ARI Research Note 86-21

AD-A169 193

TAXONOMIC EFFORTS IN THE DESCRIPTION OF
LEADERSHIP BEHAVIOR: A GENERAL APPROACH

Arthur L. Korotkin, Michael D. Mumford,
Kerry Yarkin-Levin, M. Reid Wallis, and Edward A. Fleishman
Advanced Research Resources Organization

for

Leadership and Management Technical Area
William W. Haythorn, Chief

MANPOWER AND PERSONNEL RESEARCH LABORATORY
Newell K. Eaton, Acting Director

U. S. Army

Research Institute for the Behavioral and Social Sciences

February 1986

DTIC FILE COPY

86   6   13   010

U. S. ARMY RESEARCH INSTITUTE

FOR THE BEHAVIORAL AND SOCIAL SCIENCES

A Field Operating Agency under the Jurisdiction of the

Deputy Chief of Staff for Personnel

WM. DARRYL HENDERSON
COL, IN
Commanding

EDGAR M. JOHNSON
Technical Director

TABLE OF CONTENTS

iii

LIST OF TABLES

LIST OF FIGURES

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER ARI Research Note 86-21	2. GOVT ACCESSION NO. A164193	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Taxonomic Efforts in the Description of Leadership Behavior: A General Approach		5. TYPE OF REPORT & PERIOD COVERED Final Report December 82 – January 85
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Arthur L. Korotkin, Michael D. Mumford, Kerry Yarkin-Levin, M. Reid Wallis, Edwin A. Fleishman		8. CONTRACT OR GRANT NUMBER(s) MDA903-83-C-0062
9. PERFORMING ORGANIZATION NAME AND ADDRESS Advanced Research Resources Organization 4330 East-West Highway, Suite 900 Bethesda, MD 20814		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 2Q263743A794
11. CONTROLLING OFFICE NAME AND ADDRESS U.S. Army Research Institute for the Behavioral and Social Sciences, 5001 Eisenhower Avenue, Alexandria, VA 22333-5600		12. REPORT DATE February 1986
		13. NUMBER OF PAGES 101
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office) – –		15. SECURITY CLASS. (of this report) Unclassified
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE – –

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release, distribution unlimited

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

Approved for public release; distribution unlimited.

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Leadership
Taxonomy
Job Performance Dimensions (JPDs)
Systems Theory

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

A literature review of previous taxonomies of leadership behavior was conducted and these taxonomies were found to be somewhat deficient. Therefore, an attempt was made to generate a more comprehensive taxonomic system for the description of leadership behavior. The approach used to develop this taxonomy was based on organizational systems theory and the concept that the major categories of behavior involved in problem solving should be considered as the basis for the

INTRODUCTION

Overview of Taxonomies and Leadership Behavior

It has often been argued that the actions taken by individuals as-
signed to formal leadership positions may have a marked influence on the
effectiveness of modern organizations. Organizations invest substantial
amounts of time and energy in the construction and implementation of
programs designed to identify and develop leadership potential. Sur-
prisingly, while substantial investments have been made by many organi-
zations in developing leadership programs, they have not been proven to
be highly successful in enhancing leadership effectiveness (Bass, 1981).

Researchers, such as Bass (1981) and Mumford (1985) have suggested
that the limited effectiveness of some of these programs may be attrib-
uted to the tendency to explain a very complex field using a relatively
small set of constructs. Similarly, Fleishman (1953a) has suggested
that the limited effectiveness of many programs can be traced to their
failure to consider criteria such as the demands made on the leader by
organizational context. These points should be carefully considered
inany attempt to formulate more effective strategies for leadership
identification and development.

Any attempt to improve the selection and development of leadership
personnel must examine the nature of the leadership activities an indi-
vidual will be expected to perform in a given position. Goldstein (1974)
has stressed that only by determining the activities an individual will
be expected to perform can a truly effective training and development
system be constructed. Fleishman and Quaintance (1984) have underscored
the importance of an adequate description of job activities in the de-
sign of effective selection systems. Thus, it appears that the defini-
tion and description of the leadership activities required in various
positions may constitute a central step in the design of adequate lead-
ership identification and development efforts (Mintzberg, 1973).

The definition and description of leadership activities is critical
for constructing effective leadership identification and development

1

programs. Inability to adequately define and describe effective leadership behavior within organizations appears to be linked to certain broader problems endemic in many current studies of leadership. First, there is little or no agreement among investigators concerning exactly how leadership behavior should be defined. Bass (1981) has noted that 11 readily distinguishable definitions of leadership appear in the literature, ranging from leadership as a form of role behavior (Shaw, 1963) to leadership as a personality variable (Erickson, 1961). This lack of a clear definition of leadership behavior makes it difficult to specify exactly what is to be selected and trained for. Second, regardless of the particular definition in use, the number and kind of leadership activities which may occur in organizations is so large as to prohibit a comprehensive description of each form of leadership behavior. Thus, some technique is required for formulating an effective summary description of leadership behavior.

The design of more effective programs will require a general framework for the definition and summary description of leadership behavior. The first step in addressing this problem is formulating an adequate definition of exactly what constitutes leadership behavior in the organizational setting. The definition should be based on a careful examination of the nature of organizations and its implications for the nature of organizational leadership. A viable description of leadership activities might be obtained through a systematic taxonomic effort beginning with an appropriate definition of leadership. The resulting taxonomy might then be employed as a framework for describing leadership behavior and constructing more effective leadership identification and development programs.

Taxonomies

Recently, a great deal of research focused on the development of taxonomic systems for understanding leadership behavior. Fleishman (1975) has noted that taxonomies serve as a vehicle for organizing observations concerning some phenomenon. This organization and summarization is brought about by the definition of certain categories or dimensions that allow similar observations to be assigned to the same

category while differentiating observations from those in other categories. Aside from this general characteristic of all taxonomic efforts, they may differ from each other in a wide variety of ways. One factor differentiating taxonomies is the particular phenomenon under study. For instance, taxonomies of chemical elements are not likely to display a great deal of similarity with taxonomies of leadership behavior. Even when the same general phenomenon is under consideration, taxonomies may differ as a result of the nature and generality of the definition used to specify the relevant observations, as well as the specific measures chosen to describe the similarities and differences among the the observations (Sokal & Sneath, 1963). Taxonomic efforts in a common domain my also differ with respect to the procedures employed in defining the relevant summary dimensions.

Two primary strategies may be employed in defining taxonomic categories (Fleishman & Quaintance, 1984). First, a quantitative procedure may be employed in which categories are defined solely on the basis of the similarities and differences observed. Alternatively, a qualitative approach might be employed in which categories are defined solely on the basis of theoretical considerations. The content of taxonomies will differ as a result of their intended purpose; that is, investigations concerned with parsimony will tend to generate a taxonomy containing a limited number of summary dimensions whereas investigations concerned with accuracy of description will tend to employ a larger number of more complex categories (Mumford & Owens, in press).

Validation of a taxonomic system cannot be accomplished through any single measure. Rather, it requires a general construct validation effort concerned with the interpretability and meaningfulness of the summary descriptions provided by the taxonomic categories. In establishing the validity of a taxonomy, there are a variety of pieces of evidence that might be considered including, the relationship of the taxonomic categories to the categories obtained in similar taxonomic efforts, the interpretability of the units assigned to common categories and the predictive power of the resulting summary descriptions. The extent to which the taxonomic categories meet their intended purpose is one which should be carefully considered whenever a taxonomy is being developed for some specific practical purpose.

3

Over the last 50 years, a number of taxonomies have been described defining dimensions capable of summarizing leadership or managerial behaviors in the context of groups or formal organizations (e.g., Bass, 1981). In a review of the management, military and leadership literatures, it was found that 42 different taxonomies were proposed between 1940 and 1985. These taxonomies and the dimensions incorporated in them are presented in Table 1. Given the size and complexity of the literature base considered in this review, it is unlikely that Table 1 presents an exhaustive listing of previous taxonomic efforts.

An examination of Table 1 indicates that there is a great deal of diversity in the dimensions of leadership behavior postulated by different taxonomies (e.g., Karmel, 1978). The point is readily illustrated by comparing the dimensions postulated by Katz and Kahn (1977) and those postulated by Stogdill, Wherry, and Jaynes (1953). These differences primarily are related to differences in theory and methodology. One major influence leading to the identification of different kinds of summary dimensions may be illustrated by contrasting the Tornow and Pinto (1976) and Prien (1963) studies. Both these investigations relied on a quantitative approach in the definition of summary dimensions that was implemented by a factor analysis of task ratings. However, because these studies employed different sample and tasks descriptions it is not surprising that very different sets of summary dimensions were obtained. The nature of the dimensions identified in a factor analysis is highly dependent on the nature of the sample and task base in use as well as the particular factor analytic procedure being employed. These observations point to a fundamental limitation inherent in the use of empirical procedures to identify general summary dimensions -- dependence on the characteristics of the sample, task base and analytic procedure.

Another factor contributing to the marked differences among the categories included in these taxonomies may be found in their intended applications. The significance of this influence may be seen by contrasting the Olmstead, Cleary, Lackey, and Salter (1973) taxonomy,

Table 1

Leadership Behavior Dimensions
(chronological order)

1. Coffin (1944)
    A. Planning
    B. Organizing
    C. Coordinating

2. Barnard (1946)
    A. Determination of objectives
    B. Manipulation of means
    C. Instrumentation of action
    D. Stimulation of coordinated effort

3. Krech and Crutchfield (1948)
    A. Planning
    B. Policy making
    C. Expertise
    D. External representation
    E. Control of internal relationships
    F. Rewards
    G. Arbitration
    H. Symbolic activity

4. Davis (1951)
    A. Plan
    B. Organize
    C. Control

5. Hemphill, Siegel & Westie (1951)
    A. Delegating
    B. Controlling processes
    C. Encouraging competition
    D. Enforcing rules and procedures
    E. Informing

6. Berkowitz (1953)
    A. Maintaining standards of performance
    B. Behavior in a nutrant manner
    C. Acting upon awareness of situational needs
    D. Maintaining coordination and team work

7. Stogdill, Wherry and Jaynes (1953)
    A. Policy making
    B. Administrative coordination
    C. Methods planning
    D. Representation of member interests
    E. Personnel services
    F. Professional consultation
    G. Maintenance services
    H. Inspection

5

Table 1 (cont.)

8. Fleishman (1953)
    A. Consideration
    B. Initiating structure

9. Bennett (1955)
    A. Decide
    B. Plan
    C. Analyze
    D. Interact with people
    E. Use equipment

10. Selznick (1957)
    A. Definition of goals
    B. Creation of structure
    C. Defense of institution
    D. Reevaluation of internal conflict

11. Showel and Peterson (1958)
    A. Planning and foresight
    B. Informal teaching and briefing
    C. Supervising and checking
    D. Correcting and rewarding
    E. Manner of dealing with subordinates
    F. Concern with welfare of men
    G. Attitude toward job
    H. Deportment
    I. Technical knowledge

12. Hemphill (1960)
    A. Providing staff service for non-operations area
    B. Supervising work
    C. Business control
    D. Technical markets and production
    E. Human, community, and social affairs
    F. Long range planning
    G. Exercise broad power and authority
    H. Business reputation
    I. Personal demands
    J. Preservation of assets

13. Roby (1961)
    A. Bring about congruence of goals
    B. Balance group resources and capabilities with environmental
        demands
    C. Provide group structure for problem solution
    D. Obtain information needed for decision making

6

Table 1 (cont.)

14. Shutz (1961)
    A. Establishing and prioritizing group goals
    B. Recognizing and integrating the various cognitive styles existing within the group
    C. Provide group structure for problem solution
    D. Obtain information needed for decision making

15. Prien (1963)
    A. Employee supervision
    B. Employee contact and communications
    C. Union management relations
    D. Manpower coordination and administration
    E. Work organization, planning, and preparation
    F. Manufacturing process supervision

16. Mahoney, Jerdee and Carroll (1965)
    A. Planning
    B. Investigating
    C. Coordinating
    D. Evaluating
    E. Supervising
    F. Staffing
    G. Negotiating
    H. Representing

17. Stogdill, Goode and Day (1965)
    A. General persuasive leadership
    B. Tolerance for uncertainty
    C. Tolerance of follower freedom of action
    D. Representation of the group
    E. Influence with superiors
    F. Production emphasis
    G. Consideration I
    H. Consideration II
    I. Retention of leadership role

18. Bowers and Seashore (1966)
    A. Support
    B. Interactive facilitation
    C. Goal emphasis
    D. Work facilitation

19. Nealey and Fiedler (1968)
    A. Production
    B. On-the-job training
    C. Control of materials and supplies
    D. Maintenance
    E. Cost control
    F. Setting standards
    G. Selection and placement
    H. Coordination of work

Table 1 (cont.)

20. MacKenzie (1969)
    A. Staff
        a. Select
        b. Orient
        c. Train
    B. Control
        a. Establish reporting system
        b. Develop standards
        c. Measure results
        d. Take corrective action
        e. Reward
    C. Communicate
    D. Develop
    E. Direct
        a. Delegate
        b. Motivate
        c. Coordinate
        d. Manage differences
    F. Organize
        a. Establish position qualification
        b. Create position descriptions
        c. Delegate relationships
    G. Plan
        a. Develop policies
        b. Set procedures
        c. Budget
        d. Program
        e. Set objectives

21. Helme, Willemin, & Grafton (1971)
    A. Team leadership
    B. Resourcefulness
    C. Command of men
    D. Mission persistence
    E. Tactical staff skills
    G. Technical staff skills

22. Wofford (1971)
    A. Order and group achievement
    B. Personal enhancement
    C. Maintenance of interpersonal relationships
    D. Security
    E. Dynamic achievement orientation

23. Miller (1973)
    A. Supporting
    B. Abdicating
    C. Information sharing
    D. Delegating
    E. Group decision making
    F. Persuading

Table 1 (cont.)

Miller (continued)
- G. Does favors
- H. Encourages competition
- I. Rewards
- J. Supervises
- K. Enforces rules and procedures
- L. Defines goals
- M. Monitoring
- N. Negotiating
- O. Participation

24. Mintzberg (1973)
- A. Legal and social symbolic duties
- B. Motivate subordinates
- C. Obtain information from others
- D. Collect internal information
- E. Transmit information to other organizational members
- F. Transmit information to others
- G. Initiate change
- H. Deal with unexpected changes
- I. Negotiate with others
- J. Allocate resources

25. Olmstead, Cleary, Lackey and Salter (1973)
- A. Social skills
- B. Communication skills
- C. Adaptability
- D. Motivation
- E. Forcefulness
- F. Mental ability
- G. Decision making
- H. Administrative skills
- I. Organizational identification
- J. Supervisory skills
- K. Physical competence
- L. Technical and tactical competence
- M. Problem solving ability
- N. Effectiveness in leadership role

26. Helme (1974)
- A. Maintain morale
- B. Set example
- C. Define goals
- D. Attain goals
- E. Know members
- F. Communicate
- G. Maintain discipline
- H. Motivate subordinates

Table 1 (cont.)

27. Reaser, Vaughan and Kriner (1974)
      A. Task professionalism
      B. Task oriented consideration
      D. Personal/interpersonal consideration

28. Gilbert (1975)
      A. Unit command
      B. Operations and training
      C. Manpower and personnel
      D. Logistics
      E. Intelligence
      F. Troop welfare

29. Olmstead, Lackey and Christensen (1975)
      A. Making decisions
      B. Assigning tasks
      C. Rewarding others

30. Clement and Ayres (1976)
      A. Communications
      B. Human relations
      C. Counseling
      D. Supervision
      E. Technical
      F. Management
      G. Decision making
      H. Planning
      I. Ethics

31. Olmstead, Cleary and Salter (1976)
      A. Collect information and intelligence
      B. Process information and intelligence
      C. Analyze information and intelligence
      D. Disseminate information and intelligence
      E. Develop contingency plans
      F. Executie maneuver scheme
      G. Plan fire support
      H. Supervise delivery of fire support
      I. Issues orders
      J. Supervise execution of orders
      K. Stay abreast of situation
      L. Maintaining communications capability
      M. Maintaining communications flow

32. Tornow and Pinto (1976)
      A. Long range thinking and planning
      B. Coordination of other organizational units and personnel
      C. Internal control
      D. Products and services responsibility
      E. Public and customer relations
      F. Advanced consulting

10

Table 1 (cont.)

Tornow and Pinto (1976) (continued)
    G. Autonomy of financial commitments
    H. Staff service
    I. Supervision
    J. Complexity and stress
    K. Advanced financial responsibility
    L. Board personnel responsibility

Table 1 (cont.)

33. Fine (1977)
    A. Analyzing
    B. Negotiating
    C. Consulting
    D. Instructing
    E. Exchanging information

34. Katz and Kahn (1977)
    A. Induction of structure
    B. Interpretation of structure
    C. Use of structure

35. Dowell and Wexley (1978)
    A. Working with subordinates
    B. Organizing work of subordinates
    C. Work planning and scheduling
    D. Maintaining efficient quality production
    E. Maintaining equipment and machinery
    F. Compiling records and reports

36. Olmstead, Baranick and Elder (1978)
    A. Information acquisition
    B. Providing intelligence
    C. Anticipating contingencies
    D. Timeliness of adjustment of plans
    E. Effectiveness of adjustment
    F. Planning
    G. Decision making
    H. Coordination
    I. Communication

37. Winter (1978)
    A. Disciplines
    B. Rewards
    C. Understands
    D. Monitors results
    E. Influences
    F. Delegates
    G. Develops subordinates
    H. Team Builds
    I. Plans and organizes
    J. Sets goals

Table 1 (cont.)

Winter (1978) (continued)

K. Conceptualizes
L. Takes initiative
M. Positive expectations
N. Realistic expectations
O. Task achievement
P. Use of influence
Q. Management control
R. Advising and counseling
S. Coercion

38. Elliott, Harden, Gielser, Scott and Euske (1979)
A. Maintenance and supply
B. Unit record keeping
C. Training administration and assessment
D. Counseling and personnel management
E. Evaluation

39. Bass (1981)
A. Defining
B. Providing means for goal attainment
C. Providing and maintaining group structures
D. Maintaining group cohesiveness and member satisfaction
E. Facilitating group task performance

40. Bass (1981)
A. Defining goals
B. Explaining how goals will be met
C. Defining evaluation criteria
D. Providing feedback
E. Allocating rewards

41. Yukl (1981)
A. Showing consideration
B. Providing praise and recognition
C. Training and coaching
D. Disseminating information
E. Encouraging decision participation
F. Delegating
G. Innovation
H. Facilitating the work
I. Monitoring the environment
J. Representing the unit
K. Managing conflict
L. Emphasizing performance
M. Inspiring subordinates
N. Goal setting
O. Planning
P. Criticizing

Table 1 (cont.)

Yukl (1981) (continued)

    Q. Career counseling
    R. Problem solving
    S. Clarifying work roles
    T. Administering discipline
    U. Facilitating cooperation and team work
    V. Monitoring reward contingencies

42. Jacobs (1983)
    A. Sensing information
    B. Communicating information
    C. Making decisions
    D. Communicating implementation
    E. Stabilizing
    F. Implementing
    G. Getting feedback

was intended to summarize behavioral indicators of leadership effectiveness among Army officers, and Gilbert's (1975) taxonomy which was intended to describe the major dimensions of leadership activity engaged in by Army officers regardless of their relationship to officer performance. Differences attributable to the pragmatic concerns of the investigation also arise as a result of somewhat more abstract technical issues. For instance, Bower and Seashore's (1972) taxonomy and Fleishman's (1953a) taxonomy display substantial similarity to each other in the number and nature of the categories identified as well as in their concern with obtaining the most general and parsimonious summary description of leadership behavior. These two taxonomies are quite different from those formulated by Miller (1973) and Yukl (1981), where the authors primary concern was accuracy of description.

Surprisingly, given nearly half a century of research efforts in the leadership area, the field still lacks a precise consensual definition of the basic dimensions of leadership in an organizational setting. In the following sections, an attempt will be made to formulate a taxonomy capable of addressing many of the issues raised above.

DEFINITION OF A GENERAL TAXONOMY

Theoretical Background

The first step in the definition of a taxonomy involves specifying exactly what constitutes leadership behavior in the organizational setting. There appears to be a some consensus that, as a general phenomenon, organizations are best described and understood through socio-technical systems theory (Ulrich & Wieland, 1980; Katz & Kahn, 1977).

