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THE DEVELOPMENT OF AN INSTRUMENT TO
IDENTIFY DIFFERING VIEWS OF LEADERSHIP WITHIN
ORGANIZATIONS

by

Robert W. Siciliani

A dissertation submitted in partial fulfillment
of the requirements for the degree of

Doctor of Education

University of San Diego

1998

Dissertation Committee

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Abstract

The Development of an Instruments to Identify Differing Views of Leadership within Organizations

Popular literature and much of the research reported in recognized journals imply that all members of an organization subscribe to the same ideas about leadership. However, a few authorities believe the research findings may result from test instruments based on a single view of leadership. Accurately identifying members' views of leadership is important because these views help shape behavior and expectations within the group. Differing views of leadership may also be a root cause of conflict among organizational members.

This research used published definitions, descriptions, and measures of leadership to establish ten elements that seem to comprise the leadership construct. These elements are scope, leader personality and behavior, the role of the followers, use of organizational authority, leader and follower relationship, effects of gender, cultural impacts, ethical considerations, recognizing leadership, and duration. A fifty-nine item survey included questions about each of these ten elements. Survey participants indicated their agreement or disagreement with each item using a four point Likert scale. Two open-ended questions allowed participants to (1) add any elements of leadership they believed were

missing from the survey, and (2) indicate how they recognized when leadership was occurring. The development sample consisted of 358 federal civil service participants employed at an industrial facility in San Diego, CA. Subjects' organizational positions ranged from executive manager to equipment maintenance.

Test subjects' support for survey items showed substantial variation. Participants' support for items ranged from 4% to 98% with a relatively even distribution in each 10% frequency category. Reliability analysis and factor analysis produced a sixteen factor, fifty-four item leadership scale with adequate reliability that accounted for 61% of the leadership construct and included the ten researcher developed leadership elements. The sixteen factors were condensed to nine factors. This fifty-four item, nine factor scale may be useful to practitioners and researchers interested in a quantitative comparison of the differing views of leadership held by members of an organization.

DEDICATION

To my parents, for all they did,
To my grandparents, who gave me shelter,
To my children, Myrinda and Robert, with unending hope for
the future, and
To my wife, Kathleen, whose love brightens everyday of my
life.

ACKNOWLEDGMENTS

This effort could not have been completed without the generous efforts and support of many people. I am grateful to the following people.

Dr. Susan M. Zgliczynski who was Chair of my dissertation committee and my academic advisor.

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The individuals who participated in this study.

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CHAPTER ONE: THE PROBLEM

Statement of the Problem

Scholars and researchers have yet to arrive at a consensus definition or description of leadership. The eminent leadership scholar James MacGregor Burns confirmed this confusion about the exact nature of leadership in his 1978 statement that "Leadership is one of the most observed and least understood phenomena on earth" (p. 2). Cronin (1993) made a similar point when he summed up people's rather vague view of leadership as "...leadership for most people most of the time is a rather hazy, distant and even confusing abstraction" (p. 7). Cronin simply pointed out the difficulty people have when asked to define most human constructs. Researchers and practitioners routinely rely on a single perspective to describe leadership in organizations. These experts generally provide neither an opportunity nor an instrument for organizational members to describe their own views of leadership.

Singular approaches must purposefully ignore evidence of differing views of leadership within groups. For example, research on superior and subordinate appraisals clearly refutes the idea that executives and hourly wage earners hold

similar views. Describing leadership as a set of characteristics or behaviors further confounds the problems associated with a single view of leadership. Still, decades of failed attempts to identify such traits do not seem to deter current researchers. Perhaps our human tendency to personify leadership prevents us from distinguishing between leaders and leadership. This tendency may also account for some portion of the historical confusion with the idea of leadership.

Background

Humans have been dealing with notions of leadership since the beginning of civilization. In fact, Bass (1981) believed "The study of leadership rivals in age the emergence of civilization" (p. 3). Classical literature demonstrates the historical linkage of society and leadership as when Moses and the Israelites recognized God as their leader in their songs (Ex. 15:13; New International Version). In Politics (trans. 1952), Aristotle acknowledged a natural order of men as differentiating between the master and servant. Evidence of leadership in the Eastern tradition is also available. The Analects of Confucius and the Hindu Upanishads, both of which predate the Bible, refer to leaders as a necessary condition of society. Ferry's (1992) translation of the Sumerian epic identified Gilgamesh as both god and hero as early as the twenty-seventh century

BCE. According to Bass (1981), all societies include leadership in their social life, even though a few may not identify a single leader who makes and enforces decisions.

The historical record also includes evidence of disagreement about the nature of leadership. Magill (1961) wrote that Confucius (500 BC) urged rulers to learn the right way to govern. Confucius believed that government must rule by moral excellence. In the early sixteenth century Machiavelli developed a view of leadership contrary to the Confucian view and antecedent to the modern theory of situational leadership. Machiavelli (The New American Library of World Literature, 1952) wrote in The Prince, "Therefore, it is necessary for a prince, who wishes to maintain himself, to learn how not to be good, and to use this knowledge and not use it, according to the necessity of the case" (p.84). This dispute between the ideal and more practical approaches to leadership continues today.

Authors and researchers base their leadership theories on a range of observations about human behavior. Leadership theories range from the classical *Great Man Theory*, where the actions of a single male actor dominate an event or an era, to Burns' (1978) notion of *Transformational Leadership*, where both leaders and followers experience increased self-esteem as a result of working together in an influence relationship to achieve a mutually desired goal. Fiedler's

(1967) landmark *Contingency Theory* stands between the Great Man Theory and the notion of Transformational Leadership. Fiedler argued that different situations require leaders with different styles, particularly with respect to their task or relationship orientation. Many authors, scholars, and practitioners have combined elements from these theories into what may be the dominant notion of leadership today. Rost (1991, p. 180) referred to this dominant notion as the industrial leadership paradigm, where leadership is synonymous with good management.

Both Bass (1981) and Rost (1991) developed classification schemes for the sometimes confusing array of leadership theories. These classification schemes help to demonstrate the evolution and diversity of leadership theory. In addition, both Bass (1981) and Rost (1991) were careful to point out that none of the various theories are extinct or entirely exclusive to one period.

Despite the abundance of theories, most leadership researchers continue to adopt a single theory as a basis for their work. Kerr and Jermier (1978) criticized this focus on a single, preferred perspective of leadership. These authors contended that researchers often limit their data collection to hierarchical (i.e. superior-subordinate) contexts when important substitutes for leadership may exist within the organization. Kerr and Jermier specifically claimed that

certain characteristics of the subordinates (i.e. ability, experience, professional orientation), characteristics of the task (i.e. routine, methodologically invariant, intrinsically satisfying), and characteristics of the organization (i.e. formalization of areas of responsibility, cohesive work-groups, organizational rewards not within the leader's control) represent valid substitutes for hierarchical leadership. Kerr and Jermier suggested that, at least in some situations, researchers have replaced "...the potential power of the leadership construct with the unintentional comedy of the *Law of the instrument* " (p. 377) as a result of the narrow focus of the research and the resulting data collection.

Importance of the Study

This study addressed three important problems with current efforts to identify leadership in organizations. The first problem is that current methods for identifying leadership in an organization usually depend on the leadership views of the researcher. This approach is inexplicable given the variety of existing leadership theories. There is simply no reason to accept the researcher's view as preeminent. Organizational members traditionally reject leadership ideas imposed by others. In particular, members usually disagree with the self-evaluations of their managers and executives. Researchers such as Baril, Ayman, and Palmiter (1994) and

Atwater and Yammarino (1993) have documented the significant discrepancies between self and subordinate descriptions of leadership behavior. Clearly, there is substantial evidence that different models of leadership exist within organizations. Of singular importance is that participants in this study were not constrained by a single, researcher selected notion of leadership. In fact, the fundamental reason for this study was to develop an instrument that allows participants to accurately describe their personal views of leadership.

The second problem is that people do not agree on the precise set of characteristics and behaviors associated with effective leadership. Unfortunately, many current researchers continue to measure leadership using lists of characteristics and behaviors. A subset of this problem concerns whose characteristics and behaviors are measured. Beatty and Lee (1992) contended that most studies examine the characteristics or behaviors of middle managers. While few would argue against good management, there is no evidence to suggest that most people in organizations believe managers have some special set of characteristics or behaviors that qualify them as leaders. Unlike many previous efforts, this study did not employ specific lists of characteristics and behaviors as a means to capture the complex nature of human interaction evident in leadership. To over-

come this second problem, this study provided members of an organization an opportunity to identify their notions of leadership by selecting from a comprehensive menu of leadership elements. It is important to note that while specific lists of characteristics and behaviors were not included in the study, participants did have an opportunity to agree or disagree that personality, characteristics, and behavior were important to leadership.

The third problem with much of the current research is a focus on individual actors as leaders. The fact that researchers, scholars, and ordinary people have yet to arrive at a consensus view of leadership suggests there is more to the leadership construct than the personalities or behaviors of the people involved. Hater and Bass (1988) point out that the full study of leader-subordinate relationships transcends the equitable exchange relationship. Leadership is clearly something more than a simple exchange between labor and capital. This research acknowledged that there is more to the nature of leadership than can be addressed by focusing on individual actors. Participants in this study had the opportunity to indicate their agreement or disagreement with a variety of elements associated with leadership in addition to the idea that leaders are perceived by the members to have some unique quality. For example, the leader-follower

relationship, the role of followers, and the importance of mutual purpose were all offered as elements of leadership.

Purpose of the Study

The purpose of this research was to develop an instrument to identify the various beliefs about leadership that exist in an organization. Most existing measures of leadership attempt to measure traits, characteristics, personal values, role conflict, and a host of other variables associated with individuals designated as organizational leaders. Both the trait and behavioral approaches ignore certain concepts that other scholars believe are critical to the construct of leadership. For instance, the importance of the followers involved in the leader-follower dyad and the nature of the leader-follower relationship are two concepts important in current ideas about leadership. The instrument developed in this study includes elements ranging from personality-based descriptions of leaders (including traits and behaviors) to descriptions that acknowledge the importance of followers, their relationship with the leader, and the leader's relationship with the followers. In fact, unlike most current approaches, this instrument employed a comprehensive range of leadership descriptors.

This approach required a review of current (1985-1997) research as well as a survey of existing assessment instruments to determine researchers' implied beliefs about

leadership. Identifying and decomposing published leadership descriptions added depth to the stock of elements associated with leadership. The primary sources for identifying assessment instruments and leadership descriptions were psychological and academic databases, scholarly journals on management and leadership, and less scholarly books about leadership written for the general population. This reservoir of beliefs and descriptions of leadership served as the source of items for the subsequent instrument. Two open-ended questions asked participants to identify any additional factors important to their description of leadership. A prototype and field trial at a large industrial organization provided the data for subsequent analysis.

Research Questions

The relevant research questions were:

1. What are the various views, definitions, descriptions, and categories of leadership in the current literature?
2. Can existing leadership definitions and descriptions be used to develop a reliable instrument to identify differing views of leadership within an organization?
3. Will subjects identify any unique elements of leadership in response to two open-ended questions included in the instrument?

Assumptions Of The Study

All researchers bring a particular set of assumptions to their work. In fact, a desire to confirm certain assumptions often drives the research. The assumptions for this study included:

1. Ordinary people can provide an accurate description of their view of a complex construct like leadership by selecting from a menu of possible descriptions. For instance, subjects may agree or disagree that leadership involves influence rather than organizational authority. Another example is that subjects may agree or disagree that leadership requires mutual purpose between leaders and followers.
2. Various views of leadership exist in a large organization.
3. The particular view of leadership held by members depends on their position in the organizational hierarchy.
4. Identifying the various views of leadership in an organization is important before instituting a leadership development program.

Limitations of the Study

There are several limitations to this study associated with the researcher. Researcher associated limitations included possible bias in selecting the competing descriptions of leadership, accuracy in decomposing the selected descrip-

tions into coherent elements, and bias in analyzing the results of the study. The possible researcher bias associated with identifying the elements of leadership was addressed by adding a question to the proposed survey instrument that allowed participants to identify any element of leadership not included in the survey. Efforts to mitigate any possible bias associated with analyzing the results of the study included reliance on established statistical procedures, a detailed description of the results of each step, and inclusion of the tabulated responses for each item on the survey.

Another potentially significant researcher limitation was the researcher's employment as a manager in the target organization. However, this limitation was successfully mitigated by a survey methodology that included anonymous survey sheets and by not having the researcher involved during the administration of the instrument. In fact, the researcher's knowledge of the organization was advantageous for two reasons. First, familiarity with the different levels of authority and job categories in the organization helped insure an accurate sampling of the target population. The second reason centers on generalizing the results of the study. The target organization possessed unique characteristics that should be considered in any effort to generalize the survey results. These unique characteristics would not

necessarily have been evident to a researcher unfamiliar with the organization.

Other limitations were associated with the intended sample. The industrial activity sampled is a male dominated, culturally diverse population whose average member is over 40 years of age. The entire population is located in San Diego and has worked at this company for an average of nineteen years. Members are generally veterans and probably incline toward a traditional hierarchical view of leadership.

Limitations notwithstanding, this study may have immediate application to other organizations. For instance, the Department of Defense currently operates twenty-five industrial depots with employee populations similar to the target organization in this study. More generally, this study may be useful to any large organization with a mix of professional, administrative, and blue-collar workers such as automobile factories, electronics assembly operations, aircraft production companies, and public transportation agencies. Identifying and acknowledging differing views of leadership may improve organizational performance by permitting people or workgroups the flexibility to use leadership models they endorse rather than a model imposed by authority.

Protection of Human Subjects

The University of San Diego requires that research involving human subjects be approved by the Committee on the Protection of Human Subjects. See Appendix A for the required approval.

CHAPTER TWO: REVIEW OF THE LITERATURE

Introduction

Chapter One provided a brief explanation of the historical effort to understand the responsibilities and proper relationship of leaders and followers in a civilized society. Modern research, however, demands more than a pseudo-scholastic approach that depends solely on previous authority for an understanding of some phenomenon. Today, researchers pick and probe and measure every conceivable aspect of a phenomenon or construct in an attempt to differentiate one idea from all other ideas. As a result, there is ample evidence of these more recent attempts to investigate, measure, describe, and define the idea of leadership.

Capturing a substantially complete range of ideas about leadership was critical to developing a leadership instrument because the elements of these ideas, definitions, and descriptions became the reservoir for items that ultimately comprised the instrument. As other researchers have discovered, incorporating the explicit, derivative, and often conflicting conceptions of leadership discovered in the literature into a single instrument is a formidable task. A

brief view of leadership theories in the twentieth century may provide the reader with a foundation for a better understanding of the current research and ideas about leadership included in this review of selected literature.

Modern Theories of Leadership

Modern theories of leadership evolved as organizations became more complex. In the twentieth century social scientists proposed a variety of theories about leaders and leadership. Rost (1991) summarized and organized the 20th century leadership literature as "...the great man theory popular in the early part of this century, group theory in the 1930s and 1940s, trait theory in the 1940s and 1950s, behavior theory in the 1950s and 1960s, contingency/situational theory in the 1960s and 1970s, and excellence theory in the 1980s" (p. 17). Chemers (1982) divided the scientific study of leadership into three periods: "...the trait period, from around 1910 to World War II, the behavior period, from the onset of World War II to the late 1960s, and the contingency period, from the 1960s to the present" (p. 93).

Despite this multitude of leadership theories, the great man theory seems to continuously dominate the popular literature. This theory may well be the underlying basis for the endless stream of biographies about politicians, important religious leaders, and well-known industrialists.

Perhaps the simplicity of the great man theory, where the great man comes along to rescue people or organizations from some terrible fate, explains why the great man as leader idea has remained popular through the centuries. Hunt (1982) provided a good summation of why people may like to view leadership as the actions of an individual leader:

The emphasis on leadership may derive from a desire to believe in the effectiveness and importance of individual action, which is potentially more controllable and understandable than complex contextual variables, a circumstance which is referred to as *the personification of social causality*. (p. 171)

Definitions, Descriptions, and Measures

Clearly, this study is not the first effort to compile definitions and descriptions of leadership. The work of Clark and Clark (1994), Rost (1991), and Bass (1981) is well-established among leadership scholars and researchers. However, rather than simply revisiting previous compilations of leadership descriptions, this review concentrated on journal articles, instruments, and descriptions of leadership published since 1985. While the selection of 1985 as a starting date for the literature review was somewhat arbitrary, there have been significant changes in the corporate and global communities during this time. Globalization and

democratization in the world and corporations may be changing the traditional notions of leaders and leadership. The research in scholarly journals was of particular importance to me since research reported in journals provides documentation of subjects, methodology, measures, and results.

Somewhat surprisingly, many authors of books about leadership as well as most authors of journal articles and instruments dealing with leadership did not provide a concise definition of leadership. In 1991 Rost found that less than half of all authors defined their primary subject in his survey of over 500 hundred books covering nine decades of leadership literature. Admittedly, Rost specifically ignored journal articles in the interests of parsimony, and made no attempt to derive specific definitions of leadership from leadership test instruments or other published material. Still, the number of authors who did provide definitions indicates the continuing effort of authors and researchers to discriminate leadership from other forms of human social interaction, such as facilitating or influencing.

Current leadership authors have not done much better than their predecessors at formulating explicit definitions of leadership. While the general leadership literature does contain some attempts to define leadership, my review of over forty journal articles published since 1985 failed to

yield a single, explicit definition of leadership. Additionally, arguments about management versus leadership, leaders being born rather than made, or the issue of leadership as process rather than personality were not readily apparent in the research literature or test instruments referenced in this study. In fact, most of the current leadership research was focused on demonstrating a statistically valid correlation with the set of leadership elements proposed by the researcher. Fortunately, in spite of the lack of a specific definition, the text of journal articles and the measures employed by the researchers provided good evidence of the authors' leadership construct. This information from journal articles was combined with leadership descriptions and definitions from the general leadership literature in order to develop the item pool for the proposed instrument.

This review of selected literature begins with published definitions and descriptions of leadership. Next, this review examines journal articles for the specific measures of leadership used by current researchers. Finally, a survey of current leadership instruments provides the reader with a good understanding of the leadership measures used in the range of instruments currently available in the marketplace. No comments or criticism of these definitions, journal articles, or current test instruments is provided because the sole purpose of this literature review is to

demonstrate the various elements and measures that contemporary scholars believe comprise the leadership construct.

Leadership Definitions and Descriptions

The leadership definitions and descriptions included in this section came from generally available published texts. Primarily, these definitions and descriptions simply represent the opinions of their authors. Authors include scholars, business consultants, psychologists, editors, and training specialists. Some, like Bennis and Drucker, are well-known in both academia and business. Collectively, this material covers a range of leadership conceptions. Authors are presented in alphabetical order since the multiple elements in many definitions and descriptions preclude simple classification.

