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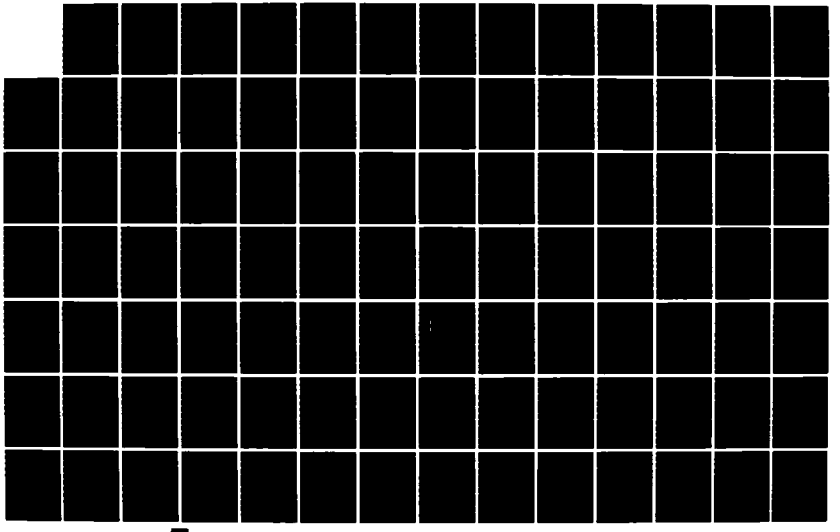

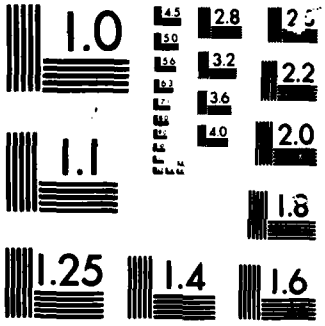

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STUDENT REPORT

JOB ATTITUDES OF USAF CONTRACTING AND MANUFACTURING PERSONNEL

MAJOR JOHN M. PACE 86-1920

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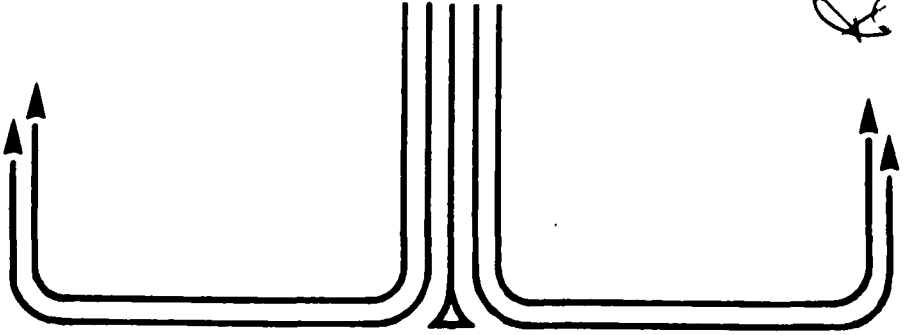

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REPORT NUMBER 86-1920

TITLE JOB ATTITUDES OF USAF CONTRACTING AND MANUFACTURING PERSONNEL

AUTHOR(S) MAJOR JOHN M. PACE, USAF

FACULTY ADVISOR 2LT RICHARD LAMB, LMDC/AN

SPONSOR MAJOR MICKEY R. DANSBY, LMDC/AN

Submitted to the faculty in partial fulfillment of requirements for graduation.

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The analysis of job attitudes can be helpful to commanders and functional managers by highlighting factors where improved leadership and management practices can impact performance and retention. Using the Leadership and Management Development Center's Organizational Assessment Package data base, this project compared the attitudes of contracting and manufacturing personnel to those of personnel in other Air Force career fields. Among its findings are that contracting and manufacturing personnel have a higher degree of general job satisfaction than do personnel in other career fields. However, it also identified less positive 65XX personnel attitudes about performance goals, feedback, training, autonomy, and work repetition for various personnel categories. The report recommends ways to capitalize on strengths and compensate for weaknesses in the 65XX career field.

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PREFACE

The Leadership and Management Development Center at Maxwell AFB, AL has compiled a sizeable data base of responses to the Organizational Assessment Package survey. The data base, built through the consultation services provided to numerous commanders, includes responses from personnel in virtually every command and functional specialty. As such, it is an asset of which the Air Force can take great advantage when analyzing leadership and management practices. This report capitalizes on that asset by focusing on one subset of that data base.

At the request of the sponsor, the Leadership and Management Development Center, this research project was written in accordance with the style established by the American Psychological Association. It does, therefore, deviate somewhat from the style guide and conventions normally governing Air Command and Staff College research projects.

I want to give special thanks to those who have contributed to this project. To Major Mickey Dansby and Lieutenant Richard Lamb go special credit for their advice, editing skills, and expeditious data processing. Thanks are also due to Major Thomas Jones, my administrative advisor, who diligently reviewed the first draft and provided helpful comments. Finally, I thank my wife Anne not only for her love and patience during the long hours that I spent working on this project, but also for the time and energy she devoted to typing and editing this report.

ABOUT THE AUTHOR

Major John M. Pace received his Bachelor of Science Degree in Engineering Management and a commission from the United States Air Force Academy in 1973. Upon graduation, he was assigned to the Air Force Contract Management Division in Anaheim, California as a contract administrator and Minuteman program control officer. In 1977, he graduated from the Air Force Institute of Technology at Wright-Patterson AFB, Ohio, received a Master of Science in Procurement Management, and was named a distinguished graduate. While at Wright-Patterson he served as a contract negotiator in the F-15 System Program Office. In 1979, he was assigned to the Secretary of the Air Force Office of Special Projects as an administrative contracting officer and contract management director. Major Pace was selected to attend the Air Command and Staff College (ACSC) at Maxwell AFB in 1985. He has also completed ACSC by correspondence and was a distinguished graduate from Squadron Officer School in 1978.

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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 86-1920

AUTHOR(S) MAJOR JOHN M. PACE, USAF

TITLE JOB ATTITUDES OF USAF CONTRACTING AND MANUFACTURING PERSONNEL

I. Purpose: To determine if there are significant differences between the job attitudes (as measured by the USAF Organizational Assessment Package) of personnel in the contracting and manufacturing career field and those of personnel in other Air Force career fields.

II. Problem: With the adoption of the All Volunteer Force, top Air Force leaders have become increasingly aware of the need to compete for personnel resources. The retention of qualified personnel is a key measure of the Air Force's success in meeting this need. While retention or separation statistics quantify this parameter, it is important for Air Force leaders to monitor factors which make the Air Force attractive to its members or employees before a separation decision is made. One method of monitoring these factors is to measure and analyze job attitudes. Prior research indicates that job attitudes influence behavior such as turnover, absenteeism, and attentiveness. Recommendations resulting from the analysis of attitudinal strengths and weaknesses can help commanders and functional managers refine their leadership and management practices in order to maximize the use of personnel resources.

III. Procedures: The Leadership and Management Development Center (LMDC) has used the Organizational Assessment Package

survey to provide management consulting services to Air Force commanders and has compiled a data base of over 200,000 survey responses. Using the LMDC data base, this project compared the demographic characteristics and job attitudes of contracting and manufacturing personnel (AFSC 65XX) to those of personnel in other career fields. Attitudinal data from both groups were compared by personnel category (i.e. officer to officer, enlisted to enlisted, and civilian to civilian) using two-tailed t-tests at a 95% confidence level to determine statistically significant differences. Results were compared with those of previous research conducted on the 65XX career field.

IV. Results and Conclusions:

1. Officer and enlisted personnel in the contracting and manufacturing career field are better educated (formally and through professional military education) than their counterparts in other career fields.

2. Officers and civilian personnel in the 65XX career field express a greater intent to make the Air Force a career than do corresponding personnel in other career areas.

3. Contracting and manufacturing personnel of all categories have a higher degree of general satisfaction with their jobs than non-65XX personnel.

4. There is a significantly greater belief among contracting and manufacturing personnel that the skills and experience they have acquired will help prepare them for future opportunities.

5. The contracting and manufacturing career field provides enlisted personnel with more satisfying jobs.

6. In spite of more positive general job related satisfaction among 65XX officers and civilians, problems were identified in the "job itself" and "job enrichment" areas. Specifically, officers expressed less positive attitudes about Job Performance Goals, Job Feedback, and Job Related Training. Civilians reported less positive attitudes about Task Autonomy, Work Repetition, and Job Feedback.

V. Recommendations:

1. Contracting and manufacturing officer performance goals should be defined in terms of maintaining an effective acquisition process (e.g., subjective goals such as the degree

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of satisfaction program managers or commanders have with contracting and manufacturing support).

2. Contracting and manufacturing managers should improve the job performance feedback provided to officers and civilians in the career field.

3. Further research should be conducted to determine if officer training in the 65XX career field is deficient from either a quantitative or qualitative standpoint.

4. Contracting and manufacturing personnel managers should consider expanding the use of enlisted personnel into systems acquisition positions such as buyers or contract administrators.

5. Further research should be conducted to more clearly identify the nature and cause of the lower attitudes expressed by 65XX civilians in the autonomy and job enrichment areas.

Chapter One

INTRODUCTION

Over the past decade, Air Force leaders have become increasingly aware of the need to compete for personnel resources. This need was derived from the United States' abandonment of the draft and adoption of an All Volunteer Force (Mahr, 1982). The Air Force's success in this competition can be measured by examining its capability to meet recruiting goals (Gates, 1979). However, the competition for resources extends beyond entry level quctas or objectives. Retention of qualified personnel is perhaps an even more relevant measure of an organization's effectiveness in successfully competing for resources (Ebbert, 1982). While retention (or separation) statistics quantify the degree of success the Air Force achieves in retaining qualified personnel, it is extremely important for Air Force leaders to monitor factors which make the Air Force attractive to its members or employees before a separation decision is made. This report deals with those factors specifically as they relate to the contracting and manufacturing career field.

Top Air Force leaders have acknowledged the importance of these factors. In 1975, the Air Force Chief of Staff General

David C. Jones took steps to find out how Air Force life could be improved. One of his initiatives was to improve the leadership and management training and education provided to Air Force leaders and supervisors. Therefore, he established the Leadership and Management Development Center (LMDC) as part of the Air University at Maxwell AFB, Alabama (Short, 1985). LMDC became the focal point for leadership and management training for the Air Force and provided instruction and consultation services in the fields of leadership, management, and job enrichment (Dirnberger, 1980). The Organizational Assessment Package (OAP) survey was a tool designed to help LMDC perform these functions. The OAP identifies organizational strengths and weaknesses by surveying the attitudes of members of the organization (Short, 1985).