According to systems theory, organizations are viewed as open systems that draw resources from their environment and produce certain products to meet goals required for the organization's continued adaptation or survival. This conception is based on a socio-technical transformation process that changes new inputs into refined products. To maximize the efficiency of this transformation process, organizations create a division of labor among people and machines leading to the emergence of a variety of discrete subsystems, each responsible for some part of the overall transformation process. However, the activities of these subsystems must be integrated and coordinated with respect to organizational goals if the organization is to continue to survive. Katz and Kahn (1977) have argued that leadership in organizations is always a function of this integrative activity, where the individuals must interact with other systems and subsystems. More specifically, they argue that leadership within organizations can only occur when an individual is acting in a boundary role capacity and is in some way capable of influencing the long term pattern of transformation activities taking place in other subsystems or among other individuals.

Typically, in bureaucratic organizations, effective leadership will require individuals to engage in legitimate activities that will influence the transformation process occurring in other subsystems in such a way as to ensure the attainment of position goals and enhance the overall adaptation of the organization (Jaques, 1977). This does not mean that simply by carrying out the assigned or specified activities associated with some boundary role position an individual is acting as a leader. Leadership is a property of the individual rather than the organization. Leadership can only be exhibited in actions over which an

15

individual has some discretion as to when, where, how and why they are performed. Effective administration or management may not be reflected in the rote completion of organizational assignments, but rather can only be reflected in discretionary activities that influence others.

Taxonomic Categories

There is substantial support in the research literature for the conception of leadership described above. For instance, it has been found that leadership behavior can account for the more and less effective predictors of performance in leadership positions as well as the nature of the situational variables likely to mediate these general relationships. This conception of leadership behavior provides a viable explanation for the generic importance of consideration and initiating structure dimensions, since nearly all leadership positions will present an individual with both task oriented and social relations problems.

The next issue to be discussed concerns the relationship between the conceptual framework and the specification of summary dimensions to be used in the description of leadership behavior. Fleishman and Quaintance (1984) describe two major purposes for classifying human tasks:

1. Utilization Classifications - which have a specific purpose and categorize human tasks into sets which are "homogeneous and invariant" with respect to a given purpose.

2. Theoretical Classifications - which are "autonomous structures" or conceptual frameworks intended for theory development. While the characteristics of such classifications are not dictated by a specific application, application is distinctly possible.

Since this taxonomic structure was being driven by a specific application, the initial approach to the description of summary dimensions was "utilitarian".

16

APPROACH

Utilitarian-Based Taxonomy

The primary purpose of the present research is to provide a data base on which to develop a systematic and progressive system for leadership development for the Army. Currently, leadership development occurs as a function of three separate sets of Army experiences: formal training, skills acquired through the performance of assignments, and the pattern of assignments received. The results of this research are intended to provide an integrated plan or model of leadership and to prepare leadership training materials that can supplement the current training procedures.

The approach used for the development of a model of leadership behavior took the following into account:

● The progression of job duties and adaptation processes required from level to level within the Army in terms of the specific knowledges, skills, abilities, and other characteristics (KSAOs) possessed by individuals;

● The empirical determination of leadership KSAOs and job performance KSAOs and job performance dimensions (JPDs);

● The development of a model of leadership behavior which specifies general job dimensions and generic skills relevant to commissioned and noncommissioned officer positions and compares these findings within and between officer and NCO duty positions;

● The projection of future requirements in the Army and the relevance of the present methodology for projecting future leader requirements; and

● The development of a taxonomy of training exercises related to the JPDs and KSAOs by level.

This research has emphasized an organizational systems approach to the study of leadership behavior. As can be seen in Figure 1, the systems approach emphasizes the relevance and importance of three major components:

1. The organization--its mission, goals, and objectives.

2. The work required to accomplish the organization's mission, goals, and objectives.

17

ORGANIZATION
(GOALS)

WORK
(Tasks)
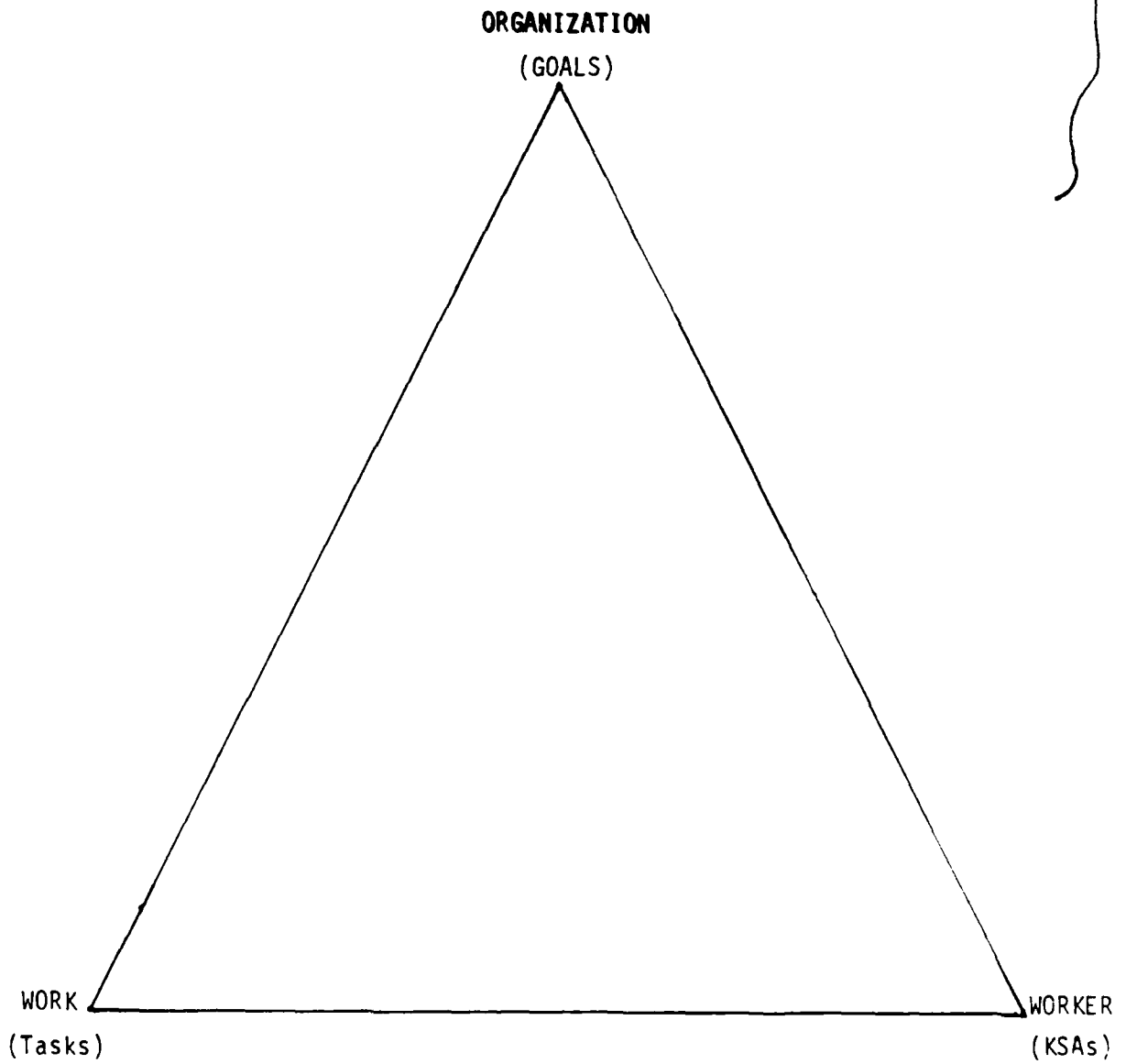
WORKER
(KSAs)

Figure 1. Organizational systems approach.

3. The workers--their knowledges, skills, abilities, and other characteristics required to perform the work.

Not only does this approach highlight the importance of the context in which Army leaders lead, but it also emphasizes the importance of the relationships among these three components.

Operational Definition of Leadership

Since the primary objective of this research was to develop a basis for training future Army leaders, it focused on those parts of the commissioned officer (officer) and noncommissioned officer (NCO) jobs that are leadership-related (i.e., not technical in nature). This focus was accomplished by delineating the leadership task domain with the following operational definition.

A leadership task is defined as one that:

- Impacts on personnel, equipment, information or other resources;

- Involves making decisions or choices, e.g., how and when specific actions should be taken;

- May involve interpersonal aspects, communication aspects, or management functions, e.g., coordination administration, planning; and

- Is not purely technical in nature.

This definition of a leadership task was intentionally designed to include managerial as well as the more traditionally accepted leadership tasks. It also was designed to include tasks at all levels within an organization, recognizing that leadership occurs throughout all grade levels for both officers and NCOs. Only those tasks which were considered technical in nature were eliminated. However, technical tasks which were leadership-related were included in the initial task lists.

Conceptual Framework

In order to guide the research within the context of a systems approach, the project staff designed an overall conceptual framework. This framework, presented in Figure 2, outlines the process by which information relevant to the three organizational components can be collected.

19

TOP-DOWN APPROACH

IDENTIFY ARMY GOALS

IDENTIFY SUBGROUP OBJECTIVES AND RATE BY GRADE LEVEL
PRODUCT: SUBGROUP OBJECTIVES DIFFERENTIATED BY LEVEL

LINK JPDs TO OBJECTIVES BY RATINGS
PRODUCT: MATRIX OF JPDs BY SUBGROUP OBJECTIVES BY LEVEL

CLUSTER TASKS LOGICALLY INTO JPDs AND THEN RATE JPDs BY GRADE LEVEL
PRODUCT: JPDs DIFFERENTIATED BY LEVEL

DEFINE TASKS BY GRADE LEVEL
PRODUCT: TASK DATA BANK

BOTTOM-UP APPROACH

DEVELOP KSAs FOR EACH JPD
PRODUCT: MATRIX OF KSAs BY JPDs

DEVELOP GENERIC SKILLS
PRODUCT: LIST OF GENERIC SKILLS

LINK GENERIC SKILLS TO JPDs
PRODUCT: MATRIX OF GENERIC SKILLS BY JPDs

DEVELOP PROBLEM SETS WHICH INCORPORATE SUBGROUP OBJEC- TIVES, GENERIC SKILLS AND JPDs
PRODUCT: PROBLEM SETS

Figure 2. Conceptual plan for the project.

20

Using a top-down approach, the mission, goals, and objectives of the organization--the Army--was defined. First, overall Army goals and objectives were defined. Then, these overall goals were broken down into subgroup objectives applicable to various officer and NCO grades and duty positions. Data were gathered to determine the relative importance of the various goals to different grade levels and duty positions.

A bottom-up approach was used to define the work to be performed by the various officer and NCO grade levels. As illustrated, this work was initially defined at the task level for each grade. Then, the tasks were clustered to form job performance dimensions (JPDs) applicable across the various officer grades and/or across the NCO grades.

The data gathered from the top-down and bottom-up approaches were examined to determine the relationship or linkage between the job objectives and JPDs for the various grade levels. That is, information about the organization is mapped onto information about the work.

Next, the worker is brought into the system. This is accomplished by defining the knowledges, skills, abilities, and other characteristics (KSAOs) required to perform the work or JPDs at the various grade levels. Once the KSAOs are identified, they will lead to the development of a taxonomy of generic skills. Again, in keeping with the emphasis on interrelationships among various system components, these generic skills will be linked to the JPDs for each grade level.

The final step outlined in the conceptual framework is the development of problem sets for use in training Army leaders. These problem sets will incorporate information concerning the goals/objectives of the organization, the work or JPDs, and the generic skills of the worker. These problem sets will be designed to be appropriate to the various officer and NCO grade levels.

The methodology employed in the present research consisted of three major steps including task list development and refinement, development of JPDs, and the development and the analysis of the JPDs in the context of Army leadership positions.

Task List Development and Refinement

The major purpose of this step of the research was to develop a task information data bank for the development of JPDs. It was necessary to verify the already existing officer task list and to develop and verify the NCO task list. The development and refinement of the task lists is described in detail in Wallis, Korotkin, Yarkin-Levin, and Schemmer (1985).

Briefly, the overall procedure used for remediating position task data bases and for developing a set of leadership task lists for both officers and NCOs consisted of:

1. Compiling a comprehensive list of non-technical, leadership-related tasks from existing task data sources;

2. Combining and reviewing the lists using leadership project staff and external subject matter experts (SMEs) as judges;

3. Preparing provisional task lists;

4. Subjecting the task lists to review and verification by SMEs (position incumbents) at selected military posts in CONUS;

5. Having the resulting task lists and data reviewed by a panel of SMEs (a group of retired Army officers); and

6. Creating the final task lists for officers and NCOs.

This process was an iterative one which successively reviewed and refined the initial task lists until the project staff and SMEs were convinced that the task lists were accurate, comprehensive, and as current as possible.

The sources of the tasks were: ARI Duty Modules, RETO Duty Modules, CODAP officer task lists; the U.S. Army Sergeant Major Academy list of non-MOS specific leader tasks for NCOs; the CODAP enlisted task data bank; and other specific task lists developed by the Army and by Army contractors. These data were reviewed and augmented by additions from other published and unpublished task lists, field survey participants, panels of experts and project staff.

Development of Job Performance Dimensions (JPDs)

The development of JPDs was undertaken following the task list development. JPDs are defined as aggregates or clusters of tasks that reflect underlying similarities in work performed. The derivation of JPDs is based on task co-occurrence across grade leve's and categories of service. JPDs are thus generic in nature. Once they are derived, qualitative and quantitative differences between grades are determined by the application of rating scales focusing on such variables as time spent on the JPD, importance of the JPD to accomplishing one's goals, etc. Thus, while the JPDs permit across-grade generality, the use of rating scales permits within-grade specificity and differentiation.

As can be seen in Figure 2, the derivation of JPDs is part of the bottom-up approach to the study of leadership. Conceptually, they represent major categories of work performed across grade levels and categories of service, with the individual tasks subsumed under each JPD varying by grade level.

It is important to differentiate JPDs from other elements in the systems approach to leadership--including knowledges, skills, and abilities (KSAs), generic skills, and job objectives. The main distinction between JPDs and KSAs/generic skills is that JPDs focus on the work performed (i.e., common behaviors and work requirements), whereas KSAs/ generic skills focus on person competencies (i.e., what it takes to get the work done). JPDs differ from job goals or objectives in that goals and objectives describe the purpose behind the work rather than the work itself.

The methodology used for JPD development consisted of a rational or logical clustering of tasks by subject matter experts (SMEs). The SMEs were six retired Army colonels representing various categories of service (i.e., combat, combat support, and combat service support) and various areas of expertise. The panel was scheduled to meet for five days in order to create JPDs for clustering officer and NCO tasks into work-related performance categories. A secondary purpose of the meeting was to review and organize the job objectives collected at Ft. Polk and Ft. Hood (details will be described). Four days were allocated for the development of JPDs for officers. The fifth day was allocated to developing a refined list of job objectives for officers and NCOs.

Since JPD development was to be based on task commonality across grades and categories of service, the first step in preparing for the SME meeting was to create one composite list of officer tasks and another composite list of NCO tasks. This was accomplished by collapsing the task lists for O1 through O6 into a single list of 156 tasks (including both field and company grade tasks). In a similar fashion, the task list for E5 through E8 were consolidated into a single list of 260 tasks. During the consolidation process, grade level information was preserved for future retrieval purposes.

Development of JPDs for Officers

In developing the JPDs, SMEs worked with the officer task list of 156 tasks and a list of 69 potential JPD categories that had been derived from the military and psychological literatures (e.g., Bass, 1981; Clement & Ayres, 1976; Tornow & Pinto, 1976; Peterson & Rumsey, 1981). The literature reviewed contained many classification schemes or taxonomies for grouping tasks. However, the commonality among most of these schemes was that the various functions or factors identified were generic (i.e., they can be applied across various jobs). A list of approximately 40 provisional JPDs was developed and reviewed to eliminate redundancy and to identify apparent gaps in the coverage. The list was reduced to 20, and two categories were added on the basis of discussion. The resulting list of 22 JPDs served as a first-cut or working list of JPDs for the purpose of classifying tasks.

In order to test the usefulness of the first-cut JPD list, each task on the officer list was examined separately by the SME group and assigned to one of the JPDs. Assignment was made on the basis of where the task seemed to fit best. Tasks which presented difficulty in classification usually indicated one of two problems. Either there was no JPD to which the task logically seemed to belong, or the task wording was ambiguous allowing for too much interpretation. In the former case, the wording of a JPD was slightly modified to accommodate the task, or a new JPD was created. In the latter case, the task was discussed at length and clarified, either by breaking the task into two or more separate tasks or by substituting a word(s) which communicated a more precise meaning.

The next stage of the JPD development process called for examining the contents of each JPD individually in order to determine whether the tasks in that JPD were behaviorally related. Tasks that had been misclassified were assigned to a more appropriate JPD. In addition, tasks within a JPD that were redundant were eliminated. Another purpose of reviewing the JPDs in this manner was to ensure that each JPD could stand on its own and be distinguished from other JPDs. At this stage, several of the JPDs that contained only a few tasks were either merged with other JPDs or dropped, and component tasks were reassigned to other JPD clusters.

The final set of JPDs for the officer task list is presented in Table 2, along with the tasks that were assigned to each JPD. Several important characteristics of this JPD list are important. First and foremost, all the JPDs are leadership-related as well as work-related. Second, they are all behavioral and, for the most part, observable. Third, they are generic in nature, with applicability to various grades, job positions, and categories of service (combat, combat support, and combat service support). Finally, each task is assigned to a single JPD.

Development of JPDs for Noncommissioned Officers

The same basic procedure was followed in developing JPDs for noncommissioned officers (E5-E8) as was used in developing JPDs for officers, with one exception. Rather than having the SMEs generate a firstcut list of JPDs from scratch, we felt it was more expedient to use the final list of officer JPDs as a starting point to make appropriate modifications. SMEs proceeded to work through the list of 280 NCO tasks one at a time, eliminating task redundancy and making revisions to the officer JPDs as appropriate. The final set of JPDs and tasks for NCOs is presented in Table 3.

As can be seen, there is much similarity between the officer and NCO JPD lists. Some differences, however, are noteworthy. In terms of planning, officers are involved more in Developing and Adjusting Plans, whereas NCOs are more involved in Training/Teaching/Instructing.

25

Table 2

Leadership Job Performance Dimensions (JPDs)
for Officers

1. SETTING THE EXAMPLE

2. EXERCISING COMMAND RESPONSIBILITY

3. DEFINING AND MAINTAINING GOALS/STANDARDS/PRIORITIES

4. COMMUNICATING (INCLUDES DISSEMINATING INFORMATION, EXCHANGING
    INFORMATION, SPEAKING AND WRITING)

5. MANAGING HUMAN RESOURCES

6. MANAGING AND MAINTAINING MATERIAL RESOURCES/FUNDS

7. EVALUATING INFORMATION AND MAKING DECISIONS/RECOMMENDATIONS

8. DEVELOPING AND ADJUSTING PLANS (STRATEGIC, TACTICAL, EMERGENCY,
    CONTINGENCY)

9. TRAINING/TEACHING/INSTRUCTING

10. PROMOTING/MAINTAINING ESPRIT AND MORALE

11. COUNSELING, MOTIVATING, AND ENCOURAGING OTHERS

12. PROMOTING HARMONIOUS RELATIONSHIP (SUBORDINATES, COMMUNITY, ETC.)

13. IDENTIFYING NEEDS/REQUIREMENTS

14 DEVELOPING/INITIATING/IMPLEMENTING ACTIONS TO MEET IDENTIFIED
    REQUIREMENTS

15. CHECKING/INSPECTING/MONITORING

16. PERFORMING DISCIPLINARY FUNCTION (INCLUDING UCMJ)

17. COORDINATING WITH OTHER UNITS AND PERSONNEL

18. MANAGING/PERFORMING ADMINISTRATIVE OPERATIONS

Table 2 (cont.)

Leadership Job Performance Dimensions (JPDs)
for Officers (01 - 06)

1. **Setting the Example**

This JPD is inherent in <u>all</u> leadership tasks, yet deserves
separate recognition. Everything the leader does that requires
discretionary action presents an example of professional
competence to the military chain of command. In that, positive
actions show superiors, peers, and subordinates a way to
perform, the officer affords the army one of the key elements of
leadership; "Do as I do" becomes, in effect, the major task of
the JPD.

2. **Exercising Command Responsibility**

1.c.*   Assume responsibility for performance of command and take
        action to solve problems.

2.c.   Represent commander and act for him/her in
        his/her absence.

4.c.   Apply directives, orders and information.

94.c.   Assume responsibility for the care, security, and
        maintenance of facilities, grounds, and installation
        property in unit custody.

