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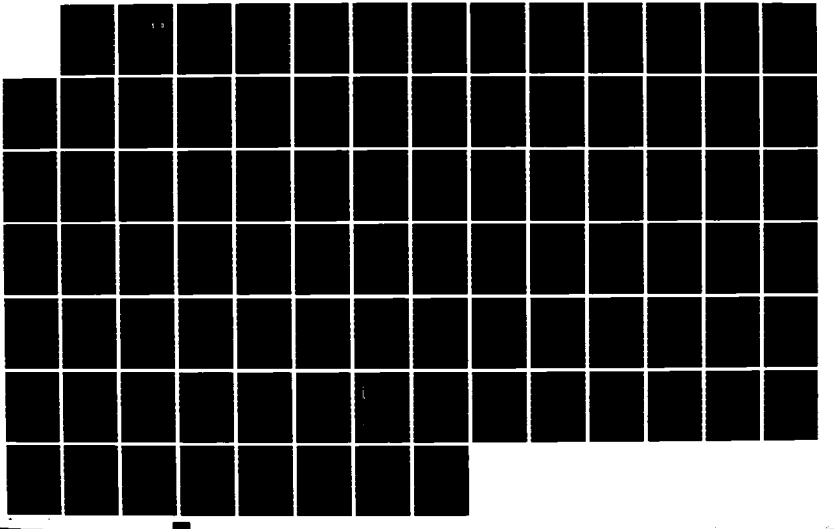

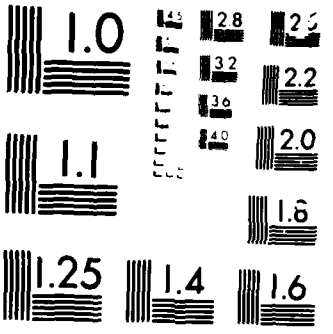
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AIR COMMAND AND STAFF COLLEGE

STUDENT REPORT

JOB ATTITUDES OF AFSC ACQUISITION PROJECT MANAGERS

MAJOR LARRY G. RADOV 86-2075

"insights into tomorrow"

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REPORT NUMBER 86-2075

TITLE JOB ATTITUDES OF AFSC ACQUISITION PROJECT MANAGERS

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requirements for graduation.

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Job attitudes of AFSC acquisition project managers are compared to those of other AFSC officers and other Air Force officers. The Organizational Assessment Package Survey is the instrument used to collect the data for the comparisons. The survey measures 21 job attitude factors in this research. Statistical analysis of the data was conducted at the 95 confidence level. Results of the analysis revealed AFSC project managers have generally less favorable job attitudes than the other comparison groups. The study concludes that the demographic differences among groups are primarily responsible for the differences in attitudes. Four recommendations are provided to improve the demographic structure of the career field and to prevent further occurrences of less favorable job attitudes.

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PREFACE

The Leadership and Management Development Center (LMDC) requested assistance in analyzing data gathered by the Organizational Assessment Package (OAP) survey administered to Air Force members. An attempt is being made to document as much of the OAP data base as possible since LMDC will discontinue its research and consulting missions due to fiscal constraints. This study addresses Air Force Systems Command acquisition project managers within the OAP data base.

The format for this study is in accordance with LMDC requirements, which follow the style used by the American Psychological Association.

ABOUT THE AUTHOR

Major Larry G. Radov has served as a C-130 pilot and an acquisition project manager. He received his Air Force commission in 1973 upon graduation from the United States Air Force Academy. After attending undergraduate pilot training at Vance AFB, Oklahoma, Major Radov was assigned to C-130s at Clark AB, Phillipine Islands, in February 1975. His unit, the 7th Airborne Command and Control Squadron, moved to Keesler AFB, Mississippi, in August 1975, where he served as a squadron scheduler, instructor pilot, and flight examiner. In June 1981, he was assigned to Wright-Patterson AFB, Ohio, where he earned a Master of Science Degree in Systems Management from the Air Force Institute of Technology. His subsequent assignment was also at Wright-Patterson AFB, in the Deputy for B-1B, Aeronautical Systems Division. During that tour he served as a test project manager, executive officer, and support equipment project manager from September 1982 to August 1985. Following graduation from Air Command and Staff College in June 1986, Major Radov is being assigned to Little Rock AFB, Arkansas, as a C-130 instructor pilot in the tactical airlift training group.

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EXECUTIVE SUMMARY

Part of our College mission is distribution of the students' problem solving products to DoD sponsors and other interested agencies to enhance insight into contemporary, defense related issues. While the College has accepted this product as meeting academic requirements for graduation, the views and opinions expressed or implied are solely those of the author and should not be construed as carrying official sanction.

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REPORT NUMBER 86-2075

AUTHOR(S) MAJOR LARRY G. RADOV, USAF

TITLE JOB ATTITUDES OF AFSC ACQUISITION PROJECT MANAGERS

I. Purpose: This paper compares the job attitudes of Air Force Systems Command (AFSC) acquisition project managers with the corresponding attitudes of personnel in other career fields within AFSC and the Air Force at large, and develops policy recommendations for AFSC leaders and commanders based on these comparisons.

II. Problem: Project managers control the acquisition of billions of dollars worth of weapon systems. As their careers progress, project managers become valuable Air Force assets. Every effort should be made to retain these personnel by providing the most satisfying jobs possible. In a late 1970s survey, the Air Force Management Improvement Group discovered that a majority of Air Force members felt Air Force leadership and management were in the range of "average to poor." As a result, the Chief of Staff created the Leadership and Management Development Center (LMDC) to provide centralized leadership and management training to Air Force supervisors and leaders. In an effort to improve overall unit effectiveness, LMDC fielded an Organizational Assessment Package (OAP) survey to provide feedback to commanders and leaders on their members' job attitudes. The OAP survey has been administered approximately 300,000 times, and LMDC has provided feedback to organizations through over 500 consulting visits. In 1986, LMDC will stop performing its consulting and research missions due to fiscal constraints; yet much

of the data collected has not been fully analyzed to provide recommendations for improving job attitudes in Air Force organizations. This research effort analyzed the OAP data collected on AFSC project managers and recommended changes where required.

III. Procedures and Results: Several steps were taken to reach the goals of the present research:

1. Organizational behavior theories and studies were reviewed, establishing their link to the OAP. In addition, models and other surveys used to develop the OAP were also discussed. A search for previous studies on project managers' job attitudes was unsuccessful.

2. The data base for this research was LMDC's nearly 13,000 officer survey files on record. The three comparison groups (AFSC project managers, other AFSC officers, and other Air Force officers) were compared for 21 attitudinal factors as well as demographic data measured by the OAP. Statistical analyses of the data were conducted using standard inferential statistics (Analysis of Variance with Newman-Keuls follow-up) at the 95% confidence level. A limitation to the research is that the data base for each group was not based on a random sample but instead a convenience sample.

3. Results of the demographic analysis revealed AFSC project managers are younger in age, have less time in service and grade, supervise fewer people, and are less likely to hold group meetings to solve problems than the two other groups. The results of the analysis of attitudinal factors revealed AFSC project managers have less favorable job attitudes than other AFSC officers and/or other Air Force officers for 16 of the 21 OAP attitudinal factors measured. The differences occur on the following key factors: Job Performance Goals, Task Characteristics, Work Repetition, Desired Repetitive/Easy Tasks, Job Related Training, Skill Variety, Task Identity, Task Significance, Job Feedback, Job Motivation Index, Supervisory Communications Climate, Organizational Communications Climate, Pride, Advancement/Recognition, Work Group Effectiveness, and General Organizational Climate.

IV. Conclusions: The research showed that AFSC project managers' job attitudes were generally less favorable than the comparison groups'. It is suggested that those findings are

primarily due to demographic differences between the groups. Other research has determined that younger people with less time in grade and service tend to have lower job satisfaction; therefore, it follows that AFSC project managers reflect generally less favorable job attitudes. Additionally, a shortage of project managers in the 8- to 16-year groups has caused a lack of middle management supervision possibly influencing job attitudes.

V. Recommendations:

1. AFSC, with the help of the Air Force Military Personnel Center (AFMPC), should identify officers with project management experience and 8 to 16 years in service who are in other career fields. These officers should be requalified as project managers and returned to project management duties in order to stabilize the career field with middle management guidance.

2. Efforts should be made by AFSC senior leadership to insure junior project managers are given expanded responsibilities when possible. With a lack of middle management resources, capable junior officers should be challenged with more demanding positions and subsequently provided more job enrichment.

3. AFSC and AFMPC personnel managers should establish necessary programs to avoid future imbalances in project management staffing. Techniques such as providing financial bonuses or incentives, and maintaining a reserve of project managers in other career fields could be implemented.

4. AFSC should conduct research on job attitudes as project managers' demographics become more representative of other Air Force officers. This may provide the opportunity to identify other factors that may be influencing job attitudes.

Chapter One

INTRODUCTION

Today, about 2000 Air Force members manage the acquisition of billions of dollars worth of weapon systems and related support equipment. These acquisition project managers need broad technical expertise as well as keen management skills in guiding their programs to a successful completion within cost, schedule, and performance constraints. The project manager's attitude toward the job is a critical factor in determining whether his or her performance reaches its ultimate potential. This research paper is concerned with the job attitudes of these project managers. The purpose is to compare the job attitudes of Air Force Systems Command (AFSC) acquisition project managers with the corresponding attitudes of personnel in other career fields within AFSC and the Air Force at large, and to develop policy recommendations for AFSC leaders and commanders based on these comparisons.

Before discussing project managers' job attitudes, some general background information is in order. Beginning in 1973, a series of events took place which led to the establishment of an Air Force organization with the mission of improving job attitudes of Air Force members through management consultation. This was shortly after initation of the All Volunteer Forces in 1973,

when Air Force leaders recognized the need to enhance the attractiveness of Air Force life and to compete for resources with the private sector (Mahr, 1982). In addition, officials realized that after attracting and training individuals, they must retain these valuable personnel by providing the most satisfying jobs possible. In response to these concerns, Chief of Staff General David C. Jones established the Air Force Management Improvement Group (AFMIG) in 1975, to make recommendations on how to improve life in the service. One of the findings of an extensive AFMIG survey on quality of life was that 71% of the people surveyed felt that Air Force leadership and management were in the range of "average to poor" (Leadership and Management Development Center, 1981). In response, the Chief of Staff created the Leadership and Management Development Center (LMDC), as a part of Air University, to provide centralized leadership and management training to Air Force supervisors and leaders (Mahr, 1982). LMDC was given a broad set of goals.

> The mission of the Leadership and Management Development Center is to provide and conduct professional development for Air Force and Department of Defense personnel; provide consultation services to Air Force units upon request; conduct research and analysis for Air Force commanders, for functional managers, and for internal use; and review, select, write, publish, and distribute professional material for Air Force and other Department of Defense agencies (Air University Catalog 1985-86, 1985, p. 69).

Part of the consulting role identified in the LMDC mission is to determine overall organizational effectiveness. This includes identifying job attitudes of organizational members and then providing feedback to organizational commanders and leaders. To

meet these requirements, LMDC, with the help of researchers at the Air Force Human Resources Laboratory, developed the Organizational Assessement Package (OAP) survey to collect data to make such analyses. The 109-item survey has been administered almost 300,000 times. It identifies 21 key factors that reflect job attitudes (Appendix C). The OAP "survey has received wide acclaim as a tool for improving leadership and productivity in the Air Force" (Mahr, 1982, p. 1).

In 1986, LMDC will stop performing its consulting and research missions due to fiscal constraints; yet much of the data collected has not been fully analyzed to provide recommendations for improving job attitudes in Air Force organizations. This research effort analyzes the OAP data collected on AFSC project managers and recommends changes where required. To this end the research has four goals.

1. To conduct a review of organizational behavior literature and relevant background research on job attitudes, especially for AFSC project managers.

2. To compare OAP-measured demographic characteristics and job attitudes of officers in the acquisition program management career area with demographics and attitudes of corresponding officers in other career fields within AFSC and the Air Force at large.