The attitudinal data gathered by the OAP are extremely valuable. Leaders need to understand the attitudes of their subordinates because attitudes can influence behavior (Sterrett, 1979). If attitudes are positive, the organization should benefit; if they are negative, the organization may suffer (Hodgetts, 1980). Lower turnover, lower absenteeism, and higher attentiveness (hence fewer accidents) are the consequences of favorable job attitudes (Mitchell & Scott, 1976). In 1980, Dirnberger concluded that the attitudinal information contained in the OAP data base was beneficial and consistent in identifying differences in attitudes in four major commands. This information, however, can also be useful when crossing

organizational lines.

Functional area resource managers can use these attitudinal data to help analyze leadership and management concerns within their respective career fields. Job attitude information is particularly useful in career fields where the expertise possessed by the member or employee is directly applicable to a job outside of the Air Force. The contracting and manufacturing career field (Air Force Specialty Code 65XX and its counterpart in civil service) is one such career field. If the attitudes of contracting and manufacturing personnel differ significantly from personnel in other Air Force career fields, then perhaps the resource managers of the 65XX career field will want to refine their leadership or management practices in order to maximize the use of functional personnel resources.

This research project focuses on the job attitudes of contracting and manufacturing personnel. Within that general area, the project concentrates on four objectives:

1. Conducting a review of relevant background literature to identify prior findings regarding the attitudes of 65XX personnel and to investigate job attitude and organizational behavior theory;

2. Comparing OAP-measured demographic characteristics and job attitudes of officers, enlisted personnel, and civilians in the contracting and manufacturing career field with those of corresponding personnel in other career fields;

3. Analyzing significant attitudinal differences between contracting and manufacturing personnel and other personnel; and,

4. Developing recommendations for contracting and manufacturing career field leaders and functional managers.

This report addresses each of these objectives. Chapter Two summarizes the results of the literature review and presents the formal research question pursued during the project. Chapter Three addresses the methodology used to answer this research question. Included in this chapter is a description of the OAP, a discussion of the data collection procedures, an overview of the contracting and manufacturing career field, and a presentation of the statistical procedures used to make data comparisons. Chapter Four presents the results of comparing personnel in the 65XX career field to personnel in other career fields on both a demographic and attitudinal basis. An analysis of the demographic characteristics and statistically significant attitudinal differences identified in Chapter Four is discussed in Chapter Five. This chapter addresses the strengths and weaknesses in 65XX personnel attitudes, identifies inconsistencies in results, and compares the results with previous findings. Finally, Chapter Six presents conclusions and offers recommendations on how leaders in the contracting and manufacturing career field can capitalize on attitudinal strengths and compensate for attitudinal weaknesses in the career field.

Chapter Two

LITERATURE REVIEW

Organizational theorists have conducted considerable research on the importance of job attitudes and their impact on organizations. Somewhat less research has been conducted on job attitudes within the Air Force. The development of the Organizational Assessment Package (OAP) survey has proven to be a significant step in facilitating the gathering and analysis of data concerning attitudes of Air Force members and employees. This chapter defines job attitudes and explains their impact on organizations. It then describes the development of a vehicle designed to measure Air Force job attitudes: the OAP. Next, this chapter presents some findings from previous research conducted on the attitudes of Air Force personnel in general and those of personnel in the contracting and manufacturing career field specifically. It concludes with a statement of the research question regarding job attitudes of the 65XX career field personnel.

A job attitude or job satisfaction is an intervening variable. That is, it intervenes between the causal variable, the situation surrounding one's job, and the result variable, one's behavior or actions in relation to that job (Hodgetts,

1980). It is the emotional state resulting from the appraisal of one's job or job experiences (Osborn, Hunt, & Jauch, 1980). In turn, that emotional state dictates a certain behavior. When the appraisal results in a positive emotional state, the employee enjoys an overall attitude of satisfaction with a desire to continue in and a willingness to strive for the goals and accept the values of a particular group or organization (Osborn et al., 1980). Researchers have also found job satisfaction to be highly correlated with productivity. However, more evidence exists to support a position that productivity leads to job satisfaction than vice versa (Davis, 1977; Lawler & Porter, 1967). On the other hand, low job satisfaction has resulted in absenteeism, turnover, and higher rates of accidents (Davis, 1977; Osborn et al., 1980). Since attitudes have an effect on behavior in an organization, they are well worth examining and understanding. However, as an intervening variable which reflects job conditions, job attitudes are useful concepts to study because they help identify the causal variables which drive the perceptions of an individual to be positive or negative. Once the causal variables are identified and analyzed, a leader or manager can make necessary adjustments to correct deficiencies or capitalize on strengths (Hodgetts, 1980).

In 1976, Hendrix began developing an approach for identifying causal variables through the measurement and analysis of job attitudes. He envisioned that this information would

be useful in improving leadership behavior. However, no suitable vehicle existed to gather this information. Therefore, in 1977 LMDC and the Air Force Human Resources Laboratory (AFHRL) began developing the OAP survey to measure attitudes about job satisfaction, organizational climate, perceived productivity, management/supervision, supervision/communications climate, and job inventory and to collect a considerable amount of demographic information about the respondent (Short, 1985). For the reader wanting more detail on the development of the OAP, Mahr (1982) and Short (1985) present a detailed summary of its history. The OAP became a key tool used by LMDC when conducting its leadership consultation services.

While to date LMDC has used the OAP principally in confidential response to requests from commanders for consultation services, some technical reports have been written based on OAP data. For example, in 1980 Dirnberger found a strong and consistent relationship between job motivation/satisfaction and command of assignment. His findings have encouraged the use of the OAP data base for command or career field attitudinal analysis. Other studies have focused on the differences between officer, enlisted, and civilian personnel. Ortleb (1980) found that officer positions provide a greater opportunity for job enrichment than do enlisted positions. Boren (1980) discovered that enlisted personnel rated the core job dimensions (task identity, task significance, feedback, and

autonomy) lower than officers, while civilian Air Force employees rated those same dimensions higher than officers. This study corroborated Butler's (1979) findings that enlisted job satisfaction is lower than that of officers. Yet another category of research has concentrated on leadership and management principles. For example, Wilkerson and Short (1983), using OAP data, identified four essential supervisory functions: establishment of co-worker (peer) performance standards, training, feedback, and leadership development. In total, these studies suggest that the OAP data base can be useful in identifying job attitudes and causal variables from many perspectives.

The examination of individual career fields is one such perspective. Two projects have focused on the contracting and manufacturing career field. In Henderson's (1982) examination of matrixed verses non-matrixed 65XX personnel, he concluded that the matrix organizational approach can have both positive and negative impact on the attitudes of its members, depending on the flexibility of the member and the manager's ability to create a healthy environment in a complex situation. In the other study, Ibsen (1984) compared the job related perceptions of base contracting personnel with non-base contracting personnel. He found that base contracting officers expressed more positive views on work support, advancement and recognition, and the degree of work repetition, but were less positive than other officers on the clarity, specificity,

and realism of their job performance goals. Ibsen found base contracting enlisted job attitudes to be consistently more positive than other enlisted personnel with significant differences existing on 9 of 21 OAP factors: Task Characteristics, Skill Variety, Task Significance, Job Feedback, Need for Enrichment, Job Motivation, Pride, Advancement/Recognition and Job Related Satisfaction. The results of the comparison between base contracting civilians and other civilian Air Force employees were mixed, with more positive attitudes expressed by contracting personnel on the Work Repetition, Need for Enrichment, and Management/Supervision factors but more negative attitudes expressed in Task Autonomy, Job Feedback, and the Job Motivation Index.

This research project will be somewhat broader than that conducted by Ibsen (1984). While Ibsen focused on base contracting personnel, this project will include all contracting as well as all manufacturing personnel. Since base contracting authorizations only comprise about 30% of all 65XX authorizations (Johnson, 1983), it becomes difficult to predict the results of comparing all contracting and manufacturing personnel attitudes to those of other Air Force personnel based on Ibsen's research. Therefore, no directional hypothesis is offered for the conduct of this research. Rather, this research will be conducted in order to answer the following research question: Are there significant differences between the job attitudes (as measured by the USAF Organization

Assessment Package) of personnel in the contracting and manufacturing career field and those of personnel in other Air Force career fields?

The next chapter discusses the methodology used to pursue the answer to this question.

Chapter Three

METHODOLOGY

This chapter describes the methodology used to conduct this research. It first provides a description of the instrument used to gather data: the OAP survey. It then highlights the manner in which the data were collected using that survey. The third section of this chapter defines the two groups involved in the data comparison and characterizes the contracting and manufacturing career field. Finally, this chapter identifies the statistical tests used to compare the survey results for contracting and manufacturing personnel with those of the remaining data base group.

Instrumentation

The OAP survey consists of 16 demographic and 93 attitudinal items in the form of statements or questions. Responses to most of the survey items use a Likert scale of one to seven. A response value of "1" usually indicates strong disagreement or dissatisfaction with the question or statement while a value of "7" usually indicates strong agreement or satisfaction. Short (1985) discusses the makeup and structure of the OAP survey in considerable detail.

A survey's usefulness is determined to a large extent by its validity and reliability (Mahr, 1982). Short and Wilker-

son (1981) reported that the OAP survey has strong construct validity, meaning that it measures the concepts it was designed to measure. In 1981, Short and Hamilton concluded that the OAP shows acceptable to excellent reliability and, therefore, provides consistent and replicable results. These researchers determined validity and reliability by analyzing factors derived from a combination of the 93 attitudinal items or variables. A complete listing (including definitions) of the factors and variables is included as Appendix A. Hightower and Short (1982) found these factors to be highly stable and consistent. These studies have shown that the OAP has great value as a diagnostic or evaluation tool.

