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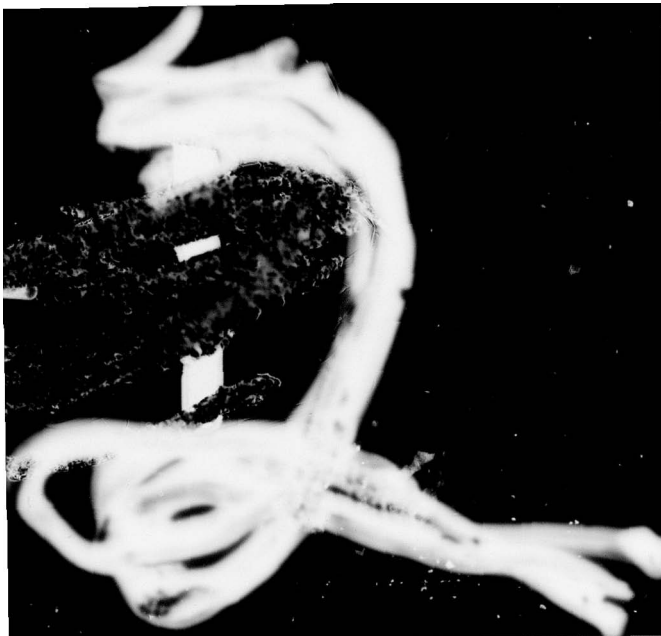
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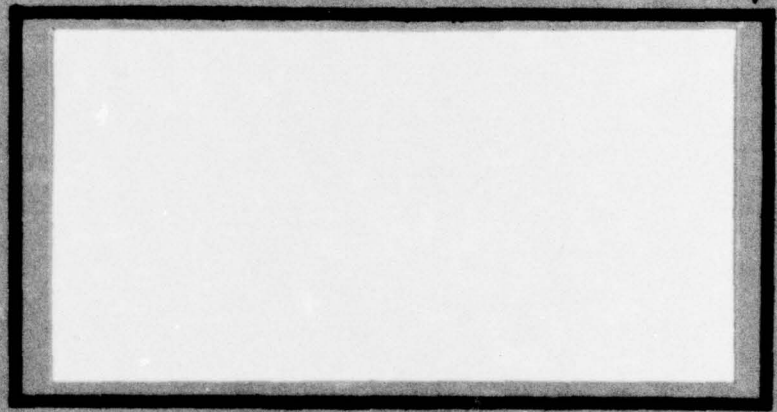


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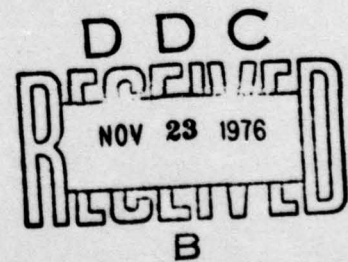
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**A STUDY OF JOB SATISFACTION OF
AIR FORCE CIVILIAN EMPLOYEES**

Phillip A. Branson, Captain, USAF
Walter R. Peacock, Jr., Captain, USAF

SLSR 26-76B



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This study analyzes the determinants of job satisfaction for United States Air Force civilian employees as reported by 16,751 respondents to a survey conducted by the Air Force Management Improvement Group (AFMIG) in the summer of 1975. The primary technique used is the Monitored Automatic Interaction Detection - Multivariate (MAID-M) program. MAID-M is a computerized program which selects and builds up the smallest number of predictors which can explain the largest proportion of variance of the criterion variable. Analyses are made of the relationships between three categories of predictor variables and job satisfaction. The three categories of predictor variables are demographic characteristics, Air Force Quality of Life indicators and job related factors. The most important predictor variables found in each category are then combined and analyzed as predictors of civilian employee job satisfaction.

The primary conclusion from the analysis is that the major determinants of job satisfaction for Air Force civilian employees are job related factors. The most significant factors found were as follows: -

1. Job challenge
2. Job freedom
3. Satisfaction with personal growth, and
4. Job preparation for greater responsibility.



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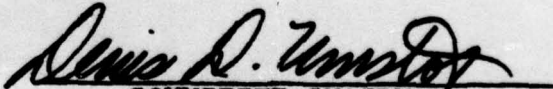
and

Captain Walter R. Peacock, Jr.

has been accepted by the undersigned on behalf of the
faculty of the School of Systems and Logistics in partial
fulfillment of the requirements for the degree of

MASTER OF SCIENCE IN LOGISTICS MANAGEMENT

DATE: 7 September 1976


COMMITTEE CHAIRMAN

SISR 26-76B

**A STUDY OF JOB SATISFACTION OF
AIR FORCE CIVILIAN EMPLOYEES**

A Thesis

**Presented to the Faculty of the School of Systems and Logistics
of the Air Force Institute of Technology**

Air University

**In Partial Fulfillment of the Requirements for the
Degree of Master of Science in Logistics Management**

By

**Phillip A. Branson
Captain, USAF**

**Walter R. Peacock, Jr.
Captain, USAF**

September 1976

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Chapter I

INTRODUCTION

Job satisfaction research dates back to the mid-1930s with the publishing of Hoppock's book, Job Satisfaction (1935). A study by Roethlisberger and Dickson of over 20,000 Western Electric employees was published in 1939 with results showing that employees' reactions to what happens to them at work causes certain types of behavior such as absenteeism and turnover (Lawler, 1973). With the increased interest in job satisfaction research generated by the Western Electric studies, thousands of studies have been accomplished in the last thirty years. Much of the research has been aimed at attempts to relate job satisfaction to productivity even though early studies failed to turn up a significant relationship in this area (Lawler). Recently, job satisfaction research has gained impetus from the increasing concern in many countries about the quality of life. Recent studies have indicated that many people are demanding more satisfaction from their jobs. Opportunity for personal growth and development, maximum use of talents and training, and challenging and satisfying work are typical characteristics of a satisfying job. To compete successfully in the labor market, organizations must possess these satisfiers (Tuttle & Hazel, 1974).

Retention as well as attraction of qualified personnel has been related to job satisfaction. A review of 400 civilian and 284 military publications by Tuttle and Hazel (1974) led to the conclusion that job satisfaction is related to turnover, absenteeism, and sick calls.