Joe D. Batten is a speaker, trainer, and consultant who has spoken to over eighty percent of the Fortune 500 companies as well as authoring nineteen books on management and leadership. Batten (1989) declared that "Leadership by expectation requires fundamental changes at a very deep level in management attitudes. Basically, it means this: we become what we expect" (p. X). Batten explained that leaders must publicly exhibit the principles they espouse if they expect others in their organizations to follow their example.

Geoffrey M. Bellman is a management consultant and member of the editorial board of Training and Development

magazine. He was a 1987 winner of the National Book Award from the Society for Human Resources Management. Bellman (1992) portrayed managing as more analytical and logical, more planful and conservative whereas leading is more intuitive and organic, more visionary and emergent.

Warren Bennis, industrial psychologist and advisor to four American presidents, is best known as a leadership guru. Bennis (1989) coined the well known aphorism "Leaders are people who do the right thing; managers are people who do things right" (p. 18). Bennis defined leadership as (1) the management of attention through a compelling vision that brings others to a place they have not been before, (2) the management of meaning where leaders make ideas tangible and real to others, (3) the management of trust, and (4) the management of self, knowing one's skills and deploying them effectively" (p. 158).

James MacGregor Burns is Woodrow Wilson Professor of Government at Williams College and a past president of the American Political Science Association. Burns' study of leadership may be rooted in his award winning biographies of Franklin Roosevelt and the two Kennedys as well as other works on political leadership. Burns' (1978) definition of transformational leadership emphasized the relationship between leaders and followers: "Leadership over human beings is exercised when persons with certain motives and purposes

mobilize, in competition or conflict with others, institutional, political, psychological, and other resources so as to arouse, engage, and satisfy the motives of followers" (p. 18).

Kenneth Clark is a past president and board member of the Center for Creative Leadership in Greensboro, North Carolina. Dr. Clark is also a founding fellow of the American Psychological Society as well as a consultant to the White House and other government agencies. Miriam Clark was an associate dean at the University of Rochester before her retirement in 1980. Clark and Clark (1994) insisted that "calling oneself a leader does not make it so" (p. 18). The authors summarized their view of leadership as "an activity or set of activities, observable to others, that occurs in a group, organization, or institution involving a leader and followers who willingly subscribe to common purposes and work together to achieve them" (p. 31).

Thomas E. Cronin is a former professor of American Institutions and Leadership at The Colorado College and subsequently served as president of Whitman College. Cronin (1993) remarked that leadership depends on the situation and the context. He went on to claim that "Followers often do more to determine the leadership that they will get than can any teacher" (p. 9). Although Cronin dismissed the notion that personality traits are of any value in determining who

can be a leader, he did describe leaders as "...people who infuse vision into an organization or society. At their best, they are preoccupied with values and the longer range needs and aspirations of their followers" (p. 11). Despite Cronin's claim for the importance of followership and his dismissal of trait theory, he suggested that an effective method for measuring and evaluating the elements of leadership is to concentrate on the skills, style, and qualities required to be an effective leader. Cronin provided a tentative list of leadership qualities that includes items such as self-knowledge, worldmindedness, coalition building, integrity, understanding the nature of power and authority, an ability to concentrate on achieving goals, and a sense of humor.

Max DePree is chairman of the board of Herman Miller, Inc., a recognized innovator in the furniture business, and a member of the *Fortune* magazine National Business Hall of Fame. DePree (1992) wrote that "Performance of the group is the only real proof of leadership" (p. 140).

Col. Larry R. Donnithorne, a West Point graduate, taught economics, leadership, and moral philosophy at the Academy while simultaneously serving as the strategic planner. Upon his retirement in 1993 he became president of the College of the Albemarle. Donnithorne (1994) pointed out that the Academy rejects the notion that leaders are born

rather than made in favor of the idea that leaders are both. He argued that executive styles are not very important. Don-nithorne suggested that what is important is the recognition that "The roots of sound leadership—be it civilian or military—are in ideals: moral principles (such as justice and beneficence), high-minded values (loyalty, integrity, consideration for others), and selfless service..." (p. 11).

Peter Drucker is perhaps the most well-known of all management gurus. He is credited with anticipating many of the important ideas of modern management. Drucker published the classic Concept of the Corporation in 1946, based on his work as a consultant with General Motors. After many years as a pillar of the New York University Business School, Drucker became the Clarke Professor of Social Science at Claremont Graduate School. Drucker (1992) eschewed current notions that leadership requires leaders and followers to work together toward mutually agreed on goals. The following quote demonstrates that Drucker clearly equated leadership with the actions of the leader-manager:

The final requirement of effective leadership is to earn trust. Otherwise—there won't be any followers—and the only definition of a leader is someone who has followers. To trust a leader, it is not necessary to like him. Nor is it necessary to agree with him. Trust is the conviction that the leader means what he says. It

is a belief in something very old-fashioned, called "integrity." A leader's actions and a leader's professed beliefs must be congruent, or at least compatible. Effective leadership—and again this is very old wisdom—is not based on being clever; it is based primarily on being consistent. (p.122)

William Foster is a former professor in the School of Education at the University of San Diego and currently holds a similar position at the University of Indiana. Foster (1989) suggested that "Leadership must be critical, transformative, educative, and ethical" (p. 50). Additionally, Foster construed leadership as fundamentally intended to accomplish social change.

John W. Gardner has served six presidents of the United States in various capacities. He was Secretary of Health, Education, and Welfare and the founding chairman of Common Cause before becoming a professor at Stanford Business School. Gardner (1990) supported the notion that "Leadership is the process of persuasion or example by which an individual (or leadership team) induces a group to pursue objectives held by the leader or shared by the leader and followers" (p. 1).

Nancy Goldberger is a member of the psychology faculty at The Fielding Institute. Jill Tarule is a professor and dean of the College of Education and Social Services at the

University of Vermont. Blythe Clinchy is a consultant on human development and an associate research professor at the University of Vermont. These four women authored the award winning Women's Ways of Knowing in 1986. In their more recent collaboration, Goldberger, Tarule, Clinchy, and Belenky (1996) wrote that the words women use to describe themselves as public leaders suggest activities that foster growth, development, and connection.

Charles Handy is Britain's best known contemporary business guru. Handy claimed that the two years he spent at the Sloan School of Management in company with Warren Bennis, Chris Argyris, Ed Schein, and Douglas MacGregor transformed his life. Handy (1989) outlined his notions of leaders and leadership in modern organizations with statements such as "The post-heroic leader lives vicariously, getting kicks out of other people's successes as old-fashioned teachers have always done" (p. 166). Handy wrote that "Intelligent organizations have to be run by persuasion and by consent. It is hard work, and frustrating, particularly when the persuasion does not work, and the consent is not forthcoming" (p. 166). Handy is one of the few authors who addressed the issue of the importance of being able to recognize leadership, ".....for leadership is hard if not impossible to detect in embryo—it has to be seen in action to be recognized by oneself as much as by others" (p. 134).

Stuart L. Hart is an adjunct Professor of Corporate Strategy in the Graduate School of Business Administration at the University of Michigan. Robert E. Quinn is a Professor of Organizational Behavior and Human Resource Management at the same school. Hart and Quinn (1993) concluded that "Executive leadership consists of four competing roles: vision setter, motivator, analyzer, and task master" (p. 543).

Ronald A. Heifetz directs the Leadership Education Project at the Kennedy School of Government, Harvard University. Heifetz (1994) viewed leadership in terms of *adaptive work*, where people have to learn to "address conflicts in the values they hold, or to diminish the gap between the values people stand for and the reality they face" (p. 22).

Edwin P. Hollander is University Distinguished Professor of Psychology at the City University of New York and a well known leadership author. Lynn Offerman is an associate professor of psychology at George Washington University. Hollander and Offerman (1993) maintained that "The concept of leadership as value-added, or incremental to basic management components, should help address the issue of whether managers and leaders are different" (p. 78).

Dr. James G. Hunt is a Professor of Management at Texas Tech University, author of several texts on leadership, and founder of the Leadership Symposia Series. Hunt (1991) sug-

gested that interpersonal influence is a common thread among many leadership definitions. Hunt also suggested that "In terms of leadership, we would be looking for the patterns of relations among leaders, followers, and various aspects of the context within which they operate, recognizing that a change in one part of the system would change other parts of the system" (p. 48).

Elliot Jacque, Canadian psychologist and doctor of medicine, is a founding member of the Tavistock Institute of Human Relations in London, an organization that did pioneering work on the sociology of industry and management. Jacque (1991) recognized many different roles (i.e. political, religious) in which leadership accountability is found. Jacque acknowledged the need for managerial leadership to be authoritative rather than autocratic. He defined leadership as "...that process in which one person sets the purpose or direction for one or more other persons, and gets them to move along together with him or her and with each other in that direction with competence and full commitment" (p. 4).

Robert E. Kelley teaches at the Graduate School of Industrial Administration, Carnegie Mellon University. Kelley (1988) affirmed that "Followership is not a person but a role. What distinguishes followers from leaders is not intelligence or character but the role they play" (p. 146). Kelley also pointed out that while most managers play the

role of leader and follower at different times, the reality is that most managers are more often followers than they are leaders. According to Kelly, organizations would do well to cultivate effective followers who possess the essential qualities of self-management, commitment to the organization, focused effort, courage, honesty, and credibility.

Manfred F. R. Kets de Vries chairs the Human Resources Management Department at the European Institute of Business Administration and is a founding member of the International Society for Psychoanalytic Study of Organizations. He formally taught at McGill University and Harvard. Kets de Vries (1993) insisted that "More and more people recognize that leadership is a process not only of downward but also of upward influence" (p. 183).

W. C. Kim is associate professor of strategy and international management at The European Institute of Business Administration. Renee A. Mauborgne is research associate of management and international business at the European Institute of Business Administration. Kim and Mauborgne (1992) conceived leadership as "the ability to inspire confidence and support among the men and women on whose competence and commitment performance depends" (p. 123). These authors also discounted the notion that the essence of leadership can be reduced to a series of personal attributes or confined to a set of particular roles and activities. They used parables

to show "the essential qualities of leadership and the acts that define a leader: the ability to hear what is left unspoken, humility, commitment, the value of looking at reality from many vantage points, the ability to create an organization that draws out the unique strengths of every member" (p. 123).

John P. Kotter is a professor of Organizational Behavior and Human Resources at the Harvard University of Graduate School of Business. Kotter (1990) wrote that "Leadership is about coping with change" (p. 104). Kotter also claimed that the direction-setting aspect of leadership creates vision and strategies which should serve the interests of all important constituencies, including customers, stakeholders, and employees.

James Kouzes and Barry Posner began their collaboration as faculty members at the University of Santa Clara. Kouzes and Pozner (1993) declared that "Constituents determine when someone possesses the qualities of leadership" (p. 57). These authors continued to investigate leadership and the issue of credibility. Kouzes and Posner (1993) claimed that "Credibility is earned via the physical acts of shaking a hand, touching a shoulder, leaning forward to listen" (p. 46).

Chris Lee has been the managing editor of *Training* magazine since 1984. Lee (1993) asserted that "The substance of leadership is followership" (p. 116).

Marilyn Loden is the author of Feminine Leadership and two other award winning books about diversity management and gender differences in leadership style. Ms. Loden coined the term *glass ceiling* in a 1977 speech delivered at the Women's Action Alliance conference in New York City. Loden (1985) described her view of feminine leadership as more complicated than traditional models:

Feminine leadership is an approach to leading that is linked to gender differences, early socialization, and the unique set of life experiences from early childhood on, which shape women's values, interests, and behavior as adults. Feminine leaders see the world through two different lenses concurrently and, as a result, respond to situations on both the thinking and the feeling levels. (p. 61)

Fred A. Manske was formerly the Director of Training for Eastern Airlines. Manske (1987) characterized a leader as a visionary who energizes others. This definition of leadership has two key dimensions: creating a vision of the future, and inspiring people to make the vision reality.

Ann M. Morrison is the author of the best-selling Breaking the Glass Ceiling as well as president of the New Leaders Institute, a development consulting and research firm in San Diego. Ms. Morrison is also a former director of research on leadership diversity at the Center for Creative Research and a Senior Fellow of the Center for Creative Leadership. Morrison's perspective of leadership focused on how management can use diversity to improve an organization. Morrison (1992) pointed out the four practical reasons why many executives are promoting diversity: to keep and gain market share, to reduce costs, to increase productivity, and to improve the quality of management in their organizations. Another reason for increasing diversity is simple fairness. Morrison claimed that "...many managers we interviewed expressed a strong belief that their organizations should act with fairness for its own sake regardless of whether it made better business sense" (p. 27).

Joseph Rost is a leadership consultant and retired professor of education and leadership at the University of San Diego. Rost (1991) insisted that "Leadership is an influence relationship among leaders and followers who intend real changes that reflect their mutual purposes" (p. 102). Rost also insisted that the leadership process be ethical but rejected the notion that the content of the proposed change had to meet some objective ethical standard. Rost explained

that "Clearly, the systems of ethical thought people have used in the past and that are still in use are inadequate to the task of making moral judgments about the content of leadership" (p. 175).

Leonard R. Sayles is a Professor of Management at the Columbia Graduate School of Business and a member of the Center for Creative Leadership. Sayles (1993) wrote from a perspective that management and leadership are synonymous in the contemporary world. He indicated that the leader-manager is responsible for "...facilitating the work effectiveness of subordinates, enabling them to act in what will be a rewarding fashion" (p. 118). Sayles also demonstrated a more philosophical perspective of the role of the leader-manager with his statement that "From one point of view, good leadership is synonymous with being able to cope with the problem of the human condition" (p. 12). Finally, Sayles seemed to be either distinguishing between management and leadership, or at least extending the classic management responsibility with statements that suggest working leaders must demonstrate, in Sayles' words, "a ready acceptance of the responsibility that extends substantially beyond the limits of one's authority" (p. 92).

Robert W. Terry served for eleven years as senior fellow and founding director of the Reflective Leadership Center at the Hubert H. Humphrey Institute of Public Af-

fairs, University of Minnesota. Terry (1993) based his idea of leadership on the premise that the common requirement of all leadership theories is action. Terry then proposed the notion of authentic leadership which he described as being guided and judged by genuineness and trustworthiness.

John W. Work is the senior principal in a New York City management consulting firm. Work is the author of several books on diversity in the workplace. Mr. Work serves on the board of trustees for Tougaloo College and the board of directors of the Josephson Institute for the Advancement of Ethics. Work (1996) objected to casually applying the term leader to almost anyone with organizational power and authority. Work alleged that true leadership can only occur within a social context:

I believe that true leadership can only be meaningfully defined within a social context; that is, socially meaningful visions and other leadership values must be built on standards that benefit society.True leadership must lead to change that translates into social betterment. Indeed, true leaders should not and must not support visions and processes that perpetuate or give countenance to social injustice. Far too many executives in both for-profit, and not-for-profit sectors who are praised for their "leadership" are not true leaders in this context. (p. 75)

Abraham Zaleznik served as the Konosuke Masushita Professor of Leadership Emeritus at Harvard Business School. He authored numerous articles and fourteen books on business management and leadership. Zaleznik (1993) clearly distinguished between managers and leaders as differing in their conceptions of their respective work. Zaleznik observed that "Leaders work from high-risk positions, indeed often are temperamentally disposed to seek out risk and danger, especially where opportunity and reward appear high" (p. 43). At the same time, Zaleznik commented that for those who become managers, "...the instinct for survival dominates their need for risk, and their ability to tolerate mundane, practical work assists their survival. The same cannot be said for leaders who sometimes react to mundane work as to an affliction" (p. 43).

According to these authors, leadership is visionary; emergent; observable to others; situational; contextual; consistent; critical; transformative; educative; authoritative rather than autocratic; inspirational; an ethical process; a pattern of relationships among leaders, followers, and the context; a two-way influence process between leaders and followers; a set of skills; and specific behavior. These authors also believe that leadership includes the management of attention, meaning, trust, and self; the mobilization of institutional, political, and psychological

resources; establishing values; followers acknowledging a leader; a common purpose between leaders and followers; credibility; a recognition of responsibility that extends beyond authority; action; a thinking and feeling approach; integrity; growth; change; adaptive work; facilitating the work of subordinates; high risk; recognizing the importance of followers; a societal orientation; persuasion by example; accepting followership as a role; motivating; promoting diversity; analyzing; self-development; and being a task-master.

Current Leadership Research

A review of various sociological and psychological journals provided information on leadership research. The review was limited to journal articles published since 1985 in order to focus on the findings of more current leadership researchers.

Adams, Adams, Rice, and Instone (1985) did not consider leadership to be a viable scientific concept. These authors argued that leadership is a first-degree construct that belongs to the world of everyday explanation rather than to the realm of empirically-supported theories. Adams et al. (1985) further argued that attribution theory, the study of the process by which individuals arrive at naive causal explanations, serves as an appropriate framework for the understanding of leadership and leader-member relations. Re-

search measures were leader's skill, unit's skill, leader's work, unit's work, good luck, and bad luck.

Atwater and Yammarino (1993) measured superiors' and subordinates' personal attributes as predictors of perceptions of military academy leadership. Military academies are unique because leadership is not a by-product of the training; it is one of the organization's primary purposes. Measures included traits, decision style, coping style, athletic experience, and leadership. Subjects included 11 military superior officers, 107 focal leaders (junior or senior year) and 1235 subordinates (freshmen). This research revisited the argument that personality traits can predict who might become a leader.

The researchers concluded that the expectations that different traits are predictive of transactional and transformational leadership were not supported. Additionally, the characteristics of superiors' and subordinates' ideal leaders could not be determined based on the experimental data. A final observation was that if superiors are actually confusing good leadership with good followership, and superiors assess their subordinates' leadership skills (which very often is the case in performance evaluation systems), then ultimately those promoted in organizations may be the best followers rather than the best leaders.

Baril, Ayman, and Palmiter (1994) conducted research aimed at illuminating the factors that relate to inconsistencies in self- and subordinate descriptions of leader behavior. Results from earlier research proposed that supervisors consistently fill out self-descriptive questionnaires on the basis of how they would supervise in a positive situation. Other researchers suggested that supervisors behave differently toward different subordinates. Baril, Ayman, and Palmiter strongly suggested that using self-descriptions as a measure of general leader behavior is not warranted. These researchers also suggested the same caveat applies to leadership training programs. This research involved ninety-two first-line supervisors and their 853 subordinates in nine companies. Based on their findings, the authors recommended that training programs should compare and contrast subordinate and self-descriptions of leader behavior. Measures included initiating structure; consideration; production emphasis; tolerance of freedom; leader-member relations; task structure; position power; satisfaction with supervisor; and satisfaction with coworkers.

Beatty and Lee (1992) used the case study approach to investigate the role of middle managers as champions of technological change. These researchers contended that the leadership process relates perceived needs for change to

their implications for people working within specific organizational cultures. In particular, Beatty and Lee measured successful middle managers on the dimensions of pathfinding, problem-solving, and implementing.