Data Collection

LMDC personnel collect OAP data when providing their consultation services. In response to an invitation by a commander, the LMDC researchers administer an initial (pre-intervention) survey to a census of personnel in group sessions at the organization or location visited. The responses to the survey and interviews are returned directly to LMDC where they are analyzed. Approximately six weeks after the initial visit, LMDC consultants conduct a tailored visit to the surveyed organization to present the results and provide recommendations to the commander and his supervisors. LMDC provides this feedback in a confidential manner. No individual is identified with a specific response to survey or

interview questions. Where problems are identified, the consultant and supervisor develop a corrective action plan to resolve the problem at that level of the organization. The LMDC consultants return after about six months to re-administer the OAP survey (post-intervention) and measure progress made in response to their recommendations and action plans. These procedures are fully discussed in The Commander's Guide to Air Force Leadership and Management Consultant Services (Leadership and Management Development Center, 1983).

Data gathered through the administration of the OAP are stored at LMDC in a cumulative data base containing almost 300,000 pre- and post-intervention records. Of this data base over 100,000 pre-intervention records in the current (i.e., since 1 Oct 81) file form the basis for this research. The data used for this study were collected during the period 1 October 1981 through 16 September 1985 and represent 174 visits to 54 bases/locations. Contracting and manufacturing personnel were surveyed at 43 of the 54 bases/locations visited. Using the demographic questionnaire items and other demographics collected on the answer sheet and stored on each record (e.g., personnel category, pay grade, age, sex, Air Force Specialty Code, base, and major command), data base analyses can be conducted from a number of perspectives and approaches.

Subjects

Using the Air Force Specialty Code (AFSC) response associated with each record, this project compares the perceptions of all surveyed contracting and manufacturing personnel (AFSC 65XX) to those of other personnel with responses in the pre-intervention LMDC data base. The contracting and manufacturing personnel group (group 1) consists of officers, enlisted, and Air Force civil service personnel performing duties in AFSC 65XX. For this study the data base group (group 2) is comprised of people in the same personnel categories (but in different AFSC's) for the remainder of the data base. Sample sizes for the two groups are indicated in Table 1.

Table 1

Number of 65XX Respondents and the LMDC Data Base

Personnel Category	65XX	Data Base
Officer	194 (24.6%)	12,516 (11.7%)
Enlisted	245 (31.1%)	70,302 (65.4%)
Civilian	350 (44.3%)	24,577 (22.9%)
Total	789 (100.0%)	107,395 (100.0%)

Contracting and manufacturing personnel are the government's representatives "charged with purchasing, manufacturing and delivery of systems, hardware, services and supplies under contract for the Air Force" (Johnson, 1983, p. 6). There are five officer specialties within the career field:

1. AFSC 6524, Production/Manufacturing personnel who evaluate and monitor contractor production, manufacturing, and quality assurance programs;

2. AFSC 6534, Acquisition Contracting personnel who issue and administer government contracts;

3. AFSC 6544, Manufacturing Engineering personnel who manage industrial and manufacturing engineering activities;

4. AFSC 6516, Acquisition Contracting/Manufacturing Staff personnel who perform staff and management responsibilities; and,

5. AFSC 6596, Acquisition Contracting/Manufacturing Directors who formulate policy and programs and manage contracting, manufacturing, and other related 65XX functions (Johnson, 1983).

While Air Force civilians may occupy positions roughly equivalent to any of these AFSC's, enlisted personnel generally fill positions which are most closely related to the officer AFSC 6534.

In 1983, officer and enlisted personnel comprised only 12% and 11%, respectively, of the total authorizations for these five specialties (Johnson, 1983). Therefore, the career field

is highly civilianized. In addition, over 50% of all officer and civilian authorizations are in Air Force Systems Command and Air Force Logistics Command, while the enlisted workforce is concentrated almost exclusively in base contracting positions.

Procedures

This project compared the subjects described above (group 1) with the remainder of the LMDC data base personnel (group 2) on both a demographic and attitudinal basis. The SPSS^X User's Guide (1983) describes the statistical procedures used to perform the analyses. Demographic information on both the subject group and the data base group characterizes the respondents in the LMDC pre-intervention data base. The SPSS^X subprogram "Crosstabs" was used to analyze the demographic data.

Attitudinal data from both groups were compared by personnel category (i.e., officer to officer, enlisted to enlisted, and civilian to civilian) using two-tailed *t*-tests to determine statistically significant differences. The level of significance for all *t*-tests was alpha=.05 (i.e., the 95% confidence level), which is a generally accepted level in the social sciences. In addition, an *F*-test (also with a probability level of alpha=.05) was used to test the assumption of equal variances of the sample distributions for the two groups. Where appropriate, *t*-tests for unequal variance groups were used. These procedures identified factors in which the attitudes of 65XX personnel varied significantly from those of the data

base personnel. Factors falling into four groups were compared:

1. Work Itself. This group of six factors deals with the task properties and environmental conditions of the job. It measures perceptions of task characteristics.

2. Job Enrichment. The six factors in this group measure the degree to which the job itself is interesting, meaningful, challenging, and responsible.

3. Work Group Process. This category includes four factors and assesses the effectiveness and pattern of activity and interaction among group members.

4. Work Group Output. The five factors in this group measure task performance, group development, and the effects of the work situation on group members. They assess perceptions of the quality and quantity of task performance, pride, and satisfaction individuals have in their jobs.

Appendix A provides these definitions and includes a listing of the factors and variables contained in each of these areas.

Where significant differences occurred, follow-up t-tests or ANOVA tests were conducted to help identify the causes of the differences. In the officer personnel category, t-tests were performed on variables 206, 207, 208, and 719 to identify the causes of the differences in factors 805, Performance Barriers/Blockages, and 822, Job Related Satisfaction. In order to focus on the source of enlisted attitudinal differ-

ences, data from 65XX enlisted personnel assigned overseas were compared to those of 65XX enlisted personnel stationed stateside. And, in the civilian category, since many civilians in the contracting and manufacturing career field fill clerk/administrative positions, an Analysis of Variance (ANOVA) test was conducted on 65XX civilian responses to determine if attitudes differed significantly by grade. All follow-up tests were conducted at a significance level of alpha=.05.

Summary

This chapter detailed the methodology used to conduct this research. It included a description of the OAP, the manner in which data were collected, the subjects of the research, and the statistical procedures used to compare the responses of contracting and manufacturing personnel with those remaining in the LMDC data base. Chapter Four presents the results of these comparisons.

Chapter Four

RESULTS

This chapter presents the results of the demographic and attitudinal comparisons between the contracting and manufacturing personnel and all other personnel in the OAP pre-intervention data base. The first section characterizes the demographic profile of the officer, enlisted, and civilian respondents in each group. The second section concentrates on the comparison of job attitudes within each personnel category.

Demographics

Tables 2 through 7 provide demographic summaries for the contracting and manufacturing personnel and other personnel in the data base. When comparing the two groups, a number of differences can be identified. First, when compared to other career fields, there is a higher proportion of females in the enlisted and civilian personnel categories of the 65XX career field. Secondly, the contracting and manufacturing enlisted personnel are slightly older than their counterparts in other career fields. In addition, there is a greater percentage of officers and enlisted personnel in the 65XX career field with greater than 12 years of service. However, the

Table 2

Sex by Personnel Category

Personnel Category	65XX		Data Base	
	Male	Female	Male	Female
Officer	170(87.6%)	24(12.4%)	10,929(87.6%)	1,554(12.4%)
Enlisted	185(75.5%)	60(24.5%)	61,955(88.3%)	8,201(11.7%)
Civilian	116(33.1%)	234(66.9%)	14,650(60.1%)	9,719(39.9%)
	471(59.7%)	318(40.3%)	87,534(81.8%)	19,474(18.2%)

Table 3

Age by Personnel Category

	65XX			Data Base		
n=	Off(%) 194	Enl(%) 245	Civ(%) 350	Off(%) 12,516	Enl(%) 70,295	Civ(%) 24,571
17-20 yrs.	0.0	6.1	2.0	0.0	13.8	1.2
21-25 yrs.	10.8	35.1	7.1	12.3	38.1	6.2
26-30 yrs.	23.7	18.4	14.3	28.1	19.5	10.5
31-35 yrs.	23.7	20.0	12.6	23.4	14.5	14.4
36-40 yrs.	26.3	15.1	13.7	19.5	9.8	14.1
41-45 yrs.	10.3	4.1	15.1	11.0	2.9	12.5
46-50 yrs.	4.1	0.0	14.0	3.5	.7	14.0
>50 yrs.	1.0	1.2	21.1	2.2	.7	27.1
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

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

Table 4

Time in Air Force

	65XX			Data Base		
n=	Off(%) 193	Enl(%) 245	Civ(%) 322	Off(%) 12,496	Enl(%) 70,115	Civ(%) 21,790
<1 yr.	1.6	6.1	3.7	3.3	7.0	5.1
1-2 yrs.	3.6	9.0	5.6	5.4	12.0	5.0
2-3 yrs.	5.2	8.2	5.6	7.7	12.5	5.2
3-4 yrs.	5.2	8.2	3.7	7.2	11.4	4.9
4-8 yrs.	20.7	22.4	15.2	21.7	20.5	11.9
8-12 yrs.	16.6	13.5	19.9	16.2	12.9	12.4
>12 yrs.	47.1	32.6	46.3	38.5	23.7	55.5
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 5

Months in Present Career Field

	65XX			Data Base		
n=	Off(%) 193	Enl(%) 245	Civ(%) 346	Off(%) 12,428	Enl(%) 69,892	Civ(%) 23,928
<6 mos.	4.1	6.9	7.2	5.3	4.9	5.6
6-12 mos.	7.8	6.9	5.8	7.6	8.0	7.3
12-18 mos.	7.3	9.4	9.8	7.9	8.2	6.0
18-36 mos.	17.1	23.3	16.8	21.7	20.9	13.4
>36 mos.	63.7	53.5	60.4	57.5	58.0	67.7
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 6

Months at Present Duty Station

	65XX			Data Base		
n=	Off(%) 192	Enl(%) 245	Civ(%) 342	Off(%) 12,479	Enl(%) 69,949	Civ(%) 24,012
<6 mos.	17.2	20.0	8.2	13.8	15.4	6.3
6-12 mos.	14.1	18.4	11.1	16.5	18.5	7.8
12-18 mos.	18.2	16.3	11.7	16.4	16.1	6.1
18-36 mos.	34.4	31.8	10.8	36.0	32.2	15.1
>36 mos.	16.1	13.5	58.2	17.3	17.8	64.7
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 7

Months in Present Position

	65XX			Data Base		
n=	Off(%) 192	Enl(%) 242	Civ(%) 345	Off(%) 12,467	Enl(%) 69,860	Civ(%) 24,164
<6 mos.	35.4	48.3	17.1	26.4	27.6	13.9
6-12 mos.	21.9	21.9	15.4	24.6	24.1	14.8
12-18 mos.	19.8	14.5	15.4	17.0	16.4	10.2
18-36 mos.	20.3	13.6	22.9	24.8	22.7	19.5
>36 mos.	2.6	1.7	29.2	7.2	9.2	41.6
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

opposite is true of civilian personnel. While 65XX officers have slightly more time in their career field, 65XX enlisted and civilian personnel have slightly less time in their career field than do their counterparts in the data base. Two demographic parameters that are consistent across all personnel categories involve time on station and time in current position. There is a lower percentage of 65XX personnel with at least 18 months time on station or time in current position than reported for the remainder of the OAP data base.

