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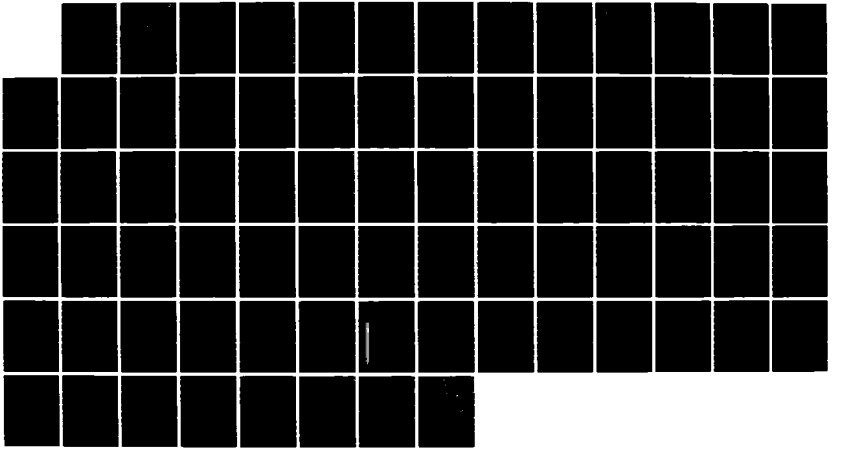

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AIR COMMAND AND STAFF COLLEGE

STUDENT REPORT

JOB ATTITUDES OF SAC MISSILE OFFICERS

MAJOR MICHAEL E. HUFFINE 86-1180

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The job attitudes of Air Force personnel affect the way they perform their work. The purpose of this report is to analyze the job attitudes of missile operations officers (AFSC 18XX). To accomplish this analysis, the study uses the USAF Organizational Assessment Package (OAP) survey to compare the attitudes of missile officers and other officers toward their organizations. Differences between the groups, judged as reliable at the 95 percent confidence level (statistically), are identified and analyzed. The report concludes that missile officers have a less favorable attitude toward their organizations than other officers have towards theirs. The report offers recommendations to missile leaders and managers for improving missile officers' attitudes.

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PREFACE

This report is based on data obtained from the Leadership and Management Development Center (LMDC) at Maxwell AFB, Alabama. The data were gathered from Organizational Assessment Package surveys administered in the field from FY 1981 through FY 1985. Personnel at over 100 Air Force installations were sampled through LMDC management consultation surveys in the collection of the data. Respondents included officers, enlisted personnel, and civilians (only officers were considered in this report). In fact, responses from over 200,000 personnel are in the LMDC data base.

Planned closure of the facility at LMDC that is responsible for the maintenance of the data base presented a problem. What was to be done with the data? Students at the Air Command and Staff College were presented with the opportunity to use the available data for completion of their research projects, thus fulfilling their course requirements and also rendering a meaningful service in the interpretation of the data held by LMDC. LMDC Research and Analysis personnel have been extremely helpful in the completion of this project.

ABOUT THE AUTHOR

Major Michael E. Huffine has extensive experience in the missile operations career field. Commissioned in 1973, he served his first eight years in the Air Force in various areas of missile operations. The first four years were spent in Titan II weapon system operations at McConnell AFB, Kansas. This tour was followed by a four year assignment at Vandenberg AFB, California, where he served in the 3901st Strategic Missile Evaluation Squadron as a Titan II operations evaluator for the Strategic Air Command (SAC). Prior to reporting to Air Command and Staff College, he worked in the Operations Plans Deputate (XO) of Headquarters SAC and in the Program Management Division of the Joint Strategic Target Planning Staff (JCS). The author has completed Squadron Officer School in residence, ACSC by correspondence, and is now assigned to ACSC. He has a Bachelor's Degree in History and Political Science from the University of Kansas and is currently completing a Master's Degree in Public Administration with the University of Oklahoma.

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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 86-1180

AUTHOR(S) MAJOR MICHAEL E. HUFFINE, USAF

TITLE JOB ATTITUDES OF SAC MISSILE OFFICERS

I. Purpose: To investigate the job attitudes of SAC missile operations officers (AFSC 18XX) and compare them to those of other officers throughout the Air Force; if differences are found between the two groups, to analyze the differences and make recommendations for corrective action, as required.

II. Problem: Do significant differences exist between missile officers and other Air Force officers in their attitudes toward their jobs (as measured by the USAF Organizational Assessment Package--OAP)? If significant differences exist, do the missile officers show a more positive or less positive attitude than other officers toward their job? What can be done to improve missile officers' job attitudes where less positive attitudes occur?

III. Data: The Air Force is continually concerned with maximizing its available assets in the performance of the Air Force mission. The most important resource possessed by the Air Force is its people. Satisfied and motivated people are productive people. There are many ways to measure productivity, but the underlying causes for productivity or lack of productivity are not always apparent. Nevertheless, study of factors related to productivity is important. For this report, data were derived from the Leadership and Management Development

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Center (LMDC) data base which contains over 200,000 individual responses to the OAP. The OAP is a survey questionnaire that captures relevant demographic and attitudinal data from personnel in the field. Statistical analyses of the data were accomplished using commonly accepted, standard inferential statistics (Analysis of Variance with Newman-Keuls follow-up) at the 95 percent confidence level. The results of these analyses indicated that missile officers are significantly less satisfied than other Air Force officers in the following key factors: Task Characteristics, Task Autonomy, Work Repetition, Desired Repetitive/Easy Tasks, Skill Variety, Need for Enrichment, Job Motivation, Work Support, Job Satisfaction, and General Organizational Climate. At the same time, it is significant that missile officers not only characterize their jobs as repetitive--they prefer more repetitive/easy tasks in comparison to their peers in other occupations in the Air Force. Unfortunately, the prevailing literature on organizational behavior indicates that individuals with repetitive jobs that demand little in the way of skill variety are usually less satisfied with their jobs, and thus less motivated. Another result of the analyses was that the missile officers are remarkably similar in many ways to their peers--of the 21 factors measured by the OAP, the missile officers exhibited significant differences in attitude on only 10 of the factors when compared to other Air Force officers. As a matter of fact, in their perception of the quality of supervisors, the missile officers did not differ significantly at all from the comparison group. Nevertheless, the lower satisfaction demonstrated by missile officers towards their jobs and organizations demands attention.

