rejected.

A summary and discussion of the findings, along with limitations and recommendations for further study, are found in the following chapter.

CHAPTER V. SUMMARY, DISCUSSION, AND RECOMMENDATIONS

Summary and Discussion

The purpose of the study was to determine if a greater tolerance for ambiguity and a greater reliance on intuition in decision-making were distinguishing characteristics of a sample of "exemplary" public school superintendents. This sample was peer-selected on the basis of overall performance effectiveness and was compared to an "other" sample which was identified through the same peer-selection process.

Sixty superintendents, comprising the total sample, were asked to respond to a two-part questionnaire: a Career/Demographics Page and a 47-item questionnaire composed of sections dealing with ambiguity tolerance, intuition, and job satisfaction. All 60 superintendents responded to the questionnaire. Two hypotheses were written to operationalize the purposes of the study. The analyses of the data were reported in Chapter IV.

Demographic data

Two types of demographic data were sought for analysis in the study: data on career mobility and job satisfaction.

The Career/Demographics Page was used to obtain information relative to the career advancement patterns of both samples. It was noted that a much larger percentage of the "exemplary" sample served in mid- to larger-sized school districts, by Iowa standards, than did the members of the "other" sample. One could speculate that the size of district in which a person serves affects the likelihood that s/he is thought to be an

"exemplary" superintendent by peers. Previous system size, in fact, is usually a consideration in selecting candidates for filling vacant administrative positions. Clearly, a superintendent appeared to have to have been serving a district with a student population of at least 600 to be labeled "exemplary" by peers in this study.

According to the definition of career mobility established in Chapter I, more of the "exemplary" superintendents were shown to be upwardly mobile than "other" superintendents. Based on the studies by Harlow, O'Reilly, Bretton, and Roberts, this investigator had contended that members of the "exemplary" sample would be somewhat more mobile than members of the "other" sample.

Two other pieces of data regarding career mobility appear to conflict. The members of the "exemplary" sample changed administrative positions an average of 2.83 times in their careers, while members of the "other" sample averaged only 2.40 changes. When comparing the average number of years of service in the current position between the two sample groups, it was noted that the average for the "exemplary" sample was 12.4 years, but only 11.3 years for the "other" sample. It seems the "exemplaries" made slightly more position changes during their careers but had reached a point of lesser mobility than the "others" in their current positions. It is speculated that this relative permanence might be related to many factors: the meeting of a career goal in terms of district size, chronological age, years of career experience, and feelings of job satisfaction.

Two questions measured the respondents' self-expressions of job satisfaction. As suspected, the "exemplary" sample showed a slightly higher overall job satisfaction mean score, indicating a feeling somewhat stronger than "moderately agreeing" that these individuals were pleased with their career choice. Although lower, the mean score of the "other" sample was also quite high, averaging midway between "slightly" and "moderately agreeing."

This evidence seems to suggest further that the "exemplary" sample wasn't peer-selected by chance. They likely feel positively about their careers, and this confidence, perhaps, can be observed by peers. Likewise, as their career paths have taken them to somewhat larger districts than the "others," the "exemplaries" probably feel somewhat more reinforced in their career choice because of this apparent success.

Hypothesis Number One

Analysis of the responses to the items dealing with ambiguity tolerance showed no statistically significant difference in mean scores between the "exemplary" and "other" samples. From these data, it is speculated that tolerance for ambiguity is not a quality that distinguished the "exemplary" superintendents from the "other" superintendents in this study. It can only be speculated, based on the mean scores, that both samples of superintendents are slightly more tolerant of ambiguity than the statistical midpoint.

Hypothesis Number Two

The hypothesis concerning the use of intuition in decision-making was unable to be rejected based on mean responses to two sets of questions within the first section (items 1-27) of the instrument.

Considering the first set of questions, items 1-15, neither right brain nor integrated brain mean scores was significantly different when sample groups were compared.

It can be speculated that all of the superintendents in the sample had a nearly equal place for intuition in their decision-making, based on the fact that both samples expressed at least some preference for handling situations with an integrated style. "Exemplary" superintendents chose right brain and integrated brain styles slightly more frequently than "other" superintendents.