Additional demographic information is contained in tables B-1 through B-16 in Appendix B. These tables show that the ethnic grouping and marital status of contracting and manufacturing personnel are roughly similar to those of personnel in other career fields. The education levels of officers and enlisted personnel are among the demographic differences. The contracting and manufacturing respondents have a higher percentage of enlisted personnel with college experience and officers with master's degrees. Both officers and enlisted 65XX personnel have more professional military education than do the corresponding respondents in other career fields. Other differences include the fact that 65XX enlisted and civilian personnel have fewer supervisory and appraisal responsibilities, that all 65XX personnel categories report a higher percentage of dayshift working hours, and that all contracting and manufacturing personnel categories report

a higher percentage of career-oriented respondents. Finally, there is about a 50/50 split between 65XX personnel assigned to systems/central acquisition positions and those assigned to base procurement positions.

These data describe the differences between the contracting and manufacturing personnel and the remaining personnel in the OAP pre-intervention data base from a demographic standpoint. The next section addresses attitudinal differences identified through a statistical comparison of the two groups' responses to the OAP survey.

Attitudes

The analysis of OAP data identified a considerable number of significant attitudinal differences between 65XX personnel and the remainder of the OAP data base. Differences occurred in all personnel categories.

Officers

The comparison between contracting and manufacturing officers and other officers revealed significant differences on 10 of 21 OAP factors. The 10 factors with differences are listed in Table 8. These findings indicate that 65XX officers have a lesser ability to clearly identify Job Performance Goals. This fact is combined with the perception that 65XX officers do not receive as clear and direct information about their performance as do other officers. The 65XX officers also rate Task Characteristics and Task Identity lower than

Table 8

Summary of Significant Differences in Officer Attitudes

	Mean Values	
Factor	65XX Officers	Other Officers
Job Performance Goals	4.55	4.72
Task Characteristics	5.15	5.34
Work Repetition	3.87	4.32
Desired Repetitive/Easy Tasks	2.31	2.48
Job Related Training	4.34	4.69
Task Identity	5.01	5.22
Job Feedback	4.63	4.89
Work Support	4.78	4.55
Advancement/Recognition	4.85	4.57
Job Related Satisfaction	5.53	5.36

other officers do. This means that contracting and manufacturing officers have more difficulty identifying with a complete piece of work, from beginning to end. In addition, 65XX officers report lower satisfaction with the on-the-job training and technical training which they receive. Although the statistical tests indicate significantly less positive attitudes in these areas, 65XX officers reported more positive attitudes for three factors in the "work group process" and "work group output" subsets of factors.

Contracting and manufacturing officers are generally more satisfied with the factors surrounding their jobs than are their counterparts in other career fields. They consider themselves better prepared to compete for advancement and promotion and, as the comparison of responses to variable 719 indicates, are more apt to feel that they have acquired skills which have prepared them for future opportunities. The data pertaining to variables 206, 207, and 208 (see Table C-2) show that they also perceive themselves as less likely to be encumbered with additional duties and details. Finally, 65XX officers perceive themselves as having less repetition in the tasks and problems associated with their work than do their counterparts in other career fields.

Enlisted Personnel

While 65XX officers reported attitudes which are lower than the data base for some factors and higher for others, the differences in enlisted attitudes are markedly uni-direc-

tional. Contracting and manufacturing enlisted personnel reported significantly higher attitudes on 14 OAP factors spanning all four factor groupings. On only one factor, Desired Repetitive Tasks, did 65XX enlisted respondents record a significantly lower score. Table 9 summarizes these results.

Within the "work itself" grouping of factors, 65XX enlisted personnel perceived a higher degree of Task Autonomy in their jobs. They feel they have more discretion in scheduling, decisionmaking, and performing their job as they see fit than do enlisted personnel in other fields.

Contracting and manufacturing enlisted personnel scored significantly higher attitudes on all of the factors within the "job enrichment" grouping. They perceive their jobs more positively in the following areas:

1. The job requires a number of important skills and talents (Skill Variety);

2. The job consists of whole, identifiable pieces of work (Task Identity);

3. The job is important and impacts others (Task Significance);

4. Workers obtain clear and direct feedback on their performance (Job Feedback);

5. The job itself inspires high internal motivation within the worker (Job Motivation Index); and,

6. They also desire these characteristics (Need for Enrichment).

Table 9

Summary of Significant Differences in Enlisted Attitudes

Factor	Mean Values	
	65XX Enlisted	Other Enlisted
Task Characteristics	5.33	5.04
Task Autonomy	4.19	3.83
Desired Repetitive/Easy Tasks	2.86	3.22
Skill Variety	4.96	4.60
Task Identity	5.39	5.05
Task Significance	5.95	5.70
Job Feedback	4.96	4.76
Need for Enrichment	5.90	5.47
Job Motivation Index	118.17	100.39
Organizational Communications Climate	4.62	4.38
Pride	5.31	4.90
Advancement/Recognition	4.59	4.26
Perceived Productivity	5.71	5.46
Job Related Satisfaction	5.49	4.95
General Organizational Climate	4.64	4.40

In sum, the 65XX jobs, as perceived by enlisted personnel in that career field, are more enriched than other enlisted jobs and are higher in many desirable job characteristics.

Similar positive findings occurred within the "work group output" factors. Contracting and manufacturing enlisted personnel have significantly higher pride in their work. They feel that their work group generates a higher quantity and quality of work than other work groups and, like officers, perceive the skills they possess as valuable to promotion opportunities. They also find their organizational climate and the communications within their organization to be more positive. These positive results are accompanied by the finding that 65XX enlisted personnel are significantly more satisfied with the factors surrounding their jobs than other enlisted personnel. In addition, there is no significant difference in these positive attitudes between 65XX enlisted personnel stationed overseas and those in stateside assignments.

Civilians

Whereas 65XX enlisted personnel responded with consistently higher attitudes about their jobs, 65XX civilian attitudes are higher on some factors and lower on others when compared to their counterparts in other career fields. These differences are summarized in Table 10.

Contracting and manufacturing civilians believe they have

Table 10

Summary of Significant Differences in Civilian Attitudes

Factor	Mean Values	
	65XX Civilians	Other Civilians
Task Autonomy	4.41	4.59
Work Repetition	4.80	4.64
Job Feedback	4.86	5.06
Need for Enrichment	5.86	5.70
Job Motivation Index	122.45	131.29
Work Support	4.79	4.67
Advancement/Recognition	4.02	3.79
Job Related Satisfaction	5.54	5.42

significantly less discretion in accomplishing their own work. Their work contains a significantly higher proportion of repetitive tasks and offers a significantly lower degree of motivation to the worker. Civilians in the 65XX career field feel that they obtain less direct and clear feedback on the quality of their performance. Moreover, they have a significantly higher desire for job enrichment (autonomy, personal growth, task variety, etc.) than do other Air Force civilian employees. A comparison among the grades of civilian personnel resulted in no significant differences being found (Table C-6, Appendix C). While some of the ANOVA F-ratios were significant, the Newman-Keuls post hoc test showed that no single grade was significantly different from any other.

Civilian employees in the 65XX career field did, however, record significantly higher mean scores for three factors. Like officers and enlisted personnel, civilians in the 65XX career field perceive their potential and preparation for Advancement/Recognition and Job Related Satisfaction to be significantly higher than their counterparts in other career fields. In addition, 65XX civilians feel less hindered by additional duties or inadequate tools and equipment than other civilians.

Detailed statistical findings associated with comparing the attitudes of 65XX personnel with those of other personnel are included as Tables C-1 through C-6 in Appendix C.

Summary

This chapter presented the results of the demographic and attitudinal comparisons between officer, enlisted, and civilian personnel in the 65XX career field and their counterparts in other career fields. It highlighted those factors in which 65XX personnel attitudes significantly deviated from those of other personnel. The possible causes and implications of these results are discussed in the next chapter.

Chapter Five

DISCUSSION

The preceding chapter presented demographic data on officer, enlisted, and civilian personnel in the contracting and manufacturing career field. It also identified those OAP factors in which 65XX personnel attitudes differed significantly from those of other personnel. This chapter explores those significant differences by discussing the strengths, problem areas, and inconsistencies discovered in the results. The discussion deals with each personnel category individually.

Officers

This research corroborated the significant differences in officer attitudes identified by Ibsen (1984) in his study of base contracting personnel. Specifically, this project found officer attitudes to be more positive in Work Repetition, Work Support, and Advancement/Recognition while finding officer attitudes on Job Performance Goals to be less favorable. However, this research also uncovered other significant differences.

The findings indicate a number of demographic and attitudinal strengths of 65XX officers, and, although the demographic results were derived "by inspection" of data rather

than statistical analysis, they are, nonetheless, important. The higher average level of formal and professional military education (PME) and their higher expressed career orientation are two findings which should please 65XX functional managers. Among the more important attitudinal findings is the general satisfaction 65XX officers express about their jobs. A major contributor to the Job Related Satisfaction factor is variable 719 (see table C-2). These officers perceive themselves as having acquired valuable skills which will prepare them for future opportunities. However, these opportunities may lie within or outside of the Air Force. Since there is a higher proportion of 65XX officers with greater than 12 years of service than there is in the data base at large, the prospect of post-retirement employment is, perhaps, very important to this group. The fact that this more senior 65XX officer group feels more prepared for future opportunities could indicate that they believe their expertise has civilian application. Contracting and manufacturing officers also are significantly more aware of their potential for advancement and recognition.