Air Force Job Satisfaction Research

The establishment of the all-volunteer force coupled with the increasing concern for quality of life, and the substantial evidence that job satisfaction is related to turnover, has given job satisfaction research a high priority in the Air Force. As a result, the Air Force has initiated a program of on-going job satisfaction research through the Air Force Human Resources Laboratory's Occupational Research Division. According to Tuttle, Gould and Hazel (1975), the goals of the program are:

(a) to determine the important facets of job satisfaction for Air Force personnel, (b) to examine the relationship between job satisfaction and career decisions, (c) to identify the characteristics of jobs and assignments which produce satisfaction and dissatisfaction, and finally, (d) to recommend job and policy changes which will positively affect job satisfaction. (p. 5)

This increased emphasis on improving job satisfaction of the military has somewhat overshadowed concern for the civilian component's job satisfaction, and as a result, very little research on the latter has been accomplished. The lack of concern for the job satisfaction of the Air Force's civilian employees is further evidenced by a review

of Defense Documentation Center (DDC) and Defense Logistics Studies Information Exchange (DLSIE) report bibliographies covering the November 1970 through November 1975 time period. The DDC and DLSIE review revealed thirty-nine thesis and study efforts related to Air Force military personnel; however, there were no reports of thesis efforts on job satisfaction of Air Force civilian employees.

AFMIG Quality of Life
Survey

The Air Force Management Improvement Group (AFMIG) was established on the orders of the Air Force Chief of Staff and began assembling in May, 1975. The job of AFMIG was to look at the Air Force's "people" programs to see how they would fit the future force environment (Panel Studies, 1975). Separate Air Force Quality of Life surveys for military and civilian personnel were conducted by AFMIG during the late spring and summer of 1975. The aim of the surveys was to see how well satisfied members were with those elements of their lives that they considered most important. The 144-question survey used nine quality of life factors to measure attitudes concerning: (1) health, (2) economic standards, (3) economic security, (4) free time, (5) work, (6) leadership, (7) supervision, (8) equity, (9) personal growth and personal standings. Questions concerning various work-related factors as well as demographic characteristics were included also. In

addition, a form of Hoppock's (1935) general job satisfaction blank, modified to apply to Air Force respondents, was included in each questionnaire. The measure consisted of four questions, each with four possible responses with a value between one and seven. The values of the four questions were totaled to provide a general measure of satisfaction for each respondent (Manley, McNichols, & Gregory, 1975).

Analysis of the military survey data has already been completed, with the primary conclusion that job-related perceptions are the principal determinants of job satisfaction in the Air Force (Thompson, 1975). These perceptions concern job challenge, preparation for future positions of greater responsibility, and job freedom. Demographic variables were also studied and found to be unimportant in determining job satisfaction. Conversely, the only documented analysis to date of the civilian survey data was a demographic comparison of the data with the military survey data (Callander, 1975). The range of questions answered coupled with the large sample (17,110 of approximately 265,000 Air Force civilian employees) has created a wealth of data for research and analysis. Captain Robert Gregory (1975), a behavioral scientist in the Directorate of Personnel Plans, Headquarters, Department of the Air Force, has indicated that there is an

interest in his office to promote further research on the data gathered in the civilian survey.

Importance of the Research

In a time when individuals are demanding more out of a job than economic return, job satisfaction research can aid in the identification of determinants of job satisfaction and subsequently contribute significantly toward meeting these new demands. The contributions could be in the form of providing more satisfying work, affording individuals the opportunity to make maximum use of their talents and training, and creating an environment conducive to personal growth and development (Tuttle et al., 1975).

From an economic point of view, Ted Mills (1975) contends that the primary reason for increasing interest in human resources is that the potential rate of return is high. Mills contends that since human resources are relatively underdeveloped, a small investment in them can yield a relatively large return.

Another economic reason for measuring job satisfaction is cited by Lawler (1973):

Satisfaction is related to absenteeism and turnover, both of which are very costly to organizations. Thus, there is a very "practical" economic reason for organizations to be concerned with job satisfaction, since it can influence organizational effectiveness.
(p. 63)

Problem Statement

Very little research has been accomplished on job satisfaction of Air Force civilian employees. Consequently, Air Force managers must rely on empirical research findings of outside agencies and relate those findings to the civilian work environment in the Air Force. However, the Air Force civilian work environment may not coincide with the civilian work environment of private industry. Therefore, in order to identify the variables that significantly impact job satisfaction of Air Force civilian employees, job satisfaction research should be initiated.

Objectives

The first objective of this study is to identify the major variables that determine overall job satisfaction for Air Force civilian employees.

The second objective is to compare the variables which determine overall job satisfaction as found in this study with those variables found by Thompson (1975) in his study of Air Force military personnel.

Research Questions

In order to accomplish the objectives, the following research questions are addressed:

1. What are the major variables that determine overall job satisfaction for Air Force civilian employees?

2. How do the variables which determine overall job satisfaction of the Air Force's civilian employees compare with those that determine overall job satisfaction of the Air Force's military members as found by Thompson?

Overview

In order to accomplish the objectives, the researchers address the following areas in the remainder of this effort. Chapter Two provides a literature review to put the research effort in a proper context. A review of job satisfaction definitions, job satisfaction measurement, major facets of job satisfaction, and Lawler's (1973) Model of Facet Satisfaction are covered. Next, Chapter Three covers the methodology of the research and includes explanations of data collection, research samples, the computer program used for analysis, nature of the variables analyzed, and general research design. Chapter Four then presents the findings of the research and compares them with Thompson's (1975) findings pertaining to Air Force military personnel. Next, Chapter Five gives the researchers' conclusions and recommendations. Appendix A then presents the questions in the AFMIG survey which were used in this research effort. Last of all, Appendix B presents mean job satisfactions according to demographic characteristics of the population covered by the AFMIG survey.

Chapter II

LITERATURE REVIEW

This chapter provides a literature review to put the research effort in a proper context. Therefore, a selective review of conceptual job satisfaction definitions, job satisfaction measurement, major facets of job satisfaction, and Lawler's (1973) Model of Facet Satisfaction are covered.

What Is Job Satisfaction?

In answering the question, "What is job satisfaction?" Hoppock (1935) gave the following reply:

Job satisfaction is whatever a criterion measures; but as a more useful tentative definition we would suggest that the thing in which we are interested is any combination of psychological, physiological, and environmental circumstances that causes a person to truthfully say, "I am satisfied with my job." (p. 47)

Hoppock recognized the many potential variables and overall complexity of job satisfaction (Tuttle et al., 1975).

Since Hoppock's initial definition, research on the subject of job satisfaction has increased at a rapid pace.

Locke (1969) found that research efforts on job satisfaction were divided among whether the determinants of job satisfaction were solely intrinsic to the job itself, whether the determinants lay solely in the worker's

mind, or whether satisfaction was the result of an interaction between the worker and his job environment. From his studies on the subject, Locke concluded that the determinants of job satisfaction lie in the relationship between man and his job. Moreover, he defined job satisfaction as "the pleasurable emotional state resulting from the appraisal of one's job as achieving or facilitating the achievement of one's job values" (p. 316).