3. To analyze significant attitudinal differences among the AFSC acquisition project management career field and other career fields within AFSC and the Air Force at large. The Analysis of

Variance Procedure (ANOVA) is used to determine whether there are differences between the comparison groups at the 95% confidence level.

4. To develop recommendations for AFSC leaders and commanders.

The paper addresses each of the above goals in the following manner: Chapter Two reviews the literature as well as current research on job attitudes of project managers. Next, Chapter Three discusses the OAP survey and the data collection methodology. Background on the project management career field is also provided, along with the procedures and methods used to analyze the data collected for this research. In Chapter Four, the results of the data analysis are provided; this includes significant demographic data on the groups and attitudinal differences among the groups as measured by the OAP survey. Chapter Five provides a discussion of the attitudinal differences discovered, based on organizational behavior theory, current research, and peculiarities of program management duties. Finally, Chapter Six presents conclusions from the research and provides specific recommendations.

Chapter Two

LITERATURE REVIEW

Introduction

In accomplishing many tasks, an individual or group takes certain inputs from the environment, performs a work process on them, and then provides an output back to the environment (Duncan, 1978). This input-transformation-output process by individuals or groups represents the "system" at the heart of organizational behavior theory (DuBrin, 1974). By studying and monitoring the process, researchers discovered considerable correlation between characteristics of the work, job attitudes, and worker behavior (Hackman, Pearce, & Wolfe, 1978).

The Organizational Assessment Package (OAP) survey bases its development on over a century of organizational behavior research. The 21 OAP factors measure job attitudes and are grouped into four areas of organizational functioning corresponding to the input-transformation-output process. The OAP divides the input phase of a task into the work itself and job enrichment areas of organizational functioning. The OAP links the transformation phase to the work group process and the output phase to the work group output. The relationship between the

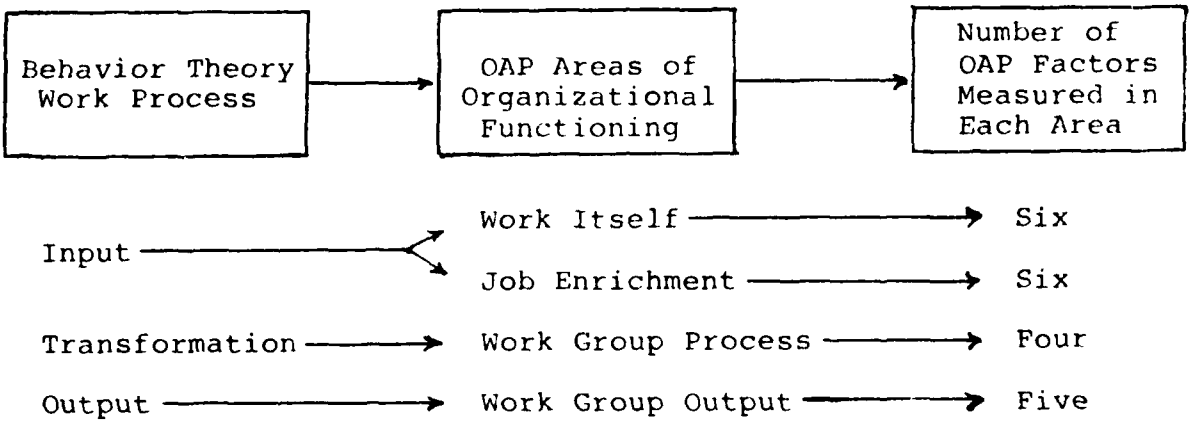

Figure 1. Relationship Between Behavior Theory and the OAP

input-transformation-output process, the areas of organizational functioning, and the OAP factors is presented in Figure 1.

This chapter reviews the literature on organizational behavior theory and traces the development of individual job attitudes and their importance in optimal task accomplishment. The review starts with a discussion of attitudes and identifies those attitudes measured by the OAP. Next, several prominent "need" and "motivation" theories and studies are presented validating the importance of the OAP attitudes selected for measurement. The final part of the review identifies the relevant background research on job attitudes for Air Force Systems Command (AFSC) project managers.

Job Attitudes

Job attitudes are often considered from three perspectives: basic definition, characteristics, and measurement. Attitudes are predispositions to react in a certain manner to a situation

or individual (Duncan, 1978). They are developed from past experience set in the context of the present environment--including cultural experiences, group influences, work values, and aspirations (Duncan, 1978). This tends to make newly formed attitudes consistent with other attitudes. Individual differences in attitudes are primarily caused by differences in experiences (Gray & Starke, 1980). Most researchers agree that a significant characteristic of attitudes is that they are linked to or influence behavior (Ajzen & Fishbein, 1977; Duncan, 1978). It is this link that makes measurement so critical.

Attitudes are most commonly measured on a Likert scale, a device by which differences between responses are calculated in relative, not absolute terms (Duncan, 1978). The OAP uses a 7-point Likert scale to measure attitudinal differences. The responses are assigned numerical values ranging from 7 (strongly agree) to 1 (strongly disagree) (Duncan, 1978). In the present research, the OAP measures 21 major job attitude factors in such areas as Job Performance Goals, Task Autonomy, Work Repetition, Skill Variety, Task Identity, Job Feedback, Work Support, Management and Supervision, General Organizational Climate, Pride, Advancement/Recognition, Work Group Effectiveness, and Job Related Satisfaction. In the OAP, these factors are used to monitor the input-transformation-output process. The identification, development, and use of these job attitude factors is found in various organizational behavior theories and studies.

Theories and Studies

This section of the literature review focuses on "need" and "motivation" theories which have evolved with research and studies on organizational behavior. In addition, it identifies a model and survey instrument developed from the theories and later used by OAP developers. Through this theoretical background and associated research, job attitude factors were defined and incorporated into the OAP.

In the twentieth century, many "need" or "motivation" theories have been developed with the goal of providing insight into human behavior. One of the more prominent theories was developed by Abraham Maslow, who theorized that needs are the primary influence on a person's behavior. He argued that behavior occurs when people try to fulfill their unsatisfied needs (Gray & Starke, 1980). Maslow identified five levels of human needs or a "hierarchy of needs." His proposal asserts that needs low in the hierarchy must be satisfied before needs higher in the hierarchy will motivate behavior (Albanese, 1981). Maslow's human needs are listed from lowest to highest:

1. Physiological needs--those needs concerned with the basic biological functions of the human body, such as eating and sleeping.

2. Safety needs--those needs concerned with protecting the person from harm, both physical and psychological.

3. Belonging needs--the need to associate with one's own kind; social interaction, love, acceptance, group membership.

4. Esteem (status) needs--the need to feel important or to separate one's status from other comparable individuals' feelings of self-worth and self-importance.

5. Self-actualization needs--the need to reach one's ultimate goals in life; the need to fulfill one's own destiny (Gray & Starke, 1980, p. 37).

Individuals may have different need hierarchies, and their hierarchies may change at times in their lives. "A need hierarchy is a dynamic--not static--concept" (DuBrin, 1974, p. 41). The unsatisfied need promotes a positive behavior which attempts to fulfill that need. As previously discussed, attitudes are linked to behavior. When an individual recognizes there are unsatisfied needs he or she can fulfill, it is reflected in one's job attitudes (Gibson, Ivancevich, & Donnelly, 1973). Job attitudes tend to become more favorable because the individual realizes his behavior can potentially satisfy more needs. The OAP measures some job attitudes which indicate the presence of unsatisfied or motivating needs. The use of OAP factors such as Advancement/Recognition, Job Related Satisfaction, Task Significance, and Job Performance Goals to measure job attitudes are based, in part, on Maslow's need theory.

Maslow's theory is not the only popular theory of how needs influence behavior. Frederick Herzberg developed an influential motivation-hygiene theory on job attitudes (Jessey, 1981). Prior to Herzberg, those researching behavior motivation viewed the concepts of job satisfaction and job dissatisfaction at opposing ends of the same continuum (Gray & Starke, 1980). After conducting research with 200 engineers and accountants, Herzberg

concluded that job satisfaction and job dissatisfaction were on two different continuums. In his "two factor" or "two need" theory, Herzberg concluded that one set of factors called "motivator needs" caused job satisfaction and a second set of factors called "hygiene needs" caused job dissatisfaction (Albanese, 1981). Motivator needs relate to the nature of work itself and are satisfied by achievement, recognition, advancement, work itself, possibility of growth, and responsibility. On the other hand, hygiene needs relate to the environment in which a job is performed and are satisfied by company policy and administrative technical supervision, interpersonal relations, salary, job security, personal life, working conditions, fringe benefits, and status (DuBrin, 1974; Gray & Starke, 1980). Many of Herzberg's motivator and hygiene needs are measured by the OAP. If an individual's motivation and hygiene needs are satisfied the input-transformation-output process should be successful and the individual may have positive job attitudes. Therefore, the OAP should give an indication of job satisfaction as defined by Herzberg.

Herzberg's theory caused researchers to focus their attention on the job itself, rather than the job's environment, in an effort to improve job attitudes and performance (Albanese, 1981). As a result, Hackman and Oldham developed a Job Characteristics Model and later a Job Diagnostic Survey which provided a valuable basis for the OAP survey development.

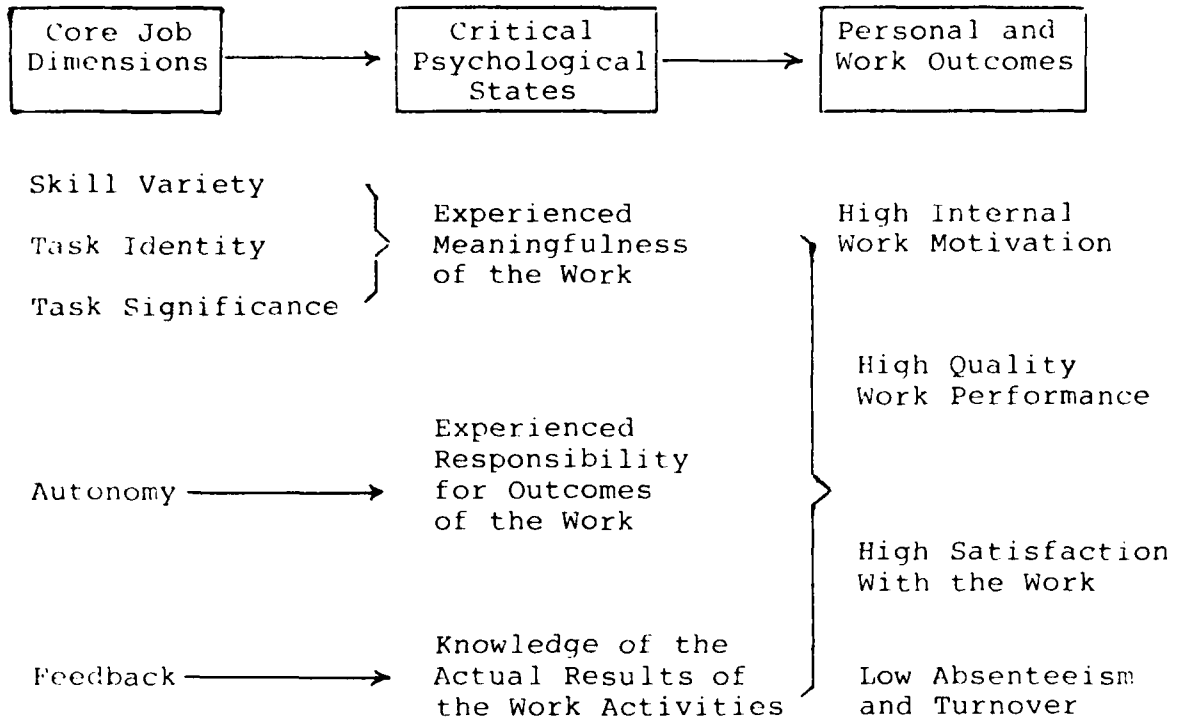

Figure 2. Job Characteristics Model (Hackman & Oldham, 1975).

The Job Characteristics Model "identifies five 'core' job dimensions which prompt three critical psychological states which, in turn, lead to a number of beneficial and personal work outcomes" (Peters & Duke, 1982, p. 18). The basic model is depicted in Figure 2. According to the theory, an individual experiences positive job attitudes when "he learns (knowledge of results) that he personally (experienced responsibility) has performed well on a task that he cares about (experienced meaningfulness)" (Hackman & Oldham, 1976, p. 255-256).