In addition to these strengths, a few problem areas were identified. Contracting and manufacturing officers expressed less favorable attitudes in three important areas. First, they recorded lower Job Performance Goals scores. This may be due in part to the fact that 65XX officers have less time in their current positions and, therefore, have difficulty

defining clear, specific, and understandable goals. Secondly, they have lower Task Identity and Job Feedback. It is often impossible for 65XX officers to see the results of their efforts, whether good or bad. In fact, a complete job is frequently nonexistent for many 65XX officers, particularly those in the systems acquisition process where it takes years to see the results of a contract written or manufacturing process implemented to acquire a defense system. Thirdly, 65XX officers were significantly less satisfied with the technical and on-the-job training they received.

With this collection of negative results in the "job itself" and "job enrichment" groupings of OAP factors, it appears inconsistent that 65XX officers also express significantly higher job satisfaction. This inconsistency may be due to the fact that, while the nature of the 65XX job does not have many of the job enrichment characteristics, officers find the value of their skill and experience to overwhelm these apparent shortcomings. It is also possible that 65XX officers, while not satisfied with such factors as feedback, training, completeness of tasks, and job goals, recognize the process orientation of their jobs. Contract and manufacturing management jobs are frequently less concerned with accomplishment of specific tasks than with the management of the acquisition process. It is difficult to describe these positions in terms of concrete job responsibilities.

In summary, there are many positive characteristics of the officer 65XX jobs. However, the analysis of contracting and manufacturing officer job attitudes also identifies a number of areas in which improvement should be sought.

Enlisted

The comparison of the 65XX enlisted job attitudes with those of other enlisted personnel yields remarkable results. In all four OAP factor areas--work itself, job enrichment, work group process, and work group output--contracting and manufacturing enlisted personnel expressed more positive job attitudes. These results corroborate Ibsen's (1984) findings which is not surprising since most enlisted personnel in the 65XX career field are involved in base level contracting, the subject of Ibsen's research. Whereas Ibsen found significant attitudinal differences on 9 of 21 OAP factors, this research found significant differences for 15 of 21 factors.

The overwhelmingly positive attitudes expressed by enlisted personnel in the 65XX career field seem to indicate that their jobs are classic examples of enriched jobs. All the job enrichment factors analyzed in this project (Skill Variety, Task Identity, Task Significance, Job Feedback, Need for Enrichment, and Job Motivation Index) are significantly more positive for 65XX enlisted personnel. Moreover, the factors measuring task performance and group development were

also significantly higher for 65XX enlisted personnel than for other enlisted personnel. Therefore, this group perceives greater pride in the performance achieved through their enriched jobs. These results indicate that the contracting and manufacturing career field provides challenging, meaningful, and satisfying work for enlisted personnel.

These positive attitudes are not the only strengths characterizing this group. Contracting and manufacturing enlisted personnel are better educated (both formal and PME) than their counterparts in other career fields. They also are older and have a larger percentage of members with over 12 years of service. So this sample group consists of more mature, better educated individuals.

In sum, this research identified no problem areas or inconsistencies in the 65XX enlisted personnel group. On the contrary, the state of affairs surrounding this group is extremely positive.

Civilians

The 65XX civilian employees with responses in the OAP data base expressed both significantly higher and lower job attitudes compared to the remainder of the data base. Like their officer and enlisted colleagues, 65XX civilians provided significantly higher responses in the factors dealing with Advancement/Recognition and Job Related Satisfaction. To restate, the 65XX career field seems to develop skills

which its members perceive as valuable to future opportunities. This strength, however, can be a liability if employers outside the Air Force can attract members to more satisfying jobs.

With this in mind, the problem areas identified for civilian personnel can be quite troubling. The problem areas pertain to the nature of the civilians' tasks and the degree of enrichment contained within their jobs. Contracting and manufacturing civilians expressed a significantly higher desire for enriched jobs but also perceived their jobs as not containing enriched characteristics. Contracting and manufacturing civilians report significantly less Task Autonomy, more Work Repetition, and lower Job Feedback, and generate a lower overall Job Motivation Index (JMI) than their counterparts in other career fields. Although Ibsen (1984) found significantly less Work Repetition in his examination of base contracting personnel, he discovered similar differences in the autonomy, feedback and JMI areas.

A possible explanation for these results is the high proportion of 65XX civilians in clerical grades where job tasks are frequently quite routine and repetitive. Table B-16 summarizes the 65XX civilian OAP sample by grade. About one half of the 65XX civilians are of grades GS-7 or lower. In an attempt to attribute the low job enrichment results to the clerical positions, an ANOVA test was conducted on the

mean scores for Job Feedback, Need for Enrichment Index, Job Motivation Index, Task Autonomy, Work Repetition, and Job Related Satisfaction by grade. But, as pointed out in Chapter Four, the analysis did not identify a statistically significant difference between the mean scores of each grade. Therefore, the cause for lower 65XX civilian scores must lie elsewhere.

One cause for the unfavorable job attitudes of this group may be the inability of the contracting buyer/clerk to implement the results of his or her work. Buyers and clerks, usually in grades below GS-12, are frequently tasked to work procurement actions or other administrative tasks associated with the generation and administration of contracts but, because they are not warranted contracting officers, cannot legally bind the government. Thus, their work is subject to contracting officer approval, a possible procurement committee review, and a legal review. These iterative reviews may detract from a sense of wholeness or autonomy in their work.

The inconsistency between the 65XX civilians' expressed job satisfaction and the problem areas addressed above is also interesting. This inconsistency, which occurred in the officer comparison as well, perhaps reflects a pragmatic acceptance of the nature of their jobs and the legal limitations that go therewith. In addition, they may consider their acquired skills and the opportunities those skills provided to them to be of sufficient value to overcome the dissatisfiers in their

jobs. In any case, the existence of significantly lower 65XX civilian attitudes in the autonomy and job enrichment areas should be of some concern to resource managers.

Summary

This chapter discussed the significant differences in the attitudes of contracting and manufacturing personnel when compared to personnel in other career fields. Both officer and civilian personnel expressed more positive attitudes on selected factors within the "work group process" and "work group output" areas while simultaneously expressing less positive attitudes for certain factors within the "work itself" and "job enrichment" areas. The attitudes of enlisted personnel in the 65XX career field are significantly more positive across the board. The discussion of these differences provides the basis for the conclusions and recommendations offered in Chapter Six.

Chapter Six

CONCLUSIONS AND RECOMMENDATIONS

This final chapter provides a series of conclusions and recommendations for use by the functional managers of the contracting and manufacturing career field. The conclusions and recommendations are based on the attitudinal and demographic results presented in Chapter Four and the discussion in Chapter Five. The first section of this chapter recaps the nature of job satisfaction as an intervening variable and the manner in which data were gathered to perform this research. The next two sections present conclusions and recommendations, respectively. The last section of this chapter summarizes this research project.

The Intervening Variable

Chapter Two fully discusses the nature of job satisfaction as an intervening variable which captures the emotional state resulting from the appraisal of one's job. This intervening variable, in turn, governs the behavior of the worker. The degree of satisfaction experienced in a job has been shown to be highly correlated with absenteeism, turnover, and accidents (Davis, 1977; Osborn et al., 1980).

LMDC and AFHRL developed the Organizational Assessment

Package to measure job satisfaction and attitudes (Short, 1985). Organizational and functional managers use this tool to identify and analyze the causes of significant differences in job attitudes and make management adjustments to correct deficiences or capitalize on strengths. This research used the OAP data base compiled over a four-year period to compare the attitudes of contracting and manufacturing personnel to those of personnel in other career fields. This comparison, the results of which are presented in Chapter Four and discussed in Chapter Five, yielded significant findings from which the following conclusions and recommendations are drawn.

Conclusions

The conclusions resulting from this research are as follows:

1. Officer and enlisted personnel in the contracting and manufacturing career field are better educated (formally and through PME) than their counterparts in other career fields.

2. Officers and civilian personnel in the 65XX career field express a greater intent to make the Air Force a career than do corresponding personnel in other career areas.

3. Contracting and manufacturing personnel of all categories have a significantly higher degree of general satisfaction with their jobs than non-65XX personnel.

4. There is a significantly greater belief among contracting and manufacturing personnel that the skills and experience they have acquired will help prepare them for future opportunities.

5. The contracting and manufacturing career field provides enlisted personnel with more satisfying jobs. No significantly less favorable attitudes were discovered among 65XX enlisted personnel.

6. In spite of more positive general job related satisfaction among 65XX officers and civilians, problems were identified in the "job itself" and "job enrichment" areas. Specifically, officers expressed significantly less positive attitudes for Job Performance Goals, Job Feedback, and Job Related Training. Civilians reported significantly less positive attitudes for Task Autonomy, Work Repetition, and Job Feedback.

Recommendations

The findings and conclusions associated with this research lead to a number of recommendations for 65XX resource managers. These recommendations are based on the more important findings and conclusions presented earlier.

1. Contracting and manufacturing officer performance goals should be defined in terms of maintaining an effective acquisition process. Goals expressed in terms of accomplishment of specific quantifiable tasks (e.g., number of contract

actions completed, change orders written, or manufacturing process evaluations) can be shortsighted because they are somewhat artificial and may detract from the effective execution of acquisition tasks. Instead, the use of subjective goals, such as degree of satisfaction of program managers or commanders with contracting and manufacturing support, is preferable.

2. Contracting and manufacturing managers should provide their workers with frequent and specific feedback on their performance. Improvement in feedback seems to be especially required for officers and civilian personnel. Because the results of their efforts frequently cannot be determined for long periods of time, these personnel require qualitative feedback from their supervisors.

3. Further research should be conducted to determine if officer training in the 65XX career field is deficient from either a quantitative or qualitative standpoint. Less favorable officer attitudes may indicate a problem in this area. Functional managers and supervisors should take appropriate steps to improve training.

4. Contracting and manufacturing personnel managers should consider extending the use of enlisted personnel into systems acquisition positions such as buyers or contract administrators. The current use of enlisted personnel almost exclusively in base procurement positions may be unnecessarily

limiting the contribution they can make in the career field. The Air Force should capitalize on the strengths identified in this research in 65XX enlisted personnel by providing system acquisition opportunities to specially selected members of this group.

5. Further research should be conducted to more clearly identify the nature and cause of the lower attitudes expressed by 65XX civilians in the autonomy and job enrichment areas. Such research should identify jobs with the need and potential for enrichment.

These recommendations were developed from an analysis of a sizeable attitudinal and demographic data base. They should guide 65XX resource managers' actions in developing a more satisfied and effective personnel resource.