IV. Conclusion: Missile officers are generally less satisfied with their work and their organizational climate than are other officers in other career fields in the Air Force. Although there were no significant differences indicated on 11 of the 21 OAP factors, the remaining 10 factors, and especially the 8 on which missile officers showed less satisfaction, indicate a need for senior officer concern.

V. Recommendations: The Air Force should undertake a study to determine whether missile officers and aircrew officers have any

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similarity in their attitudes toward repetitive work. A similarity, with a corresponding contrast to non-operations oriented officers, would isolate a potential cause for less job satisfaction. Further, the Air Force should investigate whether the nature of repetitive tasks does result in lower motivation and therefore lower productivity. Finally, senior officers need to be exposed to more of the current knowledge in the area of personnel needs on the job and how they can affect motivation.

Chapter One

INTRODUCTION

The Air Force continues to be vitally concerned with the effectiveness of its organizations in the accomplishment of their objectives. The importance of the mission, the large number of taxpayer dollars spent, and the need for public credibility demand that Air Force activities be effective and cost efficient. It is through the Air Force leader and manager that the attainment of Air Force objectives is accomplished. Whether the objectives are attained in an economical and effective fashion is a measure of the quality of the institution. Thus, there is a continuing need for the Air Force to train and aid its leaders and managers in effective supervision of the personnel required to accomplish the mission. The purpose of the present paper is to help meet that need by providing feedback on the job attitudes of officers performing missile duties to leaders and managers within the Air Force missile operations career field.

The missile officer career field (AFSC 18XX) is primarily found within the Strategic Air Command (SAC) (some officers have recently begun to serve in the Ground Launched Cruise Missile (GLCM) career field in the Tactical Air Command but are not considered in this paper). Duties range from performance as an ICBM missile launch officer with the Titan II or Minuteman

weapon systems to those generally associated with normal staff duty (i.e., planning, training, missile operations staff, and weapon system procurement). Duty levels range all the way from the squadron level to Headquarters, United States Air Force. The "normal" career progression is from basic launch officer duties at the squadron level, to wing staff in either standardization, training, or Emergency War Order instruction, and eventually to numbered Air Force or SAC Headquarters. However, a common thread shared by all officers within this AFSC is that at one time or another they held a command position and responsibility for an operationally ready nuclear weapon system.

The instrument used to gather information on missile officer attitudes is the Organizational Assessment Package (OAP) survey administered by the Air Force Leadership and Management Development Center (LMDC), Maxwell AFB, AL. LMDC maintains a cumulative data base of over 200,000 individual responses to the OAP gathered in field administrations as a part of the Air Force's management consultation program. This research project provides Air Force commanders and missile career area leaders with an analysis of survey data from the OAP data base to help them identify job attitude strengths as well as potential problem areas in the missile career area. In this study, analyses compare OAP data base responses of two groups of Air Force people: the first consists of officers in the missile career field, the second, officers working in other career fields.

The OAP Factors and Variables (Appendix C) are designed to

measure people's attitudes on a number of relevant job and retention issues. Comparison of missile officers' attitudes to other officers' attitudes should indicate those areas where the missile career area officers and other officers agree and disagree on job and retention related issues. Analysis of significant areas of divergence between the two groups, conducted in the light of a literature review of current theory and research in organizational assessment and behavior, should allow for reasonable discussion of strengths and weaknesses in the missile career area (the literature review follows in Chapter Two). To pursue this analysis, this research project has four goals:

1. To review relevant background research and organizational behavior literature.

2. To compare OAP measured demographic characteristics and job attitudes of officers in the missile career field with characteristics and attitudes of corresponding officers in other Air Force career areas.

3. To analyze significant attitudinal differences between missile officers and other officers.

4. To develop recommendations for missile area leaders and functional managers to help them increase their effectiveness by improving the job attitudes of their personnel.

This research project addresses each of these goals in the succeeding chapters. Chapter Two discusses the results of the literature review conducted in the areas of organizational assessment and behavior, and those variables that have the

greatest relevance and impact are identified. Chapter Three addresses the methodology employed in the collection of data and the subsequent analysis of the data. Next, Chapter Four presents and describes the results. The results are categorized as demographic and attitudinal and separately listed for the two groups. Chapter Five is a discussion of the results in light of the literature review used in Chapter Two and the methodology described in Chapter Three. Finally, Chapter Six presents conclusions and recommendations based on the results and discussion.

Chapter Two

LITERATURE REVIEW

Explanations for individual and group differences in organizational attitudes require extensive research into many studies on organizational behavior. This literature review establishes some definitions for terms and provides a short background on organizational behavior theory.

Before beginning the literature review, it is appropriate to provide some definitions derived from the review. These paraphrased definitions will form the basis of discussion for the remainder of this paper. An organization is defined as the planned coordination of the collective activities of two or more people who, functioning on a relatively continuous basis and through division of labor and a hierarchy of authority, seek to achieve a common goal or set of goals (Robbins, 1983). A formal social structure in an organization (as in the military) is one in which the social positions and the relationships among them have been explicitly specified and are defined independently of the personal characteristics of the participants occupying the positions (Scott, 1981). One more definition is appropriate since it forms the basis of the OAP methodology for leadership and management, and that is the contingency or situational approach to leadership. The contingency approach contends that a leader's

effectiveness is dependent on the situation or environment in which he or she operates. Hellriegel and Slocum (1979) define the contingency approach as seeking to understand the interrelationships within, between, and among the various individuals and groups of an organization. Only after the situation is "understood" can the manager or leader apply certain "management principles." With these definitions established, the literature review below comments on studies and theories about the relationship between worker attitudes and the effective accomplishment of organizational goals.