122.c. Coordinate/ensure overall security of command.

133.c. Control tactical elements in motor movements and in
        occupation, organization, preparation and improvement of
        positions.

139.c. Control employment of unit's organic fire support
        weapons.

3. **Defining and Maintaining Goals/Standards/Priorities**

22.c.   Establish priorities and production controls to
        distribute workload and optimize use of facilities.

29.c.   Develop and implement standards of performance and
        conduct.

95.c.   Assign maintenance priorities.

*Code: a. Task unique to field grade officers.
         b. Task unique to company grade officers
         c. Task common to both field and company grade officers.

27

Table 2 (cont.)

4. **Communicating (includes disseminating information, exchanging information, speaking and writing)**

    12.c. Represents superior and organization in contacts with news media.

    13.c. Schedule, plan and/or conduct appointment, conferences, and meetings.

    14.c. Prepare and present briefings.

    15.c. Advise commander/staff on matters within my purview.

    56.c. Attend meetings and conferences related to tests concept and evaluation and observe demonstrations and tests.

    73.c. Keep abreast of NBC activities in actual or simulated combat operations and post and display NBC tactical information.

5. **Managing Human Resources**

    17.c. Issue guidance, train in proper Resources, procedures, and evaluate results.

    20.c. Organize personnel and other resources into functional elements to accomplish mission.

    58.c. Coordinate personnel selection and career development.

    59.c. Guide personnel management operations of subordinate personnel section or special staff.

    60.c. Recommend/assign personnel to key positions.

    64.c. Conduct a reenlistment program.

    155.c. Discharge sub-standard soldiers administratively from the Army.

6. **Managing and Maintaining Material Resources/Funds**

    32.c. Develop budgets and cost estimates for overall projects and included work packages.

    33.c. Prepare directives for development and preparation of command operating program and budget, and concomitant budget execution review.

    37.c. Develop plans, programs and directives concerning maintenance systems.

Table 2 (cont.)

79.c. Provide logistic support for supported units and activities.

80.c. Establish and organize special ammunition supply points, including safety and security arrangements.

83.c. Issue guidance for the requisitioning, movement, storage, security and issuing of supplies.

84.a. Plan, coordinate, establish and operate supply, storage and distribution facilities.

85.c. Control distribution of scarce and controlled items.

86.c. Operate food service facility.

87.c. Plan and coordinate assignment and employment of subordinate maintenance unit and sites and facilities for them.

88.b. Establish and operate an office, motor pool or comparable field facility for dispatch of vehicles and displaying the status of vehicles.

89.c. Allocate and coordinate transportation.

98.c. Plan/arrange for, and carry out construction, alteration, maintenance, and repair of installation's physical plant and facilities.

123.c. Coordinate employment of vehicles communications, and other equipment for command group during field exercises.

157.c. Conduct financial management at unit level (TUFMIS).

163.c. Maintain accountability of equipment at all times by use of hand receipts, inventories and provision of secure storage areas.

7. **Evaluating Information and Making Decisions/Recommendations**

3.c. Review interpret directives, orders and information.

19.c. Review studies, plans, orders, reports and corrspondence prepared by assistants and approve, disapprove or refer to supervisor with recommendations.

25.c. Interpret output of a management information system.

38.c. Evaluate budgetary constraints and other matters of risk and sensitivity for the decision-maker.

Table 2 (cont.)

39.c. Conduct and review studies and surveys of organizations, manpower, space and equipment to assist in management improvements.

47.c. Report and investigate safety violations, accidents and irregularities, and take corrective action.

54.c. Conduct concept organizational equipment and material evaluations.

74.c. Interpret and apply specialized tables and instruments pertaining to delivery systems and effects of nuclear weapons.

76.b. Assess friendly and enemy activities in area of operations for the application of PSYOP capabilities.

112.c. Determine operational readiness requirements and evaluate readiness status of unit.

115.c. Evaluate relevant factors including mission, enemy, terrain, and troops; reconnoiter physically or by use of maps and photos and make an estimate of the situation.

136.c. Reconnoiter and select observation positions, areas or routes of responsibility and fire positions.

8. Developing and Adjusting Plans (strategic, tactical, emergency, contingency)

34.c. Modify and up-date plans, schedules, and budgets on basis of program evaluation and review.

35.c. Develop plans, sequence key events and actvities, coordinate interdependent network and identify critical paths.

53.c Initiate concept documents in concert with the TRADOC community.

90.c. Make plans and preparations for movement of unit by rail or ship and for its on-shore deployment and field set-up.

117.c. Plan/recommend disposition and employment of unit.

119.c. Evaluate plans of subordinate units and take action to correct deficiencies.

120.c. Evaluate operation's progress and modify orders as the situation warrants.

Table 2 (cont.)

128.c. Plan and coordinate actions concerning refugee handling and control of civilian population in theater of operations.

138.c. Develop and coordinate support plans such as fire support, intelligence collection, nuclear employment, etc.

9. Training/Teaching/Instructing

99.c. Plan and prepare units of instruction, POI, lesson plans, training aids and make arrangements for physical facilities.

100.c. Coordinate instructional substance, coverage and phasing with others concerned.

102.c. Formulate training goals, policies and programs.

103.c. Conduct specialized training (cermonies, counterintelligence, EW, NBC, etc.).

105.c. Request school allocations to meet needs of units.

106.c. Plan and participate in ROTC summer camp training activities.

107.c. Assist designated reserve component units with the preparation and conduct of training.

109.c. Conduct physical training.

110.c. Manage range firing.

113.c. Ensure unit proficiency in basic soldier skills (hand-to-hand combat, map reading, first aid, weaponry, drill and ceremonies).

114.c. Plan and coordinate training exercises.

144.c. Train subordinate commanders how to develop/improve morale and esprit in their units.

148.c. Conduct periodic assessments of status of training/professional development of officers/noncommissioned officers and design a training program to sustain strengths/overcome identified deficiencies.

154.c. Participate in leadership and tactical training seminars.

160.a. Plan/coordinate/host training meetings.

161.c. Supervise an on-the-job training (OJT) program.

Table 2 (cont.)

162.c. Plan/conduct the Army Test and Evaluation Program (ARTEP) for unit.

10. Promoting Maintaining Esprit and Morale

11.c. Review complaints and suggestions and take corrective action.

51.c. Conduct personnel administrative programs such as decorations and awards, billeting, promotions and separations.

62.c. Arrange for health, legal and religious services.

63.c. Encourage personnel to take full advantage of recreational facilities, Post Exchange, mess and club services.

101.c. Arrange for military personnel educational opportunities.

147.c. Ensure that multi-echelon training contributes toward demonstrated competence and confidence of soldiers in themselves, one another, their leaders and their units.

149.c. Prepare dependents of Army personnel for pronlonged absences of sponsors to ensure that basic family survival needs are established beforehand.

152.a. Establish programs that serve the needs of families within the organization.

11. Counseling, Motivating, and Encouraging Others

18.c. Motivate subordinates and evaluate their job performance.

57.c. Counsel and assist subordinates on personal affairs, job performance, professional development and disciplinary matters.

66.c. Conduct an alcohol and drug abuse program.

67.b. Operate corrective treatment and rehabilitation program, with aid of professional specialists, including counseling, training and vocational work tailored to individual needs.

150.c. Develop a work climate that permits rapid development of junior officers and noncommissioned officers, and which encourages the best to opt for a career in the Army.

156.c. Establish programs to enhance the authority of noncommissioned officers.

Table 2 (cont.)

159.c. Praise and censure subordinates as appropriate.

12. **Promoting Harmonious Relationship (subordinates, community, etc.)**

16.c. Plan, control, and take part in community
and public relations activities such as parades,
demonstrations, displays and civic assistance.

65.c. Conduct race relations and equal
opportunity programs.

68.c. Develop and conduct crime prevention or reduction
program.

146.a. Plan/monitor professional association activities (AUSA,
Division Assoc., etc.).

151.c. Resolves conflicts between subordinates.

153.c. Plan/attend social functions with peers, superiors, and
subordinates.

13. **Identifying Needs/Requirements**

21.c. Establish time requirements for developing
a master schedule.

27.c. Employ OR/SA methodologies such as simulation models,
statistical analyses, network portrayals, gaming and the
like for identifying solutions to complex problems.

31.c. Make managerial studies for improved efficiency of
operation.

45.c. Place demands upon a system for filing, retrieval,
display and reporting of information.

71.c. Determine intelligence and security requirements of rear
area.

78.c. Develop logistic requirements for supported and/or
subordinate units and activities.

137.c. Determine capabilities and requirements for overall fire
support.

143.c. Determine commuications requirements and capabilities and
plan for their employment.

Table 2 (cont.)

14. **Developing/Initiating/Implementing Actions to Meet Identified Requirements**

23.c. Plan assignment of work to organizational elements.

72.c. Establish procedures for local security, camouflage, cover, concealment, dispersion and NBC protection.

77.c. Plan/employ surveillance radar, sensing devices, and other measures to establish local security.

81.c. Conduct chemical combat service support operations.

82.c. Carry out nuclear weapons emergency procedures to recover nuclear items and minimize hazards in event of an accident.

92.c. Establish and spot-check inventory and stock control procedures.

93.c. Establish safeguards against pilferage and other hazards.

97.c. Establish and operate special security measures for the security of the access to ADM and associated classified material.

118.c. Issue operations order to carry out unit's mission.

134.c. Issue guidance for establishment and operation of headquarters command post and Tactical Operations Center (TOC).

135.c. Establish and operate tactical operations center (TOC) to include a fire support coordination center.

142.c. Perform tactical engineering work such as pioneering, field fortifications, demolitions and mine laying.

15. **Checking/Inspecting/Monitoring**

75.c. Inspect and evaluate facilties and activities for counter-intelligence security.

91.c. Inspect condition and verify quantities of organizational equipment, weapons, and supplies.

96.c. Conduct or arrange for maintenance inspections.

108.c. Accompany Army reserve component unit commander and staff on inspections and assist in handling remedial actions for surfaced problems.

34

Table 2 (cont.)

111.c. Conduct inspections to evaluate unit's performance of
       mission, compliance with policies and regulations, state
       of morale, discipline and readiness, and condition of
       equipment and facilities.

121.c. Check personnel, weapons, equipment and supplies and
       prepare for further operations.

145.a. Supervise nuclear surety (PRP).

16. **Performing Disciplinary Function (including UCMJ)**

5.a. Appoint investigating officers, boards and
      members of courts-martial.

6.c. Review and take action on findings of
      investigating officers, courts and boards.

7.c. Issue formal admonitions and reprimands and exercise
      authority of non-judicial punishment under UCMJ.

8 a. Perform appelate functions for Article 15 appeals.

9.c. Prefer court martial charges.

10.c. Recommend actions to be taken under the provisions of the
      UCMJ.

69.c. Review MP blotters, obtain pertinent information from
      other reports and sources and take appropriate action.

17. **Coordinating with Other Units and Personnel**

116.c. Coordinate operations planning within
       staff and with higher, lower and supporting
       organizations.

124.c. Arrange and control liaison with other headquarters.

125.c. Coordinate signal intelligence and sensor activities.

126.c. Coordinate logistical matters within staff and with
       higher, lower, and supporting organizations.

127.c. Coordinate explosive ordnance disposal (EOD) plans and
       operations with others concerned.

129.c. Coordinate/control subordinate combat service support
       unit operations.

130.c. Coordinate actions with friendly units and civil
       authorities.

35

Table 2 (cont.)

131.c. Coordinate air defense support and observation plans with supported unit and other fire support units.

132.c. Coordinate air-ground recognition, identification, and forward air-control procedures.

18. Managing/Performing Administrative Operations

24.c. Plan and allocate ADP equipment utilization time for supported units and activities.

26.c. Operate a system for filing, retrieval, display, and reporting of information.

28.a. Develop and implement management analysis methods.

30.c. Develop and implement procedures for work measurement and simplification.

40.c. Design and control formats for receiving reports and statistical summaries of operations.

41.c. Prescribe and review standing operating procedures for internal functioning.

43.c. Arrange for headquarters facilties and support services.

44.c. Establish and operate a suspense system.

46.c. Screen incoming correspondence and distribute for action or information.

48.a. Process and accommodate visitors to headquarters.

49.b. Administer unit funds.

50.c. Authenticate orders and official correspondence.

52.b. Perform maintenance record administration in unit.

61.c. Establish procedures for safeguarding classified information.

Table 3

Job Performance Dimensions (JPDS)
for NCOs

1. SETTING THE EXAMPLE

2. COMMUNICATING (INCLUDES DISSEMINATING INFORMATION, EXCHANGING INFORMATION, SPEAKING, AND WRITING)

3. MANAGING PERSONNEL (E.G., MAKING ASSIGNMENTS, REASSIGNMENTS, PROMOTIONS, SENDING TO SCHOOL)

4. MANAGING AND MAINTAINING EQUIPMENT, FACILITIES, SUPPLIES, AND TRANSPORTATION

5. EVALUATING INFORMATION AND MAKING DECISIONS

6. SHORT-TERM PLANNING

7. PERFORMING GENERAL TRAINING TASKS (APPLIES TO BOTH TACTICAL AND NON-TACTICAL TRAINING)

8. TRAINING/TEACHING/INSTRUCTING FOR NON-TACTICAL OPERATIONS

9. TRAINING/TEACHING/INSTRUCTING FOR TACTICAL OPERATIONS

10. PROMOTING AND MAINTAINING ESPRIT AND MORALE

11. COUNSELING/MOTIVATING/ENCOURAGING OTHERS

12. DEVELOPING/INITIATING AND IMPLEMENTING ACTIONS TO MEET REQUIREMENTS

13. CHECKING/INSPECTING/MONITORING (OVERSEEING OPERATIONS)

14. PERFORMING DISCIPLINARY FUNCTION

15. COORDINATING WITH OTHER UNITS/PERSONNEL

16. MANAGNING/PERFORMING ADMINISTRATIVE OPERATIONS

17. COMPILING AND UPDATING INFORMATION/RECORD KEEPING

18. FOLLOWING INSTRUCTIONS/CARRYING OUT SOP

Table 3 (cont.)

Leadership Job Performance Dimensions (JPDs)

for NCOs (E5 - E8)

1. **Setting the Example**

    This JPD is inherent in <u>all</u> leadership tasks, yet deserves
    separate recognition. Everything the leader does that required
    discretionary action presents an example of professional
    competence to the military chain of command. In that positive
    actions show superiors, peers, and subordinates a way to
    perform, the non-commissioned officer affords the Army one of
    the key elements of leadership; "Do as I do" becomes, in effect,
    the major task of the JPD.

2. **Communicating (includes disseminating information, exchanging
   information, speaking and writing)**

    6.a.b.c.d.*   Maintain/monitor bulletin board.

    22.a.b.c.   Prepare military correspondence (draft, assemble,
    check, content, format, accuracy, etc.).

    44.a.b.c.   Prepare After-Action Reports.

    46.a.b.   Draft messages (DD Form 173).

    47.a.b.c.d.   Conduct meetings (briefings, discussions,
    seminars, etc.

    48.a.b.c.d.   Participate in meetings (staff, commander,
    council, promotion boards, courts martial
    etc.).

    67.a.b.c.d.   Brief newly assigned personnel on mission and
    policies.

    133.a.b.c.   Conduct NCO calls.

    196.a.b.c.d.   Disseminate intelligence and weather data to
    subordinates and support elements.

3. **Managing Personnel (e.g., making assignments, reassignments,
   promotions, sending to school)**

    8.a.b.c.d   Answer/refer inquiries concerning personnel
    actions.

*Code: a.   Task applies to E8
       b.   Task applies to E7
       c.   Task applies to E6
       d.   Task applies to E5

Table 3 (cont.)

13.a.b.c.d.   Supervise the inprocessing/outprocessing of personnel.

15.a.b.d.   Conduct personnel asset inventory with commander.

32.a.b.c.d.   Recommend individuals for personnel actions (promotion, reassignment, reduction, flagging action, etc.).

106.a.b.d.   Recommend approval/disapproval of personnel actions (DA Form 4187).

111.a.b.c.d.   Recommend personnel for administrative elimination.

112.a.b.c.d.   Recommend personnel for special/additional duties.

113.a.b.c.d.   Recommend duty assignment and changes in utilization of personnel.

114.a.b.   Review/correct unit manning.

119.a.b.   Recommend personnel for MOS reclassification.

122.a.b.c.d.   Prepare/review military personnel job descriptions.

135.a.b.c.d.   Recommend personnel to attend service schools/ additional or specialized training.

145.a.b.c.d.   Designate personnel to attend unit training.

192.a.b.c.d.   Evacuate/supervise evacuation of sick and injured to aid station.

4. **Managing and Maintaining Equipment, Facilities, Supplies, and Transportation**

52.a.b.c.d.   Arrange for transportation of personnel and equipment.

54.a.b.d.   Monitor/coordinate resupply operations.

55.a.b.c.d.   Determine supply requirements.

58.a.b.c.d.   Control/monitor equipment usage.

59.a.b.c.d.   Conduct physical inventories (installed property, equipment, supplies, ammunition, etc.).

62.a.b.c.d.   Maintain hand receipts.

Table 3 (cont.)

89.a.b.d.   Organize/supervise the MUAA/IUA (trains) area.

162.a.b.c.d.   Supervise and monitor cleaning and lubrication of equipment.

168.a.b.c.d.   Establish maintenance priorities.

170.b.c.d.   Initiate Equipment Improvement Recommendation (EIR).

171.b.c.d.   Prepare both serviceable and unserviceable equipment for turn-in and initiate requests for issue/turn-in.

191.a.b.   Supervise establishment and operations of a unit motor pool.

207.a.b.c.   Request/provide/supervise provision of PLL to elements at worksite.

5. Evaluating Information and Making Decisions

9.a.b.c.   Monitor/analyze contents of communications correspondence, messages, directives, etc.) for action to be taken.

57.a.b.c.d.   Review and make recommendations regarding reports of survey and statements of charges.

84.a..b.d.   Determine or assists commander to determine criteria for probable cause for search and seizure.

93.a.b.c.d.   Evaluate operations orders for impact on unit capabilities.

142.a.b.c.d.   Implement/conduct training to correct individual/ unit deficiencies.

181.a.b.c.d.   Conduct physical security inspections and determine unit physical security requirements.

184.a.b.   Recommend suspension/revocation of security clearances.

6. Short-Term Planning

78.a.b.c.   Plan/coordinate ceremonies.

90.a.b.c.   Direct coordination and preparation of advance party.

Table 3 (cont.)

99.a.b.c.d.   Prepare loading plans and spot check loaded vehicle for compliance with vehicle loading plans.

125.a.b.c.d.   Establish work priorities and distribute workloads.

149.a.b.c.d.   Plan use of available training time.

205.a.   Develop plan for medical support. (8)

206.a.   Prepare operations estimate.

7. **Performing General Training Tasks (applies to both tactical and non-tactical training)**

72.a.b.c.d.   Explain local laws, regulations, customs, and civilian-military relations (e.g., Status of Forces Agreement, city status, off-limit establishments, etc.) to personnel.

75.a.b.d.   Assist in development of junior officers.

103.a.b.c.d.   Instruct personnel on standards, traditions, and division of duties in Army.

136.a.b.c.d.   Provide input to training schedules.

137.a.b.c.d.   Plan/provide input for unit NCO training.

139.a.b.c.d.   Monitor subordinates' attainment of DA minimum civilian education goals.

143.a.b.c.d.   Implement/conduct training to correct individual/unit deficiencies.

144.a.b.c.d.   Supervise/conduct training rehearsals and both classroom and outdoor/field type training.

146.a.b.c.d.   Review training performance objectives.

150.a.b.c.d.   Plan, coordinate, and supervise/conduct unit and individual training.

151.a..b.c.d.   Establish performance objectives based on commander's and SQT training guidance.

153.a.b.c.d.   Designate and train enlisted training instructors.

155.a.   Determine priorities of tasks selected for training in unit.

156.a.b.c.d.   Draft/review a training outline.

Table 3 (cont.)

157.a.b.c.d.   Implement an on-the-job (OJT) training program.

159.a.b.c.d.   Conduct training briefings.

215.a.b.c.d.   Instruct members of crew served weapons and
                vehicles in the operation and maintenance of
                their equipment.

8. Training/Teaching/Instructing for Non-Tactical Operations

23.b.c.d.   Brief subordinates on precautions for using high
                voltage equipment and treat casualties for shock
                and burns, if required.

45.a.b.   Conduct a fire prevention program to include SOPs,
                drills, firefighting equipment.

77.a.b.c.d.   Train/form and march unit for drill and
                ceremonies.