Summary

This research project accomplished four basic objectives. First, it conducted a literature review to investigate the important role of job attitudes in governing worker behavior and to identify prior findings regarding the attitudes of 65XX personnel. Secondly, this project compared demographic and attitudinal data compiled on 65XX personnel with those of personnel in other career fields. Thirdly, it analyzed the significant differences in demographics and attitudes between 65XX personnel and all other personnel in the OAP data base. And, finally, it developed conclusions and recommendations

for the use of functional leaders in managing contracting and manufacturing personnel.

This project answered the following research question: Are there significant differences between the job attitudes (as measured by the USAF OAP) of personnel in the contracting and manufacturing career field and those of personnel in other Air Force career fields? There are some significantly positive findings regarding these attitudes as well as some unfavorable findings which may trouble 65XX functional managers. Any effort expended to mitigate the problem areas will have considerable payoff. Contracting and manufacturing personnel attitudes would improve and ultimately help the Air Force successfully meet any retention challenges that affect the 65XX career field.

REFERENCES

Boren, G. E. (1980). An assessment and comparison of Air Force job related satisfaction by Air Force personnel categories (Report No. 80-0210). Maxwell AFB, AL: Air Command and Staff College.

Butler, J. S. (1979, June). Job satisfaction and the all-volunteer force: Implications for recruitment and retention. Paper presented at the regional meeting of the Inter-university Seminar on Armed Forces and Society, Maxwell AFB, AL.

Davis, K. (1977). Human behavior at work: Organizational behavior. New York: McGraw-Hill.

Dirnberger, K. R. (1980). Organizational assessment: Implications for Air Force major commands (Report No. 80-0570). Maxwell AFB, AL: Air Command and Staff College.

Ebbert, J. (1982, February). The people part of the equation: The real problem is retention. Seapower, p. 35.

Gates, E. (1979, September). Personnel outlook: Nine-tenths overcast. Air Force Magazine, pp. 130-132.

Henderson, C. R. (1982). Organizational differences: Matrix vs non-matrix (65XX personnel) (Report No. 82-1135). Maxwell AFB, AL: Air Command and Staff College.

Hendrix, W. H. (1976). Contingency approaches to leadership: A review and synthesis (Report No. AFHRL-TR-76-17). Brooks AFB, TX: Air Force Human Resources Laboratory.

Hightower, J. M., & Short, L. O. (1982). Factor stability of the Organizational Assessment Package (Report No. LMDC-TR-82-1). Maxwell AFB, AL: Leadership and Management Development Center.

Hodgetts, R. M. (1980). Modern human relations. Hinsdale, IL: Dryden.

CONTINUED

Ibsen, K. A. (1984). A comparison of job related perceptions of base contracting personnel (Report No. LMDC-WP-84-1). Maxwell AFB, AL: Leadership and Management Development Center.

Johnson, L. S. (1983). A career development guide for contracting and manufacturing officers (Report No. 83-1260). Maxwell AFB, AL: Air Command and Staff College.

Lawler, E. E., & Porter, L. W. (1967, October). The effect of performance on job satisfaction. Industrial Relations, pp. 20-28.

Leadership and Management Development Center. (1983). The commander's guide to Air Force leadership and management consultation services. Maxwell AFB, AL: Directorate of Management Strategies and Education, Leadership and Management Development Center.

Mahr, T. A. (1982). Manual for the Organizational Assessment Package survey (Report No. 82-2560). Maxwell AFB, AL: Air Command and Staff College.

Mitchell, T. R., & Scott, Wm. G. (1976). Organizational theory: A structural and behavioral analysis. Homewood, IL: Irwin.

Ortleb, C. D. (1980). Job perception: A measurement criterion (Report No. 80-1875). Maxwell AFB, AL: Air Command and Staff College.

Osborn, R. N., Hunt, J. G., & Jauch, L. R. (1980). Organizational theory: An integrated approach. New York: Wiley.

Short, L. O. (1985). The United States Air Force Organizational Assessment Package (Report No. LMDC-TR-85-2). Maxwell AFB, AL: Leadership and Management Development Center.

Short, L. O., & Hamilton, K. L. (1981). An examination of the reliability of the Organizational Assessment Package (OAP) (Report No. LMDC-TR-81-2). Maxwell AFB, AL: Leadership and Management Development Center.

Short, L. O., & Wilkerson, D. A. (1981, October). An examination of the group differences aspect of construct validity of the Organizational Assessment Package. Paper presented at the 23rd Annual Conference of the Military Testing Association, Washington, DC.

SPSS^{x} users guide. (1983). New York: McGraw-Hill.

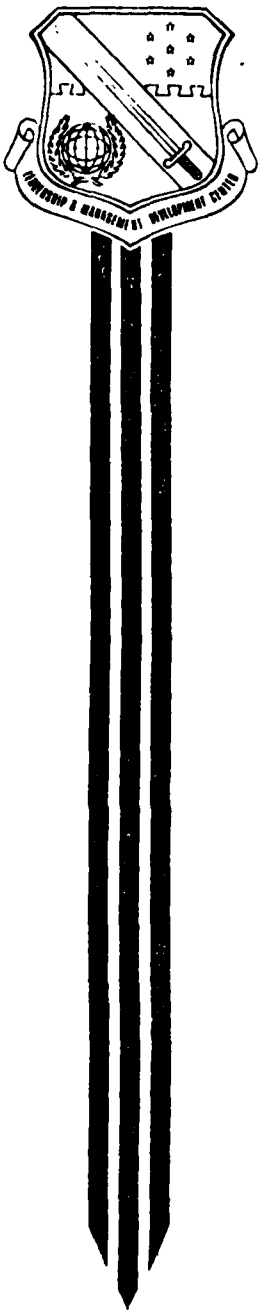
Sterrett, C. R. (1979). Concepts about people in organizations. Managing the Air Force (pp. 404-420). Maxwell AFB, AL: Air War College.

Wilkerson, D. A., & Short, L. O. (1983). What every supervisor should know: Some research findings. Concepts for Air Force leadership (pp. 4-95 to 4-98). Maxwell AFB, AL: Air University Press.

APPENDIX

APPENDIX A

OAP 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)
265	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)

APPENDIX

APPENDIX B

Analysis of Demographic Information

Table B-1

Ethnic Group

	65XX			Data Base		
	Off(%)	Enl(%)	Civ(%)	Off(%)	Enl(%)	Civ(%)
n=	193	242	346	12,453	69,805	24,194
Amer. Indian	0.0	2.5	1.2	0.7	1.4	1.4
Asian	0.5	1.7	2.9	1.5	2.0	2.7
Black	8.3	20.9	15.0	5.8	16.3	9.5
Hispanic	0.5	4.5	4.6	2.4	5.2	16.2
White	88.1	66.9	73.4	87.6	71.6	67.3
Other	2.6	3.7	2.9	2.0	3.5	2.9
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-2

Marital Status

	65XX			Data Base		
	Off(%)	Enl(%)	Civ(%)	Off(%)	Enl(%)	Civ(%)
n=	193	244	349	12,506	70,175	24,501
Not Married	15.5	34.4	30.1	21.3	35.5	18.4
Married	82.9	63.1	60.2	77.2	62.2	75.6
Single Parent	1.6	2.5	9.7	1.5	2.3	6.0
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-3

Spouse Status: 65XX

	Geo. Separated			Not Geo. Separated		
n=	Off(%) 8	Enl(%) 12	Civ(%) 19	Off(%) 152	Enl(%) 142	Civ(%) 191
Civ. Employed	62.5	25.0	63.2	44.1	48.6	65.4
Not Employed	0.0	25.0	31.6	52.6	31.0	22.5
Mil. Member	37.5	50.0	5.2	3.3	20.4	12.1
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-4

Spouse Status: Data Base

	Geo. Separated			Not Geo. Separated		
n=	Off(%) 418	Enl(%) 3,491	Civ(%) 1,054	Off(%) 9,233	Enl(%) 40,165	Civ(%) 17,468
Civ. Employed	58.9	58.7	69.3	34.1	37.9	54.2
Not Employed	20.3	26.4	17.4	57.2	48.0	34.3
Mil. Member	20.8	14.9	13.3	8.7	14.1	11.5
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-5

Educational Level

	65XX			Data Base		
n=	Off(%) 193	Enl(%) 245	Civ(%) 348	Off(%) 12,483	Enl(%) 70,041	Civ(%) 24,242
Non-H.S. Grad.	0.0	0.4	2.6	0.0	0.7	5.4
H.S. Grad. or GED	0.0	27.3	25.3	0.2	45.2	28.9
<2 yr. College	0.0	43.3	31.8	0.3	34.5	23.7
>2 yr. College	0.5	19.6	23.6	1.4	15.8	18.3
Bachelor's	33.2	7.8	14.1	53.3	3.2	15.4
Master's	64.2	1.2	2.6	36.7	0.5	7.2
P.H.D.	2.1	.4	0.0	8.1	0.1	1.1
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-6

Highest Level of Professional Military Education (PME)

	65XX			Data Base		
n=	Off(%) 193	Enl(%) 243	Civ(%) 348	Off(%) 12,500	Enl(%) 70,138	Civ(%) 24,442
None	23.3	22.2	80.7	34.6	31.6	78.5
Phase 1 or 2	1.6	32.5	6.6	1.0	29.9	7.5
Phase 3	1.6	21.8	2.6	1.2	18.9	3.3
Phase 4	.5	12.8	3.4	.9	11.5	2.8
Sr. NCO Academy	-	6.2	2.0	.2	4.9	2.0
SOS	23.8	.4	.3	26.8	.2	1.1
Int. Service School	31.1	4.1	2.6	23.2	2.9	3.4
Sr. Service School	18.1	-	1.7	12.2	.1	1.3
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-7

Number of People Directly Supervised

	65XX			Data Base		
	Off(%) n=183	Enl(%) n=225	Civ(%) n=287	Off(%) n=11,774	Enl(%) n=63,784	Civ(%) n=20,225
None	46.4	80.0	93.6	41.3	60.2	69.5
1	2.2	1.8	1.0	7.3	7.6	2.9
2	2.7	2.2	1.0	6.4	7.2	2.6
3	8.2	2.7	.3	8.0	5.5	2.8
4 to 5	14.2	5.8	2.1	13.7	7.9	5.4
6 to 8	14.8	3.1	1.0	10.0	4.8	4.6
9+	11.5	4.4	1.0	13.3	6.8	12.2
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-8