Daniel (1992) used critical incident interviews and subsequent questionnaires to identify critical leadership competencies of supervisors in a major electronics firm. Daniel identified nine competencies that distinguish high-performing supervisors according to subordinate ratings. The competencies included goal orientation; bottom-line orientation; initiative; strategic influence; interpersonal sensitivity; collaboration and team building; systematic problem solving; image and reputation; and self-confidence.

Dunning, Perie, and Story (1991) investigated why and when people disagree on their conceptions of prototypes of social categories. Researchers presented Cornell University undergraduate students with a list of 25 randomly ordered personality traits. The subjects indicated whether each characteristic was included in their personal idea or image of a leader. The results demonstrated that people endorsed self-descriptive attributes as true of leadership more quickly than they did characteristics that were not self-descriptive. People also judged the leadership ability of others with similar strengths and characteristics as having more leadership potential. Gender did not impact the find-

ings in this research. These authors contended that people continue to rely on self-serving trait definitions when judging others. These authors also speculated that one reason for using self-serving definitions may be that to maintain self-esteem, people actively construct prototypes that place themselves in a favorable light.

Geis, Brown, and Wolfe (1990) investigated the impact of legitimization by a male versus a female authority figure on evaluation of a male and female group discussion leader's performance. Measures included ability, skill, intelligence, sensitivity, effort, organization, and luck. The researchers reported that legitimization by either a male or female authority had a major impact on how group members judged leader's competence. Withholding of legitimization by either male or female authority severely decreased the leader's competence as judged by group members. Interestingly, legitimization had more impact on the ratings of leaders' identical performances than sex bias.

A surprise finding was that legitimization by both authorities produced equal impact on the male leader's perceived competence. However, the female authority produced greater impact than the male on the female leader's perceived competence. A number of undergraduates explained this finding by saying they thought the male authority's implied praise or denigration of the female leader might represent

ulterior motives of romantic interest or a reaction to her rejection of it. This research demonstrated that although evaluators sincerely believe that they are evaluating performances or credentials objectively, their evaluations are, in fact, biased without their awareness.

Hofstede, Neuijen, Ohayv, and Sanders (1990) employed a qualitative and quantitative study across twenty cases to measure organizational cultures. These researchers' findings are at odds with the popular notion that shared values represent the core of a corporate culture. Instead, findings from this research indicate that shared perceptions of daily practices (i.e. conventions, customs, habits, traditions) are the core of an organization's culture. According to the researchers, "Measurements of employee values differed more according to the demographic criteria of nationality, age, and education than according to membership in the organization per se" (p. 311).

Hofstede, et al. (1990) suggested the difference between their findings and more popular notions may be because U. S. management literature rarely distinguishes between the values of founders and holders of significant authority and the values of the bulk of the organizational members. Descriptions of organizational cultures are often based solely on statements from corporate heroes. These researchers concluded that the values of founders and other key persons

undoubtedly shape organizational cultures but that the way these cultures affect ordinary members is through shared practices. In effect, founders' and leaders' values are adapted into the daily routines of members but the values of members remain relatively unchanged.

Lord and Alliger (1985) attempted to determine the basis for forming leadership perceptions. Four information processing models were employed. Frequency of interaction appeared to be the primary behavior for determining leadership perceptions in group members. Other models included: the match of leader behavior to idealized prototype, the match with social norms developed for a particular situation, and the match between behavior and task demands. The authors suggested that frequency of interaction may reflect a basic prototype where leaders are characterized as intelligent, outgoing, and verbally skilled.

Moss and Kent (1996) employed Bem's 1974 taxonomy during their study of the effects of gender role on leader emergence. The authors believe that "the process of emergent leadership in groups may have important implications for organizations in terms of the development of future leaders" (p. 79).

The idea is that initially leaderless groups such as committees, task forces, problem-solving groups, and project teams are common in organizations. These common situations

often provide an opportunity for individuals to adopt the role of leader. According to Moss and Kent (1996), males are much more likely than females to emerge as leaders. However, the most recent studies indicate that gender role, rather than gender, is a better predictor of leader emergence in naturalistic settings.

Near the beginning of the semester the 252 MBA students responded to a package of assessment instruments which included the Bem Sex Role Inventory. At the end of the semester, subjects were asked to complete a questionnaire which contained four measures of leader emergence.

Results indicated that masculine and androgynous subjects were more likely than feminine and undifferentiated subjects to be emergent leaders. Masculine types consistently rated highest on every measure of leader emergence while androgynous types rated second on each measure. These results suggest the possibility that femininity may be detrimental to those wishing to rise to leadership status. Though not significantly, femininity was negatively related to all measures of leader emergence. Further, because many models of leadership assume a need for both consideration and structuring behavior, the androgynous leader, who possesses both masculine and feminine characteristics, may be able to call on the requisite skills at the appropriate time.

Spangler and Braiotta (1990) explored leadership in the corporation as a separate construct disconnected from positional authority. Their research measured the effectiveness of both transactional and transformational leadership on audit committee effectiveness. The absence of traditional organizational characteristics makes audit committees prime targets for leadership research. The fundamental issue in this research was to determine the factors that affected audit committee effectiveness in the absence of such organizational structure.

Spangler and Braiotta (1990) suggested that the leadership behavior of the committee chairman was the determining factor in audit committee effectiveness. The researchers relied on 77 questionnaires sent to various persons associated with an audit committee. Aspects of transformational and transactional leadership were then measured with items taken from Form 5 of the Multifactor Leadership Questionnaire (i.e., charisma, intellectual stimulation, individualized consideration, contingent rewards, passive management by exception, active management by exception.) Spangler and Braiotta concluded that "the factor structure of transformational and transactional leadership characteristics on individual and organizational performance, and the impact of specific leadership characteristics, may depend in part on

the specific characteristics of leaders, subordinates, and situations under investigations" (p. 150).

Tharenou and Lyndon (1990) equated leadership with management style. These researchers used analysis of variance to demonstrate that training enhanced self and subordinate-rated consideration and structure. The training program elements included improving communication, active listening skills, motivating, how to introduce change, setting objectives, assigning responsibilities, and interpersonal relations.

Appendix B shows the measures of leadership used in the research cited in this study. The measures are presented in alphabetical order for ease of reading.

Leadership Instruments

This study reviewed published leadership instruments as a source for measures of leadership. Since the cost to obtain published instruments was prohibitive, this review generally relied on published indexes of available tests. Indices describe the purpose and parameters of each listed test and include professional criticism of the instrument. Although test indices are secondary sources, for this research indices were sufficient since the primary reason for reviewing published instruments was to become familiar with the factors that various researchers consider important in describing leadership. Three leadership instruments were

available for my examination: The Leadership Style Indicator (Center for Creative Leadership, 1991), the Campbell Leadership Index (Campbell, 1988) and the Management Skills Profile (Personnel Decisions, 1986). Each of these instruments is discussed in more detail than the instruments identified from published indices.

The Leadership Style Indicator (Center for Creative Leadership, 1991) contained a list of 48 adjectives. The first page of the form informs the rater that the purpose of the instrument is to help the person being evaluated understand (1) how he or she relates to you when taking a leadership role or when trying to influence you, and (2) how he or she should behave in order to be more effective at leading or influencing you. The rater first indicates how strongly the adjective applies to the person being rated, then describes if that is more or less effective on the rater. Finally, the rater indicates whether the person being rated should engage in more or less of the behavior indicated by the adjective.

The alphabetically arranged adjectives begin with abrasive and end with understanding. The obvious conclusion is that a person who has the right characteristics and uses them appropriately is an effective leader. Of course, these adjectives might describe any human interaction, not just a leadership interaction. Clearly, most people do not want to

be abrasive, and most people probably want to be understanding. Although these adjectives are necessarily contextual, I doubt anyone aspires to be recognized as abrasive. At any rate, the author of the instrument clearly believes that this list of behaviors demonstrates the leadership skill set of the person being rated. Obviously, the author also believes that the right set of skills, applied appropriately, automatically results in ideal leadership behavior.

The Campbell Leadership Index (Campbell, 1988) is intended to collect data comparing an individual's self evaluation of leadership characteristics with the evaluations of others. Four questions at the beginning of the index establish the relationship and its duration between the evaluator and the person being evaluated. Evaluators then rank the person being evaluated against 100 adjectives using a 6-point scale ranging from always to never. Interestingly, the Campbell Leadership Index provides a short definition of each adjective and urges raters to use the given definition even if they do not totally agree with the definition. This alphabetically arranged scale begins with *active* and ends with *witty*. Assessing leadership by using a list of adjectives to describe someone clearly indicates the author's view that leadership is whatever the leader does. By extension, the ideal leader is a person who matches the

idealized characteristics represented by this list of 100 adjectives.

Murphy, Conoley, and Impara (1994) included the following thirteen leadership instruments in their index of available tests (note that each of these instruments has the words *leader* or *leadership* in the title):

1. The Leader Behavior Analysis II (1991) was developed to assess leadership style.

2. The Leader Behavior Description Questionnaire, Form 12 (1957-63) was developed to obtain subordinates' description of a supervisor.

3. The Leadership Ability Evaluation (1961) was designed to assess the decision making pattern or social climate created by a person who functions as a leader in influencing other persons or groups.

4. The Leadership and Self-Development Scale (1976-79) was designed to measure the effectiveness of a leadership workshop for college women.

5. The Leadership Appraisal Survey (1971-79) was designed to assess leadership practices and attitudes as viewed through the eyes of others.

6. The Leadership Competency Inventory (1993) was designed to measure an individual's use of four competencies related to leadership.

7. The Leadership Effectiveness Analysis (1981-90) was developed to identify leadership skills.

8. The Leadership Opinion Questionnaire (1960-75) was designed to measure supervisory leadership dimensions.

9. The Leadership Practices Inventory (1955-67) was designed to examine ideal and actual styles of management.

10. The Leadership Practices Inventory (1990-92) was designed to provide ratings of five leadership behaviors.

11. The Leadership Q-Sort Test (1958) was designed to assess an individual's values with respect to the leadership role.

12. The Leadership Skills Inventory (1985) assesses strengths and weaknesses in the area of leadership.

13. The Leadership Skills Inventory (1992) helps individuals develop the ability to handle the people side of enterprise.

Another set of leadership measures is located within test instruments designed to measure management skills. These instruments reflect one of the dominant theories of leadership: the very modern idea of leadership as good management. As a result, many instruments aimed at assessing management effectiveness include a leadership component in the test instrument. For instance, the Management Skills Profile (Personnel Decisions, 1986) asks a manager, as well as the manager's subordinates and peers, to judge the man-

ager's behavior. The instrument provides 121 short phrases describing behavior and a six level response scale to indicate the extent to which a manager engages in the particular behavior. Responses are used to categorize a manager's performance in eight different management skills and four leadership areas.

The Management Skills Profile provides clear feedback to managers about how they are viewed by their peers and subordinates. The aim of the instrument is to advise managers how they can be more effective. There is no particular explanation why motivating others, delegating and controlling, and coaching and developing are listed under leadership, especially since many introductory management texts include delegating and controlling as a management function. Additionally, three of the four elements listed under leadership have to do with influencing others rather than directing them through the use of positional authority. The reader may conclude that although the authors recognize leadership as one of the elements necessary to effective management, the authors also recognize that leadership is based on influence rather than the power associated with superior organizational authority.

Sweetland and Keyser (1990) identified several management instruments that either measure leadership directly or employ some of the identical factors as instruments intended

to measure leadership. A brief description of four of the instruments identified by Sweetland and Keyser follows.

1. The Management Readiness Profile includes leadership as a measurable element along with subtests for six other elements.

2. The Management Style Diagnosis Test is based on the eight styles of the 3-D Theory of Leadership Effectiveness.

3. The Management Appraisal Survey uses subordinates' points of view to assess an individual's style of management.

4. The Management Coaching Relations Test is intended to measure a manager's knowledge of sound methods for coaching subordinates. Coaching is specifically included in the Leadership Behavior Analysis instrument previously described in this chapter.

These various tests were developed for a range of purposes including assessing leadership styles, skills, practices, attitudes, behaviors, strengths, weaknesses, supervisory dimensions, decision making patterns, effectiveness of leadership workshops, and subordinates' views of supervisors. The complete set of measures used in these instruments makes impressive reading. Over sixty separate measures are identified, although most current instruments are limited to about five measures or factors. Unfortunately, all of these tests presuppose a particular

notion of leadership. None of these tests afford subjects the opportunity to agree or disagree with the view of leadership presented by the instrument. Appendix C summarizes the measures used in the test instruments cited in this study.

Summary

Descriptions of leadership, current research, and existing test instruments indicate that many researchers and leadership authors view leadership as a set of specific characteristics or behaviors associated with a person who has authority in an organization. A hierarchical perspective in leadership descriptions, research articles, or test instruments is indicated by such measures as planning, organizing, staffing, directing, delegating, motivating, setting objectives, controlling, and initiating structure. The majority of descriptions, journal articles, and test instruments clearly demonstrated a hierarchical (i.e., manager as leader) perspective.

Despite the dominance of the hierarchical view of leadership in the leadership literature, there are authors who acknowledge that people view leadership differently depending on their position in the organization. Research and test instruments that compare self and subordinate descriptions of leader behavior indirectly support the notion that people view the leadership construct through different lenses. De-

spite this evidence, most researchers or instruments effectively impose a singular conception of leadership on participants.

Taken as a whole, the leadership descriptions and definitions included in this literature review represent a more holistic view of leadership than the views of leadership derived from current research or test instruments. Holistic viewpoints do not, however, equate to consensus. Three major, competing themes exist in the literature. First is the idea of manager as leader. The second theme is the notion that leadership is a somewhat enlightened form of direction from legitimized authority. A final theme is a relatively modern view of leadership as a relationship or process that transforms and elevates participants in the best interests of community.

One major concern in the literature review is the relative lack of leadership definitions and descriptors that might be regarded as out of the main-stream. More particularly, identifying views of leadership peculiar to gender, minority status, or ethnicity is important in developing a comprehensive instrument. Unfortunately, literature that might be presumed to provide very specific alternative views of leadership is somewhat lacking.

What is generally available is literature supporting efforts and methods to increase diversity within the manage-

rial ranks of organizations. For instance, Morrison (1992) plainly stated, "The purpose of The New Leaders is to help organizations and leaders design and implement practices that will develop diversity within the management ranks" (p. xix).

Perhaps the larger issue with respect to leadership and diversity centers on moral and ethical considerations. Although addressing a different issue, Gilligan (1982) claimed women have an advantage over most men when leadership is considered to be a specific relationship because the psychology of women is more oriented toward relationship than the psychology of men. Of course, many of the works previously cited in this literature review consider elements such as trust, integrity, and concern for other people as crucial to conceptions of leadership.

CHAPTER THREE: METHODOLOGY

Introduction

The objective of this research was to develop a valid and reliable instrument to identify the various views of leadership held by different members of an organization. Notwithstanding the abundance of literature describing, defining, and purporting to teach people how to practice leadership, this important human construct lacks a consensus definition. A review of current research and instruments designed to assess leadership demonstrates that most researchers are involved in efforts to measure how well subjects agree with a particular researcher's view of leadership rather than determining the subjects' notions of leadership. The important difference between this study and previous research is that this research avoids testing for a preferred model of leadership or using factors presumed relevant by a single researcher. Instead, the instrument developed in this study is intended to allow members of an organization to agree or disagree with a variety of leadership elements extracted from published leadership definitions and descriptions.

Methodological Overview

The first order of business in this research was to conduct a review of selected literature to discover what research and instruments were currently available to assess leadership in organizations. Once coming to the conclusion that current instruments primarily measured how well subjects supported the leadership perceptions of the author of the instrument, I decided to develop an instrument that would allow subjects to identify their own conceptions of leadership. At the same time, based on my review of the literature, I suspected that people in a large organization might hold differing views of leadership, as opposed to the popular idea that everyone in an organization agrees with the boss' view.

Choosing a Quantitative Approach

Human constructs like trust and integrity are naturally very contextual and personal. Leadership is also a human construct and thus much of the leadership research and general literature are qualitative. For instance, many leadership researchers begin their work by interviewing subjects to determine their ideas about leadership. Well-known leadership scholars often use their dialogue with business and other organizational executives to develop and document their own views about leadership. The literature on great

men and accomplished business executives uses examples from their personal lives to demonstrate leadership qualities.

Given these various subjective opinions and qualitative research efforts, there is, finally, the question of how to determine what people individually and collectively believe about leadership, particularly in a large organization. Interviewing, by its nature, requires skilled interviewers and a significant time investment. Another problem that may exist with qualitative efforts is a reluctance by organizational power holders to appreciate a non-numeric analysis given their general approach to business decisions.

Of course, efforts to assess human constructs with quantitative instruments have their own constraints, both theoretical and practical. Perhaps the most obvious constraint of quantitative approaches is insuring that all possible ideas about the construct are included in any assessment instrument. In fact, one of the major criticisms of current leadership research and instruments is the relatively few dimensions of leadership that are measured by any single instrument. Bass (1981, p. 897) emphasized the need to use multiple measurement methods to deal with a variety of methodological problems.

Weighing the advantages and disadvantages of qualitative and quantitative approaches to determining notions of leadership in a large organization resulted in a decision

to develop a quantitative instrument. The basic challenge was to include all documented conceptions of leadership in an instrument that could be administered with reasonable efficiency in a large organization.

DeVellis (1991) suggested the following eight step model as a guideline for developing such a quantitative instrument:

1. Determine clearly what it is you want to measure.
2. Generate an item pool.
3. Determine the format for measurement.
4. Have initial item pool reviewed by experts.
5. Consider inclusion of validation items.
6. Administer items to a development sample.
7. Evaluate the items.
8. Optimize scale length.

The concepts of reliability and validity are of such fundamental concern to measurement instruments as to warrant a discussion before each of the eight steps in the model is addressed.

Reliability

Reliability is the degree to which a test is consistent in its scores or measurements. According to DeVellis (1991), scale reliability is the proportion of variance attributable to the true score of the latent variable. Higher reliability means researchers can have increased confidence in test re-

sults. Three types of error related to reliability are content sampling, time sampling, and interscorer differences.

Content sampling indicates how well the test items relate to each other. Time sampling error refers to how stable or consistent a subject's test performance is over time. Interscorer differences error (scorer reliability) is appropriate when subjective judgments about test performance are required. Scorer reliability and time sampling are, by definition, not appropriate to this study since the purpose of this research is to develop an instrument for a one time, objective measure of the subject's notion of leadership. However, a limited number of subjects participated in a test-retest scheme to check response consistency. Additionally, Cronbach's alpha coefficient was employed as a check for internal consistency. Results of the test-retest scheme and the value of Cronbach's alpha coefficient are discussed in Chapter Four.

Validity

Hammil, Brown, and Bryant (1992) explained that validity refers to the extent to which the results of an evaluation procedure serve the particular uses for which they are intended. Adding to a general understanding of validity is Nunnally's (1967) claim that "validity is a matter of degree rather than an all-or-none property, and validation is an unending process" (p. 75). Nunnally also reminded

the reader that one validates not the measuring instrument, but how appropriate the instrument is for the intended use. Three types of validity are mentioned in the research literature: content, criterion-related, and construct.