A more recent attempt to define job satisfaction was made by Porter, Lawler and Hackman (1975):

It appears that [job] satisfaction is determined by the difference between the amount of some valued outcome that a person receives and the amount of that outcome he feels he should receive. The larger the discrepancy, the greater the dissatisfaction. Moreover, the amount a person feels he should receive has been found to be strongly influenced by what he perceives others like himself are receiving. (p. 54)

How Is Job Satisfaction Measured?

Since the 1930s, two general methods have usually been used to measure job satisfaction (Tuttle et al., 1975). The first method measured job satisfaction as one overall variable. The second method did not recognize job satisfaction as one overall variable; instead, it considered job satisfaction as multi-dimensional, consisting of many variables. The more recent trend in job satisfaction research has been the second method, i.e., measure the more specific variables of job satisfaction and combine these variable measurements to arrive at overall job satisfaction.

One of the more recent attempts to clarify the various ways of measuring job satisfaction was made by Wanous and Lawler (1972). They found that it was possible to measure overall job satisfaction by summing an individual's satisfactions with the different facets of his job. Based on Wanous and Lawler's findings, it follows that a study of the determinants of job satisfaction should focus on identification of the job facets and their impact on overall job satisfaction.

What are the Facets of Job Satisfaction?

In their development of the Air Force Occupational Attitude Inventory (OAI), Tuttle et al. (1975) compiled 35 facets to be measured (see Table 1). The facets are basically an amalgamation of those facets appearing most often in previously developed job satisfaction measuring instruments, with considerable emphasis on the Minnesota Satisfaction Questionnaire.

These 35 facets of job satisfaction in the Air Force OAI were used by the researchers as a guide in identifying questions in the AFMIG survey which measure satisfaction with various work-related variables and quality of life indicators. These questions along with those measuring demographic characteristics are identified in Chapter III, Tables 3, 4, and 5.

Table 1

FACETS OF JOB SATISFACTION

-
-
1. Achievement
 2. Activity
 3. Air Force and Unit Policies and Practices
 4. Assignment Locality
 5. Authority
 6. Co-workers
 7. Creativity
 8. Importance
 9. Independence
 10. Interest
 11. Knowledge of Results
 12. Personal Growth and Development
 13. Job Design
 14. Optional Social Contact
 15. Pay and Benefits
 16. Physical Work Environment
 17. Promotion Opportunity
 18. Recognition
 19. Required Social Contact
 20. Responsibility
 21. Physical Safety
 22. Economic Security
 23. Service to Others
 24. Social Status
 25. Sufficiency of Training
 26. Supervision Received - Human Relations
 27. Supervision Received - Technical
 28. Performance Evaluation
 29. Job Change
 30. Tools, Equipment, and Supplies
 31. Utilization
 32. Value of Experience
 33. Variety
 34. Work Schedule
 35. Supervisory Duties
-

The Model of Facet Satisfaction

Since this research focuses on identification of job variables (facets) that determine overall job satisfaction for Air Force civilian employees, a need exists to establish, in a theoretical sense, how an individual reaches different states of satisfaction with the various facets of his job. Lawler's (1973) Model of Facet Satisfaction (Figure 1) offers perhaps the best theoretical explanation of facet satisfaction found in the literature. The model explains how an individual's psychological processes operate to determine job facet satisfaction. Since the AFMIG survey did not contain questions that would measure all of the variables in Lawler's model, no attempt was made to test the model. However, the model is applicable to the literature review in that it explains a theoretical approach for determining job facet satisfaction.

The Model of Facet Satisfaction is based on the two motivational theories of equity and discrepancy. According to Tuttle and Hazel (1974):

The basic assumption of equity theory is that individuals have an expectation of a "fair" or "equitable" rewards level which they should receive from a social exchange. To the extent that this equitable level is not met by actual rewards, feelings of inequity are generated. (p. 11)

Primary concepts of the theory are the nature of inputs, outcomes, and social comparison. Inputs are the things that an individual perceives that he brings to the work environ-