Modern theory on job attitudes emphasizes that supervisors must appreciate and comprehend the complexity of the work environment in order to be effective. Indeed, Webber (1979) asserts that most recent works on management research and theory imply that effective leaders must take the expectancies and motives of subordinates into account, along with situational factors, interpersonal relations and rewards, when structuring the environment for task accomplishment. Maslow and Herzberg emphasize that employees are essentially concerned with a hierarchy of needs (Herbert, 1976). An individual's personal goals and needs are greater motivators than trying to meet organizational objectives. Since the leader or manager is primarily concerned with meeting organizational objectives, it is very important that the attitudes of employees be understood so that an attempt can be made to mesh gratification of personal goals and needs with the attainment of organizational objectives.

Herbert (1976) also addresses managerial techniques through extensive research into what supervisors should do to increase employee effectiveness. He concludes that effective organizational motivation occurs when one's environment allows the simultaneous achievement of individual and organizational motives.

The different approaches to understanding the motivation of employees led to the practical consideration of implementing this knowledge to increase the motivation of workers. Job design is the primary method for improving the job itself and is thus an important aspect of the motivational quality of the work itself (Hellriegel and Slocum, 1979). Frederick W. Taylor (1911) is famous for the job engineering he accomplished in the late 1800s including the streamlining of the work process through strategies such as the time and motion studies. This process increased efficiency but did not necessarily improve worker satisfaction. Herzberg's (1969) studies led to further approaches to worker satisfaction, and he defined job enrichment (an aspect of job design) as the improvement of the worker's motivating factors on the job.

A further improvement in approaching job enrichment understanding and implementation is found in the studies of Hackman and Oldham (1975). Their approach defines job enrichment as amplifying, or including, such core job dimensions as skill variety, task identity, task significance, autonomy, and feedback in the worker's environment. This gives the worker an opportunity to experience a sense of meaningfulness and responsibility in the

job and an appreciation of how effectively or ineffectively it is accomplished. The Hackman-Oldham model essentially points out that a job without meaningfulness, responsibility or feedback (on effectiveness) is incomplete and does not motivate. Since increased job enrichment results in improved job attitudes (Hellriegel and Slocum, 1979), an instrument that can measure job attitudes will include many of the factors discussed as dimensions of the job as outlined above. The measurement of these core dimensions is accomplished in the Air Force through the administration of the Organizational Assessment Package, the instrument used in gathering data for this paper.

In general, even a cursory review of the literature reveals the primacy of the effects of attitudes on such organizational factors as performance, training, and retention. The current review is no exception.

Two possible areas of concern with this research arose during the review of previous studies. One is that most organizational literature is written about civilian organizations. The other concerns the fact that a survey was used to gather personal attitudes toward organizations.

During the review, it was discovered that most inquiries into organizational behavior and management have focused on civilian organizations. This fact does not obviate their relevance here, however, since the results of these studies can be directly applied to military organizations. This is because the characteristics of organizations are common (Katz and Kahn, 1978).

The other possible concern is the survey methodology. Even though a few organizational scientists do not believe questionnaires are appropriate or effective in obtaining attitudinal information, the survey questionnaire method is generally well accepted. In fact, today it is one of the most prominent methods used to obtain feedback from persons at all levels of an organization (Hampton, Summer, & Webber, 1982). Hellriegel and Slocum (1978) add "the survey feedback approach can be effective in meeting both organizational goals and individual needs" (p. 594). The questionnaire method was the basis for obtaining the information used in the present report.

Surprisingly, little study has been accomplished on the attitudes of missile officers, even though they comprise one of the two types of operationally-oriented personnel in SAC. This report uses the preceding literature review information, together with the latest LMDC data available on missile personnel, to analyze how missile personnel compare with other Air Force officers. The next chapter explains the methods used to obtain the data upon which this report is based.

Chapter Three

METHODOLOGY

The data forming the present report were obtained by LMDC personnel using the Organizational Assessment Package (OAP) in field administrations. A comprehensive review of the history, development and standardization, and survey procedures of the OAP is documented by Short (1985). This chapter provides a brief description of the methods used to gather and analyze OAP data for comparing responses of missile officers to those of other Air Force officers. This chapter also covers the instrumentation, data collection and feedback, subjects, and procedures used for the present report.

Instrumentation

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). It is used to aid LMDC in its mission to

1. conduct research on Air Force systemic issues using information in the OAP data base,
2. provide leadership and management training, and
3. provide management consultation service to Air Force commanders upon request.

The survey questionnaire contains 16 demographic items and 93

attitudinal items. Documentation and explanation of the factor analysis results during OAP development is provided by Hendrix and Halverson (1979a; 1979b). Short and Hamilton (1981) conducted a factor by factor assessment of the reliability of the OAP and found that it showed "generally acceptable to excellent reliability for the primary factors," and "that they were reliable enough for collection of Air Force systemic data" (page 36). After two years of field use, the validity of the OAP was re-examined by Hightower and Short (1982). Their findings also support the use of the OAP as a data gathering instrument.

Data Collection

All data for the present report were collected as a part of the LMDC management consultation process. In the LMDC management consultation process, the initial administration of the OAP in an organization is a key step (Short, 1985). The survey is given as a census of the organization to which LMDC has been invited. All military and civilian members of the organization are scheduled for the survey administration in group sessions. They are assured of the confidentiality of the individual survey respondent's data, and the purposes of the data gathering are explained. LMDC representatives collect all survey answer sheets and return them to Maxwell AFB for analysis.

After analyzing the data, the LMDC consultants return to the organization for a tailored visit. Survey results (in aggregate form) are provided to the commanders and supervisors. If specific problems are identified, a consultant and supervisor may develop a

management action plan designed to correct the problem. Workshops and training sessions may also be used to address problems.