Number of People for Whom Respondent Writes OER/APR/Appraisal

	65XX			Data Base		
	Off(%) n=193	Enl(%) n=245	Civ(%) n=349	Off(%) n=12,480	Enl(%) n=70,068	Civ(%) n=24,501
None	49.8	84.1	95.6	51.5	66.6	78.6
1	4.1	2.0	0.9	9.3	8.6	2.1
2	3.6	2.4	0.6	7.1	7.8	1.9
3	8.3	1.6	0.0	7.1	5.7	2.1
4 to 5	14.0	2.9	0.9	11.3	7.0	3.9
6 to 8	10.9	3.3	0.9	8.4	2.4	3.2
9+	9.3	3.7	1.1	5.3	1.9	8.3
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-9

Supervisor Writes Respondent's OER/APR/Appraisal

	65XX			Data Base		
	Off(%) n=193	Enl(%) n=237	Civ(%) n=341	Off(%) n=12,328	Enl(%) n=69,276	Civ(%) n=23,720
Yes	37.0	82.7	84.5	77.8	70.3	77.7
No	33.7	5.9	5.3	14.0	18.7	9.6
Not Sure	9.3	11.4	10.2	8.2	11.0	12.7
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-10

Work Schedule

	65XX			Data Base		
n=	Off(%) 193	Enl(%) 242	Civ(%) 344	Off(%) 12,388	Enl(%) 69,604	Civ(%) 24,021
Day Shift	91.2	95.1	96.2	58.8	60.0	87.9
Swing Shift	0.5	0.8	0.9	0.2	7.4	3.2
Mid. Shift	0.0	0.0	0.3	0.1	3.0	0.7
Rotating	0.0	0.8	2.0	4.8	13.5	4.6
Irregular	3.1	2.9	0.0	12.6	12.3	2.3
Freq. TDY/Crew	5.2	0.4	0.6	23.5	3.8	1.3
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-11

Supervisor Holds Group Meetings

	65XX			Data Base		
	Off (%) n=190	Enl(%) n=244	Civ(%) n=345	Off(%) n=12,367	Enl(%) n=69,158	Civ(%) n=24,181
Never	4.7	7.0	6.7	6.6	16.5	10.1
Occasionally	24.7	24.6	40.5	22.9	33.8	34.5
Monthly	5.8	8.2	14.8	14.0	8.7	18.6
Weekly	52.7	55.3	32.8	42.3	27.3	30.5
Daily	8.4	2.9	2.9	12.2	11.5	4.5
Continuously	3.7	2.0	2.3	2.0	2.2	1.8
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-12

Supervisor Holds Group Meetings to Solve Problems

	65XX			Data Base		
	Off(%) n=189	Enl(%) n=243	Civ(%) n=341	Off(%) n=12,293	Enl(%) n=68,717	Civ(%) n=23,845
Never	22.8	20.2	22.0	15.3	25.0	24.2
Occasionally	45.5	45.7	49.0	42.5	39.8	44.7
Half the time	15.3	19.3	15.8	22.0	16.7	15.4
Always	16.4	14.8	13.2	20.2	18.5	15.7
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-13

Aeronautical Rating and Current Status

	65XX		Data Base	
n=	Off(%) 193	Enl(%) 240	Off(%) 12,346	Enl(%) 69,015
Non-rated, not on Aircrew	87.6	98.8	60.9	90.6
Non-rated, on Aircrew	1.6	0.0	2.4	2.1
Rated, in crew/ops job	0.5	0.0	27.4	1.6
Rated, in support job	10.3	1.2	9.3	5.7
	100.0%	100.0%	100.0%	100.0%

Table B-14

Career Intent

	65XX			Data Base		
n=	Off(%) 191	Enl(%) 244	Civ(%) 304	Off(%) 12,447	Enl(%) 69,903	Civ(%) 21,115
Retire in 12 mos.	3.7	4.1	2.6	3.4	3.1	6.3
Career	63.3	38.1	57.2	50.8	34.9	51.4
Likely career	21.5	16.8	26.1	22.5	18.8	23.3
Maybe	8.4	22.1	9.9	15.2	20.6	12.7
Prob. not career	3.1	12.3	1.6	5.1	13.6	3.5
Separate	0.0	6.6	2.6	3.0	9.0	2.8
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B-15

65XX Respondents by Command

Command	No. of Respondents	Percent
AFSC	295	37.6
AFLC	102	13.0
ATC	42	5.4
SAC	128	16.3
TAC	92	11.7
USAFE	44	5.6
MAC	33	4.2
PACAF	7	.9
ANG	10	1.3
Other	32	4.1
Total	785	100.0

Table B-16

65XX Civilian Personnel by Grade

Grade (GS)	No. of Respondents
3	10
4	21
5	68
6	26
7	45
8	2
9	85
11	37
12	21
13	3
Total	318

APPENDIX

APPENDIX C

Comparison of

Contracting and Manufacturing (65XX) Personnel Attitudes

to Those of the LMDC Data Base

Table C-1

t-test: 65XX Officers vs. Other Officers

	The Work Itself			
	Mean	SD	df	t
Job Performance Goals				
65XX Officers	4.548	0.986	12,208	2.38*
Other Officers	4.722	0.983		
Task Characteristics				
65XX Officers	5.152	0.906	12,280	2.75**
Other Officers	5.344	0.951		
Task Autonomy				
65XX Officers	4.585	1.266	12,309	0.28
Other Officers	4.557	1.354		
Work Repetition				
65XX Officers	3.872	1.303	12,503	4.47***
Other Officers	4.319	1.372		
Desired Repetitive/ Easy Tasks				
65XX Officers	2.314	0.881	190	2.45*
Other Officers	2.476	1.051		
Job Related Training				
65XX Officers	4.338	1.461	9,931	3.09**
Other Officers	4.691	1.476		

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

Table C-1 (Continued)

	Job Enrichment			
	Mean	SD	df	t
Skill Variety				
65XX Officers	5.343	1.147	197	1.13
Other Officers	5.438	1.282		
Task Identity				
65XX Officers	5.008	1.231	12,551	2.44*
Other Officers	5.224	1.212		
Task Significance				
65XX Officers	5.627	1.257	12,605	1.86
Other Officers	5.796	1.253		
Job Feedback				
65XX Officers	4.631	1.195	12,570	3.02**
Other Officers	4.891	1.180		
Need For Enrichment				
65XX Officers	6.092	.897	12,292	0.04
Other Officers	6.089	.864		
Job Motion Index				
65XX Officers	119.645	64.982	11,490	1.32
Other Officers	126.389	67.281		

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

Table C-1 (Continued)

	Work Group Process			
	Mean	SD	df	t
Work Support				
65XX Officers	4.775	0.920	191	3.28**
Other Officers	4.550	1.090		
Management/Supervision				
65XX Officers	5.246	1.384	11,862	0.65
Other Officers	5.311	1.342		
Supervisory Communications Climate				
65XX Officers	4.739	1.496	11,606	1.11
Other Officers	4.860	1.418		
Organizational Communications Climate				
65XX Officers	4.862	1.279	11,719	0.26
Other Officers	4.887	1.259		

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

Table C-1 (Continued)

Work Group Output

	Mean	SD	df	t
Pride				
65XX Officers	5.296	1.420	12,539	1.80
Other Officers	5.479	1.392		
Advancement/Recognition				
65XX Officers	4.850	1.208	12,036	3.15**
Other Officers	4.572	1.187		
Perceived Productivity				
65XX Officers	5.687	1.133	12,162	1.09
Other Officers	5.774	1.078		
Job Related Satisfaction				
65XX Officers	5.531	1.027	11,341	2.05*
Other Officers	5.359	1.092		
General Organizational Climate				
65XX Officers	5.090	1.324	11,787	1.22
Other Officers	5.205	1.250		

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

Table C-2

Selected Variable Comparisons--Officers

Factor: Work Support	Mean	SD	df	t
Variable 206				
65XX Officers	3.483	1.673	12,357	2.22*
Other Officers	3.781	1.785		
Variable 207				
65XX Officers	5.022	1.171	184	1.58
Other Officers	4.883	1.314		
Variable 208				
65XX Officers	4.792	1.749	12,460	1.89
Other Officers	4.551	1.689		
Factor: Advancement/Recognition				
Variable 719				
65XX Officers	5.819	1.547	187	5.53***
Other Officers	5.179	1.736		

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

Table C-3

t-test: 65XX Enlisted vs. Other Enlisted

	The Work Itself			
	Mean	SD	df	t
Job Performance Goals				
65XX Enlisted	4.718	0.983	67,874	0.30
Other Enlisted	4.737	0.979		
Task Characteristics				
65XX Enlisted	5.331	0.893	237	5.06***
Other Enlisted	5.036	1.003		
Task Autonomy				
65XX Enlisted	4.190	1.300	67,395	3.84***
Other Enlisted	3.834	1.421		
Work Repetition				
65XX Enlisted	5.066	1.381	69,361	0.78
Other Enlisted	5.135	1.371		
Desired Repetitive/ Easy Tasks				
65XX Enlisted	2.856	1.235	240	4.57***
Other Enlisted	3.221	1.418		
Job Related Training				
65XX Enlisted	4.449	1.569	66,372	0.26
Other Enlisted	4.476	1.577		

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

Table C-3 (Continued)

	Job Enrichment			
	Mean	SD	df	t
Skill Variety				
65XX Enlisted	4.961	1.320	244	4.30***
Other Enlisted	4.596	1.457		
Task Identity				
65XX Enlisted	5.386	1.191	69,404	4.17***
Other Enlisted	5.051	1.249		
Task Significance				
65XX Enlisted	5.947	1.056	244	3.66***
Other Enlisted	5.698	1.310		
Job Feedback				
65XX Enlisted	4.957	1.238	69,610	2.39*
Other Enlisted	4.758	1.292		
Need for Enrichment				
65XX Enlisted	5.900	1.047	243	6.34***
Other Enlisted	5.472	1.240		
Job Motivation Index				
65XX Enlisted	118.170	63.356	62,705	4.21***
Other Enlisted	100.392	62.916		

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

Table C-3 (Continued)