104.a.b.c.d.   Monitor guard mounts and guard performance,
                instruct personnel on guard duties, conduct
                guard mount, post and inspect sentinels.

138.a.b.c.d.   Develop/supervise/conduct physical fitness
                training/program.

140.a.b.c.d.   Instruct NCO's on relationship between soldiers'
                manuals, SQT's, and ARTEP's.

148.a.b.c.d.   Organize/monitor/implement unit SQT study
                program.

163.a.b.c.d.   Instruct personnel in vehicle operator main-
                tenance techniques and spot check vehicles for
                preventive maintenance indicators.

186.a.b.c.   Conduct unit physical security training.

195.a.b.d.   Train for/conduct civil disturbance
                operations.

216.a.   Train and certify personnel for NBC weapons
                logistical movement.

9. Training/Teaching/Instructing for Tactical Operations

91.a.b.c.d.   Train for or Erect/inspect/repair field
                fortifications.

98.a.b.c.d.   Train for/conduct tactical ground movements.

134.b.c.d.   Instruct personnel in combat patrol techniques.

42

Table 3 (cont.)

152.a.b.c.d.   Instruct subordinates in the basic military
               skills, e.g., firing and maintenance of TOE
               weapons, map reading, first aid, communication,
               etc.).

193.a.b.c.d.   Train for/establish a tactical bivouac.

194.a.b.c.d.   Train for/conduct rear area protection
               operations.

197.a.b.c.d.   Train for/establish observation and listening
               posts.

198.b.c.d.   Train for/conduct day and night surveillance.

199.a.b.c.   Train for/occupy and secure company CP.

200.a.b.c.d.   Train for/assist in site reconnaissance,
               selection and improvements.

203.a.b.c.d.   Train for/implement/supervise unit defensive
               posture.

204.a.b.c.d.   Train for/identify opposing force (OPFOR)
               weapons and equipment.

208.b.d.   Train in range estimation and adjustment of fire.

209.a.b.c.d.   Train for/supervise/implement response to air/
               ground attack.

213.a.b.c.d.   Train/organize for combat operations.

10.Promoting and Maintaining Esprit and Morale

2.a.b.c.d.   Recommend approval/disapproval of leave and
               pass requests.

12.a.b.c.d.   Answer/refer pay inquiries from service members.

18.a.b.d.   Screen Leave and Earnings Statement (LES)
               for potential pay problems.

35.a.b.c.d.   Monitor/maintain suggestion program.

65.a.b.c.d.   Monitor troop health and welfare and advise
               superior of problem areas.

69.a.b.c.d.   Visit personnel in hospital/confinement.

81.a.b.c.d.   Plan/organize unit recreation activities.

Table 3 (cont.)

101.a.b.c.d.   Develop, implement, and monitor human relations program.

110.a.b.c.d.   Make appointments for enlisted personnel (medical, chaplain, IG, AER, etc.).

116.a.b.   Supervise the unit enlisted sponsorship program.

121.a.b.c.d.   Write/provide input for recommendations for awards/decorations and monitor program.

123.a.b.c.d.   Write letters of welcome to newly assigned personnel.

11. Counseling/Motivating/Encouraging Others

10.a.b.c.   Conduct both formal and informal counseling sessions and prepare and maintain couseling records.

56.a.b.d.   Counsel soldier on the procedure he/she must follow to be relieved from pecuniary liability.

105.a.b.c.d.   Counsel and assist personnel with personal problem.

107.a.b.c.d.   Evaluate and counsel military personnel on job performance (good or bad).

108.a.b.c.d.   Counsel/assist personnel concerning personnel actions.

115.a.b.c.d.   Monitor/implement/supervise unit weight control program.

117.a.b.c.d.   Counsel personnel on SQT (e.g., preparation, scoring, importance, etc.).

128..b.c.d.   Talk to dependent wives, husbands (requests, NEO procedures, etc.).

132.a.b.c.d.   Assist/counsel in career planning and personal development.

141.a.b.c.d.   Critique deficiency of enlisted instructors.

127.a.b.c.d.   Promote understanding and compliance with orders.

12. Developing/Initiating and Implementing Actions to Meet Requirements (no SOP)

24.a.b.c.d.   Develop inspection checklist.

Table 3 (cont.)

92.a.b.c.d.   Plan/implement field sanitation activities.

95.a.b.   Prepare/monitor unit tactical feeding plan.

100.a.b.d.   Supervise handling of prisoners of war and refugees.

102.a.b.c.d.   Support and coordinate post/community details.

103.a.b.c.d.   Instruct personnel on standards, traditions, and division of duties in Army.

124.a.b.c.   Provide input to manpower survey documentation.

147.a.b.c.d.   Provide input to unit Master Training Forecast.

169.b.c.d.   Review maintenance/repair work assignments and prepare work schedules.

175.a.b.c.d.   Correct/report security violations.

177.a.b.c.d.   Insure personally owned high dollar value items are registered by serial number.

188.a.b.c.d.   Develop and enforce unit safety program.

189.a.   Establish and operate field ration mess.

190.a.b.c.d.   Emplace/recover or supervise the emplacement and recovery of field expedient warning devices.

13. Checking/Inspecting/Monitoring (overseeing operations)

26.a.b.d.   Monitor fund drive collections.

30.a.b.c.d.   Prepare assigned area for inspection and assist commander in the conduct of inspections. Record inspection results.

33.a.b.   Supervise unit clerk.

40.a.c.   Supervise maintenance of leave control log.

41.a.   Supervise unit mailroom operations.

49.a.b.c.d.   Check area of responsibility and equipment for unsafe condition/fire hazards and correct/report unsafe conditions/safety violations.

50.a.b.   Evaluate/monitor effectiveness of troop mess facility (sanitation, food preparation, etc.).

45

Table 3 (cont.)

51.a.b.c.d.	Evaluate effectiveness of unit supply (economy, accountability, etc.).
61.a.b.c.d.	Inspect basic loads.
64.a.b.c.d.	Enforce standards of military discipline, courtesy, and dress.
73.a.b.c.d.	Inspect individual and organizational equipment for serviceability.
83.a.b.d.	Monitor Unit Fund Council meetings and functions.
86.a.b.c.d.	Supervise occupation and restoration of bivouac area.
87.a.b.c.d.	Supervise local area security.
97.a.b.c.d.	Monitor use of unit radio during NBC survey/ monitoring.
131.a.b.c.	Supervise/monitor conduct of counseling in the unit.
161.a.b.c.d.	Inspect unit buildings and grounds.
164.a.b.c.d.	Check/monitor unit vehicles, equipment, and area for hazardous/unsafe conditions and correct/report safety program violations.
165.a.b.c.d.	Spot check/monitor vehicle trip tickets and dispatch records.
166.a.b.c.d.	Supervise/monitor personnel performing preventive maintenance.
167.a.b.c.d.	Review operational readiness status of unit vehicles and equipment.
183.a.b.d.	Conduct arms room inspections and inventories of ammunition.
217.a.b.c.d.	Monitor energy conservation program.

14. Performing Disciplinary Function

14.a.b.c.d.	Initiate administrative action on AWOL soldiers.
66.a.b.c.d.	Determine projects and details for extra duty personnel.
68.a.b.c.d.	Recommend judicial (court martial) and non-judicial (Article 15) action to commander.

Table 3 (cont.)

70.a.b.c.d. Recommend and initiate non-punitive (letters of reprimand, admonishment, etc.) disciplinary measures.

76.a.b.d. Recommend pretrial confinement.

79.a.b. Prepare and post summary of non-judicial punishment administered form (DA Form 374R) on bulletin board.

82. a.b.d. Research manual for courts martial.

15. Coordinating with Other Units/Personnel

17.a.b.c.d. Control unit personnel visiting Personnel Actions Center (PAC).

154.a.b.c.d. Determine and coordinate required support for training.

173.b.c. Process maintenance/calibration requests/work orders and coordinate workload with supporting unit.

212.a.b.c. Perform command and liaison visits.

16. Managing/Performing Administrative Operations

1.a.b.c.d. Insure suspenses are met.

5.a.b.c.d. Supervise/serve as Charge of Quarters (CQ).

7.a.b.c.d. Receive/monitor and route correspondence.

25.a.b.d. Supervise/use the functional files maintained at the unit.

27.a.b.d. Prepare sick slips (DA Form 689).

29.a.b.d. Initiate/monitor requests for orders.

36.a.b.c.d. Supervise requisition/maintenance of publications and blank forms.

38.a.b.c. Supervise transmittal of documents to Finance (leaves, allotment, pay elections, etc.).

42.a. Supervise the preparation and maintenance of SIDPERs transactions, records, and reports.

43.a. Supervise preparation and maintenance of Personnel Data Cards (DA Form 2475-2).

Table 3 (cont.)

60.a.b.c.d.   Conduct/monitor inventory of absentees'
              personal effects and military equipment.

74.a.b.d.   Review/prepare/forward accident reports.

80.a.b.   Monitor administrative preparation of record
              of proceedings under Article 15, UCMJ.

85.a.b.   Supervise the preparation of sworn/unsworn
              statements.

109.a.b.c.d. Prepare EER/SEER and review for accuracy and
              completeness.

126.a   Prepare/review civilian evaluation reports.

176.a.b.c.d. Supervise/monitor key control.

211.a.b.c.d. Provide/insure laundry exchange.

214.a.c.   Implement and monitor Personnel Reliability
              Program (PRP).

17. Compiling and Updating Information/Record Keeping

3.a.b.c.d.   Prepare/maintain/monitor duty rosters.

4.a.b.c.d.   Review and annotate promotion eligibility roster.

11.a.b.c.d.   Review/monitor/report and correct unit
              Personnel Information Roster.

16.a.b.c.d.   Prepare/maintain unit alert roster.

19.a.b.c.d.   Maintain unit standard operating procedures
              (SOP), e.g., draft changes and corrections and
              post.

20.a.b.c.d.   Prepare and maintain status reports, boards,
              and charts.

21.a.b.c.d.   Consolidate/prepare recurring reports.

28.a.b.   Supervise/contribute to preparation of daily
              staff journal/unit historical report.

31.a.b.c.d.   Maintain special activities calendar.

34.a.b.   Check log of incoming/outgoing correspondence
              to PAC.

37.a.b.c.d.   Supervise maintenance of limited military
              publication library.

Four JPDs are unique to officers: Exercising Command Responsibility, Defining and Maintaining Goals/Standards/Priorities, Promoting Harmonious Relationships, and Identifying Needs/Requirements. Two JPDs are unique to NCOs: Compiling and Updating Information/Record Keeping, and Following Instructions/Carrying Out SOP. In addition, the language of several officer JPDs is simplified on the JPD list for NCOs. For example, Managing Human Resources for officers becomes Managing Personnel (e.g., making assignments, sending to school, promotion, reassignment) for NCOs.

The final NCO task list contained 216 tasks. Of the original 280 tasks, 65 were eliminated and one was added.

AN ANALYSIS OF THE JOB PERFORMANCE DIMENSIONS

Using a questionnaire format, ratings of the JPDs were obtained from samples of officers and NCOs. The first booklet contained introductory material including a definition of leadership and a list of JPDs with examples of tasks included in each JPD. Each JPD was rated on four scales: importance, time spent, freedom of choice, and results. The importance scale asked respondents: "How important do you consider your performance on this part of your current job to accomplishing unit missions?"; the time spent scale asked: "How much of your total working time do you spend on activities that are in some way related to this part of your current job"; the freedom of choice scale asked: "How long does it typically take you to learn about the effects or results of what you do in this part of your job?" Each scale was presented with appropriate definition. In addition to these scales, the booklet contained a background section concerning the respondent's grade/rank, duty position/title, unit/organization, and primary MOS/specialty code.

The questionnaire was adminstered at Ft. Ord, California and at Ft. Bragg, North Carolina. Subjects at the two sites were provided by the 7th Infantry Division and the 82nd Airborne Division respectively.

Table 4 presents the number of respondents in each grade of officer and NCO personnel who completed surveys at Ft. Ord and Ft. Bragg. At an earlier stage in this project, one subject matter expert had suggested that personnel in Command positions at various grade levels might have more in common with one another than with personnel at the same level who were in Staff positions. To examine this hypothesis, personnel at each grade level were subdivided into those in Command and those in Staff positions. This latter classification was based upon the duty assignment each participant listed in the background information section of the survey.

Table 4 shows very few survey instruments completed by Second Lieutenants and Colonels. Due to the small sample sizes, these two groups were combined with similar grades for this set of analyses. Specifically, Colonels and Lieutenant Colonels were analyzed as a single group (referred to as Colonels) and Second Lieutenants and First Lieutenants were analyzed as a single group (referred to as Lieutenants).

Table 4

Sample Sizes

OFFICER SAMPLE

RANK	COMMAND	STAFF	TOTAL
2LT	5	0	5
1LT	12	6	18
CPT	16	29	45
MAJ	1	13	14
LTC	12	0	12
COL	2	0	2
TOTAL	48	48	96

NCO SAMPLE

GRADE	COMMAND	STAFF	TOTAL
E5	10	11	21
E6	14	8	22
E7	11	11	22
E8	10	6	16
TOTAL	45	36	81

A second important aspect of the sample is the confounding (non-independence) of the grades and of the Staff-versus-Command distinction. This is most evident in the officer portion of the sample in which all Colonels were in Command positions and almost all Majors and two-thirds of the Captains were in Staff positions.

The analysis of the data collected at Ft. Ord and at Ft. Bragg is described in several sections. The first section presents analyses of the officer ratings of the JPDs on the four rating scales of Importance, Time Spent, Frequency, and Time to Results. A second section presents a similar set of analyses of the NCO ratings of the JPDs on the four rating scales. (Tables 2 & 3 provide a summary of the JPDs for officers and NCOs respectively).

Officer JPD Ratings

Table 5 presents descriptive statistics for the Importance ratings made by the officer sample on each of the 18 officer JPDs. In this table, the first column presents the mean ratings of each JPD on the Importance criterion scale across the entire officer sample. An examination of the means in this column indicates that all 18 of the JPDs were considered to have relatively high importance for officers. JPD 16, Performing Disciplinary Function, has the only mean rating that is below the middle point of 4 on the Importance scale. Setting the Example and Communicating (JPDs 1 and 4) both have mean ratings higher than 6.0.

The second through fifth columns of Table 5 present the means and standard deviations (in parentheses) of the Importance ratings made by each of the four officer grade groups. The sixth column displays the F-ratio used to test for significant differences among the grade groups on each JPD. Six of the JPDs are indicated as having differential importance for the four grade categories. The six JPDs are Communicating (JPD 4); Training, Teaching, and Instructing (JPD 9); Promoting and Maintaining Esprit and Morale (JPD 10); Counseling, Motivating, and Encouraging Others (JPD 11); Performing Disciplinary Function (JPD 16); and Managing and Performing Administrative Operations (JPD 18). A closer examination of the grade means of these JPDs indicate no consistent increase and/or decrease in Importance as rank increases. Rather

52

Table 5

Officer Ratings of JPD Importance

JPD	GRAND MEAN	GRADE GROUPING					COMMAND STAFF GROUPING		
		LT N=23	CPT N=45	MAJ N=14	COL N=14	F-test[a]	CMND N=48	STFF N=48	F-test[b]
1	6.15	6.39 (0.94)[c]	6.04 (1.21)	5.64 (0.93)	6.57 (0.51)	2.479	6.63 (0.53)	5.67 (1.23)	24.690**
2	5.54	6.00 (1.31)	5.31 (2.07)	4.86 (1.61)	6.21 (0.89)	2.287	6.44 (0.77)	4.65 (1.98)	34.033**
3	5.76	5.74 (1.18)	5.84 (1.52)	5.07 (1.38)	6.21 (0.97)	1.782	6.06 (1.12)	5.46 (1.54)	4.823*
4	6.01	5.52 (1.24)	6.24 (1.05)	6.43 (1.02)	5.64 (1.28)	3.231*	5.52 (1.18)	6.50 (0.92)	20.409**
5	5.49	5.48 (1.27)	5.58 (1.57)	4.93 (1.82)	5.79 (0.89)		5.77 (1.08)	5.21 (1.74)	3.635
6	4.74	4.96 (1.87)	4.62 (2.04)	4.86 (1.79)	4.64 (1.22)		5.13 (1.55)	4.35 (2.04)	4.349*
7	5.86	6.00 (1.31)	5.93 (1.32)	5.57 (1.45)	5.71 (1.20)		5.83 (1.28)	5.90 (1.36)	
8	5.11	5.22 (2.04)	5.11 (1.70)	5.00 (1.75)	5.07 (1.07)		5.10 (1.65)	5.13 (1.76)	
9	4.92	4.83 (1.47)	5.02 (1.71)	3.71 (2.16)	5.93 (1.00)	4.325**	5.44 (1.32)	4.40 (1.94)	9.441**
10	5.15	5.26 (1.29)	5.18 (1.54)	4.07 (1.54)	5.93 (0.92)	4.207**	5.73 (1.03)	4.56 (1.64)	17.517**
11	5.53	6.09 (1.04)	5.09 (1.49)	5.50 (1.02)	6.07 (0.73)	4.324**	6.08 (1.03)	4.98 (1.33)	20.736**
12	4.43	4.35 (1.37)	4.58 (1.54)	4.14 (2.07)	4.36 (1.50)		4.54 (1.38)	4.31 (1.74)	
13	4.77	4.35 (1.87)	5.13 (1.77)	4.79 (2.19)	4.29 (1.38)	1.355	4.60 (1.65)	4.94 (1.98)	
14	5.01	5.43 (1.65)	5.20 (1.71)	4.71 (1.98)	4.00 (1.36)	2.475	5.04 (1.57)	4.98 (1.90)	
15	5.19	5.39 (1.62)	5.24 (1.75)	4.21 (1.81)	5.64 (1.22)	2.090	5.77 (1.26)	4.60 (1.87)	12.904**
16	3.81	4.00 (2.00)	3.64 (2.31)	2.50 (1.83)	5.36 (1.50)	4.627**	5.08 (1.75)	2.54 (1.82)	45.647**
17	5.36	4.83 (2.15)	5.53 (1.59)	6.00 (1.66)	5.07 (1.27)	1.685	4.65 (1.84)	6.08 (1.27)	19.867**
18	4.65	4.22 (2.19)	5.07 (1.63)	5.36 (1.39)	3.29 (1.38)	5.078**	3.81 (1.79)	5.48 (1.46)	24.938**

[a]Degrees of freedom = (3,92). *$p \leq .05$.

[b]Degrees of freedom = (1,94). **$p \leq .01$.

[c]Numbers in parentheses are standard deviations on a 7-point scale.

53

in most instances the Lieutenants and Colonels seem to attach similar importance to a JPD as do the Captains and Majors.

The seventh and eighth columns of Table 5 present the mean and standard deviation of the Importance ratings of each JPD by personnel in Command and Staff positions respectively. The ninth column contains the F-ratios used to test for significant differences between the Command and Staff means. All six JPDs that had significant differences among the grade levels also show significant differences between Command and Staff positions. Again, the confounding effects between these two classifications provides a possible explanation of this overlap. Six additional JPDs also have Command and Staff mean Importance ratings that differ significantly. They include: Setting the Example (JPD 1); Exercising Command Responsibility (JPD 2); Defining and Maintaining Goals, Standards, and Priorities (JPD 3); Managing and Maintaining Material Resources and Funds (JPD 6); Checking, Inspecting, and Monitoring (JPD 15); and Coordinating with Other Units and Personnel (JPD 17).

Table 6 presents the descriptive statistics for the Time Spent ratings of the 18 officer JPDs. Most of the JPDs have overall mean Time Spent ratings in the range of 4.0 to 5.0. The JPD indicated as having the least amount of Time Spent is Performing Disciplinary Function (JPD 16) which was also considered the least Important JPD. Communicating (JPD 4) is the JPD upon which the greatest amount of time is spent.

Table 6 indicates grade differences in mean Time Spent ratings for Exercising Command Responsibility (JPD 2); Communicating (JPD 4); Evaluating Information and Making Decisions or Recommendations (JPD 7); Training, Teaching, and Instructing (JPD 9); Promoting and Maintaining Esprit and Morale (JPD 10); Checking, Inspecting, and Monitoring (JPD 15); Coordinating with Other Units and Personnel (JPD 17); and Managing and Performing Administrative Operations (JPD 18). With the exception of JPD 7, the Command versus Staff responsibility groups differ in mean Time Spent on all the JPDs just listed and on Setting the Example (JPD 1); Defining and Maintaining Goals, Standards, and Priorities (JPD 3); Counseling, Motivating, and Encouraging Others (JPD 11); and Performing Disciplinary Function (JPD 16).