About six months after the tailored visit, the consultants return to the organization to re-administer the OAP and perform other follow-up data gathering. During this return visit, the OAP is used as an evaluation tool to assess the impact of the consulting process. After analysis, a final report that includes the results comparing pre-intervention and post-intervention OAP administrations is mailed to the organization. Only the pre-intervention OAP administration data are used in the present report.

The data from OAP administrations are stored in a cumulative data base. In addition to the 16 demographic questionnaire items, other demographics collected on the answer sheet and stored on each record include work group code, personnel category, pay grade, age, sex, Primary Air Force Specialty Code (PAFSC), and Duty Air Force Specialty Code (DAFSC). Data for the present analysis were collected between October 1981 and September 1985 (FY82-FY85).

Subjects

To examine the perceptions of missile personnel, responses to the pre-intervention OAP were extracted from the data base to form two independent groupings: missile officers and the LMDC data base (non-missile officers). The missile grouping consists of officer personnel performing duties in DAFSC 18XX. For this study, the LMDC data base grouping is comprised of personnel who

are also officers but in different DAFSCs. There were 197 officers in the missile officer group and 12,529 officers in the data base group.

Procedures

Analyses of survey responses for the two groups were conducted in two separate examinations. "Analysis of Demographic Information" is provided to characterize the sample groups. "Comparison of missile officers to the LMDC Data Base" looks at attitudinal differences between the two groups.

The number (n) shown throughout the study is the total number of valid responses for each group in the pre-intervention data base for the variable or key factor being examined. Statistical analyses were performed using the CROSSTABS and T-TEST procedures described in the SPSSx User's Guide (1983).

Analysis of Demographic Information

For this analysis, the SPSSx subprogram CROSSTABS was used to tabulate the demographic data for the missile officer personnel and the remainder of the data base.

Comparison of Missile Personnel to the Data Base

For these analyses, job attitude responses of missile officers were compared to those of other officers in the data base. Two-tailed t-tests were performed to discern any attitudinal differences on the 21 OAP factors. The level of significance for all t-tests was alpha = .05 (i.e., the 95 percent statistical confidence level). An F-test was used to test the assumption of equal variances. Where indicated appropriate,

t-tests for unequal variance groups were used. These procedures were used to determine variables in which missile officers' data vary significantly from those of the data base. Comparisons were made in four areas of organizational functioning: work itself, job enrichment, work group process, and work group output. See Appendix C for the factors and variables that comprise these areas in the OAP survey.

The next chapter presents the results of the demographic and attitudinal comparisons for both the missile officer grouping and the LMDC data base.

Chapter 4

RESULTS

This chapter reports the results of the comparison of the missile officers' and other officers' responses to the Organizational Assessment Package questionnaire. The key demographic variables for the two groups are addressed first.

Demographics

The sample size for missile officers in this report is 197. The data base officers to whom the missile officers are compared number 12,529. Of the missile officers, only one was female, while 13% of the data base officers were female. The age distribution for all officers sampled was relatively similar except for the fact that a greater percentage of the missile officers were between the ages of 26 and 35 (65% of missile officers versus 51% of data base officers). Over 50% of the missile officers and data base officers had completed at least 4 years of service in the Air Force. In addition, over 50% of both groups had served more than 18 months at their duty stations at the time the OAP was administered. Ethnic and marital status distribution were very similar for both groups. More detailed information on the demographics of the two groups may be found in Appendix A.

Attitudinal Analysis

Significant differences in attitudes were found between missile officers and data base officers for factors in the key areas of the nature of the Work Itself, Job Enrichment, Work Group Process, and the Work Group Output.

Missile officers were found to be significantly different from other officers on 10 of the 21 OAP factors which were considered for this analysis, with the missile officers expressing less positive views on 8 of the 10 factors (See Table 1). In each case described in the text below, the difference between the means of the missile and data base officers is statistically significant at the 95% statistical confidence level. See Appendix B, Table 1.

Work Itself

The Work Itself concerns the task properties and environmental conditions of the job. It assesses the patterns of characteristics that members bring to the group or organization, and patterns of differentiation and integration among positions and roles. Significant differences were found in four factors within this area: Task Characteristics, Task Autonomy, Work Repetition, and Desired Repetitive/Easy Tasks.

Task Characteristics is a combination of Skill Variety, Task Identity, Task Significance, and Job Feedback designed to measure several aspects of one's job. In response to statements related to task characteristics, from possible responses ranging from 1, "Not at all," to 7, "To a very great extent," missile officers

Table 1

Summary of OAP Factors Indicating Significant Differences

Factor	Sample Size	Mean
Task Characteristics		
Missile Officers	191	5.20
Data Base Officers	12,109	5.34
Task Autonomy		
Missile Officers	195	3.40
Data Base Officers	12,134	4.57
Work Repetition		
Missile Officers	197	4.61
Data Base Officers	12,324	4.30
Desired Repetitive/Easy Tasks		
Missile Officers	193	2.69
Data Base Officers	11,957	2.47
Skill Variety		
Missile Officers	196	4.89
Data Base Officers	12,407	5.45
Need for Enrichment		
Missile Officers	193	5.94
Data Base Officers	12,111	6.09
Job Motivation Index		
Missile Officers	181	104.71
Data Base Officers	11,333	126.74
Work Support		
Missile Officers	187	4.31
Data Base Officers	11,954	4.56
Job Related Satisfaction		
Missile Officers	183	5.11
Data Base Officers	11,174	5.37
General Organizational Climate		
Missile Officers	179	4.97
Data Base Officers	11,632	5.21

scored lower (mean = 5.19) than data base officers (mean = 5.34).

In another factor, Task Autonomy, which measures the degree to which the job provides freedom to do the work as one sees fit, missile officers had a mean of 3.40, while data base officers had a mean of 4.57 (using the same response scale as described in the preceding paragraph).

Missile officers indicated that Work Repetition was a stronger component of their jobs when compared to the data base officers (missile mean = 4.61; data base mean = 4.30). Missile officers also desired more repetitive, easy tasks than did the data base officers (missile mean = 2.69; data base mean = 2.47).