The OAP incorporates two tools developed from the Job Characteristics Model. The first is a motivating potential score (MPS), which is a "summary score reflecting the overall moti-

vating potential of a job in terms of the core job dimensions" (Hackman & Oldham, 1975, p. 160). The score is computed in the following equation:

$$MPS = \frac{\text{Skill Variety} + \text{Task Identity} + \text{Task Significance}}{3} \times \text{Autonomy} \times \text{Job Feedback}$$

The other tool developed from the model, the Job Diagnostic Survey, determines if existing jobs can be redesigned to improve employee production and motivation, and identifies the impact of job changes on employees (Hackman & Oldham, 1975). Peters and Duke (1982) reviewed the evaluations of the Job Diagnostic Survey and concluded it is reliable and valid. After Maslow and Herzberg linked job attitudes to the input-transformation-output process, Hackman and Oldham discovered ways to measure the attitudes. The measurement techniques developed by Hackman and Oldham are incorporated into the OAP.

In addition to the theoretical link of job attitudes to behavior, several studies also show a similar relationship. A classic case where job attitudes were identified as influencing behavior was the Hawthorne Studies. In 1927, Elton Mayo and the Harvard Business School participated in a series of studies at Western Electric Company's Hawthorne Works outside Chicago, during which the researchers challenged the assumption that people in the organization are solely motivated by economic incentives (Duncan, 1978). In one phase of the study, work groups were subjected to changing amounts of lighting in the workplace. The researchers discovered that "increases in output

were not the result of physical job conditions [illumination] but rather the result of the changed social situations of the workers, changes in their satisfaction, motivation, and changed patterns of supervision" (Gibson, Ivancevich, & Donnelly, 1973, p. 255). The studies highlight the importance of job attitudes on the input-transformation-output process. "They felt the organization was interested in them and they liked it" (Scott, Mitchell, & Birnbaum, 1981, p. 81). The Hawthorne Studies demonstrated the impact of attitudes on behavior and implied positive attitudes improve the input-transformation-output process. The theories and studies reviewed in this section represent some of the key organizational behavior background used in the OAP development.

Job Attitudes of Project Managers

Research into job attitudes is not limited to the civilian sector. Many studies of military organizations and specific functional career fields are conducted each year. The Leadership and Management Development Center (LMDC) has been collecting attitudinal data with the OAP survey instrument when Air Force commanders have requested consulting services to improve organization performance. Many have used the cumulative LMDC data base to conduct research on a specific career field or job issue. Berne (1981) analyzed the job attitudes of personnel in Air Force maintenance career fields for 21 OAP factors. Another study by Rosales (1984) used General Organizational Climate from the OAP factors to determine the work environment attitudes of engineers,

architects, and technicians within the San Antonio Real Property Maintenance Agency. Boren (1980) assessed the Job Related Satisfaction of Air Force officer, enlisted, and civilian personnel from OAP data using the motivating potential score developed by Hackman and Oldham.

There is little research on AFSC project managers and their job attitudes. One relevant study found that AFSC project managers, located at Eglin AFB, were significantly less effective at supervisor to employee communication and management supervision tasks than other AFSC officers (Banks, 1982). No other research on the other OAP factors or job attitudes for project managers could be found. Therefore, research into job attitudes for AFSC project managers as compared to other AFSC officers and other Air Force officers at large is appropriate. Research of this nature will help to determine job attitudes and perhaps point the way for improving the project managers' input-transformation-output process.

This chapter has described job attitudes and identified key attitudes measured by the OAP. It has also reviewed the literature, developing the theoretical background for the OAP and identifying the relevant research on job attitudes for project managers. The next chapter discusses the OAP survey in more detail. Background on the project management career field is also provided, along with the procedures and methods used to analyze the data collected in this research.

Chapter Three

METHODOLOGY

Introduction

The purpose of this chapter is to explain the methods used to collect and analyze the data associated with this research effort. The discussion includes a description of the instrument used to collect the data, an explanation of the data collection method, a description of the personnel surveyed, and a review of the statistical procedures used to analyze the research data.

Instrumentation

The Organizational Assessment Package (OAP) was the instrument used to collect the data for this research project. This 109-item survey was jointly developed by the Air Force Human Resources Laboratory (AFHRL), Brooks AFB, Texas, and the Leadership and Management Development Center (LMDC) to support the mission of LMDC as stated in Chapter One (Mahr, 1982). AFHRL and LMDC based the OAP, in part, on the need and motivation theories and the Job Diagnostic Survey described in Chapter Two. The 109-item survey consists of 16 demographic items and 93 attitudinal items (Appendix C). Those surveyed were presented a series of questions or statements and asked to pick a response from seven choices on a Likert scale. For the interested reader, Mahr

(1982) summarizes research supporting the validity and reliability of the OAP from its initial field test until 1982. The OAP's construct validity is characterized as "consistent and strong" with generally "acceptable to excellent" reliability (Mahr, 1982). Short (1985) also discusses the OAP, with emphasis on reliability, construct validity, and factor consistency.

The OAP compares 21 attitudinal factors and groups them into four primary areas of organizational functioning corresponding to the input-transformation-output process discussed in Chapter Two. The input is further divided into the work itself and job enrichment. The OAP refers to the transformation as the work group process and the output as the work group output.

The four areas of organizational functioning and the associated OAP factors are discussed below:

1. Work Itself. This area covers the task properties (technologies) and environmental conditions of the job. It assesses the patterns of characteristics members bring to the group or organization and types of differentiation and integration among position and roles. The following OAP factors measure the work itself:

Job Performance Goals
Task Characteristics
Task Autonomy
Work Repetition
Desired Repetitive/Easy Tasks
Job Related Training

2. Job Enrichment. This section measures the degree to which the job itself is interesting, meaningful, challenging, and responsible.

The following OAP factors measure job enrichment:

Skill Variety
Task Identity
Task Significance
Job Feedback
Need for Enrichment Index
Job Motivation Index

3. Work Group Process. The work group process assesses the pattern of activity and interaction among the group members. The following OAP factors measure leadership and the work group process:

Work Support
Management and Supervision
Supervisory Communications Climate
Organizational Communications Climate

4. Work Group Output. This area measures task performance, group development, and effects on groups members. It assesses the quantity and quality of task performance and alteration of the group's relation to the environment. The following OAP factors measure the work group output:

Pride
Advancement/Recognition
Work Group Effectiveness
Job Related Satisfaction
General Organizational Climate

A complete explanation of each area and factor in the OAP is found in Appendix C.

Data Collection

The OAP data were gathered from Air Force organizations as part of the complete six-step LMDC consultation process. The six-step process is described here in order to put the data gathering procedures in the proper perspective.

Step 1: Invitation

The first step of the LMDC consultation process is initiated by a request from an Air Force commander or agency chief, normally at the wing or base level. An LMDC consultant then explains the services available to the unit and the commitment required from its top line management.

Step 2: Initial Contact

During this step, a team of consultants visits the unit to outline the consultation process to the host commander and his staff and discusses any concerns or questions.

Step 3: Data Collection

Normally, one month after Step 2, a team visits the unit to begin the data gathering. LMDC collects data from a variety of sources.

- Open-ended questionnaires administered to all key supervisors in the organization to determine their perceptions about their roles as leaders/managers.
- Interviews with supervisors based on their responses to the open-ended questionnaire just discussed.
- Administering the OAP survey to. . .people available for duty within each work group of the base or wing.
- Objective data such as IG, MEI, and MSET reports; AWOL rates; drug and other arrest rates; etc. (Short, 1985, p. 46).

The OAP is administered to all available personnel present for duty within each work group of the base or wing. LMDC collects the data in group survey sessions and tries to ensure standard survey administration. If possible, subordinates and supervisors are scheduled in separate sessions. Only LMDC personnel handle

completed surveys, and each respondent is promised individual anonymity.

Step 4: Analysis

The OAP responses are placed into a computer data base, allowing statistical comparisons of all work groups in the organization. The comparisons identify strengths and weaknesses in the organization, as perceived by assigned personnel. LMDC consultants then use the results to develop plans to correct suspected weaknesses.

Step 5: The Tailored Visit

Approximately two months after data gathering, LMDC consultants return to the wing or base to work with individual supervisors to develop management action plans to improve areas of concern.

Step 6: Follow-up

Approximately six months after the tailored visit, an LMDC team visits the organization to measure the progress in the organization. The OAP survey is administered again and interviews are conducted with selected managers to determine the quality of organizational change.

LMDC has a cumulative data base with nearly 300,000 OAP survey records on file. Besides the 16 demographic items on the survey, other demographics are collected on the answer sheet and stored in the data base. These items include a work group identifier, personnel category, pay grade, age, sex, Air Force Speciality Code, base, and major command. The OAP data base is

stored in two files. One is a historical file with data collected prior to September 30, 1981, and the second is a current file containing data collected after October 1, 1981. The present research used initial OAP responses collected from October 1, 1981 to September 16, 1985. The initial OAP responses are those collected in the third step of LMDC's consultation process, before the intervention of LMDC consultants into the organization (pre-intervention).

Subjects

In examining the job attitudes of Air Force Systems Command (AFSC) project managers, data were extracted from the current LMDC OAP data base. Three independent comparison groups were selected from the available data. The first group was comprised of AFSC officers performing duties in the project management career field (Air Force Speciality Code 27xx). The second group was comprised of officers performing other duties in AFSC. The final group was composed of all remaining Air Force officers in the data base. The sample sizes of the three groups are 352, 1569, and 10,671, respectively. The data taken are from surveys administered to 63 bases or organizations (including 14 AFSC bases) in 10 major commands, direct reporting units, or special operating agencies. A detailed demographic description is outlined in Appendix A.

Procedures

Various analytical methods from the Statistical Package for the Social Sciences (SPSS^X User's Guide, 1983) were used to analyze the data gathered. These were subprograms "Crosstabs" and the "oneway Analysis of Variance Procedure (ANOVA)" with the Newman-Keuls post hoc test. The results of the analyses of the three subject groups are explained in two separate comparisons.

Comparison 1: Analysis of Demographic Information

This section shows the characteristics of the comparison groups as determined by the responses to the demographic items on the OAP.

Comparison 2: AFSC Project Managers Compared to Other AFSC Officers and to Other Air Force Officers at Large

For these analyses, job attitudes for the three groups were compared for 21 OAP factors. The ANOVA and Newman-Keuls procedures were used for these comparisons. ANOVA is a statistical method to compare simultaneously the means of several groups to determine if there are any mean score differences among the groups. The 95% confidence level was used for the comparisons to determine if statistical differences were valid. The Newman-Keuls procedure indicates which of the groups is statistically different from the others. As a result of these procedures, it was possible to determine on which of the 21 attitudinal factors the groups differed. For these comparisons the 21 factors were divided into four groups that reflect the primary areas of organizational functioning. The symbol n shown throughout the tables in this study represents the total number of valid

responses in the pre-intervention data base for the factor being examined. Additionally, the symbol PM represents project manager in the tables.

This chapter discussed the OAP survey, the data collection method, the personnel surveyed, and the statistical procedures used for data analysis. Chapter Four presents the results of the data analyses for the three comparison groups.

Chapter Four

RESULTS

Introduction

The results of the comparison of Organizational Assessment Package (OAP) responses among Air Force Systems Command (AFSC) project managers, other AFSC officers, and other Air Force officers in the Leadership and Management Development Center (LMDC) data base are presented in this chapter. The demographic data are first discussed for the three groups. Next, the attitudinal differences among AFSC project managers, other AFSC officers, and other Air Force officers are identified.

Demographic Data

Generally, the demographic responses indicate the three groups are similar in makeup with a few exceptions. The demographic data for all three groups are presented in detail in Appendix A, Tables A-1 through A-22.