Table 6

Officer Ratings of JPD Time Spent

JPD	GRAND MEAN	GRADE GROUPING					COMMAND STAFF GROUPING		
		LT N=23	CPT N=45	MAJ N=14	COL N=14	F-test[a]	CMND N=48	STFF N=48	F-test[b]
1	4.93	5.09 (1.56)c	4.89 (1.81)	4.21 (1.67)	5.50 (1.34)	1.469	5.35 (1.58)	4.50 (1.70)	6.506*
2	4.52	5.13 (1.58)	4.29 (2.24)	3.29 (1.68)	5.50 (1.40)	4.148**	5.69 (1.39)	3.35 (1.86)	48.492**
3	4.59	4.87 (1.49)	4.58 (1.69)	3.86 (1.66)	4.93 (1.64)	1.372	5.04 (1.47)	4.15 (1.69)	7.675**
4	5.82	5.30 (1.55)	6.11 (1.11)	6.29 (0.91)	5.29 (1.27)	3.741*	5.27 (1.41)	6.38 (0.84)	21.704**
5	4.52	4.17 (1.72)	4.58 (1.88)	3.86 (1.83)	5.57 (1.50)	2.564	4.88 (1.59)	4.17 (1.99)	3.700
6	3.96	3.78 (1.91)	4.04 (2.28)	4.00 (2.11)	3.93 (1.33)		4.27 (1.70)	3.65 (2.28)	2.316
7	5.29	4.61 (1.47)	5.62 (1.48)	5.57 (1.40)	5.07 (1.21)	2.835*	5.04 (1.43)	5.54 (1.49)	2.822
8	4.27	4.26 (1.57)	4.36 (1.88)	4.50 (1.51)	3.79 (1.37)		4.13 (1.51)	4.42 (1.84)	
9	4.31	4.35 (1.75)	4.38 (1.91)	3.00 (1.57)	5.36 (1.45)	4.233**	4.92 (1.47)	3.71 (2.01)	11.297**
10	4.09	3.96 (1.36)	3.98 (1.83)	3.29 (1.86)	5.50 (1.16)	4.639**	4.79 (1.40)	3.40 (1.78)	18.209**
11	4.33	4.43 (1.38)	4.20 (1.82)	3.79 (1.63)	5.14 (1.51)	1.761	5.04 (1.30)	3.63 (1.71)	20.849**
12	3.58	3.26 (1.57)	3.71 (1.77)	3.29 (2.13)	4.00 (1.62)		3.81 (1.51)	3.35 (1.95)	1.655
13	4.21	3.74 (1.81)	4.42 (1.84)	4.43 (1.87)	4.07 (1.49)		4.06 (1.56)	4.35 (1.99)	
14	4.31	4.48 (2.04)	4.56 (1.83)	4.00 (2.08)	3.57 (1.40)	1.182	4.33 (1.64)	4.29 (2.09)	
15	4.45	4.70 (1.40)	4.29 (2.07)	3.43 (1.55)	5.57 (1.28)	3.742*	5.13 (1.48)	3.77 (1.92)	15.004**
16	2.83	2.83 (1.99)	2.62 (1.86)	2.29 (1.86)	4.07 (1.82)	2.589	3.77 (1.77)	1.90 (1.63)	29.271**
17	4.70	4.30 (1.94)	5.00 (1.69)	5.43 (1.91)	3.64 (1.60)	3.255*	3.69 (1.57)	5.71 (1.50)	41.457**
18	4.27	4.13 (1.96)	4.76 (1.65)	4.43 (1.65)	2.79 (1.37)	4.895**	3.71 (1.60)	4.83 (1.83)	10.323**

[a]Degrees of freedom = (3,92).

[b]Degrees of freedom = (1,94).

cNumbers in parentheses are standard deviations on a 7-point scale.

*$p \le .05$.

**$p \le .01$.

The descriptive statistics for the Freedom of Choice ratings made by the officer sample are presented in Table 7. The mean Freedom of Choice ratings indicate that, across this sample of personnel, the most frequently performed JPDs are Counseling, Motivating, and Encouraging Others, and that the least frequently performed JPD is Performing Disciplinary Function.

Table 7 indicates five JPDs that differ in Freedom of Choice across the grade levels: Setting the Example (JPD 1); Communicating (JPD 4); Identifying Needs or Requirements (JPD 13); Performing Disciplinary Function (JPD 16); and Managing and Performing Administrative Operations (JPD 18). Only two of these JPDs show significant differences in mean ratings made by Command versus Staff personnel. The six JPDs that yielded significant differences between Command and Staff were: Exercising Command Responsibility (JPD 2); Managing Human Resources (JPD 5); Checking, Inspecting, and Monitoring (JPD 15); Performing Disciplinary Function (JPD 16); Coordinating with Other Units and Personnel (JPD 17); and Managing and Performing Administrative Operations (JPD 18).

The data gathered on the Time of Results scale are presented in Table 8. The first column of the table, which displays the mean Time to Results for each JPD across the entire officer sample, shows that two-thirds of the JPDs provide feedback earlier than the midpoint of the scale (less than a month). The JPD with the longest Time to Results is Managing and Maintaining Material Resources and Funds (JPD 6). Not surprisingly, the JPD which has the most immediate feedback, as indicated by the Time of Results mean, is Communicating (JPD 4). Far fewer JPDs yielded significant differences among grade levels or between Command and Staff groups on the Time to Results Scale than on the other three rating scales. The three JPDs with significant mean differences among grade levels are: Evaluating Information and Making Decisions or Recommendations (JPD 7); Developing and Adjusting Plans (JPD 8); and Managing or Performing Administrative Operations (JPD 16). Only two JPDs had significant differences between the mean Time to Results ratings by Command and Staff personnel. The two are: Evaluating Information and Making Decisions (JPD 5) and Counseling, Motivating, and

Table 7

Officer Ratings of JPD Freedom of Choice

JPD	GRAND MEAN	GRADE GROUPING					COMMAND STAFF GROUPING		
		LT N=23	CPT N=45	MAJ N=14	COL N=14	F-test[a]	CMND N=48	STFF N=48	F-test[b]
1	6.02	5.30 (2.34)[c]	6.31 (1.46)	5.57 (2.10)	6.71 (0.61)	2.787*	6.21 (1.66)	5.83 (1.89)	1.063
2	4.81	5.00 (1.60)	4.58 (2.04)	4.29 (2.09)	5.79 (1.48)	1.933	5.67 (1.36)	3.96 (2.00)	23.978**
3	4.77	4.22 (1.65)	4.84 (1.69)	4.79 (1.31)	5.43 (1.02)	1.847	4.96 (1.52)	4.58 (1.62)	1.370
4	5.40	4.30 (1.72)	5.64 (1.54)	6.00 (1.52)	5.79 (1.37)	5.134**	5.21 (1.64)	5.58 (1.67)	1.232
5	4.73	4.61 (1.64)	4.51 (1.97)	4.71 (2.02)	5.64 (1.34)	1.416	5.17 (1.46)	4.29 (2.07)	5.708*
6	3.98	3.96 (1.92)	3.58 (1.99)	4.86 (1.56)	4.43 (1.16)	2.099	4.23 (1.68)	3.73 (2.00)	1.763
7	5.26	4.78 (1.44)	5.44 (1.45)	5.50 (1.65)	5.21 (1.05)	1.235	5.21 (1.37)	5.31 (1.52)	
8	4.29	4.13 (1.55)	4.13 (1.74)	4.93 (1.69)	4.43 (1.28)		4.27 (1.35)	4.31 (1.88)	
9	5.00	4.52 (1.95)	4.84 (1.80)	5.50 (1.91)	5.79 (0.97)	1.986	5.15 (1.52)	4.85 (2.03)	
10	5.74	5.30 (1.43)	5.60 (1.63)	6.29 (0.91)	6.36 (0.50)	2.574	5.98 (1.18)	5.50 (1.60)	2.800
11	6.19	6.17 (0.94)	6.04 (1.52)	6.43 (0.85)	6.43 (0.51)		6.33 (0.78)	6.04 (1.50)	1.426
12	5.73	5.48 (1.53)	5.62 (1.57)	6.21 (0.97)	6.00 (0.96)	1.044	5.67 (1.40)	5.79 (1.44)	
13	4.66	3.91 (1.70)	4.62 (1.83)	5.57 (1.65)	5.07 (1.21)	3.115**	4.67 (1.71)	4.65 (1.82)	
14	4.74	4.61 (1.85)	4.64 (1.64)	5.07 (1.69)	4.93 (1.27)		4.79 (1.57)	4.69 (1.72)	
15	5.02	5.04 (1.66)	4.78 (2.14)	4.57 (1.65)	6.21 (0.97)	2.512	5.71 (1.53)	4.33 (1.96)	14.678**
16	3.59	3.00 (1.95)	3.62 (2.07)	2.86 (2.41)	5.21 (1.81)	4.122**	4.56 (1.95)	2.63 (1.93)	23.987**
17	5.29	4.57 (1.85)	5.44 (1.63)	5.57 (1.55)	5.71 (1.38)	2.067	4.81 (1.88)	5.77 (1.29)	8.499**
18	4.76	3.78 (2.04)	4.89 (1.77)	5.86 (1.23)	4.86 (1.75)	4.202**	4.19 (2.00)	5.33 (1.53)	9.940**

---

[a]Degrees of freedom = (3,92).

[b]Degrees of freedom = (1,94).

[c]Numbers in parentheses are standard deviations on a 7-point scale.

*$p \leq .05$.

**$p \leq .01$.

57

Table 8

Officer Ratings of JPD Time to Results

JPD	GRAND MEAN	GRADE GROUPING					COMMAND STAFF GROUPING		
		LT N=23	CPT N=45	MAJ N=14	COL N=14	F-test[a]	CMND N=48	STFF N=48	F-test[b]
1	3.63	3.48 (1.50)c	3.78 (1.57)	3.57 (1.65)	3.43 (1.50)		3.79 (1.56)	3.46 (1.52)	1.130
2	3.40	2.91 (1.16)	3.69 (1.47)	3.50 (1.70)	3.14 (1.51)	1.635	3.38 (1.59)	3.42 (1.33)	
3	4.19	3.74 (1.05)	4.36 (1.37)	4.29 (1.33)	4.29 (1.59)	1.164	4.38 (1.28)	4.00 (1.37)	1.920
4	2.84	2.70 (0.76)	2.80 (1.16)	2.86 (1.61)	3.21 (1.58)		3.00 (1.19)	2.69 (1.24)	1.593
5	3.72	3.74 (1.01)	3.71 (1.14)	3.29 (1.33)	4.14 (1.35)	1.252	4.02 (1.10)	3.42 (1.18)	6.714*
6	4.41	4.43 (0.95)	4.33 (1.38)	4.57 (1.09)	4.43 (1.70)		4.65 (1.21)	4.17 (1.33)	3.416
7	3.38	2.78 (1.00)	3.49 (1.20)	3.93 (1.38)	3.43 (0.94)	3.277*	3.27 (1.22)	3.48 (1.17)	
8	4.02	3.26 (1.51)	4.18 (1.35)	4.57 (1.28)	4.21 (1.63)	3.146*	3.88 (1.48)	4.17 (1.46)	
9	4.24	3.91 (1.35)	4.40 (1.07)	4.43 (1.28)	4.07 (1.14)	1.071	4.31 (1.24)	4.17 (1.14)	
10	3.84	3.83 (1.07)	3.84 (1.31)	4.00 (0.96)	3.71 (1.20)		3.98 (1.14)	3.71 (1.22)	1.264
11	3.80	3.78 (1.00)	3.82 (1.21)	3.57 (1.22)	4.00 (1.11)		4.04 (1.07)	3.56 (1.17)	4.400*
12	3.97	4.09 (1.44)	3.84 (1.35)	4.07 (1.33)	4.07 (0.92)		4.00 (1.30)	3.94 (1.31)	
13	4.10	3.87 (1.52)	4.07 (1.14)	4.57 (1.28)	4.14 (1.17)		3.96 (1.34)	4.25 (1.18)	1.289
14	4.11	3.70 (1.29)	4.18 (1.23)	4.71 (1.33)	4.00 (0.96)	2.092	4.00 (1.22)	4.23 (1.28)	
15	3.36	3.35 (1.37)	3.29 (1.31)	3.86 (1.70)	3.14 (1.17)		3.29 (1.40)	3.44 (1.34)	
16	3.54	4.04 (1.15)	3.40 (1.23)	3.86 (1.75)	2.86 (1.41)	2.787*	3.65 (1.31)	3.44 (1.41)	
17	3.43	3.26 (0.86)	3.36 (1.11)	4.00 (1.24)	3.36 (1.08)	1.600	3.38 (1.04)	3.48 (1.13)	
18	3.80	4.09 (1.28)	3.60 (1.12)	3.93 (1.07)	3.86 (0.86)	1.056	3.94 (1.10)	3.67 (1.14)	1.409

[a]Degrees of freedom = (3,92).

[b]Degrees of freedom = (1,94).

[c]Numbers in parentheses are standard deviations on a 7-point scale.

*$p \leq .05$.

**$p \leq .01$.

58

Encouraging Others (JPD 11). For both of these JPDs the Command group had longer Time to Results than did the Staff group.

With the exception of the Time to Results scale, the ratings showed a greater number (not necessarily magnitude) of significant differences between Command and Staff positions than they did among the four grade categories. Particularly on the Importance scale and the Time Spent scale, there was substantial overlap between those JPDs that yielded significant differences among the grades and those that yielded significant differences between Command and Staff positions. Due to the unbalanced sample sizes in the grade by command/staff matrix and the possible confounds, it is not feasible to determine whether the JPDs with significant differences in both classifications might be more related to one or the other of the grouping factors.

NCO JPD Ratings

Tables 9 through 12 present rating data for NCOs. Table 9 shows that the JPDs of Communicating; Managing Personnel, and Coordinating with Other Units/Personnel are rated as more important as grade increases (E5 through E8). Completing and Updating Information/Record-keeping shows a similar relationship but is not a totally linear relationship.

With respect to Command vs. Staff positions, 6 JPDs reflected differences. All of the training JPDs, i.e., Performing General Training Tasks; Training/Teaching/Instructing for Non-tactical Operations; and Training/Teaching/Instructing for Tactical Operations rated as more important to the Command as compared to staff positions. Checking/Inspecting/Monitoring; Performing Disciplinary Functions, and Following Instructions/Carry Out SOP were also rated as more important to their job by Command position incumbents than by NCOs in Staff positions.

Table 10 shows the data for Time Spent scale results. The JPDs showing a dual relationship between grade and Time Spent were Managing Personnel and Managing/Performing Administrative Operations. Setting

Table 9

NCO Ratings of JPD Importance

JPD	GRAND MEAN	GRADE GROUPING					COMMAND STAFF GROUPING		
		E5 N=21	E6 N=22	E7 N=24	E8 N=17	F-test[a]	CMND N=42	STFF N=36	F-test[b]
1	6.38	6.14 (1.24)c	6.41 (0.67)	6.33 (0.87)	6.71 (0.47)	1.342	6.43 (0.99)	6.36 (0.76)	
2	5.55	4.71 (1.76)	5.45 (1.50)	5.88 (1.15)	6.24 (1.03)	4.300**	5.64 (1.46)	5.44 (1.58)	
3	5.32	4.48 (1.83)	4.95 (1.76)	5.75 (1.07)	6.24 (1.03)	5.549**	5.57 (1.56)	5.03 (1.52)	2.402
4	5.13	4.90 (1.92)	4.82 (1.59)	5.79 (1.41)	4.88 (1.69)	1.798	4.98 (1.69)	5.28 (1.72)	
5	4.67	4.19 (1.91)	4.50 (2.04)	4.92 (1.35)	5.12 (1.27)	1.206	4.71 (1.71)	4.67 (1.66)	
6	5.07	4.52 (2.23)	5.23 (1.85)	5.50 (1.06)	4.94 (1.48)	1.325	5.14 (1.75)	5.06 (1.62)	
7	5.40	5.90 (1.14)	5.59 (1.56)	5.17 (1.49)	4.88 (1.32)	2.050	5.81 (1.33)	5.00 (1.39)	6.873*
8	5.38	5.38 (1.28)	5.27 (1.39)	5.38 (1.50)	5.53 (1.59)		5.90 (1.14)	4.92 (1.50)	10.866**
9	5.29	5.67 (1.46)	5.50 (1.97)	5.04 (1.76)	4.88 (1.93)		5.86 (1.49)	4.64 (1.91)	9.964**
10	4.99	4.57 (2.09)	5.14 (1.73)	4.71 (1.78)	5.71 (1.65)	1.479	5.31 (1.70)	4.69 (1.85)	2.336
11	5.46	5.19 (1.78)	5.27 (1.55)	5.58 (1.47)	5.88 (1.50)		5.60 (1.64)	5.33 (1.57)	
12	4.87	4.29 (1.79)	4.64 (2.06)	5.38 (1.24)	5.18 (1.33)	1.973	4.90 (1.75)	4.94 (1.57)	
13	5.63	5.05 (1.60)	5.73 (1.55)	5.83 (1.37)	5.94 (1.09)	1.625	5.98 (1.16)	5.14 (1.64)	6.919*
14	4.76	3.90 (1.87)	5.09 (1.48)	4.83 (1.79)	5.29 (1.61)	2.632	5.40 (1.58)	4.06 (1.62)	13.823**
15	4.32	3.10 (2.07)	4.45 (2.02)	4.83 (1.37)	4.94 (1.60)	4.673**	4.21 (1.93)	4.42 (1.93)	
16	4.36	3.19 (2.18)	4.05 (2.03)	4.71 (1.68)	5.71 (1.45)	6.138	4.36 (1.99)	4.36 (2.15)	
17	4.14	3.24 (2.21)	4.36 (2.04)	4.08 (1.38)	5.06 (1.78)	3.109*	4.21 (1.96)	4.06 (1.94)	
18	5.36	5.10 (1.79)	5.50 (1.63)	5.50 (1.38)	5.29 (1.86)		5.71 (1.40)	4.89 (1.75)	5.335*

[a]Degrees of freedom = (3,92).

[b]Degrees of freedom = (1,94).

*$p \leq .05$.

**$p \leq .01$.

cNumbers in parentheses are standard deviations on a 7-point scale.

60

Table 10

NCO Ratings of JPD Time Spent

		GRADE GROUPING					COMMAND STAFF GROUPING		
JPD	GRAND MEAN	E5 N=21	E6 N=22	E7 N=24	E8 N=17	F-test[a]	CMND N=42	STFF N=36	F-test[b]
1	5.88	5.90 (1.34)[c]	6.18 (1.01)	5.25 (1.75)	6.35 (1.17)	2.738*	6.17 (1.25)	5.58 (1.54)	3.420
2	4.96	4.33 (1.68)	4.82 (2.13)	5.21 (1.44)	5.59 (1.37)	1.957	5.10 (1.81)	4.75 (1.68)	
3	4.45	3.62 (2.13)	4.18 (2.15)	4.67 (1.74)	5.53 (1.74)	3.228*	5.02 (2.08)	3.83 (1.78)	7.250**
4	4.32	4.24 (1.97)	4.77 (1.88)	4.29 (1.88)	3.88 (1.73)		3.98 (1.88)	4.69 (1.88)	2.829
5	3.95	3.71 (1.90)	4.00 (2.18)	3.92 (1.84)	4.24 (1.99)		3.90 (1.94)	4.03 (2.01)	
6	4.07	3.71 (1.82)	4.05 (1.81)	4.67 (1.58)	3.71 (1.96)	1.413	4.26 (1.70)	3.89 (1.95)	
7	4.46	4.05 (1.86)	5.05 (1.56)	4.42 (1.72)	4.29 (1.40)	1.414	4.93 (1.45)	4.03 (1.83)	5.867*
8	4.73	4.67 (1.24)	5.27 (1.32)	4.42 (1.69)	4.53 (1.77)	1.399	5.21 (1.39)	4.22 (1.40)	9.844**
9	4.45	4.43 (1.86)	5.09 (2.02)	4.29 (1.85)	3.88 (1.90)	1.383	5.12 (1.63)	3.78 (1.91)	11.201**
10	4.11	3.38 (2.13)	4.41 (1.84)	3.75 (1.82)	5.12 (1.80)	3.075*	4.67 (1.84)	3.56 (1.96)	6.633*
11	4.82	4.38 (2.16)	4.86 (1.58)	4.58 (1.69)	5.65 (1.46)	1.855	5.02 (1.70)	4.53 (1.81)	1.549
12	3.98	3.38 (1.91)	3.59 (1.97)	4.25 (1.62)	4.82 (1.55)	2.602	4.17 (1.85)	3.81 (1.86)	
13	4.77	4.29 (1.68)	5.32 (1.43)	4.67 (1.90)	4.82 (1.67)	1.392	5.24 (1.46)	4.36 (1.76)	5.783*
14	3.45	2.90 (1.70)	3.55 (1.63)	3.46 (1.77)	4.00 (2.09)	1.211	3.95 (1.81)	2.94 (1.58)	6.748*
15	3.63	2.76 (1.84)	3.77 (1.88)	3.88 (1.75)	4.18 (1.74)	2.331	3.48 (1.93)	3.83 (1.84)	
16	3.86	3.14 (1.80)	3.55 (1.99)	3.96 (1.90)	5.00 (1.62)	3.448*	3.74 (2.00)	4.03 (1.87)	
17	3.68	3.19 (2.11)	3.45 (2.13)	3.33 (1.86)	5.06 (2.14)	3.273*	3.69 (2.21)	3.44 (2.05)	
18	4.63	4.81 (1.94)	5.09 (1.77)	4.29 (1.78)	4.29 (1.72)	1.021	4.86 (1.72)	4.39 (1.86)	1.336

----

[a]Degrees of freedom = (3,92).   *$p \leq .05$.