Job Enrichment

Job Enrichment factors measure the degree to which the job itself is interesting, meaningful, challenging, and responsible. Missile officers displayed a significant difference in attitude from data base officers for three factors in this area: Skill Variety, Need for Enrichment, and Job Motivation. Skill Variety measures the degree to which a job requires varied skills of the worker--skills valued by the worker. Missile officers indicated a lower perception of the need for skill variety in their jobs with a mean of 4.89 compared to the data base officers' mean of 5.45.

Need for Enrichment, or job desires, indicated that data base officers desired enrichment in their tasks more than missile officers (data base mean = 6.09; missile mean = 5.94). Furthermore, in scoring the Job Motivation Index, which is derived from the six job characteristics that reflect the overall

"motivating potential" of a job, the data base officers scored a mean of 126.74 compared to the missile officer mean of 104.71.

Work Group Process

This area contains factors which assess the pattern of activity and interaction among the group members. Only one factor of this area showed a significant attitudinal difference between the missile and data base officers: Work Support.

Work Support measures the degree to which work performance is hindered by additional duties, details, inadequate tools, equipment, or work space. A higher mean indicates less interference by these conditions. Missile officers had a mean of 4.31 compared to the data base mean of 4.56.

Work Group Output

The last area, Work Group Output, has factors which measure perceptions of task performance, group development, and effects on group development. Significant attitudinal differences were identified in two factors within this area.

Job Related Satisfaction measures the degree to which the worker is generally satisfied with factors surrounding the job. Responses to statements in this factor range from 1, "Extremely Dissatisfied," to 7, "Extremely Satisfied." Here, missile officers had a mean of 5.11 compared to a data base mean of 5.37.

In the other factor, General Organizational Climate, missile officers had a mean of 4.97 compared to the data base mean of 5.21, indicating a generally less favorable outlook on their organizations.

In the next chapter, each of the significant areas of difference between the missile officers and data base officers will be discussed with the goal of deriving some tentative explanations for the difference in attitudes.

Chapter Five

DISCUSSION

In general, the results presented in the previous chapter indicated that missile officers differed significantly from the data base officers on 10 of the 21 OAP factors measured, with a less favorable attitude on 8 of those 10 factors in comparison to the data base officers (the other factors measured the amount of, and desire for, repetition in the job). The overall observation must be that missile officers have a somewhat less positive attitude towards their organizations and jobs than do the data base officers. What reasons can be established for this condition? The following discussion examines the factors in which significant differences are noted. The discussion combines the results of the OAP Survey analysis, the information learned during the literature review, and the author's experience in the missile career area to arrive at some possible explanations for the attitudinal differences between the missile and data base officers.

The discussion begins with those factors where there were no significant differences between missile officers and the data base officers. The next topic is those two unique factors on which the missile officers demonstrated higher scores than the data base. The final topic is discussion of the factors that indicated a

poorer attitude among the missile officers towards the organization.

OAP Factors With No Significant Differences

Below is a listing of factors which, from analysis of OAP results, indicate no significant difference between missile officers and other officers. It provides a point of departure for the discussion of the attitudinal differences. As previously mentioned, out of the 21 factors of the OAP, significant differences in attitude were not indicated in 11 factors. The factors in which there was no significant difference were

Job Performance Goals

Job Training

Task Identity

Task Significance

Job Feedback

Management-Supervision

Supervisory Communications Climate

Organizational Communications Climate

Pride

Advancement-Recognition

Work Group Effectiveness

OAP Factors Indicating Higher Missile Officer Mean Responses

Work Repetition and Desired Repetitive-Easy Tasks were the only two factors that reflected higher mean responses for missile officers. Work Repetition responses indicated that missile

officers characterized their jobs as more repetitive in nature than did the data base officers. At the same time, missile officers indicated that they desired easy and repetitive tasks more than did their counterparts. Happily, for the respondents, these two factors are complementary; not only do missile officers perceive that their tasks are more repetitive--they desire them to be that way more than did the other officers. On the other hand, numerous studies (Katz and Kahn, 1978) indicate that the more repetitive the task, the less job satisfaction derived. Perhaps some of the lower missile officer mean scores in the other factors with significant differences can be explained in the way the missile officers characterize their jobs.

OAP Factors Indicating Lower Missile Officer Mean Response

Task Characteristics

The lower missile officer response level to items concerning task characteristics is indicative of a lower estimate of their job's requirements in skill variety, identity, significance, and feedback. This is consistent with their perception of the repetitiveness of work they perform.

Task Autonomy

Here again, the missile officers' average response is lower than the data base officers' average response. Missile officers characterize their jobs as providing less opportunity for discretion and control in the accomplishment of their jobs. Essentially, they look at their work as providing less means for individual autonomy and creativity in its accomplishment.

Skill Variety

This is another consistency with the results obtained in the missile officers' perception of work repetitiveness. The impression conveyed here is that the tasks confronted by missile officers do not require a variety of skills valued by the worker.

Need for Enrichment

Interestingly, missile officers, on the average, expressed the need for a "large amount" of enrichment in their jobs; nevertheless, their mean was lower than that of the data base officers who indicated a more positive attitude toward the variety in their jobs. On the surface, this contradicts what is expected, since those with repetitious jobs usually look for a job that offers more variety and opportunity for creativity and independence. On the other hand, we have already seen from the results that missile officers have a greater desire for repetitive, easy tasks. Weber (1947) would have believed this appropriate behavior.

Job Motivation Index

Understandably at this point, it is obvious that missile officers scored significantly lower on the composite Job Motivation Index than the data base officers did. Surprisingly, in spite of the lower motivation and the repetitiveness of their jobs (as they perceive them) the missile officers do not seem to indicate a greater need for job enrichment.

Work Support

In addition to the results of the factors above, missile

officers indicate that the work environment (additional duties, space, tools for task accomplishment, etc.) does hinder their work performance. They responded that the obstacles to performance in their work environment hindered them more than did the data base officers in their responses.