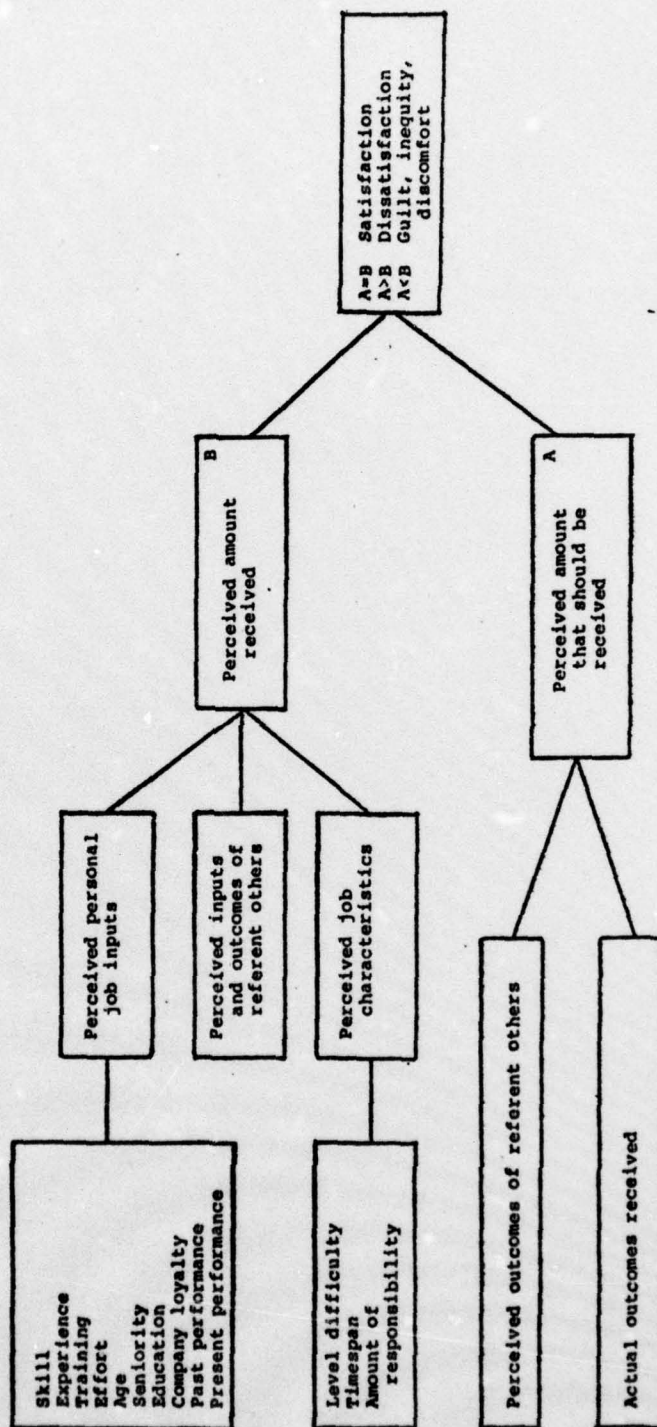


Figure 1. Model of Facet Satisfaction

ment, e.g., skill, experience, education, and effort. Outcomes are the things an individual perceives he receives or will receive in exchange for his inputs. Outcomes may be positive or negative. Positive outcomes could be increased pay, promotion, and status; whereas negative outcomes may be boredom, poor working conditions, and lack of recognition. Social comparison relates to a process whereby an individual compares his outcomes with the outcomes he perceives of others performing similar activities. According to the theory, when the perceived ratio of outcomes to inputs for an individual does not equal the individual's perceived ratio for another person, a condition of inequity exists (Tuttle & Hazel). If the inequity persists, the individual becomes dissatisfied. Strict interpretation of the initial theory also inferred that an individual would experience over-payment inequity if his perceived outcomes exceeded his inputs, and as a result, become dissatisfied. Pritchard (1969) altered this interpretation. He theorized that overpayment inequity is not as great in an impersonal relationship, such as occurs between worker and supervisor (work environment), as when the same condition exists in a personal relationship, e.g., selling something to a friend for more than it is worth.

The second theory used in Lawler's model is that of discrepancy. Discrepancy theory, simply stated, is the

difference between the actual outcomes an individual receives and what he feels he should receive (Lawler, 1973). If the outcomes an individual feels he should receive exceed his actual outcomes, a discrepancy exists that will cause subsequent dissatisfaction.

Figure 1 graphically illustrates how the theories of equity and discrepancy are combined in the model. The upper portion of the model infers that an individual integrates perceived personal job inputs, perceived inputs and outcomes of others, and perceived job characteristics to arrive at perceived amounts (outcomes) that should be received. The lower portion of the model shows how an individual combines his perceived outcomes of others with the outcomes he receives to arrive at his total perceived outcomes. Then the individual compares the perceived outcomes he should receive with his total perceived outcomes in determining his overall state of satisfaction or dissatisfaction.

Summary

This chapter has provided a selective literature review considered necessary to put this research effort in a proper context. First, some conceptual definitions of job satisfaction were provided. Generally, job satisfaction can be thought of as the mental state resulting from the discrepancy between the actual valued outcomes a person

receives from his job and the outcomes he feels he should receive. Job satisfaction can be measured by summing the different satisfactions an individual has with the various facets of his job. Job facets include dimensions such as achievement, importance, knowledge of results, personal growth and development, pay and benefits, promotion opportunity, and supervision. The psychological processes by which a person arrives at a state of satisfaction with a particular job facet can be theoretically explained by Lawler's (1973) Model of Facet Satisfaction. The model combines the motivational theories of equity and discrepancy to arrive at facet satisfaction.

For this research effort, the 35 facets of job satisfaction measured in the Air Force OAI were used as a general guide in identifying questions which measured job facet satisfaction in the AFMIG survey. The relationships between these measures of job facet satisfaction and overall job satisfaction are investigated to identify those variables which explain overall job satisfaction.

Chapter III

METHODOLOGY

The purpose of this chapter is to explain the method used for collecting the research data, the method used to establish the research samples, the computer program used to analyze the research data, the nature of variables analyzed, and the general research design.

Method Used for Collecting Data

The AFMIG survey of Air Force civilian employees was conducted during the summer of 1975. The sample was stratified by grade, and respondents were randomly selected. 17,110 respondents completed the questionnaire. 16,751 usable questionnaires were returned. A summary of sample demographics pertaining to the respondents who returned usable questionnaires follows:

| | <u>PERCENTAGE OF SAMPLE POPULATION</u> |
|------------------------------------|--|
| 1. GRADE CATEGORIES: | |
| I (WG1-4; GS1-3) | 10 |
| II (WG5-8; WL1-3; GS4) | 21 |
| III (WG9-10; WS1-3; WL4-6; GS5) | 25 |
| IV (WG11-12; WS4-6; WL7-10; GS6) | 9 |
| V (WG13; WS7-8; WL11-13; GS7) | 6 |
| VI (WG14-15; WS9-10; WL14-15; GS8) | 3 |
| VII (WS11-12; GS9) | 8 |
| VIII (WS13-14; GS10-11) | 7 |
| IX (WS15-16; GS12) | 6 |
| X (WS17-19; GS13-15) | <u>5</u> |
| | 17 |
| | 100 |

2. YEARS OF ACTIVE FEDERAL CIVILIAN SERVICE:

| | |
|------------------|----------|
| Less than 1 year | 4 |
| 1-5 years | 20 |
| 6-10 years | 17 |
| 11-15 years | 19 |
| 16-20 years | 11 |
| 21-25 years | 14 |
| 26-30 years | 9 |
| Over 30 years | <u>6</u> |
| | 100 |

3. EDUCATION:

| | |
|--------------------------|----------|
| Non-High School Graduate | 10 |
| High School Graduate | 39 |
| Some College | 37 |
| Bachelor Degree | 11 |
| Graduate Degree | <u>3</u> |
| | 100 |

4. RACE:

| | |
|-----------------------------|-----------|
| Black | 7 |
| Spanish or Mexican American | 6 |
| American Indian | 2 |
| Oriental American | 2 |
| White/Other | <u>83</u> |
| | 100 |

5. SEX:

| | |
|--------|-----------|
| Male | 65 |
| Female | <u>35</u> |
| | 100 |

6. SUPERVISOR:

| | |
|-----------------------------------|-----------|
| Those Having Military Supervisors | 25 |
| Those Having Civilian Supervisors | <u>75</u> |
| | 100 |

7. MARITAL STATUS:

| | |
|-------------------------|----|
| Married | 81 |
| Never Been Married | 8 |
| Divorced, Not Remarried | 8 |

Legally Separated
Widower/Widow

1
2

100

The questionnaire consisted of 144 questions. The first eighteen questions pertained to personal and organizational factors followed by questions that solicited opinions related to satisfaction and quality of Air Force life (QOAFL). The QOAFL factors measured were:

1. Economic Standard: Satisfaction of basic human needs such as food, shelter, clothing; the ability to maintain an acceptable standard of living.
2. Economic Security: Guaranteed employment; retirement benefits; insurance; protection for self and family.
3. Free Time: Amount, use and scheduling of free time alone or in voluntary associations with others; variety of activities engaged in.
4. Work: Doing work that is personally meaningful and important; pride in your work; job satisfaction; recognition for my efforts and my accomplishments on the job.
5. Leadership/Supervision: Has my interests and that of the Air Force at heart; approachable and helpful rather than critical; good knowledge of the job.
6. Equity: Equal opportunity in the Air Force; a fair chance at promotion; an even break in my job assignment selections.
7. Personal Growth: To be able to develop individual capacities; education/training; making full use of my abilities; the chance to further my potential.
8. Personal Standing: To be treated with respect; prestige; dignity; reputation; status.
9. Health: Physical and mental well-being of self and dependents; having illness and ailments detected, diagnosed, treated and cured; quality and quantity of health care services. (Manley et al., 1975, p. 3)

In addition, the survey included four questions that measured overall job satisfaction. These questions were from Hoppock's (1935) general job satisfaction blank, and were slightly modified to be more appropriate to Air Force respondents (Manley et al.). Despite their age, Hoppock's job satisfaction questions are still used frequently. The questions are straightforward ratings of overall job satisfaction and are easy to administer (Robinson, Althanasious, & Head, 1969). The modified questions have been used in Air Force research efforts since 1972 (Manley et al.). The questions were:

- (1) How much of the time do you feel satisfied with your job?
- (2) How well do you like your job?
- (3) How do you feel about changing your job?
- (4) How do you think you compare with others with respect to liking your job?

Seven possible answers, ranging from extremely negative (Response No. 1) to extremely positive (Response No. 7), were provided for each question. To compute the overall job satisfaction index, the answers to each of the four questions were summed. Thus, the indexes could take on scores ranging from 4 to 28. All responses to AFMIG survey questions plus the computed job satisfaction indexes were later stored on the ASD CDC 6600 computer system at Wright-Patterson Air Force Base.

Method Used to Establish
the Research Samples

Due to computer core limitation, the basic research sample size had to be reduced to 3,500 subjects. Accordingly, two research samples containing 3,500 subjects each were created. Hereafter these samples are referred to as the screening and validation samples. The screening and validation samples were created by using a computer program to randomly select 7,000 subjects from the AFMIG population sample of 16,751. The random process was weighted by the grade of subjects in the AFMIG population sample (see p. 17). The 7,000 subjects were evenly split within grade category to form the screening and validation samples (see Table 2). The research plan was to identify variables which explain the most variance in job satisfaction in the screening sample and cross-validate these variables as predictors of job satisfaction against the validation sample.

Computer Program Used to
Analyze Data

The computer program used to analyze the data was the Monitored Automatic Interaction Detection - Multivariate (MAID-M) program. Martin W. Gillo (1974), who developed the program, stated:

Statistically speaking MAID-M does the following: given that a set of predictor variables have been measured over a sample of subjects, the program lets the computer select and build-up in a step-wise fashion, the smallest number of predictors which can explain the

Table 2

RESEARCH SAMPLES

| GRADE CATEGORY | % TOTAL POPULATION | # IN SCREENING SAMPLE | # IN VALIDATION SAMPLE |
|-------------------|-----------------------|--------------------------|---------------------------|
| I | 10 | 350 | 350 |
| II | 21 | 735 | 735 |
| III | 25 | 875 | 875 |
| IV | 9 | 315 | 315 |
| V | 6 | 210 | 210 |
| VI | 3 | 105 | 105 |
| VII | 8 | 280 | 280 |
| VIII | 7 | 245 | 245 |
| IX | 6 | 210 | 210 |
| X | <u>5</u> | <u>175</u> | <u>175</u> |
| | 100 | 3,500 | 3,500 |

largest proportion of univariate or multivariate variance of the criterion variable(s). (p. 1)

Since the study was concerned with only one criterion variable, job satisfaction, the MAID-M program was always used in the univariate mode.

For a more practical description of MAID-M, consider one of the predictor variables in the present study, job freedom. The statement, "Are you given the freedom to do your job well?" was measured by five (K) responses ranging from (1) never to (5) always. MAID-M dichotomized the research sample along the five responses into four (K-1) two-level combinations. For each two-level combination, MAID-M then computed the magnitude of the univariate relationship with the dependent factor, job satisfaction. The first split of the total sample was made according to that combination that yielded the highest relationship. The computing and splitting process was then repeated on each of the subsamples obtained from the first split. A diagram of the process is shown in Figure 2.

A significant feature of MAID-M used in the research was the validity option. MAID-M is designed to provide validity estimates for computing a validity coefficient (C_V) for each level in the split-tree. The validity option allows one to replicate the results from one sample, using the same variables, the same splits, and the same split categories on a second sample. When this is done, one can

- S_g = subject group g
- n_g = number of subjects in group g
- M_{jg} = mean of criterion variable j in group g
- mc_r, g = MANOVA correlation ratio in group g using variable q_g as split variable and category k_g as split category
- cr_{jk} = univariate correlation ratio of criterion variable j in group g
- R_{1gk} = subject i 's response on variable q_g
- k_g = split category in group g
- q_g = predictor variable selected for basis of splitting group g into two sub-groups
- p = group insufficient for further splitting
- j = 1, 2, ..., P
- g = 1, 10, 11, ..., M