Content validity refers to the extent to which a particular domain is sampled adequately. Nunnally (1978, p. 92) remarked that this type of validity is not tested but is ensured by careful design. Selection of items that properly represent the leadership domain is central to content validity. The standard methodology for insuring that a proposed instrument has acceptable content validity, is to query people familiar with the universe of leadership conceptions. In this case, rather than start from a limited number of expert opinions, the universe of leadership conceptions was established from a review of published leadership descriptions and definitions as well as a survey of current leadership instruments. The initial set of instrument items was subsequently reviewed by three people with substantial knowledge of leadership theory and practice. Step four of the instrument development model provides additional detail on this issue.

Criterion-related validity, often called predictive validity, involves a comparison of test scores to some criterion measure, such as another test, or performance in a particular job. Criterion validity is a major issue in psy-

chological science only in certain types of problems, such as using tests to select candidates with a high probability of success as in school admission requirements. Criterion validity had little substantial bearing on this research since the proposed instrument was not intended to predict or select how an individual or group of participants would perform in a leadership role, but rather to examine their beliefs about the leadership construct itself. Any attempt to extend the purpose of this instrument beyond this original intention is simply unwarranted within the context of this research.

Construct validity measures how well instrument results can be interpreted against those psychological constructs that are inherent to the test. Anastasi (1988, p. 163) claimed that construct validity is comprehensive and includes other types of validity. A discussion of validity in test standards (American Psychological Association, 1985, p. 11) indicated the distinction between test content and test construct is often unclear. Nunnally (1967) was quite cautious about the notion of construct validity for an instrument. Nunnally explained that "Considering the inexactness of denotations of words relating to constructs, it is not possible to prove that any collection of observables measures a construct" (p. 97). In fact, for this particular study, Nunnally (1967) effectively dismissed the idea that

any researcher can ever definitively prove that any construct consists exclusively of certain elements:

Strictly speaking, scientists can never be sure that a construct has been measured or that a theory regarding that construct has been tested, even though it may be useful to speak as though such were the case. A construct is only a word, and although the word may suggest explorations of the internal structure of an interesting set of variables, there is no way to prove that any combination of these variables actually measures the word. Theories consist of collections of words (statements about natural events), and though such theories may suggest interesting investigations of cross-structures among sets of observables, the evidence obtained is not so much proof of the truth of the theories as it is proof of their usefulness as guides to empirical reality. (p. 98)

Step One: Deciding What to Measure

DeVellis (1991) recommended that the first step in instrument development was to clearly determine what the researcher wanted to measure. In this study, I wanted to measure the degree to which people agreed or disagreed with the range of elements purported by scholars and authors to comprise the construct of leadership. To that end, each of the leadership definitions and descriptions from Chapter

Two, whether explicit or inferred, was decomposed into its fundamental elements. These fundamental elements, in conjunction with leadership elements from existing instruments, served as a reservoir for the item pool. Appendix D shows the leadership notions of the authors, researchers, and instruments reviewed in Chapter Two.

Step Two: Generating the Item Pool

The next step in the model required development of an item pool. The major requirement in this research was that the item pool be so comprehensive as to include all the conceptions of leadership documented in the review of leadership conceptions. Additionally, the item pool was necessarily redundant since, according to DeVellis (1991) this redundancy serves as the "...foundation of internal consistency reliability which, in turn, is the foundation of validity" (p. 60). DeVellis further emphasized that since there is no specific formula for determining the correct number of items to insure an acceptable degree of redundancy, the researcher is left to determine the number of items.

Organizing Strategy

Developing an item pool required some organizing strategy to deal with the variety of leadership descriptions, definitions, and measures referenced in the literature. Appendix D relates leadership notions to the authors and re-

searchers mentioned in Chapter Two. I consolidated these various notions into ten elements that I considered to be important in describing a person's conception of leadership. The elements I developed for this study were (a) the scope or objective of leadership, (b) leader personality and behavior, (c) the role of the followers, (d) organizational authority, (e) leader and follower relationship, (f) effects of gender, (g) cultural impacts, (h) ethical considerations, (i) duration, and (j) whether leadership is observable.

Once these elements were established, a number of items were developed to assess participants' opinions on particular elements. For instance, Beatty and Lee (1992), Foster (1989), Kotter (1990), Rost (1991), and Tharenou and Lyndon (1990), all included change as an element in their descriptions of leadership. Since the idea of change seemed quite important to several authors and researchers, the instrument included three items which queried participants' beliefs about the importance of change to leadership. The first item provided an opportunity for subjects to agree that change was the only purpose of leadership. The second item allowed participants to decide if they believed resisting change was a legitimate objective of leadership. Endorsing the third item was interpreted to mean subjects believe leadership always involves change but that change is not the exclusive objective of leadership.

Number of Items

The number of items addressing each element is generally, although not rigorously, related to the number of authors and researchers who included that element in their definition or description of leadership. The initial item pool consisted of fifty-nine items in the form of simple, declarative sentences. Although fifty-nine items seemed somewhat lengthy for the instrument, my initial concern for adequate scale reliability dictated more, rather than fewer items for the proposed instrument. The item numbers were randomized using Hamburg's (1970, p. 178) table of random digits to eliminate any bias due to item order. Two open-ended questions were added to allow participants an opportunity to identify any elements of leadership they believed were missing from the instrument and to indicate how they knew when leadership was occurring.

Step Three: Selecting a Measurement Scale

According to DeVellis (1991, p.69), Likert Scales are widely used to measure beliefs. In addition, many of the research articles reviewed in Chapter Two employed a Likert Scale to measure subjects' responses. Step three was satisfied by a Likert Scale for measuring the degree to which respondents agreed with a particular element of the leadership construct. The four possible responses were strongly disagree, disagree, agree, and strongly agree. This scale

choice provided a response continuum from weak to strong as well as having the practical advantage of being easy to score. No opportunity for neutral responses was provided in order to prevent equivocating by subjects. Since covariation is a fundamental concern in instrument design, one concern about the use of four responses versus a six or seven point scale was the decrease in variability expected from the four point scale. However, widening the scale required confidence that people could easily discriminate between choices like agree, moderately agree, and strongly agree. The idea that people could make such fine distinctions for a construct like leadership seemed indefensible. Feedback from several participants suggested that some people would have been more comfortable with a simple agree or disagree scale, and a few participants questioned why there was no midpoint for those items where they had no clear opinion.

Step Four: Expert Review of the Items

Finding experts to review the item pool proved to be somewhat troublesome. The fundamental issue was deciding who could be considered an expert in leadership. Ultimately, I relied on input from three people who could reasonably be considered very knowledgeable about differing views of leadership.

Norina Finley is a systems engineer at GDE Inc. in San Diego, California. For the past twelve years she has worked

in a team environment as a project leader. Ms. Finley earned an MS in Systems Management from the University of Southern California and recently completed her doctorate in Leadership Studies at the University of San Diego. She is very current on both classic and current theories of leadership in addition to having many years of practical commercial experience with leadership in the workplace. Ms. Finley is published in the *Journal of Leadership Studies*.

Lynda Fox is president of the consulting firm, Objectives International, Inc. She has held several key management positions with major American companies in addition to having extensive consulting experience. Lynda received her Total Quality Management training under Dr. W. Edwards Deming. Her expertise includes Total Quality Leadership, leading teams, and strategic planning. Ms. Fox holds a Masters Degree in Organizational Development from the University of British Columbia.

Johanna Hunsaker is currently a professor of organizational behavior in the Graduate School of Business at the University of San Diego. Dr. Hunsaker earned her Ph.D. from the University of Wisconsin and teaches in both the Graduate School of Business and in the Leadership Studies Program in the School of Education. She also has significant experience as an expert witness in discrimination cases.

The item pool revisions suggested by these three reviewers consisted primarily of editing suggestions to clarify and simplify the items. No additional leadership elements were identified.

In addition to review by three experts, nine individuals among the first twenty-eight subjects voluntarily provided a written response to the following eight questions as an evaluation of the Leadership Survey:

Question one: Did you understand the purpose of the research?

Question two: Were the questions on the demographics sheet easy to understand?

Question three: Did you have a clear idea of how to proceed as soon as you looked at the survey sheets?

Question four: Were you satisfied that the four possible responses offered you enough choices to express your agreement or disagreement?

Question five: Were the survey questions easy to understand?

Question six: Was the survey too long, too short, or okay?

Question seven: Was the print size on the survey easy to read, hard to read, or okay?

Question eight: Do you have any ideas on how to improve this survey (instructions, layout, or anything else)?

A summary of the responses follows:

Question one: all nine reviewers agreed they understood the purpose of the research.

Question two: all nine reviewers agreed the demographics sheet was easy to understand.

Question three: eight of nine reviewers agreed they had a clear idea of how to proceed. One reviewer suggested that each page be titled, and that a brief description of purpose, time, and fill-in directions be attached to the survey sheet. A title was subsequently added to each sheet, but the remainder of the suggestions were not implemented based on the other eight reviews and the fact that the remainder of the 28 participants did not seem to have a problem completing the survey.

Question four: Seven of nine reviewers were satisfied with the four point Likert Scale. Two reviewers suggested a mid-point to allow participants to indicate they were not sure if they agreed or disagreed. The mid-point suggestion was not implemented because I did not want participants to be able to equivocate.

Question five: Eight of nine reviewers agreed that the questions were easy to understand. One reviewer commented that many of the questions seemed similar. No changes to the instrument were warranted from this comment since redundancy is deliberately designed into a proposed instrument.

Question six: Seven of nine reviewers indicated the length of the survey was satisfactory, neither too long nor too short. Two reviewers indicated the survey was too long. No changes were made to the survey since initial results are required before items can be removed.

Question seven: All nine reviewers indicated the print size on the survey was adequate.

Question eight: Two of nine reviewers had no suggestions on how to improve the survey. Comments from other reviewers included requests to add a mid-point on the response scale, a desire to group similar questions to help focus, a suggestion to narrow the response scale to a simple two point scale where a participant can either agree or disagree, and a suggestion to improve the spacing between questions. Of these suggestions, only the request to improve the spacing on the questions was implemented.

One reviewer commented that the demographics page should be placed at the end of the survey rather than at the front. The reviewer said that a request for demographics at the front of the survey was personally disconcerting and caused suspicion about the purpose of the survey. Although I found this comment provocative, I decided to leave the demographics page at the front of the survey. My basic concern was that participants might complete the survey but then ignore the demographics page. The other reason that I left the

demographics page at the beginning of the survey is that during informal discussions with several other participants, no one expressed any concern about the location of the demographics sheet.

Taken together, the mapping of each item to published descriptions of leadership, the opinions of the expert reviewers, and the nine evaluations of the Leadership Survey package, provided sufficient initial confidence to proceed with sampling.

Step Five: Validation Items

The inclusion of validation items suggested in step five of the model was not appropriate for this research. Again, the purpose of this research was to directly examine what people believe about the construct of leadership. The lack of consensus about the elements of leadership effectively eliminates inclusion of any existing scales that purport to measure some suggested aspect of leadership, such as influence. While there are existing scales that measure influence, this research does not demand any further confirmation that influence is an important element of leadership other than the subjects' selection of influence as important to their conception of leadership.

Step Six: Administering Items to a Sample

At this point the items had been established, a measuring scale was selected, and two open-ended questions were

added. The proposed instrument was prepared and titled Leadership Survey. Appendix E contains the fifty-nine item Leadership Survey. Appendix F connects the ten primary notions of leadership developed as an organizing strategy with their literature review sources and the fifty-nine items on the proposed instrument.

The instrument development sample consisted of representative subjects currently employed at the Naval Aviation Depot, North Island, in San Diego, California. The size and characteristics of the sample population as well as the sampling procedure are important considerations in scale development.

Sample Size

The primary issue with sample size was to insure that the sample was large enough to eliminate subject variance as a significant concern. In general, larger sample sizes provide more reliable results than smaller sample sizes. Hinkle, Wiersmar, and Jurs (1994, p. 282) suggested that factors such as (1) the level of significance, (2) the power of the test, (3) the population error variance, and (4) the effect size must be considered in determining the appropriate sample size. However, these standard methods for calculating sample size are difficult to apply to instrument development efforts aimed at measuring attitudes because much of the necessary information is yet to be developed.

DeVellis (1991) insisted that "it is impossible to specify the number of items that should be included in an initial pool" (p. 57). Nunnally (1967, p. 260) suggested that five subjects per item is a minimum for acceptable item analysis. The 358 subjects in this research met Nunnally's criteria by providing a ratio of six subjects for each of the fifty-nine instrument items as well as sampling slightly more than 10% of the target population.

Sample Characteristics

The Naval Aviation Depot is a male-dominated, culturally diverse population whose average member is over 40 years of age and has worked for the organization for 19 years. The work force resides primarily within San Diego County. Members are generally veterans.

Participants included military officers, senior managers, middle managers, first line supervisors, and a complete range of occupations and pay grades within the organization. The Naval Aviation Depot Human Resource Office categorized the 3,401 federal civil service employees as 57% blue-collar and 43% white-collar. Females accounted for 15% of the workforce. The sample was within 2% of the target population with respect to blue-collar and white-collar categories and within 4% of the gender classifications. Managers accounted for 24% of the sample. Although no specific attempt was made to align the sample and the target population with respect

to ethnic background, the sample was within 4% of the target population in the organizationally established categories of Native American, Asian/Pacific Islander, Hispanic, and Non-minority. The single major discrepancy between the sample and the population was in the African American category. The sample was 9% African American while the target population is approximately 15% African American. However, ethnic background information was collected only to demonstrate a reasonably diverse sample. This study made no attempt to differentiate ideas about leadership based on ethnic background information.

Sampling Procedure

In order to insure a representative sample, managers from different units within the organization were asked to have volunteers complete the Leadership Survey. About half of the managers were responsible for tradespeople, and the other half were responsible for support staff. This mix of managers was selected to insure that the participants were representative of the entire population.

Fifteen managers, all having at least one level of supervision reporting to them, were contacted and asked to have their work units participate in this research. The purpose of the research was explained to these managers and each manager was informed that the researcher had permission from the plant manager to conduct the research. Each manager

was provided with a package of 50 consent forms (see Appendix G) and a package of 50 Leadership Surveys. Leadership Surveys consisted of a demographics sheet (see Appendix H) stapled to the front of the three page, fifty-nine item Leadership Survey. The demographics sheet specifically requests that participants do not identify their surveys. I reviewed the consent form, the demographics sheet, and the Leadership Survey with each manager to emphasize that there were no questions about the organization, or anyone in the organization. The importance of maintaining the anonymity of the participants, and the requirement to insure all participants were volunteers were also emphasized during this discussion. I explained that while a signed consent form was required, the consent form was to be collected independently of the anonymous Leadership Survey. Each manager was asked to pass these instructions to their subordinate managers who solicited volunteers from unit members. An instruction sheet (see Appendix I) was provided for the subordinate managers who actually presented the survey to work units. This instruction sheet, read to unit members, advised members of the purpose of the survey, the requirement for a completed consent form, the voluntary nature of survey participation, and the steps taken to insure individual anonymity. Managers in the first work unit were also requested to ask partici-

pants to complete an eight question evaluation of the Leadership Survey instrument.

Sampling occurred from December, 1997 through mid-February, 1998. Consent forms and Leadership Survey forms were returned to the second-level manager who returned the consent forms and surveys to my office. Work unit return rates ranged from 10% to 82%.

Additional participants were solicited during a regularly scheduled meeting of a social organization comprised of Naval Aviation Depot employees. These subjects first completed the Leadership Survey in mid-December. Completed Leadership Surveys were isolated from the remaining surveys by the researcher in anticipation of a retest effort. In mid-February, at another regularly scheduled meeting, twenty-two of these same employees agreed to participate in a retest. After completing the retest, these participants identified their first Leadership Surveys from the batch of surveys isolated by the researcher. Each pair of surveys served as data for the test-retest results to be discussed in Chapter Four.

Summary

The first six steps of DeVellis' (1991) eight step model for instrument development resulted in a fifty-nine item Leadership Survey. The Leadership Survey, a consent form, and demographics sheet were subsequently completed by 358 sub-

jects. The data from the surveys were evaluated and used to optimize scale length in Chapter Four.

CHAPTER FOUR: RESULTS

Introduction

The final two steps of DeVellis' (1991) model for scale development consisted of evaluating the items and optimizing scale length. Descriptive statistics and reliability analysis were used to evaluate the items. Results from the reliability analysis were also used as input for factor analysis. Factor analysis was employed to examine how much of the variance in the construct could be accounted for by the scale items. Participant response frequencies by demographics categories were calculated for each of the fifty-nine Leadership Survey items. These frequencies provided evidence of significant differences in item response by participant categories. This chapter includes a summary of participant responses to the two qualitative questions included in the Leadership Survey.

Step Seven: Evaluating Scale Items

Step seven of the model required evaluating the scale items. SPSS-X version 7.5 (Statistical Package for Social Scientists) was used to evaluate the Leadership Survey scale. SPSS-X includes automated software routines for producing descriptive statistics, performing reliability

analysis, and conducting factor analysis. Personal demographic information and responses to the fifty-nine items on the 358 Leadership Surveys served as input for the SPSS-X procedures.

Descriptive Statistics

The evaluation of scale items began with an examination of item correlation, means, and variances. Appendix J contains the range, mean, standard deviation, and variance by item number in order of descending means. The standard deviation ranged from .5 to .8. Every item had a range of three, indicating each item received responses across the entire scale.

Correlation

High correlation among items indicates items have high individual reliability. Items with high reliability are more closely related to the true score of the latent variable (construct) of interest. If items share a common latent variable, more reliable items will result in more reliable scales. For this sample the absolute values of correlation coefficients ranged 0 to .4.

Means

Ideally, item means should be near the center of the scale. If the mean for an item is very near an extreme value, the item will fail to detect certain values of the construct. For example, if all subjects strongly disagreed

with an item on this scale the mean would be 1.0. For the 4 point scale used in the Leadership Survey, the best possible mean was 2.5. Successful items elicit varying responses from the sample population and should result in a mean near 2.5. The means for this sample ranged from 3.4 to 1.7.

Variance

Nunnally (1978) pointed out that many scientific questions center on how people vary with respect to certain attributes. Nunnally explained that:

In studies of individual differences, variance of an attribute among people is of interest; in controlled experiments, variance among means for differently treated groups is of interest. Scientists look for attributes that vary considerably, develop measures of those attributes, and attempt to explain such sources of variation with theories and experimentation. (p. 117)

High variance is a positive attribute of a scale. Scale items are intended to record the varying attitudes, feelings, and ideas about an idea from a diverse population sample. As a result, items demonstrating high rather than low variance are preferred. According to DeVellis (1991), "In an extreme case, if all individuals responded to an item identically the variance would be zero and the item would not discriminate between individuals" (p. 83).