Job Related Satisfaction

In this factor, the data base officers demonstrated a generally more favorable attitude towards the intrinsic satisfaction provided by their jobs, while the missile officers displayed a lower level of satisfaction. Overall, both groups characterize themselves as "slightly satisfied." There is a consistency here, however, when it is remembered that the worker who considers his/her tasks as repetitive is generally less satisfied in the job--that fact is reflected in the missile officers' lower mean score.

General Organizational Climate

The final significant difference is reflected in the missile officers' generally lower estimation of the organizational climate. In response to positive statements about the organization--its caring for workers, instilling of pride and motivation, and its ability to accomplish the mission with harmony among the different work groups--the missile officers responded less favorably than did the data base officers.

The factors reviewed above show some consistencies and some anomalies. The most glaring anomaly seems to be the fact that, contrary to some rather important studies, missile officers

perceive themselves as having repetitive tasks; but instead of desiring more variety and autonomy, they display less distaste for repetitive, easy taskings than do the data base officers. The general consistency is in the fact that studies show that those who have repetitive tasks generally have less job satisfaction and, thus, less job motivation--a fact borne out by the results of the OAP, and one that should be of concern to missile leaders and managers.

The demographics of the two groups do not offer any easy explanations for the significant differences in the missile and data base officers' responses. The missile officers as a group are younger than their data base counterparts, better educated, and appear to have less assignment stability. At the same time, the data base group respondents are more likely to have greater supervisory responsibilities, more stable working hours, and more time in the Air Force. Since there are no glaring and substantive differences in the demographic statistics, the differences that exist may be attributable to the wider range of officers' grades and positions surveyed outside the missile field.

The knowledge gained in the literature review (and personal experience) indicates that the nature of the missile officers' work and the organizational climate need improvement. The other potential problem, that the supervisory climate is not good, is not supported here since the mean responses of the missile officers and data base officers did not differ significantly in response to items in that factor.

An interesting aspect of this problem with missile officers' attitudes toward the organization is the nature of the work that they perform. As was previously stated earlier in this report, missile officers are among the few Air Force officers other than pilots who have direct responsibility for nuclear weapons and work in a crew-oriented operational environment. The operations crew environment is one of checklists, repetitive tasks, and routine monitoring of equipment. Other than the occasional emergency situation and on-site maintenance activity, the workday is routine and uneventful. Even if the officer has been away from the operations crew environment for a long time, the memory of this activity from the early, formative years of missile duty experience may shade his perception of the organization. An example of this fact can be found in discussion with almost any missile officer about his or her evaluation history while on crew. Even if the individual has been away from the crew force for up to 10 years, most officers will probably be able to recall their experiences with some detail. This observation may go a long way towards explaining some of the missile officer responses to the OAF survey. However, it does little to remedy the situation.

The next chapter offers some conclusions about the attitudes of missile officers based on the discussion here and the results of Chapter Four. The conclusions will be followed by recommendations for improving the missile officer work environment and attitudes.

Chapter 6

CONCLUSIONS AND RECOMMENDATIONS

The conclusions and recommendations presented in this chapter are derived from the author's own experience as a missile officer, information garnered from the literature review, and analysis of the OAP results. The recommendations have been structured in a manner that the author believes is realistic and feasible for application. The chapter begins with the conclusions made from the analysis and ends with the author's recommendations.

Conclusion

The most significant conclusion resulting from the analysis of the OAP data is the fact that missile officers, when compared to other officers in the Air Force, display a less positive attitude towards their organizations and jobs. This is a conclusion specifically derived from the data and one that is verifiable at the 95% statistical confidence level. However, this conclusion should be understood in context. In fact, the differences between the two officer groups, though reliable, are relatively small in magnitude. In general, the missile officers' attitudes were remarkably similar to those of other officers in the Air Force (the missile officers differed significantly in only 10 of the 21 OAP factors addressed in the survey). Nevertheless, the differences are statistically significant and should not be

dismissed lightly. The fact that missile officers as a group had a less positive attitude towards their organizations and jobs is a problem that should be investigated, confronted, and understood. Only then will a remedy be found. To this end, the author offers some recommendations below.

Recommendations

These recommendations are offered as feasible and reasonable actions that can be performed by the Air Force without extensive outside management aid. The first two recommendations concern further investigation of missile officers' attitudes with appropriate follow-up action. The last recommendation concerns education, and possibly preventive action measures.

1. A further study should be performed, similar to the present one, directly comparing air crew officers and missile officers on the OAP survey. The objective would be to determine if crew operations experience and work cause similar attitudes among the operations crew members, both missile and aircraft, and to see if operations personnel in general share less positive attitudes towards their organizations and work when compared to "other" officers in the Air Force. A positive correlation might indicate that operations work in general is the source of lower satisfaction.

2. An Air Force investigation of the attitudinal effects of repetitious operations crew work that demands little skill variety should be accomplished. The objective would be to

determine more precisely just how much the nature of that work can affect motivation and productivity. A cause and effect finding would obviously lead to further inquiry into effective ways to alter the work situation to gain productivity through higher motivation. The results of a study of this kind might be a move to change the structure of the job, a concerted effort to enrich the working environment and job (through a change in the alert schedule or the opportunity for more involvement in staff related activities), or even an examination of the methodology involved in missile officer selection (select people with a predilection for repetitious work who do not need other motivating factors for job satisfaction).

3. Air Force missile leaders and managers should be educated more in the area of people's needs in the work environment. The use of the OAP factors and variables would serve as an excellent teaching vehicle if used as nothing more than a self-inspection checklist by senior Air Force officers. This checklist would serve as an awareness tool for all officers. Awareness, when properly focused, can serve for preventive action in addition to its use for corrective action. The important thing would be to insure that managers and leaders are cognizant of the roles which motivation and the nature of the job play in productivity and job satisfaction for subordinates. Existing Air Force educational organizations could add such teaching to their curricula.