The major demographic differences among survey respondent groups are in age, time in service, time in career field, group meetings, problem solving, and aeronautical rating. Typically, the AFSC project managers are younger than other AFSC officers and Air Force officers in general. Twenty-seven percent of project managers are 21 to 25 years old, while 16% of other AFSC

officers and 11% of other Air Force officers fall into this category. The time in the Air Force for AFSC project managers also differs from the other two groups. The project managers tend to have fewer people in the 4- to 12-year range and more in the under 4-year and over 12-year ranges than the two other groups. The project managers also have less time in their career field when compared to the two other groups. About 46% of project officers had over 3 years in the present career field, while other AFSC officers and other Air Force officers had 61% and 58%, respectively.

Besides being younger and having less time in both grade and service, AFSC project managers supervise fewer personnel than the comparison groups. Sixty-eight percent of the project managers do not supervise anyone, as compared with 53% and 39% for other AFSC officers and other Air Force officers, respectively. The demographic information also indicates that AFSC project managers and supervisors are less likely to use group meetings to solve problems than are the two other groups. Finally, 85% of project managers and 87% of the AFSC officers are nonrated, while 56% of the other Air Force officers are nonrated.

A total of 20 demographic data items were collected and reported with the OAP survey (Tables A-1 through A-22). The major differences among the AFSC project managers, other AFSC officers, and other Air Force officers were discussed above. The results of the statistical analysis of attitudinal responses on the survey are presented in the next section.

Attitudinal Data

The attitudinal differences for the AFSC project managers versus the other AFSC officers and other Air Force officers are presented for the 21 OAP factors measured in this research. This section presents an overall summary of the attitudinal differences among the three groups. Then summary data are examined for the four primary areas of organizational functioning: work itself, job enrichment, work group process, and work group output. The detailed information for these findings is included in Appendix B, Tables B-1 through B-4.

Overall

In only one case is the attitudinal score of AFSC project managers significantly higher than those of the two other groups. For 11 of the 21 measured OAP factors, the project managers' attitudinal scores are significantly lower than the attitudinal scores of both AFSC officers and Air Force officers. For 8 of the same 11 factors, other AFSC officers' attitude scores are significantly lower than Air Force officers' attitude scores.

For the nine remaining factors, five comparisons indicate that AFSC project managers and other AFSC officers have similar attitudes, but their attitudes are lower compared to the Air Force officers at large. The other four factors reveal no statistical differences in attitudes between groups.

Work Itself Summary

Of the six factors measured in the work itself area, AFSC project managers' attitudes are significantly lower for every

factor except one. The five factors where attitudes measure significantly lower than Air Force officers are: Job Performance Goals, Task Characteristics, Work Repetition, Desired Repetitive/Easy Tasks, and Job Related Training. Each of the factors measures specific aspects of the work itself. Job Performance Goals measures the degree to which goals are clear, specific, realistic, understandable, and challenging. Task Characteristics measures a combination of Skill Variety, Task Identity, Task Significance, and Job Feedback designed to measure several aspects of one's job. The third and fourth factors, Work Repetition and Desired Repetitive/Easy Tasks, measure the extent to which one faces the same type of problems and the desire for those problems to be simple to solve. The last factor, Job Related Training, reflects the degree to which the worker is satisfied with on-the-job and technical training.

Project managers' attitudes are also significantly lower than those of other AFSC officers for each factor except Desired Repetitive/Easy Tasks and Job Related Training. The three groups are similar for Task Autonomy, or the degree to which the job provides freedom to do the work as one sees fit. Table 1 summarizes the significant results.

Job Enrichment Summary

The OAP factors measuring the Job Enrichment attitudes are summarized in Table 2. AFSC project managers have significantly lower attitudes than Air Force officers in Skill Variety, Task Identity, Task Significance, Job Feedback, and the Job Motivation

Table 1
Work Itself Summary
Comparison of OAP Factor Scores
AFSC PMs vs Other AFSC Officers vs AF Officers

Factor	Mean
Job Performance Goals	
AFSC PMs	4.33*, **
Other AFSC	4.53*
AF Officers	4.76
Task Characteristics	
AFSC PMs	4.93*, **
Other AFSC	5.21*
AF Officers	5.38
Work Repetition	
AFSC PMs	3.65*, **
Other AFSC	4.15*
AF Officers	4.36
Desired Repetitive/Easy Tasks	
AFSC PMs	2.28*, **
Other AFSC	2.42
AF Officers	2.49
Job Related Training	
AFSC PMs	4.03*, **
Other AFSC	4.39
AF Officers	4.76

* - Statistically different from AF Officers
** - Statistically different from Other AFSC Officers

index. The combined factors measure the degree to which the job is interesting, meaningful, challenging, and responsible. Skill Variety measures the degree to which a job involves the use of a number of different skills and talents. The second factor, Task Identity, measures the degree to which the job requires

Table 2
Job Enrichment Summary
Comparison of OAP Factor Scores
AFSC PMs vs Other AFSC Officers vs AF Officers

Factor	Mean
Skill Variety	
AFSC PMs	5.11*, **
Other AFSC	5.40
AF Officers	5.46
Task Identity	
AFSC PMs	4.86*, **
Other AFSC	5.07*
AF Officers	5.26
Task Significance	
AFSC PMs	5.08*, **
Other AFSC	5.58*
AF Officers	5.85
Job Feedback	
AFSC PMs	4.55*, **
Other AFSC	4.79*
AF Officers	4.92
Job Motivation Index	
AFSC PMs	116.94*, **
Other AFSC	125.35
AF Officers	126.90

* - Statistically different from AF Officers
** - Statistically different from Other AFSC Officers

completion of a whole and identifiable piece of work from beginning to end. Task Significance measures the importance of the job. The next factor in the job enrichment area is Job Feedback, and it measures the degree to which the worker obtains information on good or bad performance. The final factor where

the AFSC project managers' attitudes are lower is in the Job Motivation Index. This factor reflects the overall motivating potential of a job.

Project managers' attitudes are also lower than those of other AFSC officers in Task Identity, Task Significance, and Job Feedback. The three groups are similar in Need for Enrichment Index which measures the characteristics an individual would like in a job.

Work Group Process Summary

The OAP measures four factors within the work group process area. On these four factors, AFSC project managers and other AFSC officers have similar attitudes. For two of the attitudinal factors, Supervisory Communications Climate and Organizational Communications Climate, project managers and other AFSC officers score lower than other Air Force officers. Supervisory Communications Climate measures the degree to which the worker perceives there is good rapport with supervisors, that innovation for task improvement is encouraged, and that rewards are based upon performance. Organizational Communications Climate measures the degree to which there is an open communication environment and adequate information is provided to accomplish the job. For another factor, Management Supervision, all groups display similar attitudes. The last factor, Work Support, reveals the only instance in this research where both AFSC project managers' and other AFSC officers' job attitudes are significantly higher than the rest of the Air Force officers. This factor measures

the degree to which work performance is hindered by additional duties or inadequate tools, equipment, or work space. The project managers and other AFSC officers are less hindered than the rest of the Air Force officers. Table 3 summarizes the results.

Table 3
Work Group Process Summary
Comparison of OAP Factor Scores
AFSC PMs vs Other AFSC Officers vs AF Officers

Factor	Mean
Supervisory Communications Climate	
AFSC PMs	4.71*
Other AFSC	4.71*
AF Officers	4.89
Organizational Communications Climate	
AFSC PMs	4.55*
Other AFSC	4.57*
AF Officers	4.94
Work Support	
AFSC PMs	4.66*
Other AFSC	4.65*
AF Officers	4.54

* - Statistically different from AF Officers

Work Group Output Summary

Table 4 details the results of the statistical analysis of the factors identified in the work group output function. Comparing four of the factors reveals that AFSC project managers' measured attitudes are lower than those for other Air Force officers. Those four factors are Pride, Advancement/Recognition,

Work Group Effectiveness, and General Organizational Climate. Other AFSC officers also score lower than other Air Force

Table 4
Work Group Output Summary
Comparison of OAP Factor Scores
AFSC PMs vs Other AFSC Officers vs AF Officers

Factor	Mean
Pride	
AFSC PMs	4.95*, **
Other AFSC	5.21*
AF Officers	5.54
Advancement/Recognition	
AFSC PMs	4.44*
Other AFSC	4.43*
AF Officers	4.60
Work Group Effectiveness	
AFSC PMs	5.62*
Other AFSC	5.68*
AF Officers	5.79
General Organizational Climate	
AFSC PMs	4.86*
Other AFSC	4.86*
AF Officers	5.27

* - Statistically different from AF Officers
** - Statistically different from Other AFSC Officers

officers for the Pride factor. The Pride factor measures the pride and confidence in one's work. Advancement/Recognition measures the awareness of advancement and feeling of being prepared for promotion. The third factor, Work Group Effectiveness, indicates one's view of the quantity, quality, and efficiency of

work generated by the group. Finally, General Organizational Climate measures the individual's perception of spirit of teamwork, communications, and group pride in the organizational environment. All three groups have similar attitudes for the job satisfaction factor.

In summary, job attitudes of AFSC project managers measured lower than AFSC officers for 11 of the 21 factors and lower than other Air Force officers on 16 of the 21 factors. Detailed statistical comparisons are provided in Appendix B. Chapter Five discusses the demographic and attitudinal results.

Chapter Five

DISCUSSION

This chapter discusses the results and findings from responses to the Organizational Assessment Package (OAP) survey administered to Air Force officers. First, the limitations of this study are presented. Then, the demographic data are discussed, providing some explanations for the attitudinal differences noted. Next, the factors relating to the four areas of organizational functioning (work itself, job enrichment, work group process, and work group output) are isolated and presented.

Limitations of the Study

The principal limitation of this research is the method by which the data were gathered. A random sample is the optimal method for the collection of data. This prevents the introduction of consistent biases from uncontrolled variables. The method the Leadership and Management Development Center (LMDC) used to collect the data from October 1981 until September 1985, was defined by their consulting process; subsequently, their data represents only those organizations which requested LMDC's services. This limitation is somewhat mitigated by the fact LMDC surveyed every individual available for work during the time of the visit. Therefore, the results for each organization are

representative of that organization. Since many units were visited, the data are representative of at least a large segment of the Air Force population.

Demographics

A review of the demographic analysis uncovers several possible reasons for the statistically lower job attitudes of project managers. The data indicate Air Force Systems Command (AFSC) project managers are younger, have less time in the Air Force, and have less time in their career field than both other AFSC officers and other Air Force officers. The implications of such demographic data are far reaching in light of other research. Talbot's (1979) study confirmed that job attitudes improve with increased age. In addition, during personal interviews, LMDC consultants and analysts also indicated that job attitudes usually improve with age (LMDC/AN personnel, personal communication, December 13, 1985). The LMDC members also concluded, from past studies, that the more time in service a member has, the more favorable his or her job attitudes tend to become. Likewise, an individual's job attitude will generally improve the more he or she works in the same career field (LMDC/AN personnel, personal communication, December 13, 1985).

AFSC officers are also younger, have less time in service, and have less time in a career speciality than other Air Force officers, but not to the extremes of AFSC project managers. Therefore, it is not surprising that AFSC officers' attitudes are lower than Air Force officers' attitudes, but higher than AFSC

project managers' attitudes for 11 of the 21 OAP factors. This trend supports Talbot's (1979) and LMDC's conclusions on the effects of age, time in service, and time in a career field on job attitudes.

There are reasons for the existing demographic characteristics of AFSC project managers. Information on the project management career field was obtained from telephone conversations with career and retention monitors at the Air Force Military Personnel Center (AFMPC) and at AFSC. Their records reveal that in the late 1970s and early 1980s, an unusually large number of project managers in the 6- to 12-year groups left the Air Force to join the civilian sector (AFSC/MPRO personnel, personal communication, November 5, 1985). According to AFMPC, the shortfall in the lieutenant colonel, major, and captain ranks is approximately 500 positions out of 2400 in the career field (AFMPC/DPMATO personnel, personal communication, October 24, 1985). This is due primarily to the 1980 exodus. In an effort to make up for these losses, the Air Force began recruiting greater numbers of second lieutenant project managers to fill the shortfall created. This increased accession rate, which began in 1980, is the reason why the demographic data show a greater number of younger project managers and other AFSC officers with less time in service than for the Air Force at large (AFMPC/DPMATO personnel, personal communication, October 24, 1985).