Variance is also one measure of the dispersion of scores for a set of items. The square root of the variance is the standard deviation and the standard deviation, according to Nunnally (1978), "...allows a simple interpretation of the amount of variability of the particular group of scores" (p. 118).

For example item 22 in the proposed instrument had the lowest variance (.249) of the fifty-nine items. Frequency analysis showed that 98% of subjects either agreed or strongly agreed with the item 29 statement that leadership may concern either large or small issues. While this high positive response might be useful as information, the item provides little opportunity to distinguish between participants since almost all participants can be expected to endorse this item.

The variance for this sample ranged from .2 to .7.

Reliability

The real purpose of a scale developed to measure a construct such as leadership is to estimate the value of the underlying latent variable (i.e. the construct) at the time and place of measurement for each person measured. The actual magnitude of the latent variable is the true score and is theoretically unobservable because of characteristics such as multiple dimensions and variance over time. DeVellis (1991) remarked that "Scale reliability is the proportion of

variance attributable to the true score of the latent variable" (p. 24).

Test and Retest

Test-retest reliability is a method for computing reliability with respect to temporal stability, or how constant scores remain from one occasion to another. DeVellis (1991) explained that "...if a measure truly reflects some meaningful construct, it should assess that construct comparably on separate occasions" (p. 37). In theory, the correlation of scores for an individual from two time separated trials of the same scale represents the influence of the construct on the scores. Other factors that could affect score correlation include changes in the construct, changes in the subjects, or unreliability of the measurement procedure.

In this research, twenty-two subjects voluntarily participated in a test-retest procedure. The subjects were all members of a social organization affiliated with the target organization. The test administrations occurred at the normally scheduled monthly business meetings in December, 1997 and February, 1998. Participants were not informed of the intended retest during the first administration.

Each participant's two trials were correlated independently. Correlation ranged from .8 to .4. The average correlation was .6. In order to determine if scores changed in degree or changed from agree to disagree, all scores were

recoded from a four point to a two point scale indicating only agreement or disagreement. The minimal affect of this recoding on correlation indicated subjects' changed from agreement or disagreement rather than simply changing the degree of their agreement or disagreement.

Although scale reliability depends on a number of factors such as item means, variance, and correlation, both Nunnally (1967, p. 210) and DeVellis (1991, p. 25) supported coefficient alpha as the most useful formula for determining scale reliability.

Coefficient Alpha

The alpha coefficient is an indicator of the proportion of variance in scale scores that is attributable to the true score. Nunnally (1978, p. 245) recommended .7 as the lower acceptable limit for the alpha coefficient. DeVellis (1991) suggested .65 - .70 as minimally acceptable, .7 - .8 as respectable, and .8 - .9 as very good. DeVellis suggested shortening the scale if the coefficient alpha is above .9.

Correlation is one measure of the degree of influence a particular item has on scale reliability. The alpha coefficient calculation procedure in SPSS-X provides the researcher with corrected item total correlation. An instrument designed to measure a construct requires that the individual items all be related to the construct and then to each other. The minimum degree or magnitude of correlation

is up to the researcher but high correlation is better than low correlation. Including or excluding an item in a scale can affect the correlation coefficient.

The SPSS-X scale reliability procedure provides the new scale reliability coefficient if a particular item is deleted. The acceptable value for this corrected item total correlation is somewhat arbitrary as mentioned in the preceding discussion of coefficient alpha. However, a moderately high value for corrected item total correlation insures a more robust outcome than accepting very low positive values.

Reliability Analysis

The first reliability analysis resulted in a coefficient alpha equal to .8118 for the fifty-nine items. Items 5, 8, 15, and 59 showed negative corrected item total correlation and were deleted.

The second reliability analysis resulted in a coefficient alpha equal to .8413 for the fifty-five items. Item 47 showed negative corrected item total correlation and was deleted.

The third reliability analysis resulted in a coefficient alpha equal to .8436 for the fifty-four items. Inspection of the SPSS-X output showed that eliminating items whose corrected item total correlation was less than .2 would result in some small increase in the value of al-

pha. Based on this inspection, items 1, 9, 11, 12, 17, 19, 22, 23, 25, 37, 41, 44, 45, 46, 48, 50, 51, and 55 were deleted.

The reliability analysis was repeated three more times until no increase in alpha could be achieved by eliminating items. The final reliability analysis resulted in a coefficient alpha equal to .8689 for the remaining thirty-three items with a corrected item total correlation ranging from .22 to .57.

Step Eight: Optimizing Scale Length

Optimizing scale length requires determining an appropriate balance between scale reliability and scale length. For the same average correlation between items, a longer scale will demonstrate more reliability than a shorter scale. At the same time, subjects are generally more willing to answer a shorter scale rather than a longer scale.

Eliminating items usually means reducing reliability. The fifty-four item scale from the third reliability analysis produced an alpha coefficient of .84 with no negatively correlated items. These fifty-four items covered all ten of the organizing leadership elements extracted from the literature review. The thirty-three item scale resulting from the previously performed reliability analysis had an alpha coefficient equal to .87. These thirty-three items covered seven of the ten elements of leadership established in chap-

ter three of this study. The three gender items, the two culture items, and the four ethics items were eliminated during this process.

Continuing to shorten the scale until the reliability reached DeVellis' (1991) minimum acceptable value of .8 resulted in a fifteen item scale with a very respectable reliability coefficient of .83. The fifteen items were distributed across six of the ten elements of leadership previously proposed.

Unfortunately, both the thirty-three and fifteen item scales eliminated important leadership elements such as gender issues, ethics, duration, and whether leadership is externally observable. While both the thirty-three and fifteen item scales have respectable reliability, these scales eliminated elements that some scholars, authors, and researchers believe are important to leadership.

Nunnally (1967) said "The primary way to make tests more reliable is to make them longer" (p. 223). With respect to scale length and reliability, DeVellis (1991) said

In addition, the reliability of alpha as an estimate of reliability increases with the number of items. This means that an alpha computed for a longer scale will have a narrower confidence interval around it than will an alpha computed for a shorter scale" (p. 88).

In order to maintain the highest possible reliability without sacrificing any potential leadership elements so early in scale development, this study utilized the fifty-four items remaining after the second reliability analysis. These fifty-four items include all ten of the leadership elements selected to organize the item pool while demonstrating a very respectable reliability coefficient of .84. Appendix K shows the items that comprise the proposed Fifty-four Item Leadership Scale.

DeVellis (1991) cautioned that "...the validity of a scale is not firmly established during scale development. Validation is a cumulative, ongoing process" (p. 113). In order to extract more information from the data, the proposed fifty-four item scale was subjected to factor analysis.

Factor Analysis

While a sufficiently high coefficient alpha confirms total scale reliability, this mathematical procedure does not insure that scale items collectively measure the construct the researcher intended to measure. Factor analysis is an established process for estimating how closely the scale items are related to the true score of the construct.

Factor Analysis Overview

smaller number of hypothetical variables" (p. 9). Bryman and Cramer (1990) remarked that factor analysis "...enables us to assess the factorial validity of the questions which make up our scales by telling us the extent to which they seem to be measuring the same concepts or variables" (p. 253). The extraction of these hypothetical variables depends primarily on the analysis of the covariance matrix of scale items.

Extracting the Factors

Scores for the fifty-four items retained as a result of the previously performed reliability analysis were used as initial data for the factor analysis routine in SPSS-X. All extractions used the principle components method. The two basic methods for determining the number of principle components or factors are to choose components whose eigenvalue exceeds one or by inspection of the scree plot.

Johnson (1998, p. 4003) described an eigenvalue as the latent or characteristic roots of a polynomial equation. In factor analysis programs the eigenvalue indicates the relative importance of the factor to the construct of interest. Software programs generally extract factors only for eigenvalues greater than one.

A scree plot is constructed by plotting the value of each eigenvalue against its order of extraction. That is, the value of the first eigenvalue is plotted on the ordinate

of a Cartesian coordinate system with an abscissa value of one. The second eigenvalue is plotted at two on the abscissa, and so forth. The number of principle factors is determined by inspecting the plot to see how many eigenvalues occur before the line breaks sharply to the right and approaches zero. Johnson (1998, p. 5008) explained that the eigenvectors after the break are generally measuring random noise and one should not attempt to extract any meaning from random noise.

First Factor Analysis

The first analysis used the fifty-four items from the previously performed reliability analysis. Extraction was set for cases where the eigenvalue was greater than one. No rotation was performed. Nunnally (1967) suggested that values less than .4 were not substantial so scores below .4 were not shown in the output. Initial results showed 16 factors accounting for about 61% of the variance.

Second Factor Analysis

The second analysis used the same fifty-four items. Extraction was based on eigenvalues greater than one and varimax rotation was selected. Results again showed 16 factors accounting for about 61% of the variance. Appendix L summarizes the factor loadings for the fifty-four items.

Subjectivity in Factor Analysis

A strict interpretation of the factor analytic results of this research implies that the 16 original factors accounted for 61% of the leadership construct with several minor factors contributing the remaining 39% of the construct. However, Nunnally (1967, p. 368) and Johnson (1998, p. 6002) both suggested caution when interpreting the results of factor analysis. Criticism of factor analysis centers on the subjective decisions and analysis required from the researcher. The choice of which items to retain for the initial factor analysis, the minimum factor loadings the researcher chooses to accept, and the final synthesis of several variables into a single factor are all left to the researcher's independent judgment.

These cautions were validated by other factor analysis results obtained but not reported in this study. For instance, running factor analysis on the original fifty-nine items produced 18 factors accounting for 63% of the total variance. Using the thirty-three items remaining before attempting to adjust scale length produced nine factors accounting for 56% of the total variance.

I ultimately decided to use the fifty-four items because all these items had a positive corrected item total correlation. The fifty-nine items had included five items with negative correlation. Using the thirty-three items

would have required an arbitrary decision to disregard items whose corrected item total correlation was less than .2.

Interpreting the 16 Factors

Factor one accounted for 13% of the total variance. The following items loaded on factor one; the number in parentheses shows the percentage of endorsement by the survey participants (see Appendix M).

30. Leadership requires the leader and the group to work toward the same goal. (95%)

31. Leadership requires leaders to care about the welfare of followers. (90%)

32. During leadership followers voluntarily take direction from a leader in order to accomplish a goal important to both leader and follower. (87%)

39. Followers and leaders share responsibility for attaining their goal. (95%)

42. Leadership promotes human development. (89%)

52. Leadership requires the voluntary participation of both leaders and followers. (82%)

All the items in factor one address the roles and relationships of leaders and followers toward achieving a goal important to everyone. The items are relatively consistent, requiring little additional interpretation. Participants in this study overwhelmingly endorsed an enlightened view of

how leaders and followers should interact with one another while they work together toward a common goal.

Factor two accounted for 9% of the variance. The following items loaded on factor two:

34. Personality is the main factor when choosing a leader. (31%)

38. People expect all leaders to behave the same way. (18%)

40. The personalities of leaders and followers are always similar. (8%)

57. All leaders have the same personality traits. (7%)

The items in factor two all address the personality and behavior of the leader. The leader is obviously the key actor in leadership and is often the activity director.

Participants in this study obviously recognized that there is more to acknowledging a leader than personality, and that leaders demonstrate a variety of behaviors and traits.

Factor three accounted for 4% of the total variance. The following items loaded on factor three:

26. Leadership must always have a specific goal or purpose. (78%)

28. Leaders must have formal position or authority to direct followers. (41%)

36. Leadership begins when a group acknowledges a leader and a goal. (80%)

53. During leadership followers should expect the leader to know exactly how to achieve a mutual goal. (56%)

These items represent a somewhat formal, organizational approach to leadership. A majority of participants indicated that leadership begins with the acknowledgment of a goal and a leader, requires a specific goal, and a leader who knows exactly how to achieve a common goal. Participants rejected the notion that leaders must have formal authority. This factor seems to address the idea that leadership requires an objective or goal and that leadership cannot occur without an acknowledged goal and acknowledged leader.

Factor four accounted for 4% of the total variance. The following items loaded on factor four:

19. Males or females make equally good leaders or followers. (91%)

22. Leadership may concern either large or small issues. (98%)

58. Leadership may concern any goal important to the leader and the followers. (87%)

This factor obviously deals with the scope or objective of leadership. Participants obviously believe that any issue important to the followers and the leader is a legitimate objective of leadership. Item 19 appears to be an artifact of the factor analysis procedure and is simply unrelated to items 22 and 58.

Factor five accounted for 3% of the total variance. The following items loaded on factor five:

- 9. Leaders are more important than followers. (22%)
- 45. Goal achievement is more important to leadership than group relationships. (36%)
- 46. Leadership occurs in episodes rather than continuously. (32%)
- 48. Leadership means getting people to do what management wants. (59%)

Factor five accounted for about 3% of the total variance and contains several apparently unrelated leadership elements. Items 9 and 45 address the roles and relationships of leaders and followers. Item 46 questions the duration or episodic nature of leadership. Item 48 is concerned with the ethics of assuming that any management objective is a legitimate goal of leadership. The small majority who endorsed item 48 may have assumed that whatever an organizational authority requests will be within acceptable ethical limits of organizations.

The following items loaded on factor six:

- 4. Leadership requires a leader to reward followers for their support. (66%)
- 27. Leaders owe followers a reward for their support. (38%)

The two items in factor six accounted for 3% of the total variance and deal with what followers expect as a

benefit of their relationship with the leader. Both items address the notion that followers are entitled to some reward from the leader. Interestingly, participants endorsed the statement that said leadership requires a leader to reward followers but failed to endorse a similar statement that said leaders owe followers a reward for their support. The item language is nearly similar but the results are opposite. Perhaps the notion of a leader owing followers a reward for their support sounds too much like a personal obligation of the leader.

The following items loaded on factor seven, accounting for 3% of the total variance:

16. Maintaining the relationship between leader and followers is more important to leadership than achieving the goal. (39%)

24. Leadership requires one individual to gain the trust of other people. (79%)

42. Leadership promotes human development. (89%)

49. Leadership increases the self-esteem of leaders and followers. (85%)

Factor seven items center on the idea of a relationship built on trust between leaders and followers. The 39% endorsement rate for item 16 indicates that the majority of participants did not support the idea that the relationship between followers and leaders was more important than goal

achievement. Revisiting item 45 from factor 5 reveals that only 36% of participants endorsed the idea that goal achievement is more important than maintaining group relationships. Either the participants were confounded by the two questions, or they believe that goal achievement and the relationship between leaders and followers are of nearly equal importance.

The following items loaded on factor eight, accounting for about 3% of the total variance:

7. Leadership ceases when a group loses confidence in the leader. (39%)

20. Leadership requires trust between leader and followers. (96%)

21. Leadership is the result of very specific behavior by an individual. (72%)

24. Leadership requires one individual to gain the trust of other people. (79%)

Factor eight is comprised of four items that I interpreted as dealing with trust as the basis of the relationship between leaders and followers. Item 7 indicates that 79% of the participants believe that leadership requires the leader to maintain the confidence of the followers. The reference to specific behavior by an individual in item 21 may be considered as actions that sustain the trust of the followers in the leader.

The following items loaded on factor nine and accounted for about 3% of the total variance:

12. Most people can learn to behave like a leader. (52%)

44. Anyone can be a leader in the right circumstances. (63%)

Factor nine associates leadership with certain behavior by an individual. The participants were nearly evenly divided on the notion that most people can learn to behave like a leader. There was mild support for the idea that anyone could be a leader in the right circumstances.

The following items loaded on factor ten which accounted for about 2.5% of the total variance:

13. Any action to accomplish the goal of leadership is acceptable. (16%)

18. Only the leader and followers can be certain that leadership is occurring within their group. (36%)

55. Leadership concerns only major social issues. (41%)

Factor ten is populated by apparently unrelated items. Only 17% of the sample supported item 13 which indicated any action to accomplish the goal was acceptable. Item 18 had 36% support for the idea that only the leader and followers could be certain that leadership was occurring within a group. Participants overwhelmingly rejected the idea that leadership was constrained only to major social issues.

The following items loaded on factor eleven, accounting for about 2.4% of the total variance:

17. There is no difference between leadership and management. (17%)

54. Leadership is simply good management. (57%)

The two items in factor eleven focus on leadership versus management. Few of the respondents believed there was no difference between leadership and management. However, somewhat over half of the participants endorsed the idea that good management is leadership. Perhaps participants' ideas about leadership are fundamentally based on positive experiences with certain managers.

Factor twelve is a one item factor that accounted for about 2.3% of the total variance:

3. The evidence that leadership is occurring within a group is readily apparent to external observers. (67%)

About two-thirds of the sample believed that leadership was apparent to external observers.

Factor thirteen is a one item gender factor responsible for about 2.2% of the total variance:

11. Men are better leaders than women. (16%)

The results of this item are self-evident.

Factor fourteen is a one item culture factor contributing about 2% of the total variance:

25. Ethnic culture has a large effect on leadership. (42%)

A little less than half of the sample supported the idea that culture has a large effect on leadership.

Factor fifteen is a one item relationship factor accounting for about 2% of the total variance:

23. Followers influence the behavior of the leader. (72%)

A majority of the sample believed that followers influenced the behavior of the leader.

Factor sixteen is a one item gender factor accounting for about 2% of the total variance:

51. Women are better leaders than men. (4%)

There was very little support for the notion that women are better leaders than men.

Condensing and Summarizing the Factors

The primary goal of factor analysis is to discover the factors that comprise a construct. Although ten elements were assumed as an initial organizing strategy in this study, the factor analysis indicated 16 separate factors contributed to the leadership construct. Inspection of the items that comprise the 16 factors revealed that several factors could be combined due to the similarity of the items.

Factors one, six, seven, eight, and fifteen all addressed the roles and relationships of leaders and followers and were combined into a new factor one. Factors two and nine dealt with the personality and behavior of the leader and were combined into a new factor two. Factors three and eleven showed leadership as organizational hierarchy and

were combined into a new factor three. Three of the items in factor four concerned the scope or objective of leadership and were retained as factor four. Although item 19 appeared in factor four, this item is clearly a gender factor and was moved to factor six. Factor twelve focused on whether leadership was externally observable and became the new factor five. Factors thirteen and sixteen suggested gender as a leadership element and were labeled as a new factor six. Factor fourteen indicated culture was an element in leadership and became the new factor seven. Factors five and ten each contained apparently unrelated items. Several of these unrelated items generally fit into the combined factors of roles and relationships (items 9, 45), scope (item 55), and observable (item 18). Items 48 and 13 concern ethics and item 46 concerns duration. In order to be as inclusive as possible in the development of a new instrument, I decided to add these two additional factors. Ethics was added as leadership factor eight and duration was added as leadership factor nine. Table 1 shows the new leadership factors by item.

Participant Feedback on Leadership

Participants also responded to two qualitative questions. Question A asked participants to identify elements of leadership missing from the survey. Question B asked participants how they recognized when leadership was occurring.