[b]Degrees of freedom = (1,94).   **$p \leq .01$.

[c]Numbers in parentheses
are standard deviations on a 7-point scale.

61

Table 11

NCO Ratings of JPD Freedom of Choice

JPD	GRAND MEAN	GRADE GROUPING					COMMAND STAFF GROUPING		
		E5 N=21	E6 N=22	E7 N=24	E8 N=17	F-test[a]	CMND N=42	STFF N=36	F-test[b]
1	5.62	4.57 (2.13)[c]	5.68 (2.12)	5.88 (1.85)	6.47 (1.01)	3.517*	5.43 (2.13)	5.92 (1.68)	1.231
2	4.83	3.57 (1.89)	4.64 (1.89)	5.46 (1.59)	5.76 (1.60)	6.352**	5.07 (2.05)	4.56 (1.68)	1.443
3	4.42	3.14 (1.80)	4.00 (1.75)	5.25 (1.67)	5.35 (2.09)	7.044**	4.60 (2.11)	4.25 (1.90)	
4	4.45	3.95 (2.09)	4.23 (1.95)	5.13 (1.54)	4.41 (1.97)	1.622	3.86 (1.93)	5.06 (1.76)	8.106**
5	3.87	2.90 (1.79)	3.32 (2.10)	4.75 (1.75)	4.53 (1.81)	4.988**	4.00 (2.13)	3.89 (1.89)	
6	4.10	3.62 (1.77)	4.36 (2.08)	4.29 (1.60)	4.06 (2.25)		3.95 (2.16)	4.28 (1.58)	
7	4.65	3.76 (1.87)	4.59 (1.50)	5.17 (1.66)	5.12 (1.90)	2.996*	5.17 (1.45)	3.97 (1.96)	9.519**
8	4.73	4.10 (1.45)	4.91 (1.87)	4.79 (1.82)	5.18 (1.78)	1.393	5.17 (1.48)	4.17 (1.92)	6.732*
9	4.45	3.95 (2.01)	4.23 (2.33)	5.13 (1.30)	4.41 (1.73)	1.634	4.90 (1.74)	3.89 (1.98)	5.821*
10	5.05	3.81 (1.89)	4.91 (2.00)	5.54 (1.72)	6.06 (1.78)	5.437**	5.29 (1.89)	4.78 (2.14)	1.239
11	5.35	4.33 (2.03)	5.09 (1.66)	5.96 (1.49)	6.06 (1.89)	4.359**	5.67 (1.68)	4.94 (2.01)	2.987
12	4.13	3.38 (2.01)	3.86 (1.83)	4.50 (1.77)	4.88 (2.06)	2.403	4.21 (2.03)	4.03 (1.92)	
13	4.65	3.76 (2.02)	4.50 (2.26)	5.17 (1.49)	5.24 (1.71)	2.715	4.86 (2.21)	4.42 (1.66)	
14	4.07	2.76 (1.92)	3.50 (1.77)	4.71 (1.55)	5.53 (1.87)	9.482**	4.48 (2.06)	3.47 (1.89)	4.959*
15	3.87	2.62 (2.04)	3.41 (2.38)	4.63 (1.66)	4.94 (2.01)	5.701**	3.83 (2.32)	3.94 (2.16)	
16	4.17	3.43 (2.04)	3.41 (1.84)	4.67 (1.58)	5.35 (1.73)	5.544**	4.31 (2.08)	4.00 (1.82)	
17	3.64	2.57 (1.72)	2.77 (1.74)	4.00 (1.87)	5.59 (1.80)	11.306**	3.76 (2.18)	3.44 (1.95)	
18	4.55	3.86 (2.22)	4.86 (1.93)	4.71 (1.68)	4.76 (2.05)	1.176	4.98 (1.76)	3.94 (2.14)	5.467*

[a] Degrees of freedom = (3,92).

[b] Degrees of freedom = (1,94).

[c] Numbers in parentheses are standard deviations on a 7-point scale.

*$p \leq .05$.

**$p \leq .01$.

Table 12

NCO Ratings of JPD Time Spent

| JPD | GRAND MEAN | GRADE GROUPING | | | | | COMMAND STAFF GROUPING | | |
		E5 N=21	E6 N=22	E7 N=24	E8 N=17	F-test[a]	CMND N=42	STFF N=36	F-test[b]
1	3.54	3.43 (1.99)[c]	3.50 (2.02)	3.42 (1.67)	3.88 (1.36)		3.74 (1.70)	3.31 (1.79)	1.200
2	3.32	3.33 (1.71)	3.23 (1.93)	3.33 (1.81)	3.41 (1.33)		3.60 (1.75)	2.94 (1.49)	3.059
3	3.98	4.29 (1.45)	3.77 (1.97)	4.04 (1.43)	3.76 (1.30)		4.26 (1.71)	3.58 (1.18)	4.017*
4	3.57	3.57 (1.54)	3.64 (1.87)	3.46 (1.41)	3.65 (1.22)		3.71 (1.50)	3.36 (1.48)	1.088
5	3.45	3.67 (1.68)	3.59 (1.87)	3.33 (1.49)	3.18 (1.19)		3.48 (1.70)	3.25 (1.46)	
6	3.21	3.48 (1.44)	3.00 (1.80)	3.33 (1.37)	3.00 (1.00)		3.48 (1.58)	2.89 (1.24)	3.257
7	3.82	4.05 (1.66)	3.73 (1.70)	3.96 (1.23)	3.47 (1.42)		4.17 (1.56)	3.39 (1.38)	5.356*
8	3.80	3.67 (1.49)	3.68 (1.89)	4.13 (1.30)	3.65 (1.50)		3.98 (1.49)	3.50 (1.56)	1.898
9	3.75	3.52 (1.44)	3.77 (1.54)	3.92 (1.28)	3.76 (1.56)		4.02 (1.32)	3.36 (1.40)	4.645*
10	3.52	3.71 (1.52)	3.45 (1.74)	3.58 (1.28)	3.29 (1.36)		3.69 (1.32)	3.28 (1.50)	1.671
11	3.62	3.43 (1.36)	3.36 (1.71)	3.88 (1.36)	3.82 (1.19)		3.93 (1.31)	3.19 (1.35)	5.907*
12	3.51	3.62 (1.56)	3.50 (1.41)	3.50 (1.10)	3.41 (1.00)		3.86 (1.39)	3.03 (0.97)	9.039**
13	3.27	3.57 (1.89)	3.36 (1.84)	2.88 (0.95)	3.35 (1.00)		3.48 (1.69)	3.08 (1.30)	1.298
14	3.42	3.67 (1.43)	3.55 (1.68)	3.21 (1.32)	3.24 (1.03)		3.52 (1.44)	3.11 (1.24)	1.818
15	3.24	3.24 (1.81)	3.41 (1.84)	3.17 (0.96)	3.12 (1.05)		3.48 (1.67)	2.97 (1.25)	2.208
16	3.17	3.52 (1.50)	2.95 (1.86)	3.17 (1.24)	3.00 (0.79)		3.45 (1.61)	2.75 (1.11)	4.873*
17	3.33	3.71 (1.79)	3.14 (1.98)	3.46 (1.14)	2.94 (0.90)		3.52 (1.71)	3.11 (1.35)	1.363
18	3.01	3.10 (1.64)	2.95 (1.96)	2.96 (1.08)	3.06 (1.43)		3.26 (1.50)	2.69 (1.62)	2.582

[a]Degrees of freedom = (3,92).

[b]Degrees of freedom = (1,94).

[c]Numbers in parentheses
are standard deviations on a 7-point scale.

*$p \leq .05$.

**$p \leq .01$.

the Example and Promoting and Maintaining Esprit and Morale tended to show greater Time Spent for E6s and E8s. Completing and Updating Information/Recordkeeping was a JPD requiring much more time of the E8 than any other grade participating.

The Command-Staff differences again showed greater Time Spent by Command position incumbents on JPDs involving Managing Personnel; Performing General Training Tasks; Training/Teaching/Instructing for Nontactical Operations; Training/Teaching/Instructing for Tactical Operations; Checking, Inspecting and Monitoring; and Performing Disciplinary Functions.

The Freedom of Choice measure (Table 11) showed the greatest number of differences. Eleven of the 18 JPDs were rated as generally increasing in freedom with increasing grade. The Command vs. Staff differences were significant for 6 JPDs. Again, those in command rated themselves as having more freedom in performing 5 of the JPDs than did those in Staff positions. These included the 3 Training JPDs; Performing Disciplinary Functions; and Following Instructions/Carrying Out SOP. Managing and Maintaining Equipment, Facilities, Supplies and Transportation was the one JPD rated higher by those in Staff positions (i.e., those in Staff positions have more freedom in the performance of that JPD).

The Time to Results findings (Table 12), indicated no differences among grade levels in the ratings of the JPDs. Six JPDs did show differences in ratings between Command and Staff, with the Command incumbents having a greater period of time until results were realized.

Due to limited sample sizes, the findings obtained on the JPD ratings should be interpreted with some caution. The data do suggest, however, that the JPDs vary in their importance, time spent, frequency of performance, and time to results.

JPD Field Verification

The final step in the development of the JPDs was a field test designed to verify the content and nature of this initial set of JPDs. To carry out this test it was decided that senior officers and senior

NCOs would be presented with the label of each of the relevant dimensions and the associated task lists. They would be asked individually to assign each task to one and only one JPD. After they had completed their individual assignments, they would be asked to discuss them and reach a consensus with respect to the JPDs to which each task should be assigned. These consensus assignments were then to be compared to those made by the initial panel to obtain an index of overlap and consistency in the task definition of the JPDs.

This field test was conducted during the summer of 1984. Four senior officers, two each at the O5 and O6 levels and five senior NCOs at the E8 level participated in the panel sessions. Separate panel sessions were conducted for the officers and NCOs. The officer meeting was held at Fort Monroe and the NCO meeting was held at Fort Bliss.

Tables 13 and 14 present a brief overview of the results obtained in this verification effort. Overall, the officers assigned 66% of the tasks to the same JPD as did the original panel while the NCOs assigned 57% of the tasks to the same JPDs as did the original panel. As can be seen in these tables, there were substantial differences among the JPDs with respect to the degree of agreement. In some cases, it was above 90%, and in others, below 20%. Tables 15 and 16 present comparison of the task assignments made by the original panel and those made by the officer and NCO verification panels across all JPDs. The results presented in this table indicate a high degree of overlap but also a failure to distinguish certain JPDs. For instance, NCOs apparently had some difficulty in distinguishing between general training and non-tactical training.

Given that the verification panels were supplied with only minimal information concerning the nature of a JPD (i.e., only the title) and that the use of mutually exclusive clustering procedures forces truly overlapping tasks into a single dimension, these overall agreement figures tend to support the validity or replicability of the taxonomic structure. However, these results also indicated that better agreement might be obtained by revising the nature of the JPDs so as to minimize confusion between closely related dimensions. Agreement would likely

65

Table 13

Summary of Officer JPD Verification

JPD No.	Name	No. Tasks (field test data)	% Tasks Assigned (compared to original panel)
2	Exercising Command Responsibility	7	42.85
3	Defining and Maintaining Goals Standards/Priorities	3	33.33
4	Communicating (includes disseminating informations, exchanging information, speaking and writing)	6	66.66
5	Managing Human Resources	8	37.50
6	Managing and Maintaining Materiel Resources/Funds	16	75.00
7	Evaluating Information and Making	13	61.54
8	Developing and Adjusting Plans (strategic, tactical, emergency, (contingency)	11	54.54
9	Training/Teaching/Instructing	18	83.33
10	Promoting and Maintaining Esprit and Morale	8	37.50
11	Counseling, Motivating, and Encouraging Others	7	42.85
12	Promoting Harmonious Relationships (subordinates, community, etc)	6	83.33
13	Identifying Needs/Requirements	9	55.55
14	Developing/Initiating/Implementing Actions to Meet Identified Requirements	10	40.00
15	Checking/Inspecting/Monitoring	7	85.71
16	Performing Disciplinary Function (including UCMJ)	7	85.71
17	Coordinating with Other Units and Personnel	9	88.88
18	Managing/Performing Administrative Operations	17	58.88
Total		162	62.96

% Range   33.33% to 88.88%

Table 14

Summary of NCO JPD Verification

JPD No.	Name	No. Tasks (field test data)	% Tasks Assigned (compared to original panel)
2	Communicating (includes disseminating information, exchanging information, speaking and writing)	9	88.88
3	Managing Personnel (e.g. making assignments, reassignments, promotions, sending to school)	15	53.33
4	Managing and Maintaining Equipment, Facilities, Supplies, and Transportation	16	87.50
5	Evaluating Information and Making Decisions	7	100.00
6	Short-Term Planning	8	12.50
7	Performing General Training Tasks (Applies to both tactical and non-tactical training)	17	41.17
8	Training/Teaching/Instructing for Non-Tactical Operations	11	9.09
9	Training/Teaching/Instructing for Tactical Operations	15	93.33
10	Promoting and Maintaining Esprit & Morale	13	46.15
11	Counseling/Motivating/Encouraging Others	12	66.66
12	Developing/Initiating and Implementing Actions to Meet Requirements (no SOP)	14	14.28
13	Checking/Inspecting/Monitoring (overseeing operations)	23	69.13
14	Performing Disciplinary Function	8	67.50
15	Coordinating with Other Units/Personnel	4	50.00
16	Managing/Performing Administrative Operations	19	52.63
17	Compiling and Updating Information/Record Keeping	17	47.05
18	Following Instructions/Carrying Out SOP	9	33.33
Total		217	55.20

% Range   9.09% to 100.00%

Table 15

Summary of Tasks Assigned to Original JPDs and to the

Verification JPDs (for Officers)

Original JPDs

VERIFICATION JPDs	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	TOTAL
2	3			1		1			1	1	1		1		1	1		11
3		1						1										2
4			4														1	5
5				3					2	3								8
6	1	2			12								1				2	18
7			1			8	3											12
8						1	6					1	2					10
9				1				15	1				1					18
10								1	3									4
11										3								3
12											5							5
13						2	2					5						9
14	3			1	3	1							4				4	16
15														6				6
16															6			6
17								1								8		9
18				2	1				1			3	1	1			10	20
TOTAL	7	3	6	8	16	13	11	18	8	7	6	9	10	7	7	9	17	162

68

Table 16

Sumary of Tasks Assigned to Original JPDs and to the
Verification JPDs (for NCOs)

Original JPDs

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	TOTAL
2	8					2				2								12
3		8			1					1							1	11
4			14								2	4			2	2	1	25
5		2		7	1	2												12
6					1	3					1			1		1		7
7		1				7	8	1								1	1	19
8							1				1							2
9			1		2			14			3						1	21
10									6	1								7
11					2					8		1						11
12					3	1	1			1	2							8
13			1						1			16			2	1	2	23
14													5					5
15									1					2				3
16		3							3			2	2	1	10	2	1	24
17	1	1									1		1		2	8		14
18							1			1	4				3	1	3	13
TOTAL	9	15	16	7	8	17	11	15	13	12	14	23	8	4	19	17	9	217

VERIFICATION JPDs

69

have been improved by revising the original conception of the JPDs to allow for possible assignment of the overlapping tasks to two or more dimensions.

Review of Field Test Results

During the summer of 1984, the results of each of these field tests was reviewed in a series of conferences with Army Research Institute personnel. At this time, a number of conclusions were drawn concerning the progress made to date and the future activities to be accomplished. In general, the results obtained in the present effort were viewed as promising. However, it was also apparent that larger samples would be required if any firm conclusions were to be drawn concerning the nature of Army leadership and the requisite developmental programs. It was also recognized that for the resulting effort to have any lasting value for the Army, specific procedures must be designed for institutionalizing and updating it. For instance, procedures must be designed for assigning new tasks to the JPDs, adding new KSAOs to the taxonomy and developing problem sets for new training programs. Consequently, it was decided that more emphasis should be placed on the construction of a system for the description and development of leadership behavior which was capable of ongoing application in the Army setting.

Aside from these issues, a number of other concerns emerged in the ARRO/ARI review of the results. First, it was pointed out that there was a high degree of similarity between the officers and NCOs with respect to both the content of the JPDs identified in these analyses, and the KSAOs linked to these dimensions. This led to the suggestion that it might be possible to formulate a combined set of JPDs and KSAOs applicable to both officers and NCOs. The construction of such general taxonomies would allow examination of leadership requirements from the lowest to the highest level of the organization. However, it was recognized that the development of the taxonomy would require a more general set of leadership task statements applicable to both officers and NCOs.

A second specific concern which arose in the course of the review was the Sergeants Major Academy's request that sergeants major (E9) be considered in the study. Originally, this position had been excluded

from consideration due to ongoing changes in the nature of the E9 position, and its rather ambiguous position within the Army organizational structure. However, it did appear that the E9 tasks might be adequately incorporated within a broader, more general task list, and so this question was to be considered in further descriptive efforts.

Finally, the results obtained from the verification effort indicated that although it is possible to formulate a reasonably effective taxonomy of leadership tasks through the JPDs, the existing taxonomy of JPDs might not provide a fully adequate vehicle for the summary description of leadership tasks in the Army. The conclusion was based on the fact that some JPDs were not readily discriminated with respect to their task content. As a result, it was decided that an effort should be made to revise the content of the JPDs on the basis of the existing data and a review of the relevant literature.

These considerations led ARRO and ARI to conclude that a number of steps should be taken to enhance the effectiveness of the system. It was agreed that an emphasis would be placed on the definition of a more general taxonomy of JPDs, tasks, and KSAOs applicable to both officers and NCOs. Further, an attempt was to be made to construct a more general set of JPDs based on a global theoretical perspective. Finally, instruments and data collection procedures were revised to facilitate institutionalization, i.e., the development of a data base which could be maintained and updated by the Army.

A Theoretical-Based Taxonomy

Since the focus of this taxonomic effort is on the definition of general summary dimensions, it was decided that a more qualitative, theoretically guided strategy should be employed in the definition of these dimensions. It was argued earlier that effective leadership in bureaucratic organizations will involve the selection of discretionary activities that will result in the attainment of certain predefined goals. Thus, effective leadership may be viewed as a form of organizationally-based, socio-technical problem-solving.

In a boundary role position within any bureaucratic organization, effective problem solving and the selection of discretionary activities

71

are not carried out randomly. The individual in a leadership position must first acquire information pertaining to the problem situation by examining the nature of the relevant subsystems and the impact of their activities on goal attainment. Because organizations present individuals with choices, it is clear that individuals must analyze this information and determine the nature of the discretionary activities. Thus, it will be necessary to carry out discretionary activities in such a way as to permit the effective management of people or the effective management of things with respect to the goals at hand.

The preceding statements imply that, in any bureaucratic organization four superordinate categories of leadership behavior are likely to be apparent in any integrated effort to obtain some goal. These include:

- Information acquisition;

- Information use;

- Managing people; and

- Managing things.

Figure 3 presents a schematic overview of the relationship among these superordinate dimensions in an integrated problem solving effort.

As may be seen in Figure 3, the management of people and of things are assumed to be interrelated. The management of things constitutes an important aspect of leadership because actions such as the allocation of physical resources may have a significant impact on the nature and effectiveness of the transformation process occurring in other subsystems. Further, it can be assumed that the results observed in managing people and things will feedback into information acquisition. In essence, the organized sequence presented in Figure 3 represents an information processing model.