The demographic data also revealed AFSC project managers supervise fewer personnel than other AFSC and Air Force officers. Since they supervise fewer personnel, it may also indicate that they hold fewer middle management positions than the other groups. This is a result of the greater percentage of project managers in the less than 4 years of service category than the comparison groups. Being more junior, project managers are not receiving the opportunity to reach higher management levels as are the comparison groups. In a study of civilians, Slocum (1971) found that higher levels of management reported greater need satisfaction in their jobs than did lower level workers. In this case, there are fewer opportunities for project managers to gain management positions because of the great number of junior officers competing for the positions. These demographic characteristics may contribute to the lower project managers' job attitude ratings.

Areas of Organizational Functioning

The demographic differences of the three comparison groups influence the attitudinal factors measured in the OAP's four areas of organizational functioning. The work itself and job enrichment area on the OAP survey represent the "input" phase of the input-transformation-output process. In this research 12 of the OAP factors measured job attitudes during the input phase. For 10 of these factors (including Task Autonomy, Work Repetition, Skill Variety, and Task Significance), AFSC project managers' attitudes are lower than other AFSC and Air Force

officers. Other AFSC officers are lower than Air Force officers for six of the factors. The less favorable job attitudes may reflect the impact of the demographic differences among the groups. Since project managers are younger than the two other groups, one would expect their attitudes to be less favorable, as indicated by the research of Talbot (1979) and the experience of LMDC consultants and analysts previously discussed.

The "transformation" phase of the system is linked to the work group process of the OAP. For this area the demographic differences described earlier help explain why project managers have less favorable attitudes in Supervisory and Organizational Communications Climate. In addition, shortages in the senior captain through lieutenant colonel project manager positions influence this area. With the shortage of 500 middle managers and an excess of 500 junior officers, the desired supervisor-to-worker ratio is not being achieved (AFSC/MPRO personnel, personal communication, November 5, 1985). With more officers to supervise, the middle management may not have enough time to guide subordinates through their work nor establish an effective organizational climate. This is reflected in the demographic data where project managers hold fewer group meetings to solve problems than the other two comparison groups. In addition, supervisors from other career fields may be filling the shortfall and managing project managers without the proper experience and career training which could lead to less favorable job attitudes

for project managers (AFSC/MPRO personnel, personal communication, November 5, 1985).

The work group output area of the OAP corresponds to the "output" phase of the input-transformation-output process. Since attitudes are less favorable for the first two phases of the process, they can be expected to be lower for the output. Most of the five factors indicate lower attitudes for AFSC project managers. The demographic differences in the groups and the lower levels of available supervision both help to keep project managers' attitudes about General Organizational Climate, Pride, Advancement/Recognition, and Work Group Effectiveness lower than the other two groups.

The proposed reasons for the less favorable job attitudes of AFSC project managers have been primarily based on the realities of the demographic differences between groups. When the job attitudes are broadly lower, it is sometimes difficult to explain completely the results. The demographic differences in the groups may be hiding other reasons why project managers have less favorable job attitudes. The project managers' work may lack structure, there may be little opportunity for personal growth in the job, or there may be a poor work environment. These conditions may also affect job attitudes, but this research has not identified an impact. Further research isolating factors or groups of factors may establish additional reasons for the less favorable attitudes of project managers.

At the outset, this chapter reviewed the limitations of the research, after which the demographic and attitudinal data were discussed and a rationale was provided for the lower job attitudes of AFSC project managers as compared to other AFSC and Air Force officers. Chapter Six presents a review and some conclusions and recommendations.

Chapter Six

CONCLUSIONS AND RECOMMENDATIONS

Review and Conclusions

The primary purpose of this study was to compare the job attitudes of Air Force Systems Command (AFSC) project managers with the corresponding attitudes of other AFSC officers and Air Force officers at large. First, the organizational behavior literature was reviewed establishing its link to the Organizational Assessment Package (OAP) survey. Theories developed by Maslow and Herzberg and a survey produced and tested by Hackman and Oldham provided the background for much of the OAP's development. The Hawthorne Studies showed how job attitudes can affect worker output, thus demonstrating the importance of determining and monitoring job attitudes.

The procedures used to collect and analyze the data for this research were then explained. The OAP survey and the Leadership and Management Development Center's (LMDC) data collection method were discussed. The three groups surveyed for this research were described and the statistical procedures used to analyze the data were presented.

A concise presentation of the demographic and attitudinal results is found in Chapter Four. The major demographic differ-

ences among the three groups were discussed, highlighting differences in age, time in service, and time in career field. The 20 demographic items captured by the OAP are presented in Appendix A. The attitudinal results compared the three groups on the 21 OAP factors for which LMDC collected data.

The research showed that AFSC project managers' job attitudes were generally less favorable than those of the other AFSC officers and other Air Force officers at large. It is suggested that these findings were primarily due to the demographic differences between the groups. The project manager group contained more junior officers than authorized and considerably more junior officers by percentage than the other groups. In addition, there was a lack of middle managers. The study corroborated other research which found job attitudes improve with age, time in service, and time in career field. The possible lack of proper supervision may have also had an impact on job attitudes.

Recommendations

The less favorable job attitudes of AFSC project managers, as measured by the OAP, are in large part due to the events which shaped the demographics of the career field. The following recommendations are made to AFSC leaders and commanders and may lessen the impact of similar occurrences:

1. AFSC, with the help of the Air Force Military Personnel Center (AFMPC), should identify officers with project management experience and 8 to 16 years in service who are in other career fields. These officers should be requalified as project managers

and returned to project management duties in order to better stabilize the career field with middle management guidance.

2. Efforts should be made by AFSC senior leadership to insure junior project managers are given expanded responsibilities when possible. With a lack of middle management resources, capable junior officers should be challenged with more demanding positions and subsequently provided more job enrichment.

3. AFSC and AFMPC personnel managers should establish necessary programs to avoid future imbalances in project management staffing. Techniques such as providing financial bonuses or incentives, and maintaining a reserve of project managers in other career fields could be implemented.

4. AFSC should conduct research on job attitudes as project managers' demographics become more representative of other Air Force officers. This may provide the opportunity to identify other factors that may be influencing job attitudes.

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APPENDIX A

DEMOGRAPHIC DATA

Table A-1

Number of Respondents by Group

	AFSC PMs (n)	Other AFSC Officers (n)	AF Officers (n)
Officers	352	1,569	10,671

Table A-2

Sex by Personnel Category

	AFSC PMs (%)	Other AFSC Officers (%)	AF Officers (%)
n =	352	1,569	10,671
Male	92.0	78.8	88.7
Female	8.0	21.2	11.3

Table A-3

Age by Personnel Category

	AFSC PMs (%)	Other AFSC Officers (%)	AF Officers (%)
n =	353	1,573	10,698
17 to 20 yrs	0.0	0.0	0.0
21 to 25 yrs	26.6	16.1	11.1
26 to 30 yrs	14.7	23.6	29.1
31 to 35 yrs	14.4	21.2	24.2
36 to 40 yrs	23.2	18.6	19.6
41 to 45 yrs	16.4	13.2	10.5
46 to 50 yrs	3.7	5.1	3.3
Over 50 yrs	0.8	2.0	2.2

Table A-4

Time in the Air Force

	AFSC PMs (%)	Other AFSC Officers (%)	AF Officers (%)
n =	353	1,573	10,677
Less than 1 yr	6.5	7.5	2.5
1 to 2 yrs	7.1	8.8	4.7
2 to 3 yrs	12.5	6.0	7.7
3 to 4 yrs	7.6	6.5	7.3
4 to 8 yrs	10.8	17.5	22.7
8 to 12 yrs	8.8	14.4	16.8
Over 12 yrs	46.7	39.2	38.3

Table A-5

Months in Present Career Field

	AFSC PMs (%)	Other AFSC Officers (%)	AF Officers (%)
n =	351	1,566	10,618
Less than 6 mos	7.4	6.1	5.0
6 to 12 mos	9.1	7.3	7.6
12 to 18 mos	7.7	8.5	7.7
18 to 36 mos	29.9	16.8	22.0
Over 36 mos	45.9	61.3	57.7

Table A-6

Months at Present Duty Station

	AFSC PMs (%)	Other AFSC Officers (%)	AF Officers (%)
n =	353	1,569	10,663
Less than 6 mos	12.2	13.4	14.0
6 to 12 mos	11.9	15.7	16.8
12 to 18 mos	14.4	17.7	16.3
18 to 36 mos	38.2	30.1	36.8
Over 36 mos	23.2	23.1	16.2

Table A-7

Months in Present Position

	AFSC PMs (%)	Other AFSC Officers (%)	AF Officers (%)
n =	353	1,568	10,653
Less than 6 mos	22.9	22.1	27.2
6 to 12 mos	23.8	21.7	25.1
12 to 18 mos	15.9	20.3	16.6
18 to 36 mos	31.4	27.0	24.1
Over 36 mos	5.9	8.8	6.9

Table A-8

Ethnic Group

	AFSC PMs (%)	Other AFSC Officers (%)	AF Officers (%)
n =	349	1,565	10,646
Black	5.7	6.1	5.8
Hispanic	2.3	2.7	2.3
White	88.0	86.6	87.7
Other	4.0	4.7	4.2

Table A-9

Marital Status

	AFSC PMs (%)	Other AFSC Officers (%)	AF Officers (%)
n =	353	1,571	10,689
Not married	26.9	23.9	20.5
Married	71.1	74.4	78.0
Single parent	2.0	1.7	1.5

Table A-10

Spouse Employment Status: AFSC Project Managers

	Geographically Separated	Not Geographically Separated
n =	6	245
Civilian employed	66.7	42.0
Not employed	0.0	51.4
Military member	33.3	6.5

Table A-11

Spouse Employment Status: Other AFSC Officers

	Geographically Separated	Not Geographically Separated
n =	51	1,118
Civilian employed	47.1	38.4
Not employed	23.5	50.3
Military member	29.4	11.4

Table A-12

Spouse Employment Status: Air Force Officers

	Geographically Separated	Not Geographically Separated
n =	369	7,968
Civilian employed	60.4	33.4
Not employed	19.8	58.3
Military member	19.8	8.4

Table A-13

Education Level

	AFSC PMs (%)	Other AFSC Officers (%)	AF Officers (%)
n =	353	1,567	10,670
HS Grad or GED	0.0	0.0	0.3
Less than 2 yrs college	0.3	0.2	0.3
More than 2 yrs college	0.0	2.0	1.3
Bachelors Degree	46.7	40.7	55.0
Masters Degree	50.7	39.8	36.2
PhD	2.3	17.4	6.9

Table A-14

Professional Military Education

	AFSC PMs (%)	Other AFSC Officers (%)	AF Officers (%)
n =	353	1,572	10,682
None	36.5	44.4	32.9
SOS	16.1	18.8	28.2
Int Serv Sch	24.9	18.6	23.9
Sr Serv Sch	22.1	15.0	11.6
Other	0.3	3.2	3.4

Table A-15

Number of People Supervised

	AFSC PMs (%)	Other AFSC Officers (%)	AF Officers (%)
n =	338	1,450	10,086
None	68.6	53.4	38.4
1	3.0	6.7	7.5
2	1.5	3.4	7.0
3	4.1	5.4	8.5
4 to 5	10.7	12.1	14.1
6 to 8	5.9	8.8	10.5
9 or more	6.2	10.1	14.0

Table A-16

Number of People Respondent Writes Performance Reports On

	AFSC PMs (%)	Other AFSC Officers (%)	AF Officers (%)
n =	352	1,570	10,667
None	72.2	64.4	48.8
1	3.7	5.9	10.0
2	1.7	3.4	7.7
3	5.1	4.8	7.6
4 to 5	8.5	8.9	11.8
6 to 8	5.1	7.0	8.8
9 or more	3.7	5.5	5.4

Table A-17

Does Supervisor Write Respondent's Effectiveness Report

	AFSC PMs (%)	Other AFSC Officers (%)	AF Officers (%)
n =	350	1,554	10,531
Yes	76.6	71.3	78.6
No	14.6	18.4	13.5
Not sure	8.9	10.3	7.9