Table 1

Fifty-four Item Scale by Leadership Factor

<u>Factor</u>	<u>Items</u>
Roles and Relationships of Leaders and Followers	4, 7, 9, 16, 20, 21, 24, 30, 31, 32, 39, 42, 45, 49, 52
Leader Personality and Behavior	12, 34, 38, 40, 44, 57
Organizational Hierarchy	17, 26, 28, 36, 53, 54
Scope	22, 55, 58
Observable	3, 18
Gender	11, 19, 51
Culture	25
Ethics	13, 48
Duration	46

Note: Only 39 of the 54 items displayed factor loadings above .4. However, prudence dictates retaining all 54 items since the scale is in development.

Missing Leadership Elements

The participant response to question A was very limited. About 10% of participants provided a response. Of those 10%, most of the suggestions centered on describing characteristics of the leader.

For instance, one response suggested adding the idea that a good leader has the ability to provide a focus on goals and objectives. Another response suggested that an ability to motivate was an element of leadership. Personal-

ity, physical stature, charisma, and class status were also suggested as elements of leadership missing from the Leadership Survey. In some cases participants suggested elements that were clearly included in the survey. For example, some respondents suggested that elements of leadership missing from the Leadership Survey included ethics, trusting followers, and interpersonal relations between leaders and followers.

Recognizing Leadership

Question B was answered by about 40% of the participants. Participants generally said they knew when leadership was occurring because their group was working together in harmony toward a clear objective. Respondents also identified characteristics of the environment and the leaders as indicators that leadership was occurring. These characteristics included, teamwork, integrity, equity, structure, acknowledgment, communication between managers and workers, and concern for followers. Several people said that everyone just knows when leadership is occurring and when leadership is not occurring.

Responses by Sample Categories

Participants in this study were asked to indicate if they were a supervisor or manager and to provide their job title, age, level of education, gender, and income. For this study, results were limited to those categories that con-

tained only two values, such as white-collar or blue-collar, male or female, and manager and non-manager. These categories were sufficient to demonstrate that the instrument could distinguish between demographic categories. Categories such as age, income, and education were left for future analysis.

Appendix M shows how participants from different categories in the sample responded to each item. A Chi-Square test (5%) was employed to discover statistically significant differences in category responses. For each of the following items, more or less support means a statistically significant difference from the total response.

On item 2, white-collar workers showed significantly less support for the idea that the only purpose of leadership is to accomplish change.

On item 3, white-collar workers showed significantly less support for the idea that leadership is readily observable by external observers.

For item 10, females showed significantly more support for the idea that leadership requires leaders and followers to work well together.

For item 11, females and white-collar workers showed significantly less support for the idea that men make better leaders than women.

For item 12, managers showed significantly less support for the idea that almost anyone can learn to behave like a leader.

On item 13, females, white-collars, and managers showed significantly less support for the idea that any action to accomplish the goal of leadership is acceptable.

For item 14, white-collars and managers showed less support for measuring the quality of leadership using goal achievement.

On item 18, white-collars showed less support and blue-collars showed more support for the idea that only the leader and followers can be certain that leadership is occurring within a group.

For item 21, white-collars showed significantly less support for the idea that leadership is the result of very specific behavior by an individual.

Item 23 results showed that managers more strongly endorsed the idea that followers influence the behavior of the leader.

On item 26, white-collars and managers showed less support for the idea that leadership must have some specific goal. Blue-collars showed significant support for this notion.

For item 27, blue-collars strongly endorsed the idea that leaders owe followers a reward for their support.

On item 28, white-collars and managers showed less support while blue-collars showed more support for the idea that leaders require formal authority.

For item 29, managers showed less support for the idea that people must willingly become followers for leadership to occur.

On item 30, managers showed less support for the idea that the leader and the group must work toward the same goal.

For item 31, white-collars and managers showed less support for leaders having to care about the welfare of followers.

On item 32, white-collars showed less support for followers having to willingly take direction from a leader to accomplish some mutual goal.

For item 34, white-collars showed less support while blue-collars showed more support for the notion that personality is the main factor in choosing a leader.

On item 38, white-collars showed less support and blue-collars more support for the expectation that all leaders behave the same way.

For item 43, white-collars and managers showed less support for the idea that leadership has a clear beginning and end. Blue-collars showed significantly more support for this idea.

On item 51, both females and white-collars showed significantly more support for women being better leaders than men.

For item 53, white-collars and managers showed less support for the idea that followers should expect the leader to know exactly how to achieve a goal. Blue-collars and non-managers showed more support.

On item 54, white-collars and managers showed less support for the idea that leadership is simply good management. Blue-collars and non-managers showed more support.

For item 56, white-collars and managers showed less support for the idea that leadership is always concerned with change. Blue-collar workers showed significantly more support for item 56.

On item 59, managers showed significantly more support for the idea that all leaders have the same personality traits.

Summary

The results from the leadership survey represent responses from a range of people in the target organization. Participants provided a range of agreement and disagreement on most items. Applying standard statistical procedures for reliability and factor analysis produced a fifty-four item leadership scale with very good reliability. The 16 factors produced by the factor analysis procedure were condensed

into nine factors. Much of the data supports leadership descriptions found in the literature. Statistically significant differences in white-collar and manager responses are often opposite of blue-collar and non-manager responses. Chapter Five summarizes this study and provides recommendations for additional efforts intended to more fully delineate the leadership construct.

CHAPTER FIVE: DISCUSSION

Introduction

Leadership is typically associated with those who hold organizational authority. Most of the popular literature concerns great men (rarely a great woman) who have saved their nation or their organization from some terrible tragedy. It follows then that most of the popular notions of leadership derive from studying these captains of industry, elected political officials, or important religious figures. Leadership literature is effectively dominated by the search to discover what characteristics or behaviors distinguish these organizational authorities from regular people.

Scholars and researchers have dedicated massive efforts to tease out differences in leaders and non-leaders, examine variables in the environment, measure interpersonal effectiveness, and study the interaction of people and events. All of this effort has yet to produce a universal description, definition, or means of measuring the construct we call leadership. In spite of these various efforts, many senior organizational authorities, scholars, and researchers continue to speak and act as if there was only one reasonable and defensible idea of leadership—theirs.

The purpose of this study was to demonstrate that ordinary people hold differing views of leadership. That is, people do not necessarily subscribe to the same notions of leadership as their peers, organizational superiors, political leaders, or academic colleagues.

The Study

The Literature Review

The first research question asked what are the various views, definitions, descriptions, and categories of leadership in the current literature? For this study, current literature was literature published from 1985 until the present. Four categories of literature were examined in order to answer this question.

First, what were the notions of leadership expressed in biographies, and popular books by psychologists, sociologists, and other authors? The second category of literature was the body of academic literature on leadership. This work is generally utilized by students, sociologists, political scientists, psychologists, and other academics and professionals with a specific interest in understanding the nature of leadership. Current leadership research was the third category of literature examined in this study. Leadership research published primarily in psychological and sociological journals provided a documented range of approaches and statistical measures for describing and assessing leadership. The last literature category for this study was

currently available leadership instruments. These instruments provided measures of leadership that professional consultants use to analyze leadership in organizations.

The Methodology

The second research question asked if existing leadership definitions and descriptions could be used to develop a reliable instrument to identify differing views of leadership within an organization. DeVellis' (1991) eight-step model was employed to respond to these research questions.

The eight steps in the model were:

1. Determine clearly what it is you want to measure.
2. Generate an item pool.
3. Determine the format for measurement.
4. Have initial item pool reviewed by experts.
5. Consider inclusion of validation items.
6. Administer items to a development sample.
7. Evaluate the items.
8. Optimize scale length.

Ten leadership elements were selected as an initial organizing strategy by the researcher as a result of the literature review. Then a fifty-nine item scale was generated. A four point Likert scale was chosen as an appropriate measurement format. The item pool was then reviewed by three persons knowledgeable in leadership theories. Validation items were not included due to the nature of the leadership

construct. Two qualitative questions were added to the fifty-nine item scale to allow participants (1) to identify any missing leadership elements, and (2) to say how they recognized when leadership was occurring. The items were then administered to 358 federal civil servants at the Naval Aviation Depot in San Diego, California.

Analysis of the fifty-nine item scale conclusively demonstrated that people within an organization do hold differing notions of leadership. Participants' responses were distributed rather evenly across the fifty-nine items (see Table 2). About 90% of the fifty-nine items were endorsed by between 11% and 90% of test subjects. This distribution of endorsement frequencies demonstrates the range of beliefs about leadership held by the participants.

Reliability analysis and factor analysis were used to evaluate the items and optimize scale length. The result was a fifty-four item, nine factor scale with a reliability of .84. The nine factors accounted for 61% of the variance in the fifty-four items.

The third research question asked if subjects could identify any unique elements of leadership in response to two open-ended questions included in the instrument? Responses to the two qualitative questions did not contribute significantly to the study.

Table 2

Positive Responses by Occurrence Frequencies

<u>Frequency</u>	<u>Items</u>
0-10 %	40, 51, 55, 57
11-20%	2, 5, 6, 11, 13, 17, 38, 47
21-30%	9, 37
31-40%	16, 18, 27, 34, 43, 45, 46
41-50%	8, 25, 28, 35, 56
51-60%	12, 29, 48, 53, 54, 59
61-70%	3, 4, 14, 15, 41, 44
71-80%	7, 21, 23, 24, 26, 36, 50
81-90%	31, 32, 33, 42, 49, 52, 58
91-100%	1, 10, 19, 20, 22, 30, 39

Methodology Problems

Although there are potential difficulties associated with each of the eight steps of DeVellis' (1991) model, the major problem in this study concerns step two, generating the item pool, and step seven, evaluating the items.

Generating a good item pool is critical because the item pool is the basis for internal consistency reliability. As DeVellis (1991) said, "A scale is internally consistent to the extent that its items are highly intercorrelated.

High inter-item correlation suggests that the items are all measuring the same thing" (p. 25). DeVellis concluded that strong correlation among items implies that the items are strongly linked to the construct of interest.

Generating the item pool offers endless opportunities for researchers to second-guess and fine-tune items. The researcher can never reach absolute certainty that readers will interpret the question the way the researcher intended. For instance, item nine asked respondents to indicate their level of agreement with the statement that leaders are more important than followers. My intention was to determine if respondents would explicitly acknowledge that the one fundamental requirement of leadership is to have a leader and followers. The item turned out to be deceptive to over 20% of the respondents who indicated that leaders are more important to leadership than followers. Based on informal feedback, these participants rationalized that if the leader was removed from the group then leadership would cease whereas having one or more followers leave the group might have no significant impact.

Evaluating the items is the other major opportunity for error in this study. DeVellis (1991) and Nunnally (1967) both suggested that the correlation matrix is the key to interpreting the data. Correlation is the basis for both reliability analysis and factor analysis. A basic issue with

correlation is deciding exactly what degree of correlation is significant for a study. This study ultimately employed all items with positive corrected item correlation to produce the fifty-four item scale. In addition to the correlation issue, the fifty-four item scale covered all ten elements of leadership I extracted from the literature review. A final reason for selecting the fifty-four item scale is that deleting items does not significantly increase the reliability of the subsequent scale. Although not reported, other potential outcomes included a thirty-three item scale and a fifteen item scale.

Another problem with evaluating the items is the use of factor analysis in determining the factors that constitute a construct like leadership. The major criticism of factor analysis is the degree of subjectivity required by the researcher in determining the factors. In this study, the factors were strongly aligned with elements identified in the existing literature.

The other caution associated with factor analysis is the tendency to rank the factors. Factor analysis indicates how much of the variation in the scale items is accounted for by the factor. The tendency then is to say one factor is more important to the construct than another factor which accounted for less of the variation. The problem here is that a construct requires all factors, even the factors that

seemingly account for very little of the total variation among the scale items. For instance, the original factor eight (before condensing the factors) indicated that trust accounted for 3% of the total variation in the fifty-four items. One should not interpret this to mean that trust accounts for only 3% of the leadership construct.

As a reminder, the portion of the leadership construct accounted for in this study is indicated by the internal consistency of the scale, and internal consistency was measured using coefficient alpha. Since alpha for this study was .84, the assumption is that the scale accounted for 84% of the leadership construct.

The View of Leadership in the Organization

Target Organization Characteristics

The target organization for this study was the Naval Aviation Depot (NADEP) in San Diego, California. The NADEP is a male dominated, culturally diverse population whose average member is over 40 years of age and has worked for the organization for 19 years. The work force resides primarily within San Diego County and members are generally veterans. The Human Resource Office categorized the 3,401 Federal civil service employees as 43% blue-collar, 57% white-collar, and 15% female. The sample was within 2% of the target population for blue-collar and white-collar categories and within 4% of the gender classification. Managers ac-

counted for 24% of the sample. Although no specific effort was made to select participants by ethnic origin, the sample was within 4% of the target population for the organizationally established categories of Native American, Asian/Pacific Islander, Hispanic, and Non-minority. The sample was 9% African American while the target population is approximately 15% African American.

The Typical View of Leadership

As a reminder to the reader, the NADEP is a federal organization whose members have been subject to mandatory training in areas such as sexual harassment, equal employment opportunity, and the code of conduct for federal employees. All new supervisors receive instruction in basic supervision as well as introductory classes in appreciating diversity and basic communication. A variety of leadership training programs have been endorsed by senior executives over the years. For this sample, 50% of white-collar and 23% of blue-collar workers indicated some exposure to leadership training. The mandatory training required by the federal government undoubtedly has some impact on the attitudes and leadership notions of organizational members.

The typical view of leadership in the NADEP generally supports Burns' (1985) view of transformational leadership. NADEP employees overwhelmingly support the notion that leadership occurs when one person is able to engage and satisfy

the motives of followers. Participants supported the notions of trust, shared goals, shared responsibility, and two way influence. Participants endorsed goal achievement and maintaining relationships as nearly equal in importance. The typical view emphasized the voluntary participation of both leader and followers.

Somewhat surprisingly, participants clearly differentiated between leadership and management, although half of the participants did equate leadership and good management. Respondents were not adamant that the leader must know exactly how to achieve a mutual goal, although they clearly believed a specific goal was necessary to leadership. As for characterizing the goal, these respondents were willing to accept almost any goal that was mutually acceptable to the leader and followers. They were generally willing to do whatever management requested, but they strongly rejected the idea that any means necessary to accomplish a goal was acceptable.

NADEP employees evidently do not have a prescribed model for leader personality or behavior, although the sample was unsure that just anyone could become a leader with the right training or under the right circumstances. Gender was clearly not an issue in deciding who might be an effective leader. Nearly 60% of the participants rejected the notion that leadership required organizational authority.

This sample believed that leadership was observable by people outside the group. Subjects strongly agreed that leadership ceases when a group loses confidence in the leader but rejected the idea that leadership occurs in episodes rather than continuously.

Although one can use the survey data to describe a typical view of leadership within an organization, there may be no single individual who fits each parameter of the typical view.

Differing Views of Leadership

Appendix M shows participant response frequencies by degree of agreement or disagreement. Appendix N shows the participant degree of endorsement for each item by demographic category. While there is a typical view of leadership within the target organization, the data in Appendices M and N clearly indicate that organizational members hold differing views of leadership. The Chi-square differences in response were not particularly surprising except for the fact that the differences seemed so typical of social perceptions of these demographic categories.

Blue-collar Differences

Blue-collar participants had a higher expectation of reward from the leader, believed much more strongly that organizational authority is important, considered personality

to be more important, and were more likely to expect the leader to know exactly how to achieve the goal.

This participant category comprised 57% of the sample. Blue-collar workers had a more concrete view of leadership than white-collar workers. Blue-collar workers were more likely to expect leadership to be formalized in the organization, with clearly established goals and leaders who could explain exactly how to achieve the goals. Blue-collar workers had a clear expectation for a reward for accomplishing the goal.

The few blue-collar workers that answered the open-ended question about recognizing leadership in the organization were primarily interested in supervisors who left the workers alone to do their work. Shostak (1980, p. 57) concluded that the characteristic blue-collar response to finding job satisfaction was to reduce one's goals so far that one can appear to be satisfied.

Despite the statistically significant differences between blue-collar workers and the average, blue-collar workers generally endorsed or rejected the same items as most of the other participants. The single exception was item 28, which stated that leaders must have formal position or authority to direct followers. This item was endorsed by 52% of blue-collar participants but by only 41% of the total sample.

Blue-collar workers may have uninformed ideas about the capability and authority of their organizational superiors.

A supporting argument is that blue-collar subjects have generally never held, and may never hold, significant organizational authority. In a discussion of blue-collar occupational mobility and security Halle (1984) explained,

The men who declined to become chiefs or leaders did so because they have no interest in exercising authority, at least within the work crew. Nor do they wish to take responsibility for production—they do not want to be concerned about whether the chemical reactions are occurring in the right way. They prefer to take a detached attitude to their jobs—to treat work as an intrusion into their social life both inside and outside the plant. (p. 155)

The difference in status and perceived authority between themselves and organizational executives could be so great that blue-collar participants may have no appreciation for the constraints imposed on executives.

White-collar Differences

White-collar subjects showed less support for change as the only purpose of leadership, for men being better leaders than women, and for the idea that any action to accomplish a goal is acceptable. White-collar workers were less likely to measure leadership by goal achievement, to believe that only leaders and followers can be certain that leadership is occurring, or to accept the idea that leadership results

solely from the behavior of some individual. White-collars showed less concern for a specific goal, for leaders having formal authority, and were less likely to believe that all leaders demonstrate the same behavior.

The ideas that leaders have to care about their followers, that followers should willingly take direction, that personality is an important leadership element, and that there is a clear beginning and end to leadership were significantly less supported by white-collar workers. White-collar workers were less inclined to expect leaders to know exactly how to accomplish a goal, or to endorse the idea that leadership is always concerned with change. White-collar workers were less likely to equate leadership with good management.

White-collar participants' views of leadership demonstrated that this group recognized their own deficiencies and the limitations of their positions. Bearing in mind that over half of the white-collar participants indicated they were managers, the majority of these people obviously knew that authority alone is often not sufficient to accomplish a goal. These participants probably had experience with being expected to be a leader by their organizational superiors but getting less than enthusiastic cooperation from their organizational subordinates.

The failure to equate leadership with good management was a little surprising for this category. Baril, Ayman, and Palmiter (1994) indicated that supervisors tended to fill out self-descriptive questionnaires on the basis of how they would manage in a positive situation. Evidently this group of supervisory participants either did not have a view of themselves as good managers, or recognized a difference between good management and leadership.

Female Differences

In keeping with the notions of Gilligan (1982) and Goldberger, Brown, and Wolfe (1990), females demonstrated more support for the idea that leadership requires leaders and followers to work well together. Females showed absolutely no support for the idea that men make better leaders than men. Women showed increased support for females making better leaders than men, and more strongly rejected the idea that any action to accomplish a goal is acceptable.