In the second set of questions, respondents were asked to choose either an intuitive or thinking decision-making mode. Descriptive statistics showed the total sample, and the members of the individual samples, to favor a thinking approach to an intuitive approach by nearly a two-to-one ratio. Comparing mean scores, the "other" sample demonstrated a slightly higher intuitive score than the "exemplary" sample.

Based on the data concerning intuition, it is suggested that superintendents may likely choose the analytical, left brain approach to decision-making if forced to choose exclusively between that approach and an intuitive style, but that all of the members of the sample would likely consider integrating intuitive and analytical processes if allowed to

combine them. While this may seem to be a "middle-of-the-road" speculation, it seems merited after considering the data.

As Engel suggested (22), we do seem to have a hard time researching the qualities of the "exemplary" superintendent conclusively. In terms of the participants in this study, it can be speculated that there may be a relationship between career mobility and job satisfaction as characteristics of the "exemplary" superintendent. No conclusions can be reached concerning the likelihood that ambiguity tolerance or an intuitive or integrated decision-making style are more characteristic of a sample of peer-selected "exemplary" superintendents than a sample of "others." It can reasonably be suggested, however, that a fairly high tolerance for ambiguity and an inclination to use an integrated style of decision-making were typical of the total sample of superintendents studied.

Based on the demographic data collected, it is posited that the size of a superintendent's district, the number of career moves made as an administrator, and tenure in the current position may be significant factors in determining if peers consider a superintendent "exemplary."

Limitations

Three factors were viewed as limitations to the study. First of all, the peer-selection process was used in the absence of a more scientifically established method of identifying "exemplary" superintendents. Use of such a process duplicated that used in similar recent Iowa State University studies of "exemplary" superintendents. The process was based solely on the perceptions superintendents had of the overall administrative effectiveness of their peers. As years pass and

groups of superintendents change, so do also their perceptions, and consequently, those superintendents identified as "exemplary." As mentioned earlier in this chapter, a superintendent's current district size may have weighed disproportionately heavy in this regard.

A second limiting factor was that part of the questionnaire derived from the Mobius Psi-Q instrument. According to the literature, this instrument was not tested with any specific group other than the readers of Omni Magazine, nor were any repeat administrations made to establish reliability. The Mobius Psi-Q test yielded findings concerning brain dominance in decision-making that could not be substantiated at the .05 level of significance. Literature about the test stated that only a .0625 level of significance was achieved in the single test administration referred to above.

Finally, only two of the 47 items in the questionnaire dealt with job satisfaction. Such a limited procedure was used because job satisfaction was considered a minor aspect of the study. If a more in-depth relationship between job satisfaction and other qualities of administrators is to be the focus of subsequent studies, a better research instrument should be used.

Recommendations for Further Study

The results of this study suggest several possible areas for further study. It was concluded by Erion that further research should be directed toward establishing the validity of the peer-selection process. This writer concurs, especially in light of potential relationships between an "exemplary" designation and size of district, number of position changes,

and length of tenure in one's current position. It may very well be that future researchers can discover a better way of identifying the truly "exemplary" superintendent.

This writer also suggests that further research be devoted to personal and "personality" qualities that may distinguish the "exemplary" superintendent from the "other." Such personality qualities might include positiveness, empathy, and self-concept. Other characteristics could include participation and visibility in professional organizations; the attainment of advanced degrees, especially the doctorate; and the ability to establish a support system and meaningful contacts among peers.

Further studies might investigate a correlation between career mobility and job satisfaction in the superintendency. Another prospective study might compare public school superintendents with private sector executives concerning tolerance for ambiguity and an integrated or intuitive decision-making style.

Concluding Statement

The leadership role of the public school superintendent has been well-established in the past and will be ever more crucial as issues such as declining enrollment, diminishing resources, and religious/political activism color the Iowa public school scene. It remains the challenge of professional in-service and university preparation programs to assess and update the qualities and skills of the prospective and experienced superintendent to a level at which the administrator can serve the needs of the school district well. The function of further research should be

to provide valid data for the formulation of the pre-service and in-service programs mentioned above.

The writer holds the personal opinion, based on the literature cited, that differences are likely to exist between "exemplary" readers and "others." By examining some of the limitations noted in this study in undertaking one of the writer's recommendations for further research, future researchers may uncover those differences.

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The Iowa State University Committee on the Use of Human Subjects reviewed this project's proposal on March 20, 1986. They concluded that the project provided proper safeguards to insure that the rights and welfare of the human subjects were properly protected and approved the study.