Table A-18

Work Schedule

	AFSC PMs (%)	Other AFSC Officers (%)	AF Officers (%)
n =	352	1,555	10,589
Days	84.9	72.6	56.3
Swing	0.0	0.3	0.2
Midnight	0.0	0.1	0.1
Rotating	0.0	9.1	4.3
Irregular	5.4	10.9	13.0
Frequent TDY	9.7	6.9	8.1
Crew	0.0	0.1	18.0

Table A-19

Supervisor Holds Group Meetings

	AFSC PMs (%)	Other AFSC Officers (%)	AF Officers (%)
n =	346	1,561	10,565
Never	6.1	5.8	6.7
Occasionally	34.7	24.6	22.4
Monthly	6.1	17.3	13.8
Weekly	39.3	40.9	42.5
Daily	12.7	10.1	12.5
Continously	1.2	1.4	2.2

Table A-20

Group Meetings Used to Solve Problems

	AFSC PMs (%)	Other AFSC Officers (%)	AF Officers (%)
n =	345	1,549	10,511
Never	22.3	17.9	14.7
Occasionally	45.2	41.1	42.7
Half the time	20.0	22.1	21.9
Always	12.5	18.9	20.7

Table A-21

Aeronautical Rating and Current Status

	AFSC PMs (%)	Other AFSC Officers (%)	AF Officers (%)
n =	352	1,572	10,529
Nonrated	84.9	87.4	56.4
Nonrated crew	0.3	0.9	2.7
Rated Operations	0.0	1.1	32.0
Rated Support	14.8	10.6	9.0

Table A-22

Career Intent

	AFSC PMs (%)	Other AFSC Officers (%)	AF Officers (%)
n =	349	1,568	10,637
Retire in 12 mos	5.2	5.0	3.1
Career	54.4	45.5	51.8
Likely Career	18.9	20.9	22.8
Maybe	16.0	17.7	14.6
Probably Not Career	3.4	7.0	4.8
Separate	2.0	3.8	2.9

APPENDIX B

ATTITUDINAL DATA

Table B-1
The Work Itself
ANOVA of OAP Factor Scores
AFSC PMs vs Other AFSC Officers vs AF Officers

Factor	Mean	SD	Subset	df	F
Job Performance Goals				2,12130	67.32***
AFSC PMs	4.33	1.02	1		
Other AFSC	4.53	1.03	2		
AF Officers	4.76	.97	3		
Task Characteristics				2,12197	54.24***
AFSC PMs	4.93	1.09	1		
Other AFSC	5.21	1.04	2		
AF Officers	5.38	0.93	3		
Task Autonomy				2,12226	4.09*
AFSC PMs	4.67	1.19	1		
Other AFSC	4.63	1.33	1		
AF Officers	4.54	1.36	1		
Work Repetition				2,12418	58.82***
AFSC PMs	3.65	1.33	1		
Other AFSC	4.15	1.45	2		
AF Officers	4.36	1.35	3		
Desired Repetitive/Easy Tasks				2,12052	8.80***
AFSC PMs	2.28	.98	1		
Other AFSC	2.42	1.07	2		
AF Officers	2.49	1.05	2		
Job Related Training				2,9852	62.04***
AFSC PMs	4.03	1.50	1		
Other AFSC	4.39	1.59	2		
AF Officers	4.76	1.45	3		

Note: Groups not in the same subset are significantly different at the .05 level.

*p < .05, **p < .01, ***p < .001.

Table B-2
Job Enrichment
ANOVA of OAP Factor Scores
AFSC PMs vs Other AFSC Officers vs AF Officers

Factor	Mean	SD	Subset	df	F
Skill Variety				2,12499	13.65***
AFSC PMs	5.11	1.40	1		
Other AFSC	5.40	1.37	2		
AF Officers	5.46	1.26	2		
Task Identity				2,12466	33.00***
AFSC PMs	4.86	1.29	1		
Other AFSC	5.07	1.28	2		
AF Officers	5.26	1.20	3		
Task Significance				2,12518	93.52***
AFSC PMs	5.08	1.51	1		
Other AFSC	5.58	1.37	2		
AF Officers	5.85	1.21	3		
Job Feedback				2,12486	22.84***
AFSC PMs	4.55	1.26	1		
Other AFSC	4.79	1.24	2		
AF Officers	4.92	1.17	3		
Need for Enrichment				2,12207	2.9837
AFSC PMs	6.17	.78	1		
Other AFSC	6.12	.85	1		
AF Officers	6.08	.87	1		
Job Motivation Index				2,11414	3.65*
AFSC PMs	116.94	63.18	1		
Other AFSC	125.35	69.82	2		
AF Officers	126.90	67.07	2		

Note: Groups not in the same subset are significantly different at the .05 level.

*$p < .05$, **$p < .01$, ***$p < .001$.

Table B-3
Work Group Process
ANOVA of QAP Factor Scores
AFSC PMs vs Other AFSC Officers vs AF Officers

Factor	Mean	SD	Subset	df	F
Work Support				2,12037	8.93***
AFSC PMs	4.66	1.01	2		
Other AFSC	4.65	1.04	2		
AF Officers	4.54	1.10	1		
Management and Supervision				2,11782	6.69**
AFSC PMs	5.23	1.37	1		
Other AFSC	5.20	1.40	1		
AF Officers	5.33	1.33	1		
Supervisory Communications Climate				2,11530	12.22***
AFSC PMs	4.71	1.47	1		
Other AFSC	4.71	1.49	1		
AF Officers	4.89	1.41	2		
Organizational Communications Climate				2,11642	67.37***
AFSC PMs	4.55	1.23	1		
Other AFSC	4.57	1.32	1		
AF Officers	4.94	1.24	2		

Note: Groups not in the same subset are significantly different at the .05 level.

*p < .05, **p < .01, ***p < .001.

Table B-4
Work Group Output
ANOVA of OAP Factor Scores
AFSC PMs vs Other AFSC Officers vs AF Officers

Factor	Mean	SD	Subset	df	F
Pride				2,12453	63.46***
AFSC PMs	4.95	1.58	1		
Other AFSC	5.21	1.47	2		
AF Officers	5.54	1.36	3		
Advancement/Recognition				2,11958	16.08***
AFSC PMs	4.44	1.19	1		
Other AFSC	4.43	1.20	1		
AF Officers	4.60	1.18	2		
Work Group Effectiveness				2,12080	11.05***
AFSC PMs	5.62	1.16	1		
Other AFSC	5.68	1.17	1		
AF Officers	5.79	1.06	2		
Job Related Satisfaction				2,11264	1.92
AFSC PMs	5.25	1.06	1		
Other AFSC	5.38	1.05	1		
AF Officers	5.36	1.10	1		
General Organizational Climate				2,11711	81.67***
AFSC PMs	4.86	1.29	1		
Other AFSC	4.86	1.29	1		
AF Officers	5.27	1.23	2		

Note: Groups not in the same subset are significantly different at the .05 level.

*p < .05, **p < .01, ***p < .001.

APPENDIX C

ORGANIZATIONAL ASSESSMENT PACKAGE SURVEY

FACTORS AND VARIABLES

ORGANIZATIONAL ASSESSMENT PACKAGE SURVEY

FACTORS

AND

VARIABLES

JANUARY 1986

LEADERSHIP AND MANAGEMENT DEVELOPMENT CENTER
AIR UNIVERSITY
Maxwell Air Force Base, Alabama 36112-5712

FACTORS AND VARIABLES OF THE ORGANIZATIONAL ASSESSMENT PACKAGE

The OAP is a 109-item survey questionnaire designed jointly by the Air Force Human Resources Laboratory and the Leadership and Management Development Center (LMDC) and is used to aid LMDC in its missions to: (a) conduct research on Air Force systemic issues using information in the OAP database, (b) provide leadership and management training, and (c) provide management consultation service to Air Force commanders upon request.

Allowable responses to the attitudinal items on the survey range from 1 (low) to 7 (high). The attitudinal items are grouped into 25 factors that address such areas as the job itself, management and supervision, communications, and performance in the organization. Each data record consists of 7 externally coded descriptors and 24 demographic items as well as the responses to the 93 attitudinal items.

The factors measured by the OAP are grouped into a systems model to assess three aspects of a work group: input, process, and output (adapted from McGrath's model).

Input. In LMDC's adaptation of the model, input is comprised of demographics, work itself, and job enrichment.

A. Demographics. Descriptive or background information about the respondents to the OAP survey.

B. Work Itself. The work itself has to do with the task properties (technologies) and environmental conditions of the job. It assesses the patterns of characteristics members bring to the group or organization, and patterns of differentiation and integration among position and roles. The following OAP factors measure the work itself:

806 - Job Desires (Need For Enrichment)
810 - Job Performance Goals
812 - Task Characteristics
813 - Task Autonomy
814 - Work Repetition
816 - Desired Repetitive Easy Tasks
823 - Job Related Training
Job Influences (not a statistical factor)

C. Job Enrichment. Measures the degree to which the job itself is interesting, meaningful, challenging, and responsible. The following OAP factors measure job enrichment:

800 - Skill Variety
801 - Task Identity
802 - Task Significance
804 - Job Feedback
806 - Need for Enrichment Index (Job Desires)
807 - Job Motivation Index
808 - OJI Total Score
809 - Job Motivation Index - Additive
825 - Motivation Potential Score

Work Group Process. The work group assesses the pattern of activity and interaction among the group members. The following OAP factors measures leadership and the work group process:

805 - Performance Barriers/Blockages (Work Support)
818 - Management and Supervision
819 - Supervisory Communications Climate
820 - Organizational Communications Climate
Work Interferences (not a statistical factor)
Supervisory Assistance (not a statistical factor)

Work Group Output. Measures task performance, group development, and effects on group members. Assesses the quantity and quality of task performance and alteration of the group's relation to the environment. Assesses changes in positions and role patterns, and in the development of norms. Assesses changes on skills and attitudes, and effects on adjustment. The following OAP factors measure the work group output:

811 - Pride
817 - Advancement/Recognition
821 - Work Group Effectiveness (Perceived Productivity)
822 - Job Related Satisfaction
824 - General Organizational Climate

EXTERNALLY CODED DESCRIPTORS

Batch Number

Julian Date of Survey

Major Command

Base Code

Consultation Method

Consultant Code

Survey Version

(Note: These items are concatenated to each data record during OAP processing.)

DEMOGRAPHIC ITEMS (NOT A STATISTICAL FACTOR)

Variable Number	Statement Number	Statement
-	-	Supervisor's Code
-	-	Work Group Code
-	-	Sex
-	-	Your age is
-	-	You are (officer, enlisted, GS, etc.)
-	-	Your pay grade is
-	-	Primary AFSC
-	-	Duty AFSC

(Note: The above items are on the response sheet.)

001	-	(Not used)
002	-	(Not used)
003	1	Total years in the Air Force: 1. Less than 1 year 2. More than 1 year, less than 2 years 3. More than 2 years, less than 3 years 4. More than 3 years, less than 4 years 5. More than 4 years, less than 8 years 6. More than 8 years

Variable Number	Statement Number	Statement
004	2	Total months in present career field: 1. Less than 1 month 2. More than 1 month, less than 6 months 3. More than 6 months, less than 12 months 4. More than 12 months, less than 18 months 5. More than 18 months, less than 24 months 6. More than 24 months, less than 36 months 7. More than 36 months
005	3	Total months at this station: 1. Less than 1 month 2. More than 1 month, less than 6 months 3. More than 6 months, less than 12 months 4. More than 12 months, less than 18 months 5. More than 18 months, less than 24 months 6. More than 24 months, less than 36 months 7. More than 36 months
006	4	Total months in present position: 1. Less than 1 month 2. More than 1 month, less than 6 months 3. More than 6 months, less than 12 months 4. More than 12 months, less than 18 months 5. More than 18 months, less than 24 months 6. More than 24 months, less than 36 months 7. More than 36 months
007	5	Your Ethnic Group is: 1. American Indian or Alaskan Native 2. Asian or Pacific Islander 3. Black, not of Hispanic Origin 4. Hispanic 5. White, not of Hispanic Origin 6. Other
008	11	Which of the following "best" describes your marital status? 0. Not married. 1. Married: Spouse is a civilian employed outside home. 2. Married: Spouse is a civilian employed outside home - geographically separated. 3. Married: Spouse not employed outside home. 4. Married: Spouse not employed outside home - geographically separated. 5. Married: Spouse is a military member. 6. Married: Spouse is a military member - geographically separated. 7. Single parent.