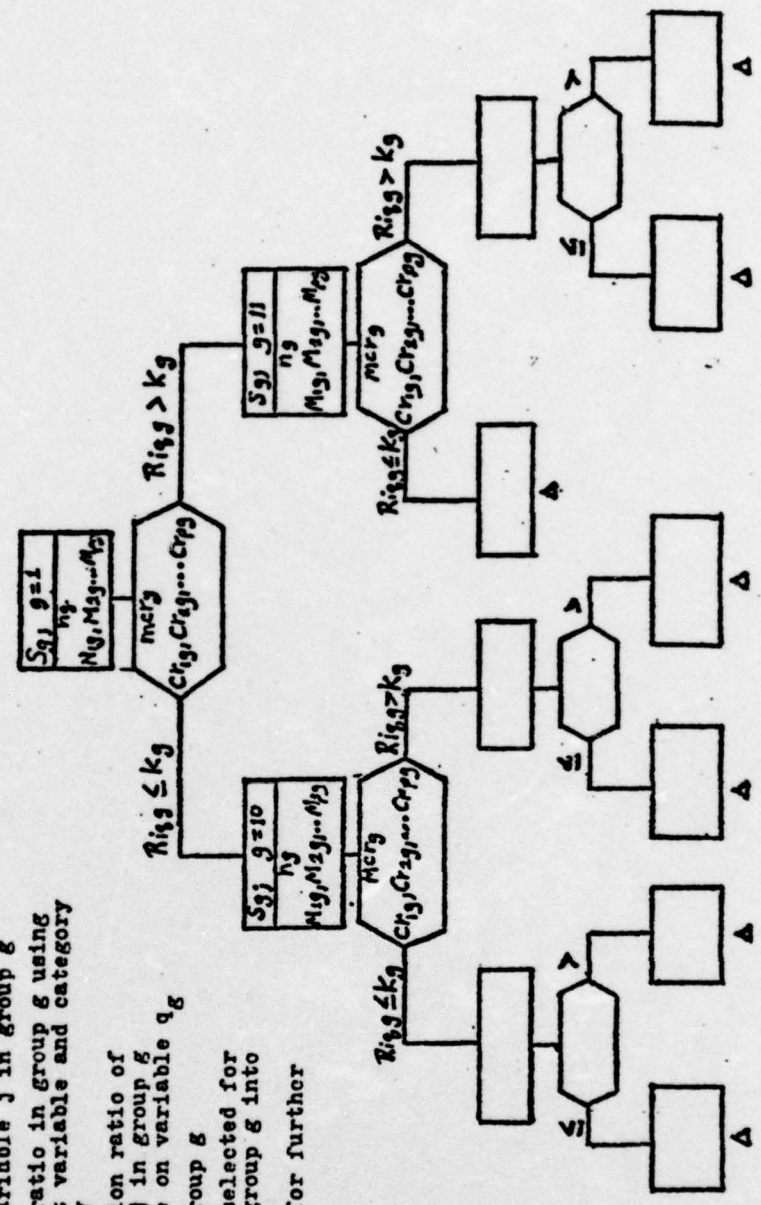


FIGURE 2 : Development of an original sample into a subsample tree with four levels. Splitting criterion is the maximal mc_r, g

look at the criterion variance accounted for by the splits in both samples and divide the total variance explained for each split-level in the second sample by the variance explained for each split-level in the first sample to arrive at the validity coefficient for each split-tree level. As Gillo (1974) pointed out, it is not known yet what good values for the coefficients are. However, the more accurate the replication of results from one sample on another sample, the closer C_v will be to the value 1.00. Thus, one can see when one should be cautious about the results. For a more strict interpretation of the MAID-M program operations, see Technical Report 74-58 (1974).

Nature of Factors Analyzed

Three categories of independent variables which the researchers thought might function as predictors of job satisfaction were identified in the AFMIG survey questionnaire. The categories were: demographic characteristics, Air Force Quality of Life Indicators, and job related variables. Variables comprising each category are presented in Tables 3, 4, and 5. Questions used in the AFMIG survey instrument to measure these independent variables may be found in Appendix A. The job satisfaction index was used as the criterion variable in the research.

Table 3

INDEPENDENT VARIABLES: DEMOGRAPHIC

| PREDICTOR VARIABLE | CORRESPONDING AFMIG SURVEY QUESTION(S) |
|--|---|
| 1. Grade Category | #4, #5 |
| 2. Years Civil Service | #6 |
| 3. Education Level | #7 |
| 4. Work Function | #8 |
| 5. Years Prior Active Military Service | #10 |
| 6. Age | #12 |
| 7. Supervisor, Military or Civilian | #14 |
| 8. Ethnic Group | #17 |
| 9. Sex | #18 |

Table 4

INDEPENDENT VARIABLES: AIR FORCE QUALITY OF LIFE INDICATORS

| <u>PREDICTOR VARIABLE</u> | <u>CORRESPONDING AFMIG SURVEY QUESTION</u> |
|-------------------------------|--|
| 1. Economic Standard | #128 |
| 2. Economic Security | #130 |
| 3. Free Time | #132 |
| 4. Work | #134 |
| 5. Leadership/Supervision | #136 |
| 6. Equity | #138 |
| 7. Personal Growth | #140 |
| 8. Personal Standing | #142 |
| 9. Health | #144 |

Table 5

INDEPENDENT VARIABLES: JOB RELATED

| PREDICTOR VARIABLE | CORRESPONDING AFMIG SURVEY QUESTION |
|--|--|
| 1. Job Challenge | # 38 |
| 2. Preparation for Greater Responsibility | # 40 |
| 3. Desire for Greater Responsibility | # 41 |
| 4. Participation in Non-related Job Activities | # 48 |
| 5. Military Leadership | # 93 |
| 6. Influence of Supervisor | # 94 |
| 7. Job Freedom | # 95 |
| 8. Feedback from Supervisor | # 96 |
| 9. Establishment of Performance Objectives | # 97 |
| 10. Job Recognition | # 98 |
| 11. Keeping Informed | # 99 |
| 12. Supervision Fairness in Resolving Complaints | #103 |
| 13. Performance Evaluation by Supervisor | #104 |
| 14. Promotion Opportunity | #105 |
| 15. Training | #117 |
| 16. Opportunity to Work with People | #118 |

General Design

The primary objective of the research was to search for those independent variables that accounted for the greatest amount of variance in the criterion variable, job satisfaction. The MAID-M computer program was used to select the most important variables from each category (demographic, AFQOLI's and job related). For selection, an independent variable had to account for at least 1.0 per cent of the variance in job satisfaction. Independent variables not meeting that standard were dropped from further analysis. Next, the independent variables meeting the standard were combined into one category. Then the category of combined independent variables was analyzed to identify those which explained the most variation in job satisfaction. Initially, separate MAID-M program runs were made examining the relationships between demographic characteristics and job satisfaction, AFQOLI's and job satisfaction, job related variables and job satisfaction, and the combined variables and job satisfaction. The results obtained from these MAID-M program runs were then forced on the validation sample for cross-validation.

The second research objective was to compare the results of research objective number one with job satisfaction research findings on Air Force military personnel. This was accomplished by comparing variables explaining job

satisfaction for civilian employees with those found by Thompson (1975) in his study on job satisfaction of Air Force military personnel.

Summary

The purpose of this chapter was to explain the research methodology. The methodology was comprised of a number of steps. First, the data used was gathered by the Air Force Management Improvement Group in a survey of Air Force civilian employees during the summer of 1975. Responses (N = 16,751) to the survey were optically scanned and stored on the ASD CDC 6600 computer at Wright-Patterson Air Force Base. The researchers used a computer program to randomly create two research samples from the AFMIG survey data. The samples, each composed of 3,500 respondents, were designated as the screening sample and the validation sample.