Manager Differences

This category is a subset of the white-collar category since all managers were classified as white-collar workers. Managers showed less support for the idea that almost anyone can learn to behave like a leader and less support for the idea that leadership requires formal authority. Similarly, managers showed less support for the voluntary participation of followers, and less support for having to care about the

welfare of followers. Managers did show more support for the idea that all leaders have the same personality.

Non-manager Differences

Non-managers could be male or female, blue-collar or white-collar participants. Non-managers showed significantly more support for the ideas that leaders should know exactly how to achieve a goal and for the notion that leadership is simply good management. These participants obviously occupy lower-tiered jobs in the organization and generally expect their superiors to provide adequate direction and support for task accomplishment. There may be some tension because managers and non-managers have different expectations of how much direction is required. This condition may be exacerbated by the fact that the manager may well have had experience in the subordinate's job and has a particular view of how much support is necessary.

Scoring

The purpose of a scoring system for the instrument developed in this study would be to identify what different work units or demographic groups within the organization believe about leadership. Executives and managers who are interested in promoting a particular view of leadership within the organization could construct training designed to modify differing views of leadership to more closely resemble the corporate perception. Alternatively, senior managers

might make more informed promotions if they knew what notions of leadership that a new supervisor was going to encounter in a particular group.

The American Psychological Association (1985, p. 31) stated that for some tests descriptive statistics based on all test takers in a given time period is an adequate method for scoring. Since the instrument developed in this study is designed to identify differing views within an organization, a reasonable approach to scoring would be to compare the responses of work units or specific demographics categories.

A rational approach to scoring the fifty-four item instrument is to follow the methodology used for analyzing the results in this study. First, determine the percentage of people in an organization who endorse each item on the scale. Then collect the items into the factors identified in Table 1. Simplify the percentage of endorsement by using only a single digit (assign a zero to items whose endorsement level is less than 10%). For instance, if 78% of participants endorsed an item, assign the item a score of seven. If 43% of the participants endorsed an item, assign the item a score of four, and so on. Finally, add the item scores for a factor to produce a single factor score.

Applying this system to the research in this study, the organizational hierarchy factor had item scores totaling thirty. This factor score can be used as a simple method to

compare demographic groups, or work units, with others in the organization.

As in any test scoring method, some caution must be exercised. Because individual item scores represent the percentage of endorsement, the factor score is a reflection of the degree of endorsement. However, individual factor items could have dramatically different values and still result in the same total factor score. When factor scores for different groups are significantly different, each item score should be examined to determine specifically where the groups differ. Another important caution is that the factor scores are independent of each other. A higher score on one factor than on other factors does not necessarily indicate that participants believe the factor with the highest score is more important to leadership than other factors. Factor and item scores should only be used for comparing groups or individuals within an organization.

Potential Applications for the Instrument

At this time the Fifty-four Item Leadership Scale has two potential applications. First, the scale might be used by leadership investigators interested in determining the elements or factors that comprise the leadership construct. Much of the literature review in this study consisted of leadership research that seemed to be assuming certain factors constituted leadership. This instrument provides a

quantitative comparison of elements of leadership extracted from a comprehensive body of knowledge about leadership. This study could provide a basis for more advanced research aimed at identifying and possibly prioritizing the elements of leadership according to certain populations.

The second potential application is more aligned with the original purpose of this research to identify differing views of leadership within an organization. The commercial world is in a never-ending search for process improvement. In recent years programs like management by objectives, total quality management, material resource planning, just-in-time, employee empowerment, business reengineering, and activity-based costing have caught the attention of organizational leaders. But underlying all of these promised improvements is the quest for leadership at all levels of the organization. Countless dollars and hours have been expended by organizations in an attempt to teach employees to be leaders. Executives seem to know that good management, while absolutely necessary, is simply not enough to insure they get the best possible effort from employees.

The first issue in any industrial process improvement effort is to determine the current process. Ordinarily, an industrial engineer or other competent person develops a flow chart to illustrate the process. Once the current process is documented, work can begin on the desired end state

process. As in industrial process improvement, the first requirement for establishing a desired model of leadership in an organization is to determine the various views of leadership currently existing in the organization. I suggest that the instrument developed in this study, even in this primitive developmental state, is immediately useful for determining the differing views of leadership that exist within an organization. Once these views are documented, executives can determine what training or education may be necessary to expand or modify notions of leadership in order to reach a common understanding within the organization.

Recommendations

There are three recommendations for improving the instrument developed in this study. First, the instrument should be employed in several other organizations. DeVellis (1991) remarked that "...the validity of a scale is not firmly established during scale development. Validity is a cumulative, ongoing process" (p. 113). The target organization is a reasonable beginning but other organizations may produce different results. The quantitative instrument was reasonably well received and several participants remarked that the instrument forced them to come to some decisions about their notions of leadership. From this researcher's perspective, the quantitative instrument developed in this study simplifies comparisons between participants' views of

leadership. Nonetheless, more data is required to check instrument performance across a range of organizations.

The second recommendation for instrument improvement is to use post-survey interviews. Interviewing some number of participants may add information that improves survey items. When I analyzed the input for this study, I discovered that knowing someone did not endorse a particular item did not provide me with any direct information about what they did believe.

For instance, 72% of the sample agreed with item 21 which says that leadership is the result of very specific behavior by an individual. Obviously, leadership involves more than one person. How is it that a substantial majority of respondents gave a response that seems to indicate one person is responsible for leadership? Without more information from participants, the researcher is effectively forced to guess why participants would endorse the idea that leadership is the result of specific behavior by an individual.

Another example is item 14 where 63% of the respondents agreed that the way to measure the quality of leadership is through goal achievement. It would be interesting to know what the other 37% of the sample have in mind for measuring the quality of leadership. Post-survey interviews could potentially result in changes to the instrument items.

The final recommendation is that researchers should interpret test results in the context of other responses. No single item should be used to interpret what participants believe about an element of leadership. Using item 21 again, researchers may be inclined to interpret the response to this question to mean that participants believe one person can make leadership happen. However, the responses to items 10, 20, and 32 suggest that participants clearly support the notions that leadership requires trust, voluntary participation, and a mutual goal. The support for item 21 might now be interpreted to mean that participants believe that one individual is a necessary primary actor whose very specific behavior causes a group of people to voluntarily follow a plan of action established by that individual to achieve a goal believed to be important to everyone involved.

Final Thoughts

For the past five years I have been studying leadership in an academic setting. I have read and discussed countless theories and notions of leadership. My classmates and professors have enlightened and confounded me on this topic. Every serious discussion on leadership seemed ultimately to become circular. We usually ended our discussions close to where we started because we had only our individual opinions and those opinions we could remember well enough to quote.

While I was studying leadership at the University of San Diego, I was simultaneously engaged in attempts to make substantial improvements in the way my organization accomplished work. Every day I witnessed and participated in arguments about the way we did things or how a process was supposed to work. We all had an opinion. We talked and argued for hours about what we thought we knew. In many cases there was no established method or process, at least nothing that was documented. Eventually we tried to ask everyone affected for their input. Then we hammered out a consensus method for accomplishing the work. Improvements in the process were much easier once we all understood the factors that affected the process.

I determined that a construct intended to be useful in the context of an organization or society should be determined not by individual opinion, but rather by the body of opinion that existed in that context. The opinions do not have to be uniform. What matters is that we acknowledge the differences and that we establish some reasonably objective method to determine those opinions before we can determine degrees of difference and consider action to lessen the differences. This instrument, with all its current shortcomings, is this student's attempt to identify differing opinions about leadership.

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APPENDIX B

Measures of Leadership from Current Leadership Research

ability	active listening	active management by exception
advisory and staff functions	assigning responsi- bilities	athletic experience
bad luck	BEM Sex Role Inven- tory	bottom line- orientation
charisma	collaboration and team building	communication
consideration	contingent rewards	coping style
decision style	effort	employee values
experience	feedback on accom- plishments	frequency of inter- action
goal-orientation	good luck	image and reputa- tion
implementing	independence	independent work groups
indifference toward organizational re- wards	individualized con- sideration	initiating struc- ture
initiative	inspiration	intellectual stimu- lation
intelligence	interpersonal rela- tions	interpersonal sen- sitivity
intrinsic task sat- isfaction	introducing change	invariant tasks
knowledge	leader's skill	leader's work

Appendix B continues

leader emergence	leader-member relations	leadership
motivating	organization	organizational formalization
organizational inflexibility	passive management by exception	pathfinding
personality traits	position power	problem-solving
production emphasis	professional orientation	satisfaction with coworkers
satisfaction with supervisor	self-confidence	sensitivity
setting objectives	skill	strategic influence
systematic problem solving	task structure	tolerance of freedom
training	traits	unit's skill
unit's work		

APPENDIX C

Measures of Leadership from Leadership Instruments

Instrument	Measures
Leader Behavior Analysis II	style flexibility and effectiveness, directing style, coaching style, supporting style, delegating style
Leader Behavior Description Questionnaire Form 12 (1957-63)	supervisor's representation, demand reconciliation, tolerance of uncertainty, persuasiveness, initiation of structure, tolerance of freedom, role assumptions, consideration, production emphasis, predictive accuracy, integration
Leadership and Self-Development Scale (1976-1979)	assertiveness, risk taking, self-concept, setting goals, decision making, obtaining a followership, conflict resolution, group roles, evaluation
Leadership Appraisal Survey (1971-79)	philosophy, planning, implementation, evaluation
Leadership Competency Inventory (1993)	information seeking, conceptual thinking, strategic orientation, service orientation
Leadership Effectiveness Analysis (1981-90)	conservative, innovative, technical, self, strategic, persuasive, outgoing, excitement, restraint, structuring, tactical, communication, delegation, control, feedback, management focus, dominant, production, cooperation, consensual, authority, empathy, exaggeration
Leadership Evaluation (1961)	laissez faire, democratic-cooperative, autocratic-submissive, autocratic-aggressive, decision pattern

Appendix C continues

Leadership Practices Inventory (1990-92)	challenging the process, inspiring a shared vision, enabling others to act, modeling the way, encouraging the heart
Leadership Q-Sort Test (1958)	personal integrity, consideration of others, mental health, technical information, decision making, teaching and communication
Leadership Skills Inventory (1985)	fundamentals of leadership, written communication skills, speech communication skills, problem solving skills, personal development skills, planning skills
Leadership Skills Inventory (1992)	transforming leadership principles, awareness and self-management skills, interpersonal communication skills, counseling and problem management skills, consulting skills, style or role
Management Appraisal Survey	philosophy, planning, implementation, evaluation
Management Coaching Relations Test	knowledge of sound methods for coaching subordinates
Management Readiness Profile	leadership, management interests, energy and drive, practical thinking, management responsibility, sociability, and candidness
Management Style Diagnosis Test	deserter, missionary, autocrat, compromiser, bureaucrat, developer, benevolent autocrat, task orientation, relationships orientation

APPENDIX D

Leadership Notions by Originator

<u>Author/Researcher/Instrument</u>	<u>Leadership Notions</u>
Adams, Adams, Rice, and Instone (1985) (R)	attribution theory
Atwater and Yammarino (1993) (R)	results from personal attributes of leader, traits, style
Baril, Ayman, and Palmiter (1994) (R)	leader behavior
Batten (1989) (A)	leadership by expectation
Beatty and Lee (1992) (R)	managers as change champions
Bellman (1992) (A)	distinct from management
Bennis (1989) (A)	management of attention, meaning, trust, self; vision, conflict as opportunity
Burns (1978) (A)	transactional: support earns reward transformational: increases self-esteem of leader and followers; mutual goals
Campbell Leadership Index (Campbell, 1988) (I)	leader as positional authority
Clark & Clark (1994) (A)	leaders cannot be self-anointed, observable, common purpose
Cronin (1993) (A)	leaders are born, not made
Daniel (1992) (R)	supervisor's competencies, goal orientation, influence

Appendix D continues

DePree (1993)	(A)	measured by group performance
Donnithorne (1994)	(A)	ideals, moral principles, values, service
Drucker (1992)	(A)	manager as leader; trust; consistency
Dunning, Perie, and Story (1991)	(R)	determined by personality traits of leader
Foster (1989)	(A)	ethical, transformative; social change
Gardner (1990)	(A)	personal influence; leader or group goals
Geis, Brown, and Wolfe (1990)	(A)	gender effects leader legitimization
Goldberger (1996)	(A)	growth, development, connection
Handy (1989)	(A)	persuasion, consent, observable
Hart and Quinn (1993)	(A)	executive behavior
Heifetz (1994)	(A)	adaptive work; reconcile value conflicts
Hofstede, Neuijen, Ohayv, and Sanders (1990)	(R)	daily practices determine values and culture of organization
Hollander and Offerman (1993)	(R)	increments management components
Hunt (1991)	(A)	interpersonal influence
Jacque (1991)	(A)	managerial leadership; authoritative versus autocratic
Kelley (1988)	(A)	followership is a role people adopt

Appendix D continues

Kerr and Jermier (1978)	(R)	hierarchical leadership not always required; supervisor as leader
Kets de Vries (1993)	(A)	mutual influence process
Kim and Mauborgne (1992)	(A)	inspire confidence
Kotter (1990)	(A)	coping with change
Kouzes and Posner (1993)	(A)	constituents determine who is a leader
Leadership Ability Evaluation (1961)	(I)	results from leader action, influence
Leadership Appraisal Survey (1971)	(I)	leader practices and attitudes
Leader Behavior Analysis II (1991)	(I)	leader's style (behavior)
Leader Behavior Description Questionnaire, Form 12 (1957-63)	(I)	management, persuasiveness, consideration
Leadership Competency Inventory (1993)	(I)	4 competencies
Leadership Analysis (1981-90)	(I)	management skills
Leadership Opinion Questionnaire (1960-75)	(I)	supervisor as leader; structure and consideration
Leadership Practices Inventory (1955-67)	(I)	behavior, inspiring a vision, challenging the process
Leadership Practices Inventory (1990-92)	(I)	leader behavior
Leadership Q-Sort Test (1958)	(I)	leader values, consideration of others
Leadership and Self-Development Scale (1976-79)	(I)	can be taught, goal setting, obtaining a followership

Appendix D continues

Leadership Skills Inventory (1985)	(I)	a set of skills
Leadership Skills Inventory (1992)	(I)	transformational skills
Leadership Style Indicator (1991)	(I)	leader as positional authority, influence
Lee (1993)	(A)	depends on followership
Loden (1985)	(A)	feminine model differs from male model
Lord and Alliger (1985)	(R)	frequency of interaction important to perception of leadership; leader's per- sonal characteristics
Management Appraisal Survey	(I)	management
Management Coaching Test	(I)	management
Management Readiness Profile	(I)	management
Management Skills Profile (1986)	(I)	management skills, influ- ence
Management Style Diagnosis Test	(I)	style, task and relation- ships orientation
Manske (1987)	(A)	creating vision; inspiring people
Morrison (1992)	(A)	emphasize diversity
Moss and Kent (1996)	(R)	gender role affects; emer- gent
Rost (1991)	(A)	influence, leader-follower relationship, change, mu- tual interest
Sayles (1993)	(A)	manager as leader
Spangler and Braiotta (1990)	(R)	does not require positional authority

Appendix D continues

Terry (1993)	(A) subset of action
Tharenou and Lyndon (1990)	(R) management style, introducing change, setting objectives, interpersonal relationships
Work (1996)	(A) occurs only in social context
Zaleznik (1993)	(A) power used to influence people

(A) author (I) instrument (R) researcher

APPENDIX E

Leadership Survey

Leadership Survey: Section A

	strongly disagree	disagree	strongly agree	agree
1. Leaders and followers are equally important to leadership.	1	2	3	4
2. The only purpose of leadership is to accomplish change.	1	2	3	4
3. The evidence that leadership is occurring within a group is readily apparent to external observers.	1	2	3	4
4. Leadership requires a leader to reward followers for their support.	1	2	3	4
5. Leadership is not concerned with individuals.	1	2	3	4
6. Leadership demands that followers admire their leader.	1	2	3	4
7. Leadership ceases when a group loses confidence in the leader.	1	2	3	4
8. A person can be a poor leader but an effective manager.	1	2	3	4
9. Leaders are more important than followers.	1	2	3	4
10. Leadership depends on leaders and followers working well together.	1	2	3	4
11. Men are better leaders than women.	1	2	3	4
12. Most people can learn to behave like a leader.	1	2	3	4
13. Any action to accomplish the goal of leadership is acceptable.	1	2	3	4
14. The way to measure the quality of leadership is through goal achievement.	1	2	3	4
15. A person can be an effective leader but a poor manager.	1	2	3	4
16. Maintaining the relationship between leader and followers is more important to sustaining leadership than achieving the goal.	1	2	3	4
17. There is no difference between leadership and management.	1	2	3	4
18. Only the leader and followers can be certain that leadership is occurring within their group.	1	2	3	4

Appendix E continues

Leadership Survey: Section A (continued)

	strongly disagree	disagree	strongly agree	agree
19. Males or females make equally good leaders or followers.	1	2	3	4
20. Leadership requires trust between leader and followers.	1	2	3	4
21. Leadership is the result of very specific behavior by an individual.	1	2	3	4
22. Leadership may concern either large or small issues.	1	2	3	4
23. Followers influence the behavior of the leader.	1	2	3	4
24. Leadership requires one individual to gain the trust of other people.	1	2	3	4
25. Ethnic culture has a large effect on leadership.	1	2	3	4
26. Leadership must always have a specific goal or purpose.	1	2	3	4
27. Leaders owe followers a reward for their support.	1	2	3	4
28. Leaders must have formal position or authority to direct followers.	1	2	3	4
29. People must willingly become followers for leadership to occur.	1	2	3	4
30. Leadership requires the leader and the group to work toward the same goal.	1	2	3	4
31. Leadership requires leaders to care about the welfare of followers.	1	2	3	4
32. During leadership followers voluntarily take direction from a leader in order to accomplish a goal important to both leader and follower.	1	2	3	4
33. Leadership is continuously occurring among a group of people.	1	2	3	4
34. Personality is the main factor when choosing a leader.	1	2	3	4
35. Leadership allows using organizational power to force action by followers.	1	2	3	4
36. Leadership begins when a group acknowledges a leader and a goal.	1	2	3	4
37. A legitimate goal of leadership is resisting an unwelcome change.	1	2	3	4

Appendix E continues

Leadership Survey: Section A (continued)

	strongly disagree	disagree	strongly agree	agree
38. People expect all leaders to behave the same way.	1	2	3	4
39. Followers and leaders share responsibility for attaining their goal.	1	2	3	4
40. The personalities of leaders and followers are always similar.	1	2	3	4
41. Only certain people have the characteristics to be a leader.	1	2	3	4
42. Leadership promotes human development.	1	2	3	4
43. Leadership has a clear beginning and end.	1	2	3	4
44. Anyone can be a leader in the right circumstances.	1	2	3	4
45. Goal achievement is more important to leadership than group relationships.	1	2	3	4
46. Leadership occurs in episodes rather than continuously.	1	2	3	4
47. Leadership permits threats or force to make followers take action.	1	2	3	4
48. Leadership means getting people to do what management wants accomplished.	1	2	3	4
49. Leadership increases the self-esteem of leaders and followers.	1	2	3	4
50. Leadership is different in various cultures.	1	2	3	4
51. Women are better leaders than men.	1	2	3	4
52. Leadership requires the voluntary participation of both leaders and followers.	1	2	3	4
53. During leadership followers should expect the leader to know exactly how to achieve a mutual goal.	1	2	3	4
54. Leadership is simply good management.	1	2	3	4
55. Leadership concerns only major social issues.	1	2	3	4
56. Leadership is always concerned with change.	1	2	3	4
57. All leaders have the same personality traits.	1	2	3	4

Appendix E continues

Leadership Survey: Section A (continued)

	strongly disagree	disagree	strongly agree	agree
58. Leadership may concern any goal important to the leader and the followers.	1	2	3	4
59. Leadership has no clear beginning and no clear end.	1	2	3	4

Please answer questions A and B below. You may use the back of the survey sheets to record your responses if you need additional space.