Variable Number	Statement Number	Statement
009	6	Your highest education level obtained is: 1. Non-high school graduate 2. High school graduate or GED 3. Less than two years college 4. Two years or more college 5. Bachelors Degree 6. Masters Degree 7. Doctoral Degree
010	7	Highest level of professional military education (residence or correspondence): 0. None or not applicable 1. NCO Orientation Course or USAF Supervisor Course (NCO Phase 1 or 2) 2. NCO Leadership School (NCO Phase 3) 3. NCO Academy (NCO Phase 4) 4. Senior NCO Academy (NCO Phase 5) 5. Squadron Officer School 6. Intermediate Service School (i.e., ACSC, AFSC) 7. Senior Service School (i.e., AWC, ICAF, NWC)
011	8	How many people do you directly supervise? 1. None 5. 4 to 5 2. 1 6. 6 to 8 3. 2 7. 9 or more 4. 3
012	9	For how many people do you write performance reports? 1. None 5. 4 to 5 2. 1 6. 6 to 8 3. 2 7. 9 or more 4. 3
013	10	Does your supervisor actually write your performance report? 1. Yes 2. No 3. Not sure

Variable Number	Statement Number	Statement
014	11	Your work requires you to work primarily: 1. Alone 2. With one or two people 3. As a small work group (3-5 people) 4. As a large work group (6 or more people) 5. Other
015	12	What is your usual work schedule? 1. Day shift, normally stable hours 2. Swing shift (about 1600-2400) 3. Mid shift (about 2400-0800) 4. Rotating shift schedule 5. Day or shift work with irregular/unstable hours 6. Frequent TDY/travel or frequently on-call to report to work 7. Crew schedule
016	13	How often does your supervisor hold group meetings? 1. Never 4. Weekly 2. Occasionally 5. Daily 3. Monthly 6. Continuously
017	14	How often are group meetings used to solve problems and establish goals? 1. Never 3. About half the time 2. Occasionally 4. All of the time
018	15	What is your aeronautical rating and current status? 1. Nonrated, not on aircrew 2. Nonrated, now on aircrew 3. Rated, in crew/operations job 4. Rated, in support job

Variable Number	Statement Number	Statement
019	16	Which of the following best describes your career or employment intentions? 1. Planning to retire in the next 12 months 2. Will continue in/with the Air Force as a career 3. Will most likely continue in/with the Air Force 4. May continue in/with the Air Force 5. Will most likely not make the Air Force a career 6. Will separate/terminate from the Air Force as soon as possible

NOTE: Variable 008, Statement 11 was added to the OAP on 19 Jan 80 and replaced variable 014 which appears on page 6. Although no longer used, Variable 014 is still shown because data collected from about 25,000 samples for this variable are still in the data base.

FACTORS

Each 800 series factor consists of two or more variables which correspond to statements in the OAP. A mean score can be derived for each factor except 805, 807, 808, 809 and 825 by using a "straight average." The formula for computing the exceptions is indicated.

FACTOR 800 - SKILL VARIETY: Measures the degree to which a job requires a variety of different tasks or activities in carrying out the work; involves the use of a number of different skills and talents of the worker; skills required are valued by the worker.

Variable Number	Statement Number	Statement
201	17	To what extent does your job require you to do many different things, using a variety of your talents and skills?
212	29	To what extent does your job require you to use a number of complex skills?

FACTOR 801 - TASK IDENTITY: Measures the degree to which the job requires completion of a "whole" and identifiable piece of work from beginning to end.

Variable Number	Statement Number	Statement
202	18	To what extent does your job involve doing a whole task or unit of work?
211	28	To what extent does your job provide you with a chance to finish completely the piece of work you have begun?

FACTOR 802 - TASK SIGNIFICANCE: Measures the degree to which the job has a substantial impact on the lives or work of others; the importance of the job.

Variable Number	Statement Number	Statement
203	19	To what extent is your job significant in that it affects others in some important way?
210	27	To what extent does doing your job well affect a lot of people?

FACTOR 803 (NOT USED)

FACTOR 804 - JOB FEEDBACK: Measures the degree to which carrying out the work activities required by the job results in the worker obtaining clear and direct information about job outcomes or information on good and poor performance.

Variable Number	Statement Number	Statement
272	22	To what extent are you able to determine how well you are doing your job without feedback from anyone else?
209	26	To what extent does your job provide the chance to know for yourself when you do a good job, and to be responsible for your own work?

FACTOR 805 - WORK SUPPORT: Measures the degree to which work performance is hindered by additional duties, details, inadequate tools, equipment, or work space.

Variable Number	Statement Number	Statement
206	23	To what extent do additional duties interfere with the performance of your primary job?
207	24	To what extent do you have adequate tools and equipment to accomplish your job?
208	25	To what extent is the amount of work space provided adequate?

Formula (8-206+207+208)/3

FACTOR 806 - NEED FOR ENRICHMENT INDEX (JOB DESIRES): Has to do with job related characteristics (autonomy, personal growth, use of skills, etc.) that the individual would like in a job.

Variable Number	Statement Number	Statement
(In my job, I would like to have the characteristics described--from "not at all" to "an extremely large amount")		
249	51	Opportunities to have independence in my work.
250	52	A job that is *meaningful*.
251	53	The opportunity for personal growth in my job.
252	54	Opportunities in my work to use my skills.
253	55	Opportunities to perform a variety of tasks.

FACTOR 807 - JOB MOTIVATION INDEX: A composite index derived from the six job characteristics that reflects the overall "motivating potential" of a job; the degree to which a job will prompt high internal work motivation on the part of job encumbents.

Index is computed using the following factors:

800	Skill variety
801	Task identity
802	Task significance
805	Performance barriers/blockages
813	Task autonomy
804	Job feedback

Formula ((800+801+802+805)/4)*813*804

FACTOR 808 - OJI TOTAL SCORE: Assesses one's perception of motivation provided by his or her job. This factor is a variation of a scale employed by other job motivation theorists.

Score is computed using the variables in the following formula:

Formula (V201+V202+V203+V270+V271+V272
+8-V206+V207+V208+V209+V210
+V211+V212+V213)

FACTOR 809 - JOB MOTIVATION INDEX ---- ADDITIVE: This factor is a variation of a scale employed by other job motivation theorists.

Index is computed using the following factors:

800	Skill variety
801	Task identity
802	Task significance
805	Performance barriers/blockages
813	Task autonomy
804	Work repetition

Formula ((800+801+802+805)/4)+813+804

FACTOR 810 - JOB PERFORMANCE GOALS: Measures the extent to which job performance goals are clear, specific, realistic, understandable, and challenging.

Variable Number	Statement Number	Statement
217	34	To what extent do you know exactly what is expected of you in performing your job?
218	35	To what extent are your job performance goals difficult to accomplish?
273	36	To what extent are your job performance goals clear?
274	37	To what extent are your job performance goals specific?
221	38	To what extent are your job performance goals realistic?

FACTOR 811 - PRIDE: Measures the pride in one's work.

Variable Number	Statement Number	Statement
215	32	To what extent are you proud of your job?
275	46	To what extent does your work give you a feeling of pride?

FACTOR 812 - TASK CHARACTERISTICS: A combination of skill variety, task identity, task significance, and job feedback designed to measure several aspects of one's job.

Variable Number	Statement Number	Statement
201	17	To what extent does your job require you to do many different things, using a variety of your talents and skills?
202	18	To what extent does your job involve doing a whole task or unit of work?
203	19	To what extent is your job significant, in that it affects others in some important way?
272	22	To what extent are you able to determine how well you are doing your job without feedback from anyone else?
209	26	To what extent does your job provide the chance to know for yourself when you do a good job, and to be responsible for your own work?
210	27	To what extent does doing your job well affect a lot of people?
211	28	To what extent does your job provide you with a chance to finish completely the piece of work you have begun?
212	29	To what extent does your job require you to use a number of complex skills?

FACTOR 813 - TASK AUTONOMY: Measures the degree to which the job provides freedom to do the work as one sees fit; discretion in scheduling, decision making, and means for accomplishing a job.

Variable Number	Statement Number	Statement
270	20	To what extent does your job provide a great deal of freedom and independence in scheduling your work?
271	21	To what extent does your job provide a great deal of freedom and independence in selecting your own procedures to accomplish it?
213	30	To what extent does your job give you freedom to do your work as you see fit?
214	31	To what extent are you allowed to make the major decisions required to perform your job well?

FACTOR 814 - WORK REPETITION: Measures the extent to which one performs the same tasks or faces the same type of problems in his or her job on a regular basis.

Variable Number	Statement Number	Statement
226	39	To what extent do you perform the same tasks repeatedly within a short period of time?
227	40	To what extent are you faced with the same type of problem on a weekly basis?

FACTOR 815 (NOT USED)

FACTOR 816 - DESIRED REPETITIVE EASY TASKS: Measures the extent to which one desires his or her job involve repetitive tasks or tasks that are easy to accomplish.

Variable Number	Statement Number	Statement
255	56	A job in which tasks are repetitive.
258	57	A job in which tasks are relatively easy to accomplish.

FACTOR - JOB INFLUENCES (NOT A STATISTICAL FACTOR):

Variable Number	Statement Number	Statement
216	33	To what extent do you feel accountable to your supervisor in accomplishing your job?
238	42	To what extent do co-workers in your work group maintain high standards of performance?

FACTOR 817 - ADVANCEMENT/RECOGNITION: Measures one's awareness of advancement and recognition, and feelings of being prepared (i.e., learning new skills for promotion).

Variable Number	Statement Number	Statement
234	41	To what extent are you aware of promotion/advancement opportunities that affect you?
239	43	To what extent do you have the opportunity to progress up your career ladder?

240	44	To what extent are you being prepared to accept increased responsibility?
241	45	To what extent do people who perform well receive recognition?
276	47	To what extent do you have the opportunity to learn skills which will improve your promotion potential?

FACTOR 818 - MANAGEMENT and SUPERVISION (A): Measures the degree to which the worker has high performance standards and good work procedures. Measures support and guidance received, and the overall quality of supervision.

Variable Number	Statement Number	Statement
404	58	My supervisor is a good planner.
405	59	My supervisor sets high performance standards.
410	60	My supervisor encourages teamwork.
411	61	My supervisor represents the group at all times.
412	62	My supervisor establishes good work procedures.
413	63	My supervisor has made his responsibilities clear to the group.
445	64	My supervisor fully explains procedures to each group member.
416	65	My supervisor performs well under pressure.

FACTOR - MANAGEMENT and SUPERVISION (B): (NOT A STATISTICAL FACTOR)

Variable Number	Statement Number	Statement
424	66	My supervisor takes time to help me when needed.
434	71	My supervisor lets me know when I am doing a poor job.
439	75	When I need technical advice, I usually go to my supervisor.

FACTOR 819 - SUPERVISORY COMMUNICATIONS CLIMATE: Measures the degree to which the worker perceives that there is good rapport with supervisors, that there is a good working environment, that innovation for task improvement is encouraged, and that rewards are based upon performance.

Variable Number	Statement Number	Statement
426	67	My supervisor asks members for their ideas on task improvements.
428	68	My supervisor explains how my job contributes to the overall mission.
431	69	My supervisor helps me set specific goals.
433	70	My supervisor lets me know when I am doing a good job.
435	72	My supervisor always helps me improve my performance.
436	73	My supervisor insures that I get job related training when needed.
437	74	My job performance has improved due to feedback received from my supervisor.
442	76	My supervisor frequently gives me feedback on how well I am doing my job.

FACTOR 820 - ORGANIZATIONAL COMMUNICATIONS CLIMATE: Measures the degree to which the worker perceives that there is an open communications environment in the organization, and that adequate information is provided to accomplish the job.