As is the case in any information processing model, these categories may be too broad to have any substantial descriptive value. However, like many other models of this type, it is possible to break down each of these categories into a set of more basic dimensions capable of providing a more accurate description of the leadership
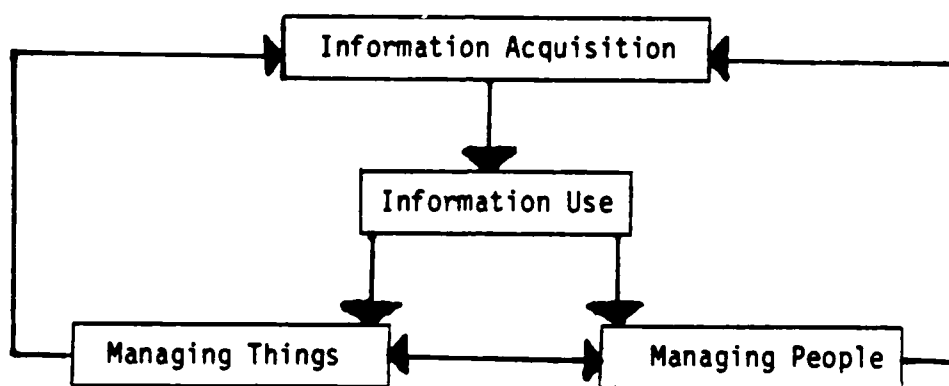
Figure 3. Schematic overview.

73

behavior. Because of their focus on the description of leadership behavior, we have chosen to refer to these more basic categories as JPDs. For instance, it appears that information acquisition subsumes three fundamental JPDs. Information may be acquired from new sources or as a result of the outcomes obtained in previous problem solving efforts. These two aspects of the superordinate dimension might be referred to as Information Acquisition and Feedback and Control, respectively. The third JPD subsumed under the information acquisition dimension derives from the observation that information from the environmental surround will not provide a sufficient understanding for effective problem solving until they have been screened, synthesized and organized with respect to the goals at hand. This suggests the need for a JPD that reflects behaviors concerned with Organizing and Evaluating Information with respect to the goals of the position. Thus, the behavior subsumed under the superordinate information acquisition dimension may be broken down into Acquiring Information, Feedback and Control, and Organizing and Evaluating Information.

Once information has been organized and evaluated with respect to the goals at hand, there are a number of ways it might be employed. First, the information must be used to identify the needs and requirements for achieving a particular goal. In other words, information might be used to specify the nature of the problem situation and the factors that will influence the effectiveness of problem solutions. After the nature of the problem has been specified, two kinds of behavior may occur. The individual may decide that the information and/or problem lie outside the scope of his/her legitimate activities and are better dealt with in another area of the organization. The individual also might decide to take direct action and, as a result, engage in the planning and coordinating activities required to implement action. While planning and coordinating might be considered separate dimensions as in some of the taxonomies presented earlier, this distinction may not be fully appropriate. Coordination with other subsystems is a necessary concomitant of planning in any organizational system and may occur in a highly interactive fashion. These observations suggest that Information Use may be broken down into three JPDs: Identifying Needs and Requirements, Communicating and Planning, and Coordinating.

74

After a plan of action has been formulated, real world leadership will demand effective implementation of the plan. There are two strategies by which individuals can directly act on the transformation process to obtain the goals specified for a boundary role position. First, they can attempt to manipulate or manage the actions of other people within the subsystem. Second, they can attempt to manipulate or manage the nature of the materiel and technical resources being employed in the transformation process. Of course, effective leadership will involve the simultaneous and integrated management of people and materiel. Nevertheless, these two strategies appear to reflect distinct aspects of leadership behavior, and each of these superordinate categories may be broken down into a number of more discrete JPDs.

Four JPDs are subsumed under managing people. First, the nature of the transformation process may be affected by attempts to obtain effective workers for some task, and the effective assignment of workers to the available tasks. The acquisition and allocation of human resources represents an integrated function in that individuals are selected to fulfill certain production requirements on the basis of their availability. Thus, behavior concerned with obtaining and allocating personnel may be subsumed under one JPD. Second, the nature of the transformation process may be influenced by systematic efforts to develop the competencies of the available personnel, such as coaching, performance feedback, and the assignment of on-the-job training. This developmental function is viewed as any action taken designed to enhance the performance capabilities of individuals assigned to the systems under consideration. A third kind of leadership behavior that may be used to manipulate the nature of the transformation process is reflected in actions intended to increase an individuals willingness to perform the desired work. Finally, the nature of the transformation process will be affected by direct application and monitoring of available human resources in carrying out the tasks entailed in the transformation process. Thus, under the general category of managing people, leadership behavior in an organizational context may be viewed as involving four JPDs which include:

- Obtaining and allocating personnel resources;

o Developing personnel resources;

o Motivating personnel resources; and

o Utilizing and monitoring personnel resources.

In examining the management of things, only three categories were identified that appear to constitute JPDs. One of these might be described as obtaining and allocating materiel resources. Obtaining and allocating materiel resources might be considered separate functions. However, they appear sufficiently interwoven to require the use of a common descriptive category. A second kind of leadership behavior subsumed under the management of things is the maintenance of materiel resources. This dimension is concerned with the upkeep of the physical plant required to carry out the transformation process as well as actions taken to ensure that the resources will be used in the most effective manner possible. The third dimension incorporated under management of things reflects the fact that effective leadership requires utilizing materiel resources and monitoring their utilization with respect to the goals at hand. Thus, the three JPDs subsumed under managing things are:

o Obtaining and allocating materiel resources;

o Maintaining materiel resources;

o Utilizing and monitoring materiel resources.

To some extent these dimensions parallel those specified for the management of people. The difference is that behavior concerned with the development of materiel resources is not considered to be a significant aspect of managing things as it pertains to leadership in the organizational context. The exclusion of this dimension was based on the observation that the development of materiel resources is more often than not a purely technical activity with little relevance to solving social problems emerging in the course of the transformation process. As a result this dimension was not considered to be appropriate for inclusion in a general taxonomy of leadership. It might be necessary to include this dimension in the taxonomy when leadership is being examined in certain kinds of organizations, such as professional firms where the development of new tools often constitutes a significant component of organizational leadership.

There are thirteen JPDs that might be used to summarize and describe the leadership behavior occurring in various formal leadership positions in bureaucratic organizations. A brief definition of each of the dimensions is described in Table 17. There are some more subtle points concerning the nature of the taxonomy that should be examined. Perhaps the most important issue concerning the taxonomic structure outlined above is that it provides a general framework for the description of leadership behavior in bureaucratic organizations. The dimensions appear to be equally applicable in the description of leadership behavior in industrial, civil service and military organizations. In the sense that Identifying Needs and Requirements and Acquiring Information are relevant to the description of military leadership in both combat and garrison, these dimensions are capable of providing a framework for the summarization of leadership behavior in markedly different situations. This taxonomy might be employed in summarizing the leadership behavior occurring in most bureaucratic organizations across a variety of positions.

Another important characteristic of this taxonomy concerns the content and importance of these dimensions. While the taxonomic structure outlined above may be used to summarize leadership behavior in a variety of positions and organizations, this does not mean that each of these dimensions will be of equal importance to effective leadership in various positions. The structure of bureaucratic organizations may require individuals in certain positions to devote more time and importance to the leadership behavior incorporated under some dimensions than others. For instance, senior managers may devote a great deal of time to Identifying Needs and Requirements and Planning and Coordinating, while lower level managers may devote more time to Acquiring Information and Developing Human Resources.

Various positions and organizations may differ with respect to their patterns of JPD utilization. The nature of the activities occurring under each dimension may also vary with the nature of the position and organization. For example, although both combat and staff officers may be concerned with communicating information, it is unlikely that staff officers will brief troops on unit objectives, or that line

77

Table 17

Definitions of the Leadership
Job Performance Dimensions

1. **ACQUIRING INFORMATION**

   Gathering, assimilating, storing raw information from all available
   sources.

2. **ORGANIZING AND EVALUATING INFORMATION**

   Categorizing and converting raw information into useful knowledge or
   awareness by carefully considering sources, timeliness, accuracy,
   relevance, and overall usefulness.

3. **IDENTIFYING NEEDS AND REQUIREMENTS**

   Being alert to existing or potential problem areas or to possibili-
   ties for improving an existing system, method or status; iden-
   tifying significant factors or constraints which influence the
   nature of a problem or the requirements for problem solution;
   recognizing, or anticipating whenever possible, the thrust of
   orders, directives or guidance from a higher headquarters.

4. **COMMUNICATING INFORMATION**

   Transmitting, exchanging, reporting or passing on information in
   the form of words, messages, emotions, ideas or signals by any
   means such as speaking, writing, facial expression, gestures,
   automatic data processing or any combination of these either to
   individuals or groups.

5. **PLANNING AND COORDINATING**

   Conceiving ways and means to accomplish jobs, goals and missions
   with available resources or to satisfy identified needs and re-
   quirements and to solve problems; consulting with others in order
   to apprise them to your plans and activities and to become knowl-
   edgeable as to what they are doing or planning to do; confirming
   what assistance others can and will provide to you and you to them.

Table 17 (cont.)

6. **OBTAINING AND ALLOCATING MATERIEL RESOURCES**

   Requisitioning and issuing supplies, food and equipment; requesting and providing facilities and transportation; requesting and disbursing funds; turning-in supplies and equipment.

7. **MAINTAINING MATERIEL RESOURCES**

   Storing, safeguarding, servicing or repairing supplies and equipment; repairing facilities and vehicles; safeguarding funds and documents.

8. **UTILIZING AND MONITORING MATERIEL RESOURCES**

   Prescribing how supplies, equipment, facilities, transportation and funds will be used; preparing and maintaining reports, charts, receipts, logs, files, journals, calendars, checklists and automatic data processing records as a means of monitoring the status of supplies, equipment, facilities, transportation, funds and documents.

9. **OBTAINING AND ALLOCATING PERSONNEL RESOURCES**

   Requisitioning, processing, classifying and assigning personnel in accordance with authorizations, qualifications and needs.

10. **MOTIVATING PERSONNEL RESOURCES**

    Initiating, processing, acting upon personnel actions (separations, retirements, pay inquires, transfers, etc.); counseling, critiquing, exhibiting a genuine personal interest in the success of soldiers as individuals; improving the quality of life for individuals and their dependents; instilling pride in unit and pride in self; providing equal opportunity, credibility, security and a sense of belonging.

Table 17 (cont.)

11. **DEVELOPING PERSONNEL RESOURCES**

    Setting standards; fostering promotions, schooling and professional development for the deserving; teaching soldiers things they need to know in order to survive and win in combat or simulated combat and that will increase their potential value to the Army in both war and peace.

12. **UTILIZING AND MONITORING PERSONNEL RESOURCES**

    Dividing workloads; assigning responsibilities; delegating authority, preparing and maintaining reports, charts, logs, files, journals, calendars, records and checklists as a means of monitoring the status or morale, health, welfare, training and esprit.

13. **FEEDBACK AND CONTROL**

    Following up on guidance and orders to learn whether they are *understood and being followed* at all levels; determining whether the end results of your guidance, policies and orders are what you expected and desired.

officers will brief superiors or support requirements in a combat situation. In an attempt to employ the JPDs to fully describe leadership behavior occurring in specific positions, it will be necessary to evaluate their relative importance and determine their specific behavioral content.

Notably, these dimensions do not reflect completely independent domains of leadership activity. Rather, they must be viewed as highly interdependent entities. An attempt to develop personnel through training must consider the available materiel resources as well as motivational levels. The actions taken in managing people and things will depend upon earlier leadership behavior occurring under the dimensions labeled Acquiring Information and Identifying Needs and Requirements. The hypothesized nature of the interrelationship among the 13 JPDs, is depicted in Figure 4. These dimensions represent an organized set of interrelated activities oriented toward the attainment of some goal. Activity will begin with the acquisition of information flowing through a number of other activities to planning and coordinating, and feeding into the various dimensions incorporated under managing people and things. The integrated set of activities will coincide with feedback and control, which in turn influences all the previous forms of activities.

The dimensions described in Figure 4 should not be considered absolute entities which all individuals must perform in the same way to exhibit effective leadership. Rather, they are part of a dynamic system which is dependent on the nature of the organization, the position at hand, and the propensities and experiences of each individual occupying a leadership position. It does appear that this conception of leadership behavior has produced a set of taxonomic categories capable of providing a summary description of leadership behavior. This taxonomy might well provide the general descriptive system required for the design of more effective leadership identification and development programs.
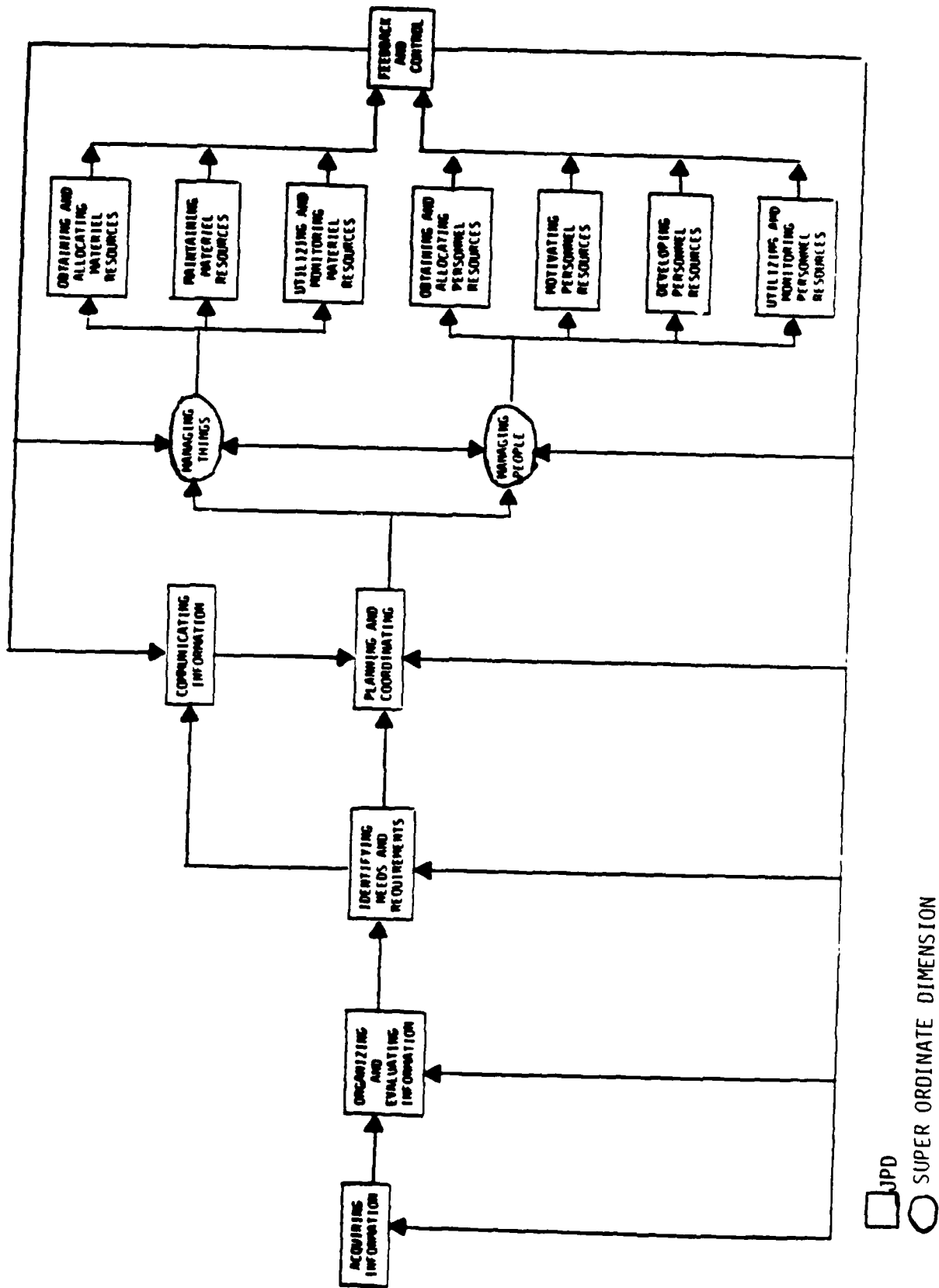
Figure 4. Interrelationships among the JPDs.

VALIDATION

There are a variety of criteria available to assess the effective-
ness of a taxonomic structure. In this section, the information pro-
cessing taxonomy will be evaluated by each of the criteria suggested by
Fleishman and Quaintance (1984).

One criterion employed in assessing the overall effectiveness of a
taxonomy is the clarity of the taxonomic structure; that is, its ability
to yield an unambiguous and consistent assignment of units to certain
categories. The ability of the information processing taxonomy to
satisfy this criterion was examined in a study by Wallis, Korotkin,
Yarkin-Levin, and Schemmer (1985). A set of task lists describing the
activities performed by incumbents in a number of Army leadership posi-
tions was obtained. These task lists were then edited, revised and
synthesized resulting in a separate task list describing the leadership
activities performed by officers in the O1 (lieutenant) to O6 (colonel)
grades, and NCOs in the E5 (squad leader) to E8 (master sergeant)
grades. The editing and revising of the initial task lists was carried
out in accordance with the definition of leadership presented earlier in
this paper.

Once this general leadership task list had been formulated, two
trained psychologists familiar with the JPDs and task lists reached a
consensus concerning the summary dimension each leadership task should
be assigned to. Subsequently, two other psychologists unfamiliar with
the JPDs and leadership tasks were presented with this material and
asked to indicate which dimensions they thought each of these leadership
tasks should be assigned to. It was found that one reviewer in the
second panel assigned 87% of the leadership tasks to the same JPD, while
the second reviewer assigned 94% of the tasks to the same JPD as did the
initial panel. This high degree of correspondence in the independent
allocation of leadership tasks to the JPDs suggests that the information
processing taxonomy is characterized by a high degree of clarity.

Because one of the major concerns of the present effort was the
development of a taxonomic structure capable of summarizing the leader-
ship activities occurring in a wide variety of positions, the robustness

of the taxonomy, was of some concern. The robustness and power of the taxonomic structure may be assessed by examining the extent to which the theoretically derived JPDs are replicated by an empirical clustering of leadership activities into a set of summary dimensions. This issue was addressed by having individuals who had served in a variety of Army leadership positions review a set of leadership tasks for officers (01 to 06) and NCOs (E5 to E8) positions. These individuals were asked to cluster the tasks on the basis of similarity in task content, and to generate a dimensional label describing the task cluster. The initial dimensional structure was refined on the basis of additional data obtained from five Army lieutenant colonels (05) and six master sergeants (E5) describing the perceived similarity among these dimensions. The ten empirical dimensions that resulted from this effort are presented in Table 18.

Table 18 also presents the 13 JPDs incorporated in the information processing taxonomy. There is a high degree of overlap among the dimensions incorporated in these two taxonomies. Dimensions concerned with Communicating Information, Evaluating Information, Identifying Needs and Requirements, and Planning and Coordinating appear in both taxonomies. The empirical taxonomy also includes a number of dimensions concerned with aspects incorporated in other dimensions also appearing in the information processing taxonomy. For example, Training, Counseling, and Motivating and Encouraging Others are in fact subsumed under the dimensions labeled Motivating Personnel Resources and Developing Personnel Resources in the Information processing taxonomy. The similarity in the dimensions incorporated in these two taxonomies suggests that the information processing taxonomy is sufficiently robust and powerful to capture the organization of leadership activities. This convergence in the dimensions provides some additional evidence regarding the generality and construct validity of the dimensions in the information processing taxonomy.

The apparent construct validity of a set of taxonomic categories provides an additional criterion that may be employed in evaluating the effectiveness of a taxonomic effort. Any attempt to establish the

84

Table 18

Empirical and Theoretical

Job Performance Dimensions

EMPIRICAL	THEORETICAL
Communicating Information	Acquiring Information
Evaluating Information; Identifying Needs and Requirements	Organizing and Evaluating Information
Making Decisions and Recommendations	Identifying Needs and Requirements
Planning, Coordinating and Implementing Actions to Meet Identified Requirements	Communicating Information
Managing Things	Planning and Coordinating
Managing People	Obtaining and Allocating Materiel Resources
Performing Administrative Operations	Maintaining Materiel Resources
Training and Instructing	Utilizing and Monitoring Materiel Resources
Counseling, Motivating and Encouraging Others, Promoting and Maintaining Esprit and Morale; Promoting Harmonious Relationships	Obtaining and Allocating Personnel Resources
Performing Disciplinary Function	Motivating Personnel Resources
	Developing Personnel Resources
	Utilizing and Monitoring Personnel Resources
	Feedback and Control

construct validity of a taxonomy is concerned with providing some evidence for the meaningfulness of the summary dimensions or categories incorporated in the taxonomy (Cronbach, 1971). One of the more powerful strategies entails contrasting the taxonomy under consideration with other taxonomic efforts examining similar phenomena (Fleishman & Quaintance, 1984).