APPENDIX A. PILOT STUDY QUESTIONNAIRE

Administrator Scale

Directions: Please circle as your response the number in the scale at the left that indicates your degree of agreement or disagreement with each statement.

Strongly agree	Moderately agree	Slightly agree	Slightly disagree	Moderately disagree	Strongly disagree	
7	6	5	3	2	1	1. There is a right way and a wrong way to do almost everything.
7	6	5	3	2	1	2. Practically every problem has a solution.
7	6	5	3	2	1	3. I have always felt that there is a clear solution between right and wrong.
7	6	5	3	2	1	4. Nothing gets accomplished in this world unless you stick to some basic rules.
7	6	5	3	2	1	5. If I were a doctor, I would prefer the uncertainties of a psychiatrist to the clear and definite work of someone like a surgeon or x-ray specialist.
7	6	5	3	2	1	6. Vague and impressionistic pictures really have little appeal for me.
7	6	5	3	2	1	7. Before an examination, I feel much less anxious if I know how many questions there will be.
7	6	5	3	2	1	8. The best part of working a jigsaw puzzle is putting in that last piece.
7	6	5	3	2	1	9. I don't like to work on a problem unless there is a possibility of coming out with a clearcut and unambiguous answer.
7	6	5	3	2	1	10. I like to fool around with new ideas, even if they turn out later to be a total waste of time.
7	6	5	3	2	1	11. Perfect balance is the essence of all good competition.
7	6	5	3	2	1	12. As part of my future job plans, I want a promotion to some higher position at some point in the future.
7	6	5	3	2	1	13. At the present time I am well satisfied in my job.
7	6	5	3	2	1	14. An expert who doesn't come up with a definite answer probably doesn't know very much.
7	6	5	3	2	1	15. There is really no such thing as a problem that can't be solved.
7	6	5	3	2	1	16. A good job is one where what is to be done and how it is to be done are always clear.
7	6	5	3	2	1	17. In the long run it is possible to get more done by tackling small, simple problems rather than large complicated ones.
7	6	5	3	2	1	18. What we are used to is always preferable to what is unfamiliar.
7	6	5	3	2	1	19. A person who leads an even, regular life in which few surprises or unexpected happenings arise, really has a lot to be grateful for.
7	6	5	3	2	1	20. I like parties where I know most of the people more than ones where all or most of the people are complete strangers.
7	6	5	3	2	1	21. I have been satisfied with my choice of career as a school administrator.

APPENDIX B. PILOT STUDY RESULTS

Statistical Summary of Pilot Study

Item number	A,B (X)	t-value	df	Level of significance		Expected sign of t-value[1]
				Two-tailed	One-tailed	
1	4.909,5.500	-1.5777	21	.20	.10	negative
2	6.273,5.917	.5820	21	none	none	negative
3	5.636,4.667	1.3825	21	.20	.10	negative
4	5.273,6.000	-1.2007	21	none	none	negative
5	3.273,2.273	1.2330	20	none	none	positive
6	4.091,5.667	-2.3639	21	.05	.025*	negative
7	3.336,3.833	-.6506	21	none	none	negative
8	5.091,5.583	-.7103	21	none	none	negative
9	4.636,4.000	.7980	21	none	none	negative
10	5.273,6.000	-1.2591	21	none	none	positive
11	3.364,4.818	-1.7948	20	.10	.05*	negative
12	5.363,4.833	.6847	21	none	none	positive
13	6.455,6.583	-.4118	21	none	none	positive
14	3.455,2.333	1.7892	21	.10	.05**	negative
15	4.818,3.833	1.1194	21	none	none	negative
16	3.545,3.583	-.0507	21	none	none	negative
17	3.455,4.917	-2.3251	21	.05	.025*	negative
18	2.818,5.166	-4.0178	21	.001	.0005*	negative
19	2.727,4.500	-2.4884	21	.05	.025*	negative
20	4.636,5.166	-.8956	21	none	none	negative
21	6.636,6.833	-1.0546	21	none	none	positive

[1]Expectations based on the "exemplary/non-exemplary" status of the individuals assigned to groups A and B, as well as the way in which authors of the scales used intended the questions to be answered by those possessing ambiguity tolerance.