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APPENDIX

Appendix A

Demographic Information

Appendix A

Table A-1

Number of Respondents

	Missile Officers	Data Base
n =	197	12,529

Table A-2

Sex

	Missile Officers		Data Base	
	Male (%)	Female (%)	Male (%)	Female (%)
n =	196	1	10,919	1,578
Officer	99.5	00.5	87.4	12.6

Table A-3

Age

	Missile Officers	Data Base
	Off (%)	Off (%)
n =	197	12,529
17 to 20 Yrs	00.0	00.0
21 to 25 Yrs	07.1	12.5
26 to 30 Yrs	41.1	27.9
31 to 35 Yrs	23.9	23.4
36 to 40 Yrs	18.8	19.5
41 to 45 Yrs	06.1	11.0
46 to 50 Yrs	02.0	03.4
> 50 Years	01.0	02.2

Table A-4

Time in Air Force

	Missile Officers Off (%) n = 197	Data Base Off (%) 12,507
< 1 Yr	00.5	03.3
1 to 2 Yrs	07.1	05.3
2 to 3 Yrs	01.5	07.8
3 to 4 Yrs	00.0	07.4
4 to 8 Yrs	46.2	21.3
8 to 12 Yrs	17.3	16.2
> 12 Yrs	27.4	38.7

Table A-5

Months in Present Career Field

	Missile Officers Off (%) n = 196	Data Base Off (%) 12,439
< 6 Mos	02.6	05.3
6 to 12 Mos	07.1	07.7
12 to 18 Mos	07.7	07.9
18 to 36 Mos	09.7	21.9
> 36 Mos	73.1	57.3

Appendix A

Table A-6

Months at Present Duty Station

	Missile Officers Off (%) n = 197	Data Base Off (%) 12,490
< 6 Mos	13.2	13.8
6 to 12 Mos	16.8	16.5
12 to 18 Mos	19.8	16.4
18 to 36 Mos	38.6	35.9
> 36 Mos	11.7	17.4

Table A-7

Months in Present Position

	Missile Officers Off (%) n = 197	Data Base Off (%) 12,479
< 6 Mos	37.1	26.2
6 to 12 Mos	29.4	24.6
12 to 18 Mos	14.7	17.1
18 to 36 Mos	15.7	24.9
> 36 Mos	03.0	07.2

Table A-8

Ethnic Group

	Missile Officers Off (%) n = 197	Data Base Off (%) 12,465
White	87.3	87.6
Hispanic	Ø2.Ø	Ø2.4
Black	Ø9.1	Ø5.7
Other	Ø1.6	Ø4.3

Table A-9

Marital Status

	Missile Officers Off (%) n = 197	Data Base Off (%) 12,518
Not Married	17.8	21.3
Married	85.3	77.2
Single Parent	Ø1.Ø	Ø1.5

Appendix A

Table A-10

Spouse Status: Missile Officers

	Geographically Separated Off (%)	Not Geo. Separated Off (%)
n =	6	154
Civilian Employed	66.7	27.9
Not Employed	33.3	68.2
Military Member	00.0	03.9

Table A-11

Spouse Status: Data Base

	Geographically Separated Off (%)	Not Geo. Separated Off (%)
n =	423	9,235
Civilian Employed	58.6	34.4
Not Employed	19.9	56.8
Military Member	21.5	08.8

Table A-12

Educational Level

	Missile Officers n = 197	Data Base 12,495
HS Grad or GED	ØØ.Ø	ØØ.2
< 2 Yrs College	ØØ.Ø	ØØ.3
> 2 Yrs College	ØØ.Ø	Ø1.4
Bachelor's Degree	41.6	53.3
Master's Degree	58.4	36.7
Doctoral Degree	ØØ.Ø	Ø8.2

Table A-13

Professional Military Education

	Missile Officers Off (%) n = 197	Data Base Off (%) 12,496
None	11.7	34.8
Phase 1 or 2	ØØ.5	Ø1.1
Command Academy	Ø2.Ø	Ø1.2
Sr NCO Academy	ØØ.Ø	ØØ.9
Sq Officers Sch	50.3	26.3
Int Service Sch	27.4	23.3
Sr Service Sch	Ø7.6	12.3

Table A-14

Number People Directly Supervised

	Missile Officers Off (%) n = 187	Data Base Off (%) 11,784
None	64.2	41.2
1 Person	Ø2.7	Ø7.3
2 People	Ø4.3	Ø6.4
3 People	Ø9.6	Ø7.9
4 to 5 People	Ø7.5	13.8
6 to 8 People	Ø4.3	1Ø.2
9 or > People	Ø7.5	13.3

Table A-15

Number People for Whom Respondent Writes APR/OER/Appraisal

	Missile Officers Off (%) n = 197	Data Base Off (%) 12,494
None	68.5	51.4
1 Person	Ø5.1	Ø9.3
2 People	Ø5.1	Ø7.Ø
3 People	Ø8.1	Ø7.1
4 to 5 People	Ø8.6	11.3
6 to 8 People	Ø4.1	Ø8.5
9 or > People	ØØ.5	Ø5.4

Table A-16

Supervisor Writes Respondent's OER

	Missile Officers Off (%)	Data Base Off (%)
n =	196	12,340
Yes	81.6	77.7
No	11.7	14.1
Not Sure	06.6	08.2

Table A-17

Work Schedule

	Missile Officers Off (%)	Data Base Off (%)
n =	196	12,401
Day Shift	47.9	59.5
Swing Shift	00.5	00.2
Mid Shift	00.0	00.1
Rotating Shifts	10.2	04.6
Irregular Schedule	25.0	12.2
Much TDY/On-call	04.6	08.1
Crew Schedule	11.7	15.2

Appendix A

Table A-18

Supervisor Holds Group Meetings

	Missile Officers Off (%)	Data Base Off (%)
n =	195	12,376
Never	12.8	Ø6.4
Occasionally	19.5	23.1
Monthly	24.1	13.9
Weekly	35.9	42.3
Daily	Ø6.7	12.2
Continuously	Ø1.Ø	Ø2.1