After the research samples were established, a statistically advanced computer program (MAID-M) was employed to analyze the relationships between selected independent variables and job satisfaction in the screening sample. The selected independent variables were divided into three categories: demographic variables, Air Force Quality of Life Indicators and job related variables. The most important variables (those which explained variation in job satisfaction) were identified and combined into one category. Then a final computer program run was made on

the screening sample using the variables in the combined category as predictors of job satisfaction. All results obtained from the computer analysis on the screening sample were forced on the validation sample in order to estimate the validity of the findings.

Chapter IV

RESULTS

In this chapter results of the research are presented. Initially, the results of separate MAID-M computer program analyses were made on demographics, Air Force Quality of Life Indicators, and job related variables as predictors of Air Force civilian employee job satisfaction. The most significant variables found in these analyses were then combined and used as one category of predictor variables. The overall results identify those variables in the AFMIG survey which explain the largest variance in job satisfaction for Air Force civilian employees. At various points in the presentation of results, comparison is made with the findings of Thompson (1975) which analyzed these same data for Air Force military personnel.

Data Presentation of MAID-M Analysis

Figure 3 shows the format for the display of the MAID-M analysis data. Each box in the split-tree specifies the amount of variance in job satisfaction explained by the split (R^2) and the mean value of job satisfaction (J.S.) for that subgroup. The predictor variable on which the split is made is listed below the box. Scale values which refer back to responses of the original question are presented above

the predictor variable. The bottom level of the tree contains the residual group means. Validity coefficients for each level of the split-tree appear in the upper left hand corner of the figure.

At appropriate places in the chapter, comment will be made about the total variance explained (R^2) in job satisfaction by predictor variables. The variance explained is expressed as a percentage, and always in terms of variation space with respect to the total sample. Therefore, percentages in the split-tree boxes may be summed to determine total variance explained by all predictor variables or any single variable.

Demographic Variables As
Predictors of Job
Satisfaction

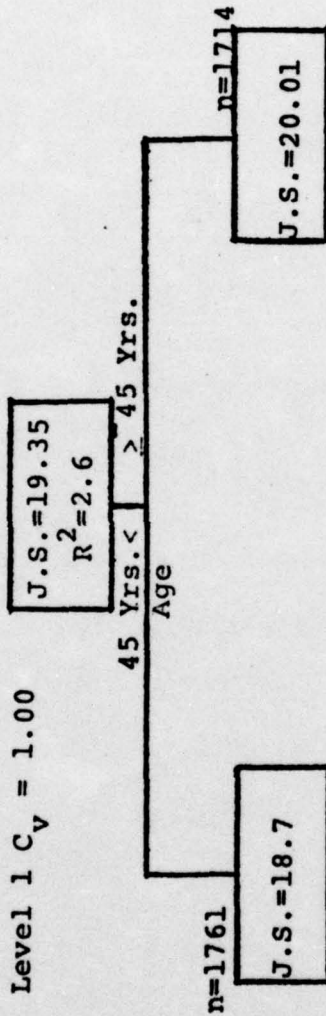
The following list of demographic variables were used as predictors of job satisfaction in the first MAID-M analysis.

1. Grade category
2. Years civil service
3. Education level
4. Work function
5. Years prior active military service
6. Age
7. Supervisor, military or civilian
8. Ethnic group
9. Sex

Results obtained from the MAID-M analysis on demographic variables show they are relatively insignificant predictors of job satisfaction for Air Force civilian employees. Or perhaps a more accurate statement would be: of the demographic variables of interest to the researchers, only age explained any variance in job satisfaction. Age explained a total of 2.60% of the variance in job satisfaction and caused the only split in the screening sample around mean job satisfaction (see Figure 4). The split indicates civilian employees falling into the subgroup of 45 years and older are relatively more satisfied than the employees falling in the 44 years or less subgroup.

When the results of the demographic analysis on the screening sample were cross-validated on the validation sample, a validity coefficient of 1.00 was obtained for the first level split. This indicates 100% stability of variance explained (2.60%) in job satisfaction by the predictor variable age in the two research samples. Consequently, one can generalize about the Air Force civilian population with a high degree of confidence that of the nine demographic variables analyzed in the research only age shows any impact on job satisfaction.

A comparison of the results obtained from the analysis of demographic variables as predictors of job satisfaction for civilian employees with a similar analysis



J.S. = Mean job satisfaction of subgroup.

R^2 = Explained variance of job satisfaction.

Figure 4. Demographic Variables as Predictors of Job Satisfaction

made by Thompson (1975) on Air Force military personnel revealed similar results. Thompson found that:

Splitting the population (military) on the basis of race, sex, or any other demographics will not provide much insight into the reasons for variations in Job Satisfaction scores. (p. 43)