In the present study, this comparison was addressed by contrasting the information processing taxonomy with the various taxonomies of leadership behavior. This was accomplished by eliminating all those dimensions contained in Table 1 which did not conform to the definition of leadership used in this research (e.g., general problem solving, technical competence). Then, the remaining dimensions were allocated to the JPDs in accordance with the following procedures. Initially, the behavioral content of each of the dimensions was specified. The content was then evaluated in light of the definition of each JPD, and the dimension was assigned to those JPDs which appeared to examine similar behaviors. An attempt was made not to give a dimension to more than one JPD unless this was clearly called for by overlapping behavioral content. If a dimension did not display substantial behavioral overlap with any JPD, it was not arbitrarily forced into a dimension; rather, it was considered unclassifiable within the information processing taxonomy. The assignments were then reviewed to determine the number of dimensions found in the literature that could be assigned to each JPD, the number of taxonomies found in the literature containing a dimension similar to the JPD, as well as the number of dimensions and taxonomies appearing in the literature that could not be fully described by the 13 JPDs.

Of the 404 dimensions examined in this comparison, 90% could be assigned to one or more of the thirteen JPDs, while only six taxonomies (14% of the sample) contained one or more dimensions that could not be assigned to any of the JPDs. The information processing taxonomy provided a highly effective description of the domain of leadership behavior as defined by the literature. This overlap between the JPDs and the dimensions found in other taxonomies supports the validity and meaningfulness of the 13 summary dimensions.

86

Table 19

Overlap Between the JPDs and the Literature

JPD TITLE	Number		Percent		OVERLAPPING DIMENSIONS (from literature in Table 1)
	Dimension	Taxonomies	Dimension	Taxonomies	
ACQUIRING INFORMATION	20	16	5	.38	7H, 10C, 12D, 14B, 15B, 19Ba, 20D, 24M, 25C, 25D, 27E, 28A, 29E, 32A, 32K, 32L, 32M, 36A, 41I, 42A
ORGANIZING AND EVALUATING INFORMATION	8	6	2	.14	9D, 19Bb 19Bc, 28A, 32B, 32C, 33J, 34A
IDENTIFYING NEEDS AND REQUIREMENTS	20	19	5	.45	2A, 6C, 8B, 9A, 12A, 13A, 16B, 19Bd, 20C, 24C, 25G, 25H, 27C, 28A, 29A, 33D, 34A, 39A, 40A, 41G
COMMUNICATING INFORMATION	23	16	6	.38	5E, 8B, 14B, 16A, 19C, 24C, 24F, 25E, 25F, 28A, 31A, 32D, 33F, 33H, 34C, 34E, 36B, 36I, 40B, 41D, 41J, 42B, 42D
PLANNING AND COORDINATING	39	23	10	.54	1A, 1C, 3A, 3B, 4A, 7A, 7B, 7C, 8B, 9B, 10A, 11F, 12C, 14E, 15A, 15C, 17A, 17B, 19Fa, 19Fb, 19Fc, 19Fd, 19Fe, 20B, 21E, 22A, 27D, 28A, 31A, 32E, 32F, 32G, 33A, 33B, 37I, 37J, 37K, 41G, 41N, 41O
OBTAINING AND ALLOCATING MATERIEL RESOURCES	21	17	6	.39	2B, 8B, 11D, 11H, 12B, 18C, 23A, 23D, 24G, 25I, 25J, 28A, 29D, 31F, 33D, 33E, 34B, 37D, 38A, 39B, 39E, 41H
MAINTAINING MATERIEL RESOURCES	11	10	3	.24	7G, 8B, 11D, 11J, 17B, 18D, 19D, 25A, 28A, 31F, 35E
UTILIZING AND MONITORING MATERIEL RESOURCES	25	18	7	.42	2C, 8B, 11D, 14F, 15B, 15E, 17B, 17C, 18A, 18E, 20E, 22D, 24J, 28A, 29B, 31D, 31F, 32H, 33G, 33I, 33K, 35A, 35D, 37D, 37O, 42F

(continued)

87

Table 19 (cont.)

Overlap Between the JPDs and the Literature

JPD TITLE	Number		Percent		OVERLAPPING DIMENSIONS (from literature in Table 1)
	Dimension	Taxonomies	Dimension	Taxonomies	
OBTAINING AND ALLOCATING PERSONNEL RESOURCES	38	26	10	61	1B, 2B, 2E, 4B, 5A, 6D, 8B, 11H, 11I, 12B, 13A, 14D, 15F, 17B, 18G, 18H, 19Aa, 19Ab, 19Fa, 19Fb, 19Fc, 23A, 23B, 24G, 25I, 25J, 28A, 29C, 30B, 31F, 33C, 33L, 34B, 37D, 37B, 41F, 41H, 41J
MOTIVATING PERSONNEL RESOURCES	66	28	16	66	3F, 3G, 3H, 4B, 6B, 7D, 7E, 8A, 10E, 10F, 10G, 10H, 11E, 11J, 14C, 15F, 15G, 15H, 16G, 16F, 16E, 16D, 16C, 17B, 19Ea, 19Eb, 19Ec, 19Ed, 22C, 22E, 23C, 24A, 24H, 24I, 24N, 25A, 25B, 27A, 27B, 27G, 27H, 28B, 28C, 28D, 29F, 30C, 31B, 31C, 31F, 33C, 33L, 37B, 37C, 37G, 37H, 38D, 39C, 39D, 41A, 41B, 41K, 41M, 41O, 42E
DEVELOPING PERSONNEL	27	18	8	42	5C, 7F, 8A, 10B, 16H, 17B, 18B, 19D, 22B, 24B, 24D, 24E, 24O, 28B, 28C, 28D, 29B, 31F, 33L, 37R, 38C, 40E, 41C, 41E, 41P, 41Q
UTILIZING AND MONITORING	30	19	8	45	1B, 2C, 4B, 6A, 10D, 11B, 13B, 13C, 14A, 14F, 15D, 15E, 17B, 17C, 18A, 18F, 22D, 24J, 29B, 31D, 31F, 33I, 33L, 37R, 38C, 40D, 40E, 41C, 41G, 41P
FEEDBACK AND CONTROL	36	24	7	57	1B, 2D, 4B, 4C, 5B, 5D, 7H, 8B, 10C, 11B, 11C, 14F, 15D, 16I, 17B, 19E, 24I, 24J, 24F, 30C, 31D, 31F, 32H, 32I, 32J, 33C, 33I, 33L, 35F, 37D, 37Q, 38B, 40C, 41D, 41T, 42G

88

There is additional information supporting the validity and generality of the information processing taxonomy. First, some support for the validity of the information processing taxonomy may be found in the literature indicating that there has been an increase in the emphasis placed on information processing dimensions over the last 20 years. Second, the information processing taxonomy incorporates both the management and interpersonal aspects of leadership behavior frequently emphasized in the literature. Finally, aspects of both consideration and initiating structure may be identified among the JPDs subsumed under managing people and managing things. These conclusions suggest that the dimensions postulated by the information processing taxonomy are not only capable of reflecting the dimensions found in the broader taxonomic literature, but are also capable of synthesizing and integrating the diverse literatures. Thus, these observations provide some compelling support for both the generality and meaningfulness of the information processing taxonomy as well as its associated definition and description of leadership behavior.

TAXONOMIC APPLICATIONS

The design of effective leadership identification and development programs will be dependent on knowledge and understanding of the leadership activities likely to be required in various organizations. Below, some of the potential applications of the information-processing taxonomy will be described.

The first issue that is likely to arise in the design of any leadership identification and development program is determining exactly what constitutes effective leadership behavior. This is an especially salient problem due to the complexity of leadership as a behavioral phenomenon (Bass, 1981). In defining and describing leadership behavior as a basis for the design of leadership development programs, the dimensions incorporated in the information processing taxonomy will provide a set of guidelines for enhancing the efficiency of these descriptive efforts.

Another issue concerns the instability or variability in discrete leadership behavior performed across time, positions, and individuals. The efficiency of any program based on a description of leadership behaviors depends on the continuing applicability of the program over time and its utility in enhancing performance in a variety of positions. It should be possible to obtain a general and stable description of leadership behavior occurring in various positions by having incumbents evaluate the importance of each dimension with respect to overall performance in their leadership position. Because all of these positions would be evaluated in terms of the general descriptive framework provided by the taxonomy, it should be feasible to make statements concerning the relative similarities and differences among positions in associated leadership behaviors. This represents a substantial improvement over simple task descriptions of leadership behavior since these leadership activities will tend to be highly sensitive to changes in position requirements. The general summary dimension incorporated in the information processing taxonomy may provide a more appropriate and efficient vehicle for collecting descriptive information than sample task inventories.

90

Generally, leadership identification programs are concerned with identifying those individuals who have the capacity to perform efficiently in one or more leadership positions. This information is used to either assign individuals to special developmental programs or to select individuals for assignment to some leadership position. The descriptive framework provided by the JPDs should have a number of uses in programs of this kind. For example, Fleishman's (1975) ability requirements approach might be used to define the knowledges, skills, abilities and other characteristics (KSAOs) likely to influence effective performance on each of the JPDs. This information might then be used to specify the characteristics of the individual likely to facilitate effective leadership in various positions. Measures of these KSAOs could be formulated and used to select individuals for assignment to various leadership positions. Alternatively, those individuals who possessed the KSAOs in certain higher level positions might be identified on the basis of this information and assigned to the relevant training programs. An individual's relative strengths and weaknesses with respect to the KSAO requirements might also be used to provide the background information concerning the individual and the leadership role required for the specification and tailoring of leadership efforts.

A second potential application of the JPDs incorporated in the information-processing taxonomy may be found in the design of leadership development programs. Evaluation of the importance of each of the JPDs to effective performance in the leadership positions might then be used to determine which of the content areas should be given greater weight for training purposes. In the design of training materials and exercises, individuals could be provided with hand-on experience in the kinds of leadership activities subsumed under the more important JPDs. Application of this general strategy might be further enhanced if the KSAOs related to effective performance on each dimension could be specified and used to specify the knowledges and skills which these training exercises should attempt to develop. This information coupled with that provided by the JPDs, form the basis for highly effective training exercises. The more important JPDs might be used as a basis for eliciting critical incidents reflecting actual leadership problems. The incidents could be analyzed in terms of their KSAO content. When the

potential applications of this taxonomic approach in the design of problem set exercises is considered, it becomes apparent that the JPDs incorporated in the information processing taxonomy might provide a systematic framework for the design and implementation of leadership development programs.

Aside from its utility, there are a number of other applications of this taxonomic structure. The categories of leadership behavior specified by the taxonomy might be employed as general rating dimensions for evaluating the performance of individuals assigned to various leadership positions. This application of the JPDs seems especially attractive because their generality and behavioral basis should allow them to be used with high reliability. This information might have substantial value in spotting weaknesses at both the individual and the aggregate level. Another potential application of the JPDs might be found in attempts to define general categories of leadership positions. Evaluations of the importance of each JPD to adequate performance in various positions might be obtained and used as a general framework for clustering these positions on the basis of the observed similarities and differences in leadership requirements. These categories of leadership positions might then be used to specify common training programs and KSAO requirements for all individuals assigned to those positions incorporated in a common category.

While a number of other potential applications of the dimensions in the information processing taxonomy might be specified, the present discussion indicates that the taxonomy is likely to have practical value. It appears to provide the general descriptive framework required for the design of effective leadership identification and development programs. Thus, the proposed taxonomic approach to leadership development should serve to eliminate redundancy, minimize the number of requisite problems, and maximize the utilization of human and materiel resources.

92

REFERENCES

Barnard, C. I. (1946). The nature of leadership. In S. D. Hoslett Human factors in management. New York: McGraw-Hill.

Bass, B. (1981). Stogdill's handbook of leadership. New York: The Free Press.

Bennett, E. B. (1955). Discussion, decisions, commitment and consensus in "group decision." Human Relations, 8, 251-273.

Berkowitz, L. (1953). An exploratory study of the roles of aircraft commanders. USAF Human Resources Resources Research Center Bulletin, #53-65, 1-27.

Bowers, D. G., & Seashore, S. E. (1966). Predicting organizational effectiveness with a four-factor theory of leadership. Administrative Science Quarterly, 11, 238-263.

Clement, S. D., & Ayres, D. B. (1976). Organizational leadership tasks for Army leadership training. Leadership for the 1970s, Monograph #9. U. S. Army Administration Center.

Clement, S. D., & Ayres, D. B. (1976). The matrix of organizational leadership dimensions. Washington, DC: U.S. Army Administration Center.

Coffin, T. E. (1944). A three-component theory of leadership. Journal of Abnornal and Social Psychology, 39, 63-83.

Cronbach, L. J. (1971). Test validation. In R. L. Thorndike (Ed.), Educational measurement. Washington, DC: American Council on Education.

Davis, F. S. (1951). Conceptions of official leader roles in the Air Force. Social Forces, 32, 253-258.

Dowell, B. E., & Wexley, K. N. (1978). Development of a work behavior taxonomy for first-line supervisors. Journal of Applied Psychology, 63, 563-572.

Elliott, M. P., Harden, J. T., Giesler, R. W., Scott, A. C., & Euske, N. (1979). The process and procedures used for job preparation: Field artillery and infantry officers and NCOs. Carmel, CA: McFann-Grey and Associates.

Erickson, E. (1961). Young Man Luther. New York: Norton.

Fine, S. E. (1977). Job analysis for heavy equipment operators. Washington, DC: International Union of Operating Engineers.

Fleishman, E. A. (1953a). Leadership climate, human relations and supervisory behavior. Personnel Psychology, 6, 205-222.

Fleishman, E. A. (1953b). The measurement of leadership attitudes in industry. Journal of Applied Psychology, 37, 153-158.

Fleishman, E. A. (1975). Toward a taxonomy of human performance. American Psychologist, 81, 1127-1149.

Fleishman, E. A., & Quaintance, M. K. (1984). Taxonomies of human performance: The description of human tasks. New York: Academic Press.

Gilbert, A. C. (1975). Dimensions of certain Army officer positions derived by factor analysis. Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.

Goldstein, I. I. (1974). Training: Program development and evaluation. Monterey, CA: Brooks Cole.

Helme, W. H., Willemin, L. P., & Grafton, F. C. (1971). Dimensions of leadership in a simulated combat situation. Washington, DC: Behavioral Evaluation Research Center.

Helme, W. H. (1974). Leadership research findings applied to the officer personnel management system. Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.

Hemphill, J. K. (1960). Dimensions of executive positions. Columbus, OH: Ohio State University, Bureau of Business Research.

Hemphill, J. K., Seigel, A., & Westie, C. W. (1951). An exploratory study of relations between perceptions of leader behavior, group characteristics, and expectations concerning the behavior of ideal leaders. Columbus, OH: Ohio State University, Personnel Research Board, Unpublished Report.

Jacobs, T. O. (1983). Leadership requirements for the airland battle. Paper presented at the Leadership on the Future Battlefield Symposium, Texas Tech University, Lubbock, TX.

Jaques, E. (1977). A general theory of bureaucracy. London, England: Heineman.

Karmel, B. (1978). Leadership: A challenge to traditional research methods and assumptions. Academy of Management Review, 3, 475-482.

Katz, D., & Kahn, R. L. (1977). The social psychology of organizations. New York: Wiley.

Krech, D., & Crutchfield, R. S. (1948). Theory and problems of social psychology. New York: McGraw Hill.

94

MacKenzie, R. A. (1969). The management process in 3-D. Harvard
    Business Review, 47, 80-87.

Mahoney, T. A., Jerdee, T. H., & Carroll, S. I. (1965). The job(s) of
    management. Industrial Relations, 4, 97-110.

Miller, J. A. (1973). A hierarchical structure of leadership behav-
    iors. Rochester, NY: University of Rochester, Technical Report
    #64.

Mintzberg, H. (1973). The nature of managerial work. New York:
    Harper and Row.

Mumford, M. D. (1985). Leadership in the organizational context: A
    conceptual approach and its application. (Submitted for
    publication).

Mumford, M. D., & Owens, W. A. (in press). Individuality in a
    developmental context. Hillsdale, NJ: Lawrence Erlbaum. In Press.

Nealey, S. M., & Fiedler, F. E. (1968). Leadership functions of middle
    managers. Psychological Bulletin, 5, 313-329.

Olmstead, J. A., Baranick, M. J., & Elder, B. L. (1978). Research on
    training for brigade command groups: factors contributing to unit
    combat readiness. Washington, DC: Human Resources Research Organi-
    zation.

Olmstead, J. A., Cleary, F. K., Lackey, L. L., & Salter, J. A. (1973).
    Development of leadership assessment simulations. Alexandria, VA:
    Human Resources Research Organization.

Olmstead, J. A., Cleary, F. K., & Salter, J. A. (1976). Functions of
    battalion command groups. Alexandria, VA: Human Resources Research
    Organization.

Olmstead, J. S., Lackey, L. L., & Christensen, H. E. (1975). Leader-
    ship actions as evaluated by experienced company-grade officers.
    Alexandria, VA: Human Resources Research Organization.

Peterson, G. W., & Rumsey, M. G. (August 1981). A methodology for
    measuring officer job competence. Paper presented at American
    Psychological Association.

Prien, E. P. (1963). Development of a supervisor position description
    questionnaire. Journal of Applied Psychology, 47, 10-14.

Reaser, J. M., Vaughan, M. R., & Kriner, R. E. (1974). Military
    leadership in the seventies: A closer look at the dimensions of
    leader behavior. Alexandria, VA: Human Resources Research
    Organization.

Roby, T. B. (1961). *The executive function in small groups.* In L. Petrullo and B. Bass (Eds.), Leadership and interpersonal behavior. New York: Holt, Rinehart, and Winston.

Scandura, J. M. (1977). Problem solving. New York: Academic Press.

Selznick, P. (1957). Leadership in administration: A sociological interpretation. Evanston, IL: Row and Peterson.

Shaw, M. E. (1963). Some effects of varying amounts of information exclusively possessed by a group member upon his behavior in the group. Journal of General Psychology, 68, 71-79.

Showel, M., & Peterson, C. W. (1958). A critical incident study of infantry, airborne and armored junior noncommissioned officers. Alexandria, VA: Human Resources Research Organization.

Shutz, W. C. (1961). The ego theory, and the leader as completer. In L. Petrullo and B. Bass (Eds.), Leadership and interpersonal behavior. New York: Holt, Rinehart, and Winston.

Sokal, R. R., & Sneath, P. H. (1963). Principles of numerical taxonomies. San Francisco, CA: Freeman.

Stogdill, R. M., Wherry, R. J., & Jaynes, W. E. (1953). Patterns of leader behavior: A factorial study of Navy officer performance. Columbus, OH: Ohio State University.

Stogdill, R. M., Goode, O. S., & Day, D. R. (1965). The leader behavior of university presidents. Columbus, OH: Bureau of Business Research.

Taylor, L. T., & Rosenbach, W. E. (1954). Military leadership in pursuit of excellence. Boulder, CO: West View Press.

Tornow, W. W., & Pinto, P. R. (1976). The development of a managerial job taxonomy: A system for describing, classifying, and evaluating executive positions. Journal of Applied Psychology, 61, 410-418.

Ulrich, R. A., & Wieland, G. F. (1980). Organizational theory and design. Homewood, IL.

Wallis, M. R., Korotkin, A. L., Yarkin-Levin, K., Schemmer, F. M., & Mumford, M. D. (1985). Leadership job dimensions and competency requirements for commissioned and noncommissioned officers: Remediation of inadequacies in existing data bases. Advanced Research Resources Organization, Bethesda, MD.

Winter, D. G. (1978). Navy leadership and management competencies: convergence among tests, interviews and performance ratings. Boston, MA: McBer and Company.

Wofford, J. C. (1971). Factor analysis of managerial behavior variables. _Journal of Applied Psychology_, _54_, 169-173.

Yukl, G. A. (1981). _Leadership requirements for the airland battle._ Paper presented at the Leadership on the Future Battlefield Symposium, Texas Tech University Lubbock, Tx.