Table A-19

Group Meetings Solve Problems

	Missile Officers Off (%)	Data Base Off (%)
n =	19Ø	12,315
Never	22.1	15.2
Occasionally	39.5	42.7
Half the Time	21.Ø	21.9
Always	17.4	2Ø.2

Table A-20

Aeronautical Rating and Current Status

	Missile Officers Off (%) n = 197	Data Base Off (%) 12,357
Nonrated, not on aircrew	96.4	60.8
Nonrated, now on aircrew	01.0	02.4
Rated, on crew/ops job	02.0	27.3
Rated, in support job	00.5	09.5

Table A-21

Career Intent

	Missile Officers Off (%) n = 196	Data Base Off (%) 12,460
Retire 12 Mos	03.1	33.9
Career	62.8	50.7
Likely Career	19.9	16.7
Maybe Career	08.7	15.3
Likely Separate	04.6	05.1
Separate	01.0	03.0

Note: The number (n) is the total number of valid responses for the factor being examined.

APPENDIX

Appendix B

Attitudinal Comparison of Missile Personnel to the LMDC Data Base

Appendix B

Table B-1

Comparison of OAP Factor Scores
Between Missile and Other Officers

	Mean	SD	df[a]	t
THE WORK ITSELF				
Job Performance Goals				
Missile Officers	4.67	.94	12228	.74
Other Officers	4.72	.99		
Task Characteristics				
Missile Officers	5.20	.86	12298	2.10 *
Other Officers	5.34	.95		
Task Autonomy				
Missile Officers	3.99	1.48	12327	5.89 ***
Other Officers	4.57	1.35		
Work Repetition				
Missile Officers	4.61	1.46	12519	3.10 **
Other Officers	4.30	1.37		
Desired Repetitive/ Easy Tasks				
Missile Officers	2.69	1.10	12148	2.89 *
Other Officers	2.47	1.05		
Job Related Training				
Missile Officers	4.74	1.42	9945	.40
Other Officers	4.69	1.47		

[a] Approximate degrees of freedom are given when t-test for groups with unequal variances is used.

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

Table B-1 (Continued)

	Mean	SD	df[a]	t
JOB ENRICHMENT				
Skill Variety				
Missile Officers	4.89	1.28	12601	6.01 ***
Other Officers	5.45	1.28		
Task Identity				
Missile Officers	5.28	1.04	202	.83
Other Officers	5.22	1.22		
Task Significance				
Missile Officers	5.78	1.21	12620	.08
Other Officers	5.79	1.26		
Job Feedback				
Missile Officers	4.76	1.07	12589	1.50
Other Officers	4.89	1.18		
Need for Enrichment				
Missile Officers	5.94	.95	12302	2.47 *
Other Officers	6.09	.86		
Job Motivation Index				
Missile Officers	104.71	62.88	11512	4.37 ***
Other Officers	126.74	67.28		

[a] Approximate degrees of freedom are given when t-test for groups with unequal variances is used.

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

Appendix B

Table B-1 (Continued)

	Mean	SD	df[a]	t
WORK GROUP PROCESS				
Work Support				
Missile Officers	4.31	1.14	12139	3.07 **
Other Officers	4.56	1.09		
Management Supervision				
Missile Officers	5.20	1.45	11878	1.15
Other Officers	5.31	1.34		
Supvry Communications				
Missile Officers	4.83	1.47	11624	.36
Other Officers	4.86	1.42		
Orgnl Communications				
Missile Officers	4.80	1.36	11742	.93
Other Officers	4.89	1.26		

[a] Approximate degrees of freedom are given when t-test for groups with unequal variances is used.

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

Table B-1 (Continued)

	Mean	SD	df[a]	t
WORK GROUP OUTPUT				
Pride				
Missile Officers	5.38	1.27	12555	1.00
Other Officers	5.48	1.39		
Advancement/Recognition				
Missile Officers	4.70	1.15	12056	1.40
Other Officers	4.58	1.19		
Perceived Productivity				
Missile Officers	5.89	1.07	12178	1.56
Other Officers	5.77	1.08		
Job Related Satisfaction				
Missile Officers	5.11	1.16	11355	3.16 **
Other Officers	5.37	1.09		
General Org Climate				
Missile Officers	4.97	1.30	11809	2.50 *
Other Officers	5.21	1.25		

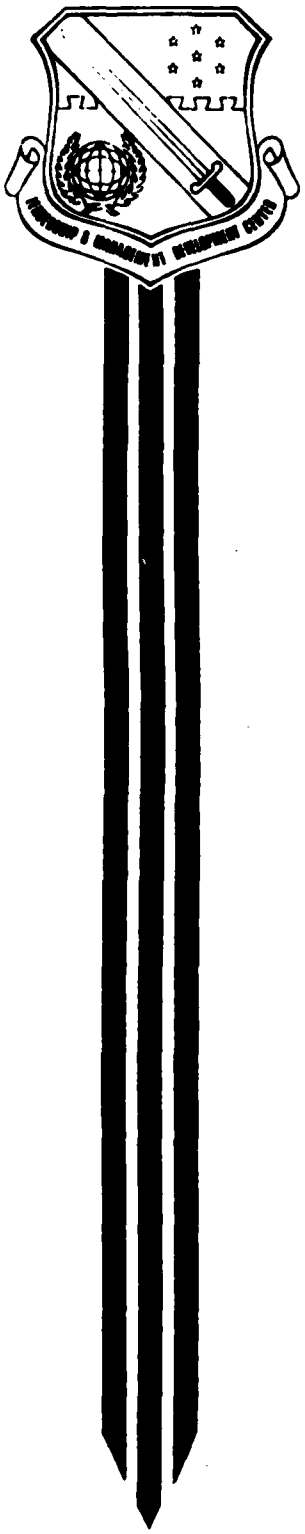
[a] Approximate degrees of freedom are given when t-test for groups with unequal variances is used.

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

APPENDIX

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 EDP 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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