	Work Group Process			
	Mean	SD	df	t
Work Support				
65XX Enlisted	4.485	1.097	67,816	0.66
Other Enlisted	4.532	1.118		
Management/Supervision				
65XX Enlisted	4.902	1.645	65,803	0.06
Other Enlisted	4.895	1.575		
Supervisory Communications Climate				
65XX Enlisted	4.578	1.727	66,055	0.59
Other Enlisted	4.514	1.635		
Organizational Communications Climate				
65XX Enlisted	4.619	1.338	64,623	2.80**
Other Enlisted	4.375	1.317		

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

Table C-3 (Continued)

	Work Group Output			
	Mean	SD	df	t
Pride				
65XX Enlisted	5.305	1.533	69,168	3.82***
Other Enlisted	4.901	1.645		
Advancement/Recognition				
65XX Enlisted	4.589	1.222	66,891	4.16***
Other Enlisted	4.263	1.197		
Perceived Productivity				
65XX Enlisted	5.707	1.203	66,989	3.05**
Other Enlisted	5.463	1.242		
Job Related Satisfaction				
65XX Enlisted	5.491	0.994	213	7.84***
Other Enlisted	4.954	1.219		
Gen. Organizational Climate				
65XX Enlisted	4.636	1.434	64,561	2.55*
Other Enlisted	4.402	1.399		

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

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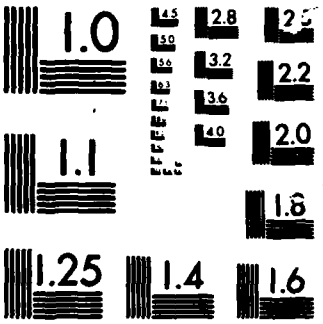

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Table C-4

t-test: 65XX Enlisted Stateside vs. 65XX Enlisted Overseas

	Work Itself			
	Mean	SD	df	t
Job Performance Goals				
65XX Enl. Stateside	4.69	.99	234	0.56
65XX Enl. Overseas	4.77	.96		
Task Characteristics				
65XX Enl. Stateside	5.34	.89	234	0.14
65XX Enl. Overseas	5.32	.92		
Task Autonomy				
65XX Enl. Stateside	4.16	1.29	234	0.52
65XX Enl. Overseas	4.26	1.34		
Work Repetition				
65XX Enl. Stateside	5.08	1.39	241	0.19
65XX Enl. Overseas	5.04	1.36		
Desired Repetitive/ Easy Tasks				
65XX Enl. Stateside	2.89	1.25	237	0.72
65XX Enl. Overseas	2.77	1.20		
Job Related Training				
65XX Enl. Stateside	4.40	1.57	223	0.65
65XX Enl. Overseas	4.55	1.58		

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

Table C-4 (Continued)

	Job Enrichment			
	Mean	SD	df	t
Skill Variety				
65XX Enl. Stateside	5.02	1.30	241	1.08
65XX Enl. Overseas	4.82	1.38		
Task Identity				
65XX Enl. Stateside	5.36	1.18	240	0.62
65XX Enl. Overseas	5.46	1.21		
Job Feedback				
65XX Enl. Stateside	4.93	1.28	240	0.47
65XX Enl. Overseas	5.01	1.13		
Job Motivation Index				
65XX Enl. Stateside	116.99	62.29	221	0.43
65XX Enl. Overseas	120.97	66.23		

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

Table C-4 (Continued)

	Work Group Process			
	Mean	SD	df	t
Work Support				
65XX Enl. Stateside	4.46	1.02	112	0.41
65XX Enl. Overseas	4.53	1.26		
Management/Supervision				
65XX Enl. Stateside	4.98	1.67	230	1.10
65XX Enl. Overseas	4.73	1.59		
Supervisory Comm. Climate				
65XX Enl. Stateside	4.63	1.74	226	0.70
65XX Enl. Overseas	4.45	1.71		
Org. Comm. Climate				
65XX Enl. Stateside	4.56	1.34	227	1.10
65XX Enl. Overseas	4.77	1.34		

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

Table C-4 (Continued)

	Work Group Output			
	Mean	SD	df	t
Pride				
65XX Enl. Stateside	5.32	1.55	241	0.29
65XX Enl. Overseas	5.26	1.50		
Advancement/Recognition				
65XX Enl. Stateside	4.57	1.24	232	0.28
65XX Enl. Overseas	4.62	1.20		
Work Group Effectiveness				
65XX Enl. Stateside	5.79	1.04	100	1.45
65XX Enl. Overseas	5.51	1.51		
Job Satisfaction				
65XX Enl. Stateside	5.46	1.01	210	0.61
65XX Enl. Overseas	5.56	.96		
Gen. Org. Climate				
65XX Enl. Stateside	4.62	1.40	230	0.32
65XX Enl. Overseas	4.68	1.52		

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

Table C-5

t-test: 65XX Civilians vs. Other Civilians

	The Work Itself			
	Mean	SD	df	t
Job Performance Goals				
65XX Civilians	4.802	0.958	23,716	0.92
Other Civilians	4.852	0.999		
Task Characteristics				
65XX Civilians	5.235	0.984	23,435	1.41
Other Civilians	5.309	0.951		
Task Autonomy				
65XX Civilians	4.405	1.304	23,908	2.45*
Other Civilians	4.586	1.351		
Work Repetition				
65XX Civilians	4.796	1.308	355	2.14*
Other Civilians	4.644	1.435		
Desired Repetitive/ Easy Tasks				
65XX Civilians	2.945	1.365	23,870	1.89
Other Civilians	3.090	1.396		
Job Related Training				
65XX Civilians	4.332	1.712	22,173	1.56
Other Civilians	4.476	1.672		

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

Table C-5 (Continued)

	Job Enrichment			
	Mean	SD	df	t
Skill Variety				
65XX Civilians	4.965	1.349	24,379	1.53
Other Civilians	5.078	1.367		
Task Identity				
65XX Civilians	5.446	1.192	24,433	1.82
Other Civilians	5.331	1.170		
Task Significance				
65XX Civilians	5.661	1.238	24,491	0.75
Other Civilians	5.712	1.256		
Job Feedback				
65XX Civilians	4.858	1.284	24,488	2.89**
Other Civilians	5.056	1.269		
Need for Enrichment				
65XX Civilians	5.864	1.046	348	2.93**
Other Civilians	5.695	1.183		
Job Motivation Index				
65XX Civilians	122.445	69.014	21,899	2.23*
Other Civilians	131.293	70.322		

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

Table C-5 (Continued)

	Work Group Process			
	Mean	SD	df	t
Work Support				
65XX Civilians	4.791	1.046	23,683	2.06*
Other Civilians	4.666	1.110		
Management/Supervision				
65XX Civilians	4.892	1.597	23,049	0.97
Other Civilians	4.980	1.637		
Supervisory Communications Climate				
65XX Civilians	4.537	1.702	22,956	0.37
Other Civilians	4.572	1.704		
Organization Communications Climate				
65XX Civilians	4.657	1.315	22,577	0.60
Other Civilians	4.610	1.409		

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

Table C-5 (Continued)

	Work Group Output			
	Mean	SD	df	t
Pride				
65XX Civilians	5.382	1.432	24,417	0.46
Other Civilians	5.418	1.448		
Advancement/Recognition				
65XX Civilians	4.024	1.289	22,742	3.21**
Other Civilians	3.787	1.343		
Perceived Productivity				
65XX Civilians	5.549	1.193	23,578	1.27
Other Civilians	5.637	1.252		
Job Related Satisfaction				
65XX Civilians	5.544	0.990	328	2.26*
Other Civilians	5.418	1.086		
Gen. Organizational Climate				
65XX Civilians	4.775	1.350	22,502	0.08
Other Civilians	4.781	1.395		

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

Table C-6

65XX Civilian Employees by Grade (ANOVA)

	Mean	SD	Subset	df	F
Task Autonomy (813)				9,299	2.52**
GS-3	3.78	.81	1		
GS-4	4.09	1.40	1		
GS-5	4.05	1.41	1		
GS-6	4.91	1.20	1		
GS-7	4.35	1.47	1		
GS-8	4.63	.88	1		
GS-9	4.32	1.24	1		
GS-11	4.74	1.07	1		
GS-12	5.15	1.28	1		
GS-13	4.75	1.09	1		
Work Repetition (814)				9,304	3.67***
GS-3	4.45	.96	1		
GS-4	5.52	1.39	1		
GS-5	5.05	1.34	1		
GS-6	5.23	.91	1		
GS-7	4.83	1.26	1		
GS-8	5.25	.35	1		
GS-9	4.61	1.19	1		
GS-11	4.12	1.22	1		
GS-12	4.19	1.35	1		
GS-13	4.17	.76	1		
Job Feedback (804)				9,308	1.85
GS-3	4.60	1.51	1		
GS-4	4.95	1.32	1		
GS-5	4.44	1.42	1		
GS-6	5.11	1.28	1		
GS-7	5.08	1.37	1		
GS-8	5.00	.71	1		
GS-9	4.69	1.23	1		
GS-11	5.06	1.07	1		
GS-12	5.36	1.18	1		
GS-13	5.67	.29	1		

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

Table C-6 (Continued)

	Mean	SD	Subset	df	F
Need for Enrichment (806)				9,299	1.62
GS-3	5.08	1.38	1		
GS-4	5.99	1.09	1		
GS-5	5.63	1.33	1		
GS-6	5.85	.94	1		
GS-7	6.06	.91	1		
GS-8	5.90	.14	1		
GS-9	5.81	.92	1		
GS-11	6.07	.73	1		
GS-12	6.10	1.05	1		
GS-13	6.47	.61	1		
Job Motivation (807)				9,279	3.53***
GS-3	90.66	40.15	1		
GS-4	95.33	59.55	1		
GS-5	96.52	61.36	1		
GS-6	148.32	74.96	1		
GS-7	127.65	79.06	1		
GS-8	127.36	6.41	1		
GS-9	115.46	62.59	1		
GS-11	142.85	67.83	1		
GS-12	167.10	74.53	1		
GS-13	145.69	53.09	1		
Job Satisfaction (822)				9,279	3.76***
GS-3	5.30	.86	1		
GS-4	5.31	.99	1		
GS-5	4.98	1.08	1		
GS-6	5.87	.96	1		
GS-7	5.80	.83	1		
GS-8	6.15	.40	1		
GS-9	5.64	.97	1		
GS-11	5.80	.95	1		
GS-12	5.80	.77	1		
GS-13	5.71	1.76	1		

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

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