*Significant at at least the .05 level (one-tailed test) in the expected direction.

**Significant at at least the .05 level (one-tailed test) in the opposite direction expected.

APPENDIX C. CAREER/DEMOGRAPHICS PAGE

Please return with
completed questionnaire

Career/Demographics Page

I. Please describe the characteristics of all administrative positions you have held and are now holding:

A. Current Position

Title of Position	Number of Years Position Held	Number of Students	Number of all Staff Members

B. All Previous Administrative Positions (chronological order, please, listing most recent to least recent)

Title of Position	Number of Years Position Held	Number of Students	Number of all Staff Members

APPENDIX D. QUESTIONNAIRE: QUALITIES OF IOWA SCHOOL SUPERINTENDENTS

APPENDIX E. COVER LETTER

IOWA STATE
UNIVERSITY

College of Education
Educational Administration
N229 Quadrangle
Ames, Iowa 50011
Telephone 515-294-5450

March 15, 1986

Dear

Please recall an area Superintendent's meeting some time ago during which many of you were asked to suggest the names of exemplary Superintendents in your area. Working with my major professor, Dr. Ross Engel of Iowa State University, I have selected sixty Superintendents from across the state who were similarly nominated to particpate in my doctoral study.

In this study, which continues a series of I.S.U. studies of public school Superintendents in Iowa, I hypothesize about the responses you and others will make to a questionnaire concerning ambiguity tolerance, intuition, career mobility, and job satisfaction. Through the study I hope to propose improvements in identification of administrative aptitude and administrator preparation programs.

Will you please take a few minutes of your valuable time to complete the questionnaire I've enclosed and return it to me in the envelope provided? The instrument is numbered to account for returns, but all results will be kept strictly confidential and treated anonymously.

I will certainly appreciate your help with this project!

Sincerely yours,

Ross A Engel

Dr. Ross Engel
College of Education
N229 Quadrangle
Iowa State University
Ames, IA 50011

Patrick Durow

Patrick Durow, Principal
Atlantic High School,
I.S.U. Graduate Student

APPENDIX F. FIRST FOLLOW-UP LETTER

IOWA STATE UNIVERSITY

College of Education
Educational Administration
N229 Quadrangle
Ames, Iowa 50011
Telephone 515-294-5450

April 18, 1986

About three weeks ago I mailed you an invitation to help me with a research project I am conducting through Iowa State University. This research examines some of the qualities of superintendents in our state of Iowa. I asked you to help me by completing a questionnaire and a short career demographics sheet.

Thus far I have not received your response. As my sample is relatively small, the participation of each superintendent is very important to the success of this project. Would you please take 10-15 minutes of your time to complete these instruments and return them to me?

I know you are probably beseiged with requests for pieces of your time at this very busy part of the year, and I hope that you can spare just the few minutes that it will take to complete these instruments. If for some reason you did not receive the initial packet, please call me collect at (712) 243-5358 (Atlantic H.S.) or (712) 243-1425 (home) and I will mail one right out to you.

Thanks for your consideration and help!

Sincerely yours,

Patrick Durow
Principal, Atlantic H.S.
I.S.U. Graduate Student

Ross A Engel

Dr. Ross Engel
College of Education
N229 Quadrangle
Iowa State University
Ames, IA 50011

APPENDIX G. SECOND FOLLOW-UP LETTER

503 E. 14th St.
Atlantic, IA 50022
April 29, 1986

Dear :

Almost four weeks ago, I tried to reach you concerning a project that I am working on with Dr. Ross Engel of Iowa State University. Our project, my doctoral dissertation study, seeks to measure a few of the characteristics of a small group of exemplary superintendents in our state. Through a "reputational survey" conducted in each AEA area this past year, your name was identified as a member of the sample and a prospective participant.

Because my sample is relatively small, I need a 100% response from you, the participants. I am hopeful that you simply set the materials in my original mailing aside in the rush of springtime activties. Hopeful am I also that you will take the ten minutes or so necessary to complete the materials that are enclosed with this letter. Will you please assist me with this project?

A stamped envelope for the return of the two instruments is enclosed for your use. Thank you for considering my need and taking your valuable time to help!

Sincerely yours,

Patrick Durow

Patrick Durow
I.S.U. Graduate Student
Principal, Atlantic High School