A. Can you identify any elements of leadership you think are missing from this survey?

B. How do you personally know when leadership is occurring?

APPENDIX F

Leadership Elements / Items / Proponents

<u>Leadership Element</u>	<u>Item</u>	<u>Source</u>
objective (includes change)	2,22,263 7,55,56, 58	Beatty and Lee; Burns; Clark and Clark; Daniel; Foster; Gardner; Kotter; Manske; Rost; Tharenou and Lyndon
personality and behavior	6,12,21 34,38,40 41,44,57	Atwater and Yammarino; Baril, Ayman, and Palmiter; Cronin; Dunning, Perie, and Story; Hart; Quinn; Lord and Alliger
role of followers	1,9,23 29,30,32 39,52,53	Burns; Gardner; Heifetz; Hofstede, Neuijen, Ohayv, and Sanders; Kelley; Kouzes and Posner; Lee; Rost
management	8,15,17 28,35,54	Atwater and Yammarino; Beatty and Lee; Burns, Kim and Mauborgne; Daniel; Dunning, Perie, and Storey; Hart and Quinn; Hollander and Offerman; Tharenou and Lyndon, Zaleznik
relationship (influence and trust)	4,10,141 6,20,24, 27,31,42 45,49	Burns; Kim and Mauborgne; Fos- ter; Gardner; Hunt; Manske; Rost; Tharenou and Lyndon; Zaleznik
gender	11,19 51	Geis, Brown, and Wolfe; Loden; Moss and Kent
culture	25, 50	Hofstede, Neuijen, Ohayv, and Sanders
ethics	5,13,47 48	Burns; Donnithorne; Foster; Heifetz; Rost;
episodic	7,33,36 43,46,59	Kim and Mauborgne; Kouzes and Posner; Lee; Moss and Kent
observable	3, 18	Clark and Clark

APPENDIX G

University of San Diego

CONSENT TO ACT AS A RESEARCH SUBJECT

Robert Siciliani is conducting a research study to determine the various ideas about leadership that exist in a large organization.

This study is not directed at your organization. You will not be asked about your organization or about any person in your organization.

This study requires that you complete a written survey about leadership. The survey should take about 30 minutes.

You will not be asked to identify yourself on the survey form. Your completed survey will be collected by the person administering this survey and delivered to the researcher. All surveys will be kept confidential.

Participation is completely voluntary. You have the right to withdraw from this study at any time. No adverse action will result from your withdrawal or refusal to participate.

You may reach the researcher at (619) 445-7447 if you should have further questions. The researcher is obligated to answer any questions you might have about this study.

There are no other agreements related to this study, either written, verbal, or otherwise implied, beyond what is expressed on this consent form. A copy of this consent form is immediately available to you on request.

I, _____, understand the above explanations and voluntarily consent to participate in this research based on the terms of this agreement.

Signature of Subject

Date

Location

Signature of Witness

Date

Signature of Researcher

Date

APPENDIX H

Demographics Information Sheet

THIS PAPER MUST STAY ATTACHED TO YOUR SURVEY FORM

The following information is important in order to determine what factors might impact a person's ideas about leadership. *Please do not put your name on this paper.*

1. What is your job title? _____
2. Circle your age: <21 21-30 31-40 41-50 51-60 >60
3. How many years have you lived in the United States? _____
4. Circle your education category:
 some college AA/AS degree BA/BS degree graduate
5. Circle your gender: male female
6. What is your ethnic background? _____
7. Circle your personal income category:
 <\$25k \$25k-\$50k \$50k-\$75k \$75k-\$100k >\$100k
8. Skip this question if you are not a supervisor or manager. If you are a supervisor or manager circle the category that best describes your level.
 first level mid-level senior level executive level
9. Skip this question if you have never attended any leadership classes, training, or seminars. If you have attended leadership classes, training, or seminars, then about how long since your last event? ___years___months
10. List any leadership authors or leadership theories you know about.

APPENDIX I

Instructions for Completing the Leadership Survey

Leadership Survey Instructions

Thank you for participating in this research. This survey examines the different notions of leadership people hold. Your organization authorized the researcher to ask you to participate.

You will receive an Informed Consent Form and a stapled set of papers with the first sheet labeled "demographics." This stapled set of papers includes the Leadership Survey. Please do not remove the staple.

Three issues are very important for this research and your participation.

First, this research does not refer to any particular workplace, person, or organization. There are no questions about your organization, other employees or your supervisors.

Second, no person must participate in this research. You may leave if you do not want to participate. The University of San Diego requires all participants to indicate their voluntary participation by signing an Informed Consent Form. I will collect these forms separately from your survey forms. The researcher can not release the names of participants.

Third, not even the researcher will know which survey belongs to you. It is very important that you do not put your name on any of these pages except the Informed Consent Form. I will collect the informed consent forms before you begin your survey to insure consent forms are not connected with the surveys.

This is an opinion survey. There are no right or wrong answers. Please answer all the questions. Circle one of the numbers after each question to indicate your level of agreement or disagreement with the statement. You may use a pen or pencil.

The numbered survey questions should take about 20 minutes. There are two additional questions at the end of the survey. Answering these two questions may help improve the survey.

Appendix I continues

You will probably finish all questions in about 30 minutes.

If there are no questions, please complete your Informed Consent Form. I will collect the forms as you complete them. After you complete the Consent Form, complete the demographics page and the survey itself.

Please put your completed surveys in the location indicated, anywhere in the stack. I will deliver the Informed Consent Forms and the completed surveys to the researcher.

APPENDIX J

Descriptive Statistics for Leadership Survey Responses

<u>Item</u>	<u>Number of Responses</u>	<u>Range</u>	<u>Mean</u>	<u>Std. Deviation</u>	<u>Variance</u>
10	355	3	3.434	.726	.527
20	356	3	3.428	.616	.380
1	356	3	3.413	.697	.485
39	356	3	3.275	.612	.375
22	357	3	3.275	.516	.256
30	357	3	3.266	.590	.348
31	357	3	3.237	.671	.450
19	355	3	3.223	.628	.394
32	355	3	3.110	.661	.437
7	356	3	3.105	.809	.654
42	356	3	3.077	.619	.383
58	353	3	3.068	.613	.376
52	355	3	3.056	.691	.477
49	355	3	3.023	.646	.418
36	356	3	2.969	.660	.436
33	356	3	2.963	.638	.407
26	355	3	2.945	.683	.467
24	358	3	2.916	.685	.469
50	351	3	2.900	.679	.461
4	357	3	2.868	.862	.744

Appendix J continues

21	357	3	2.846	.724	.524
23	357	3	2.798	.706	.499
3	353	3	2.786	.733	.537
14	353	3	2.755	.713	.509
15	356	3	2.708	.746	.557
54	357	3	2.665	.799	.638
53	356	3	2.660	.758	.574
29	352	3	2.656	.727	.528
44	358	3	2.649	.794	.631
41	357	3	2.647	.813	.662
59	351	3	2.644	.873	.761
48	358	3	2.594	.760	.577
12	357	3	2.497	.731	.534
56	354	3	2.435	.736	.541
27	354	3	2.428	.757	.573
28	357	3	2.415	.794	.631
25	355	3	2.400	.793	.629
16	349	3	2.375	.711	.505
43	355	3	2.369	.786	.618
8	356	3	2.367	.856	.734
35	351	3	2.336	.778	.605
45	353	3	2.320	.744	.553
18	354	3	2.280	.740	.548
34	355	3	2.272	.798	.637

Appendix J continues

46	356	3	2.246	.668	.447
37	349	3	2.099	.733	.537
38	356	3	2.073	.672	.451
6	357	3	1.968	.811	.657
17	357	3	1.958	.739	.546
9	356	3	1.958	.813	.660
2	351	3	1.923	.802	.643
11	354	3	1.859	.758	.575
47	353	3	1.850	.802	.644
40	356	3	1.843	.603	.364
13	355	3	1.842	.769	.591
51	352	3	1.835	.532	.283
55	356	3	1.787	.515	.264
57	356	3	1.749	.609	.371
5	355	3	1.715	.767	.588

APPENDIX K

Proposed Fifty-four Item Scale

1. Leaders and followers are equally important to leadership.
2. The only purpose of leadership is to accomplish change.
3. The evidence that leadership is occurring within a group is readily apparent to external observers.
4. Leadership requires a leader to reward followers for their support.
6. Leadership demands that followers admire their leader.
7. Leadership ceases when a group loses confidence in the leader.
9. Leaders are more important than followers.
10. Leadership depends on leaders and followers working well together.
11. Men are better leaders than women.
12. Most people can learn to behave like a leader.
13. Any action to accomplish the goal of leadership is acceptable.
14. The way to measure the quality of leadership is through goal achievement.
16. Maintaining the relationship between leader and followers is more important to leadership than achieving the goal.

Appendix K continues

17. There is no difference between leadership and management.
18. Only the leader and followers can be certain that leadership is occurring within their group.
19. Males or females make equally good leaders or followers.
20. Leadership requires trust between leader and followers.
21. Leadership is the result of very specific behavior by an individual.
22. Leadership may concern either large or small issues.
23. Followers influence the behavior of the leader.
24. Leadership requires one individual to gain the trust of other people.
25. Ethnic culture has a large effect on leadership.
26. Leadership must always have a specific goal or purpose.
27. Leaders owe followers a reward for their support.
28. Leaders must have formal position or authority to direct followers.
29. People must willingly become followers for leadership to occur.
30. Leadership requires the leader and the group to work toward the same goal.
31. Leadership requires leaders to care about the welfare of followers.

Appendix K continues

32. During leadership followers voluntarily take direction from a leader in order to accomplish a goal important to both leader and follower.

33. Leadership is continuously occurring among a group of people.

34. Personality is the main factor when choosing a leader.

35. Leadership allows using organizational power to force action by followers.

36. Leadership begins when a group acknowledges a leader and a goal.

37. A legitimate goal of leadership is resisting an unwelcome change.

38. People expect all leaders to behave the same way.

39. Followers and leaders share responsibility for attaining their goal.

40. The personalities of leaders and followers are always similar.

41. Only certain people have the characteristics to be a leader.

42. Leadership promotes human development.

43. Leadership has a clear beginning and end.

44. Anyone can be a leader in the right circumstances.

Appendix K continues

- 45. Goal achievement is more important to leadership than group relationships.
- 46. Leadership occurs in episodes rather than continuously.
- 48. Leadership means getting people to do what management wants accomplished.
- 49. Leadership increases the self-esteem of leaders and followers.
- 50. Leadership is different in various cultures.
- 51. Women are better leaders than men.
- 52. Leadership requires the voluntary participation of both leaders and followers.
- 53. During leadership followers should expect the leader to know exactly how to achieve a mutual goal.
- 54. Leadership is simply good management.
- 55. Leadership concerns only major social issues.
- 56. Leadership is always connected with change.
- 57. All leaders have the same personality traits.
- 58. Leadership may concern any goal important to the leader and the followers.

APPENDIX L

Factor Loadings by Item

Factor One

Item	30	31	32	39	42	52
Loading	.47	.41	.57	.71	.41	.71

Factor Two

Item	34	38	40	57
Loading	.58	.68	.67	.75

Factor Three

Item	26	28	36	53
Loading	.48	.48	.63	.65

Factor Four

Item	19	22	58
Loading	.72	.57	.63

Factor Five

Item	9	45	46	48
Loading	.57	.60	.58	.57

Factor Six

Item	4	27
Loading	.70	.78

Appendix L continues

Factor Seven

Item	16	24	42	49
Loading	.61	.55	.67	.61

Factor Eight

Item	7	20	21	24
Loading	.48	.59	.58	.40

Factor Nine

Item	12	44
Loading	.59	.77

Factor Ten

Item	13	18	55
Loading	.40	.58	.49

Factor Eleven

Item	17	54
Loading	.77	.48

Factor Twelve

Item	3
Loading	.71

Factor Thirteen

Item	11
Loading	.47

Appendix L continues

Factor Fourteen

Item 25

Loading .80

Factor Fifteen

Item 25

Loading .74

Factor Sixteen

Item 51

Loading .77

APPENDIX M

Percentage of Subjects Agreeing or Strongly Agreeing

<u>Item</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>White- collar</u>	<u>Blue- collar</u>	<u>Manager</u>	<u>Non- Manager</u>
1	93	92	97	94	92	92	93
2	16	17	13	*9	21	13	17
3	67	67	69	*59	73	63	68
4	66	68	58	58	72	57	69
5	12	11	16	7	15	7	13
6	20	20	19	16	22	17	20
7	79	78	86	78	80	76	80
8	49	49	52	55	45	47	50
9	22	22	19	21	22	24	21
10	91	89	*98	89	92	87	92
11	16	19	*0	*8	21	11	17
12	52	48	52	49	54	*39	56
13	17	18	*8	*7	23	*7	20
14	63	67	68	*58	73	*58	69
15	67	67	67	74	63	72	66
16	39	37	45	39	38	40	39
17	17	16	19	12	20	10	19
18	36	38	24	*23	*44	27	38
19	91	89	97	93	89	90	91
20	96	96	95	93	98	93	97

Appendix M continues

21	72	73	65	*64	77	64	74
22	98	98	100	99	97	100	98
23	72	73	64	76	68	*84	68
24	79	80	76	79	79	78	80
25	42	40	51	43	41	44	41
26	78	78	76	*68	*86	*61	84
27	38	41	29	29	*44	29	41
28	41	42	36	*27	*52	*24	41
29	60	62	49	57	62	*49	64
30	95	94	97	91	97	*89	96
31	90	90	89	*82	96	*83	92
32	87	86	86	*80	91	82	88
33	82	83	76	81	82	81	82
34	31	31	33	*21	*39	23	34
35	43	45	39	40	46	38	45
36	80	79	82	75	84	72	83
37	26	27	24	26	27	25	27
38	18	19	14	*11	*24	14	20
39	95	94	95	95	95	94	95
40	8	8	5	4	10	3	9
41	62	62	62	57	65	60	62
42	89	88	95	90	88	91	88
43	39	38	41	*27	*47	*19	45
44	63	61	70	65	61	63	63

Appendix M continues

45	36	37	26	35	36	34	36
46	32	32	32	34	31	36	31
47	19	20	17	22	17	22	18
48	59	61	57	57	61	57	60
49	85	84	90	88	84	89	84
50	79	77	87	82	78	82	79
51	4	2	*14	*8	3	5	4
52	82	81	89	79	85	78	84
53	56	57	51	*35	*71	*24	*66
54	57	57	59	*42	*69	*41	*63
55	4	3	5	*1	6	2	4
56	45	46	38	*31	*54	*33	48
57	7	6	11	5	8	6	7
58	87	87	90	88	87	89	87
59	59	59	60	66	64	*71	55

* Value exceeds the chi square critical value for $\alpha=.05$.

APPENDIX N

Participant Response Frequencies

<u>Item</u>	<u>Strongly Disagree %</u>	<u>Disagree %</u>	<u>Agree %</u>	<u>Strongly Agree %</u>
1	2.5	4.5	42.1	50.8
2	30.2	53.3	10.5	6.0
3	3.4	29.5	51.8	15.0
4	5.3	28.6	40.1	26.1
5	43.9	44.2	8.2	3.7
*6	28.6	51.8	13.4	5.9
*7	3.7	16.9	44.4	34.8
*8	18.8	31.7	43.0	6.2
9	30.6	47.5	17.4	4.5
*10	2.5	6.5	35.8	54.6
11	33.3	50.8	12.4	3.4
*12	8.1	39.5	46.2	5.9
13	35.5	47.9	13.5	3.1
*14	3.7	29.5	54.1	12.5
15	7.0	25.6	57.0	10.4
16	7.4	53.6	33.0	6.0
17	25.2	58.0	12.6	4.2
18	12.4	52.0	30.8	4.8
19	.8	8.5	58.3	32.4
*20	1.4	2.5	47.8	48.0

Appendix N continues

21	3.4	24.9	55.5	16.2
22	.6	1.1	68.6	29.7
23	4.5	23.5	59.7	12.3
24	3.6	17.0	63.4	15.9
*25	10.7	47.0	33.0	8.7
*26	2.3	19.4	59.7	18.3
*27	5.9	55.6	27.7	10.5
28	9.5	49.3	31.4	9.8
29	4.8	34.9	50.0	10.2
30	1.1	4.2	61.6	33.1
*31	1.7	8.4	54.3	35.3
32	1.7	11.8	60.3	26.2
33	2.0	16.3	65.2	16.6
*34	13.0	55.5	21.7	9.0
*35	14.5	41.6	38.7	4.6
36	1.7	18.3	61.5	18.5
*37	19.5	53.9	23.5	2.9
38	15.2	66.3	14.6	3.9
39	1.7	3.7	60.1	34.6
40	25.3	67.1	5.6	2.0
41	9.2	29.1	49.3	12.3
*42	2.2	8.7	67.7	21.1
43	10.4	51.0	29.9	8.7
44	8.9	28.2	51.4	11.2

Appendix N continues

45	10.2	54.1	29.2	6.5
46	10.5	57.1	29.9	2.5
*47	37.4	43.3	15.3	3.4
*48	8.4	32.1	50.8	8.4
49	2.5	12.1	65.9	19.4
50	4.0	16.5	65.0	14.5
*51	22.4	73.4	2.6	1.4
52	1.7	16.1	57.2	25.1
53	3.7	40.4	42.1	13.8
*54	5.9	36.4	42.6	14.8
55	25.6	70.8	3.1	.6
56	7.9	47.5	37.9	6.8
*57	33.1	59.8	5.6	1.1
58	1.4	11.3	66.3	21.0
59	10.5	30.5	43.0	16.0

Note. Question numbers marked with an asterisk indicate less than 100% of the frequencies are shown. For each of these questions one or more participants provided a response such as 1.5, 2.5 or 3.5. In no case did the frequency of such responses represent more than 1.1% of the total responses.