Variable Number	Statement Number	Statement
300	82	Ideas developed by my work group are readily accepted by management personnel above my supervisor.
301	83	My organization provides all the necessary information for me to do my job effectively.
302	84	My organization provides adequate information to my work group.
303	85	My work group is usually aware of important events and situations.
304	86	My complaints are aired satisfactorily.
309	91	The information in my organization is widely shared so that those needing it have it available.

314	96	My organization has clear-cut goals.
317	99	The goals of my organization are reasonable.
318	100	My organization provides accurate information to my work group.

FACTOR 821 - WORK GROUP EFFECTIVENESS: Measures one's view of the quantity, quality, and efficiency of work generated by his or her work group.

Variable Number	Statement Number	Statement
259	77	The quantity of output of your work group is very high.
260	78	The quality of output of your work group is very high.
261	79	When high priority work arises, such as short suspenses, crash programs, and schedule changes, the people in my work group do an outstanding job in handling these situations.
264	80	Your work group always gets maximum output from available resources (e.g., personnel and material).
265	81	Your work group's performance in comparison to similar work groups is very high.

FACTOR - WORK INTERFERENCES (NOT A STATISTICAL FACTOR): Identifies things that impede an individual's job performance.

Variable Number	Statement Number	Statement
277	48	To what extent do you have the necessary supplies to accomplish your job?
278	49	To what extent do details (task not covered by primary or additional duty descriptions) interfere with the performance of your primary job?
279	50	To what extent does a bottleneck in your organization seriously affect the flow of work either to or from your group?

FACTOR 822 - JOB RELATED SATISFACTION: Measures the degree to which the worker is generally satisfied with factors surrounding the job.

Variable Number	Statement Number	Statement
705	101	Feeling of Helpfulness The chance to help people and improve their welfare through the performance of my job. The importance of my job performance to the welfare of others.
709	102	Co-worker Relationships My amount of effort compared to the effort of my co-workers, the extent to which my co-workers share the load, and the spirit of teamwork which exists among my co-workers.
710	103	Family Attitude Toward Job The recognition and the pride my family has in the work I do.
717	106	Work Schedule My work schedule; flexibility and regularity of my work schedule; the number of hours I work per week.
718	107	Job Security
719	108	Acquired Valuable Skills The chance to acquire valuable skills in my job which prepare me for future opportunities
723	109	My Job as a Whole

FACTOR 823 - JOB RELATED TRAINING: Measures the extent to which one is satisfied with on-the-job and technical training received.

Variable Number	Statement Number	Statement
711	104	On-the-Job Training (OJT) The OJT instructional methods and instructors' competence.
712	105	Technical Training (Other than OJT) The technical training I have received to perform my current job.

FACTOR 824 - GENERAL ORGANIZATIONAL CLIMATE: Measures the individual's perception of his or her organizational environment as a whole (i.e. spirit of teamwork, communications, organizational pride, etc.).

Variable Number	Statement Number	Statement
305	87	My organization is very interested in the attitudes of the group members toward their jobs.
306	88	My organization has a very strong interest in the welfare of its people.
307	89	I am very proud to work for this organization.
308	90	I feel responsible to my organization in accomplishing its mission.
310	92	Personnel in my unit are recognized for outstanding performance.
311	93	I am usually given the opportunity to show or demonstrate my work to others.
312	94	There is a high spirit of teamwork among my co-workers.
313	95	There is outstanding cooperation between work groups of my organization.
315	97	I feel motivated to contribute my best efforts to the mission of my organization.
316	98	My organization rewards individuals based on performance.

FACTOR 825 - MOTIVATION POTENTIAL SCORE: This factor is another variation of a scale employed by other job motivation theorists. The score ranges between 1 and 343 with 109 being the Air Force average. Low scores indicate a poorly motivating job. Score is computed using the following factors:

800	Skill variety
801	Task identity
802	Task significance
804	Job feedback
813	Task autonomy

Formula ((800+801+802)/3)*813*804

VARIABLES

Variable Number	Factor	Statement Number	Statement
201	800/812	17	To what extent does your job require you to do many different things, using a variety of your talents and skills?
202	801/812	18	To what extent does your job involve doing a whole task or unit of work?
203	802/812	19	To what extent is your job significant, in that it affects others in some important way?
204 & 205	--	--	(Not used)
206	805	23	To what extent do additional duties interfere with the performance of your primary job?
207	805	24	To what extent do you have adequate tools and equipment to accomplish your job?
208	805	25	To what extent is the amount of work space provided adequate?
209	804/812	26	To what extent does your job provide the chance to know for yourself when you do a good job, and to be responsible for your own work?
210	802/812	27	To what extent does doing your job well affect a lot of people?
211	801/812	28	To what extent does your job provide you with a chance to finish completely the piece of work you have begun?
212	800/812	29	To what extent does your job require you to use a number of complex skills?

Variable Number	Factor	Statement Number	Statement
213	813	30	To what extent does your job give you freedom to do your work as you see fit?
214	813	31	To what extent are you allowed to make the major decisions required to perform your job well?
215	811	32	To what extent are you proud of your job?
216*	--	33	To what extent do you feel accountable to your supervisor in accomplishing your job?
217	810	34	To what extent do you know exactly what is expected of you in performing your job?
218	810	35	To what extent are your job performance goals difficult to accomplish?
219 & 220	--	--	(Not used)
221	810	38	To what extent are your job performance goals realistic?
222-225	--	--	(Not used)
226	814	39	To what extent do you perform the same tasks repeatedly within a short period of time?
227	814	40	To what extent are you faced with the same type of problem on a weekly basis?

* This variable is an element of "Job influences" (not a statistical factor).

Variable Number	Factor	Statement Number	Statement
228-233	--	--	(Not used)
234	817	41	To what extent are you aware of promotion/advancement opportunities that affect you?
235-237	--	--	(Not used)
238*	--	42	To what extent do co-workers in your work group maintain high standards of performance?
239	817	43	To what extent do you have the opportunity to progress up your career ladder?
240	817	44	To what extent are you being prepared to accept increased responsibility?
241	817	45	To what extent do people who perform well receive recognition?
242-248	--	--	(Not used)
249	806	51	Opportunities to have independence in my work?
250	806	52	A job that is meaningful.
251	806	53	The opportunity for personal growth in my job.
252	806	54	Opportunities in my work to use my skills.
253	806	55	Opportunities to perform a variety of tasks.
254	--	--	(Not used)
255	816	56	A job in which tasks are repetitive.

* This variable is an element of "job influences" (not a statistical factor).

Variable Number	Factor	Statement Number	Statement
256 & 257	--	--	(Not used)
258	816	57	A job in which tasks are relatively easy to accomplish.
259	821	77	The quantity of output of your work group is very high.
260	821	78	The quality of output of your work group is very high.
261	821	79	When high priority work arises, such as short suspenses, crash programs, and schedule changes, the people in my work group do an outstanding job in handling these situations.
262 & 263	--	--	(Not used)
264	821	80	Your work group always gets maximum output from available resources (e.g., personnel and material).
265	821	81	Your work group's performance in comparison to similar work groups is very high.
266-269	--	--	(Not used)
270	813	20	To what extent does your job provide a great deal of freedom and independence in scheduling your work?
271	813	21	To what extent does your job provide a great deal of freedom and independence in selecting your own procedures to accomplish it?
272	804/812	22	To what extent are you able to determine how well you are doing your job without feedback from anyone else?

Variable Number	Factor	Statement Number	Statement
273	810	36	To what extent are your job performance goals clear?
274	810	37	To what extent are your job performance goals specific?
275	811	46	To what extent does your work give you a feeling of pride?
276	817	47	To what extent do you have the opportunity to learn skills which will improve your promotion potential?
277**	--	48	To what extent do you have the necessary supplies to accomplish your job?
278**	--	49	To what extent do details (task not covered by primary or additional duty descriptions) interfere with the performance of your primary job?
279**	--	50	To what extent does a bottleneck in your organization seriously affect the flow of work either to or from your group?
280-299	--	--	(Not used)
300	820	82	Ideas developed by my work group are readily accepted by management personnel above my supervisor.
301	820	83	My organization provides all the necessary information for me to do my job effectively.
302	820	84	My organization provides adequate information to my work group.

** These variables are elements of "work interferences" (not a statistical factor).

Variable Number	Factor	Statement Number	Statement
303	820	85	My work group is usually aware of important events and situations.
304	820	86	My complaints are aired satisfactorily.
305	824	87	My organization is very interested in the attitudes of the group members toward their jobs.
306	824	88	My organization has a very strong interest in the welfare of its people.
307	824	89	I am very proud to work for this organization.
308	824	90	I feel responsible to my organization in accomplishing its mission.
309	820	91	The information in my organization is widely shared so that those needing it have it available.
310	824	92	Personnel in my unit are recognized for outstanding performance.
311	824	93	I am usually given the opportunity to show or demonstrate my work to others.
312	824	94	There is a high spirit of teamwork among my co-workers.
313	824	95	There is outstanding cooperation between work groups of my organization.

Variable Number	Factor	Statement Number	Statement
314	820	96	My organization has clear-cut goals.
315	824	97	I feel motivated to contribute my best efforts to the mission of my organization.
316	824	98	My organization rewards individuals based on performance.
317	820	99	The goals of my organization are reasonable.
318	820	100	My organization provides accurate information to my work group.
319-403	--	--	(Not used)
404	818	58	My supervisor is a good planner.
405	818	59	My supervisor sets high performance standards.
406-409	--	--	(Not used)
410	818	60	My supervisor encourages teamwork.
411	818	61	My supervisor represents the group at all times.
412	818	62	My supervisor establishes good work procedures.
413	818	63	My supervisor has made his responsibilities clear to the group.
414 & 415	--	--	(Not used)
416	818	65	My supervisor performs well under pressure.
417-423	--	--	(Not used)
424***	--	66	My supervisor takes time to help me when needed.
425	--	--	(Not used)

*** This variable is an element of "supervisory assistance" (not a statistical factor).

Variable Number	Factor	Statement Number	Statement
426	819	67	My supervisor asks members for their ideas on task improvements.
427	--	--	(Not used)
428	819	68	My supervisor explains how my job contributes to the overall mission.
429 & 430	--	--	(Not used)
431	819	69	My supervisor helps me set specific goals.
432	--	--	(Not used)
433	819	70	My supervisor lets me know when I am doing a good job.
434***	--	71	My supervisor lets me know when I am doing a poor job.
435	819	72	My supervisor always helps me improve my performance.
436	819	73	My supervisor insures that I get job related training when needed.
437	819	74	My job performance has improved due to feedback received from my supervisor.
438	--	--	(Not used)
439***	--	75	When I need technical advice, I usually go to my supervisor.
440 & 441	--	--	(Not used)
442	819	76	My supervisor frequently gives me feedback on how well I am doing my job.
443 & 444	--	--	(Not used)
445	818	64	My supervisor fully explains procedures to each group member.
446-704	--	--	(Not used)

*** These variables are elements of "supervisory assistance" (not a statistical factor).

Variable Number	Factor	Statement Number	Statement
705	822	101	Feeling of Helpfulness The chance to help people and improve their welfare through the performance of my job. The importance of my job performance to the welfare of others.
706-708	--	--	(Not used)
709	822	102	Co-worker Relationships My amount of effort compared to the effort of my co-workers, the extent to which my co-workers share the load, and the spirit of teamwork which exists among my co-workers.
710	822	103	Family Attitude Toward Job The recognition and the pride my family has in the work I do.
711	823	104	On-the-Job Training (OJT) The OJT instructional methods and instructors' competence.
712	823	105	Technical Training (Other than OJT) The technical training I have received to perform my current job.
713-716	--	--	(Not used)
717	822	106	Work Schedule My work schedule; flexibility and regularity of my work schedule; the number of hours I work per week.
718	822	107	Job Security
719	822	108	Acquired Valuable Skills The chance to acquire valuable skills in my job which prepare me for future opportunities.
720-722	--	--	(Not used)
723	822	109	My Job as a Whole
724-999	--	--	(Not used)

END

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