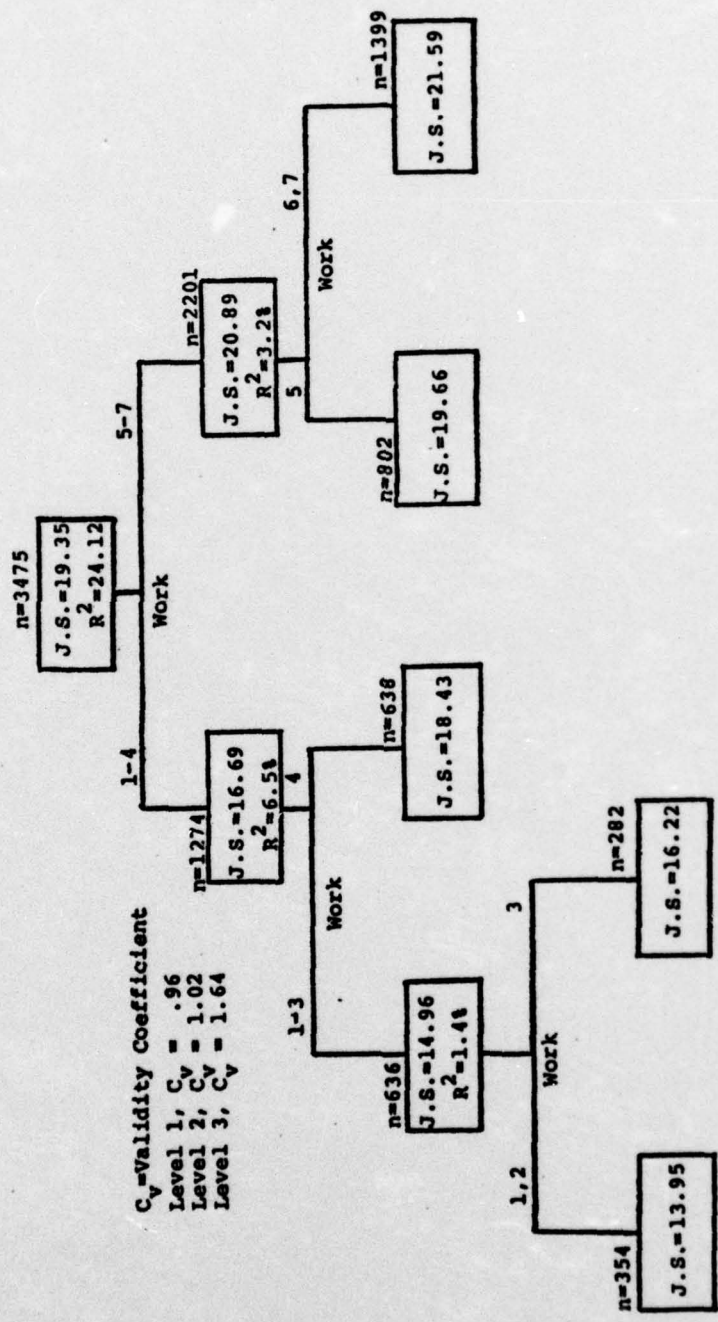
Air Force Quality of Life
Indicators

The nine Air Force Quality of Life indicators included in the AFMIG survey were:

1. Economic Standard
2. Economic Security
3. Free Time
4. Work
5. Leadership/Supervision
6. Equity
7. Personal Growth
8. Personal Standing
9. Health

Scale values for all Air Force Quality of Life indicators range from 1 (highly dissatisfied) to 7 (highly satisfied).

From the category of Air Force Quality of Life indicators the predictor variable "work" (Question #134) dominated all other variables. Figure 5 shows that work caused every split in the split-tree and explained a total of 35.27% of the variation in job satisfaction for Air Force civilian employees in the screening sample.



C_v = Validity Coefficient
 Level 1, $C_v = .96$
 Level 2, $C_v = 1.02$
 Level 3, $C_v = 1.64$

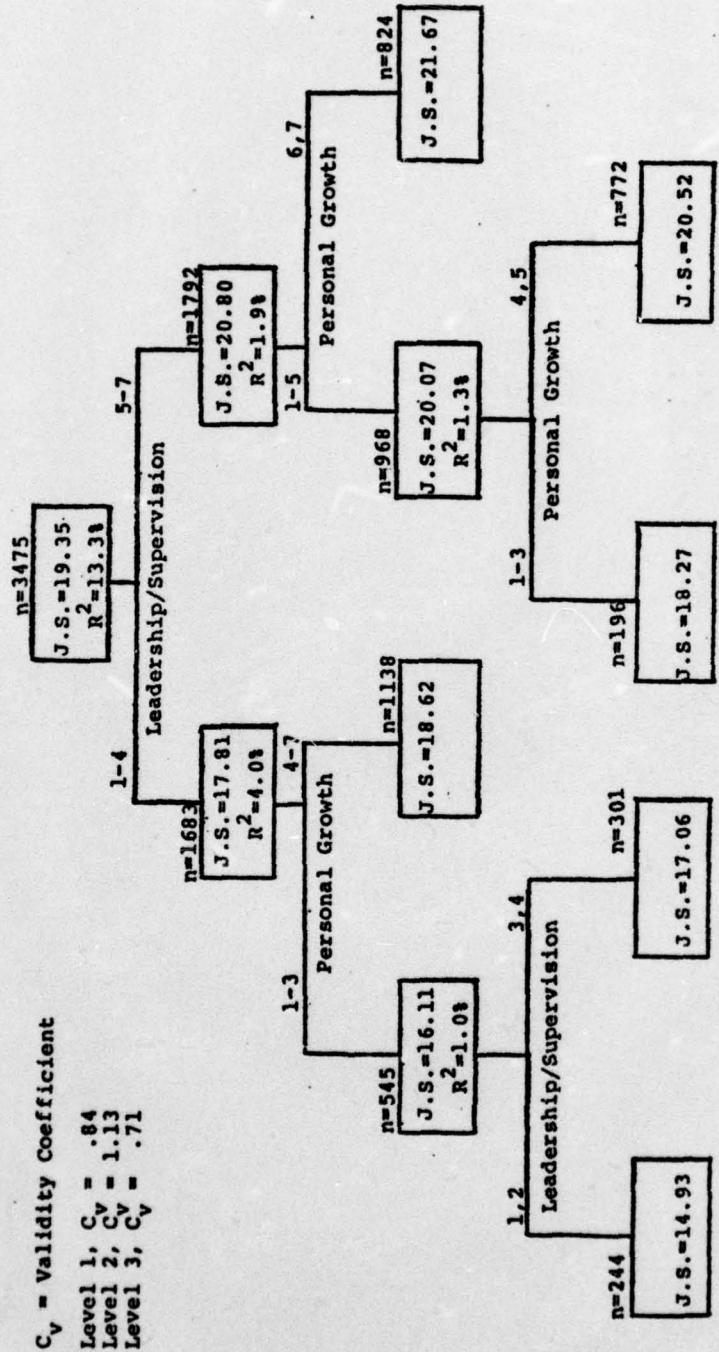
J.S. = Mean job satisfaction of subgroup
 R^2 = Explained variance of job satisfaction

Figure 5. Air Force Quality of Life Indicators as Predictors of Job Satisfaction

Replication of the results from the screening sample on the validation sample provided very high validity coefficients for levels one and two ($C_v = .96$ and 1.02) but less for level three ($C_v = 1.64$) in the split tree. Actually, "work" explained more variation in job satisfaction in the validation sample at the second and third levels than at the same levels in the screening sample.

Thompson (1975) also found work to be a significant variable in explaining the variation in job satisfaction of military personnel. However, Thompson dropped work as a predictor of job satisfaction. He concluded that work satisfaction and job satisfaction are similar measures with job satisfaction being more all-encompassing. The researchers agreed with this conclusion and decided to exclude the variable from further analyses. Thus, another MAID-M analysis using the Air Force Quality of Life indicators (without work) as predictors of job satisfaction was made.

When work was deleted, leadership/supervision and growth became the most significant predictors of job satisfaction (see Figure 6). Satisfaction with leadership/supervision was the most significant predictor, explaining 14.29% of the variation in job satisfaction. Personal Growth (to be able to develop individual capacities) explained 7.25% of the variance. Cross-validation of



J.S. = Mean job satisfaction of subgroup
 R^2 = Explained Variance of job satisfaction

Figure 6. Air Force Quality of Life Indicators (W/O Work) as Predictors of Job Satisfaction

these results gave validity coefficients of .84, 1.13 and .71 for the three split-levels in the split-tree.

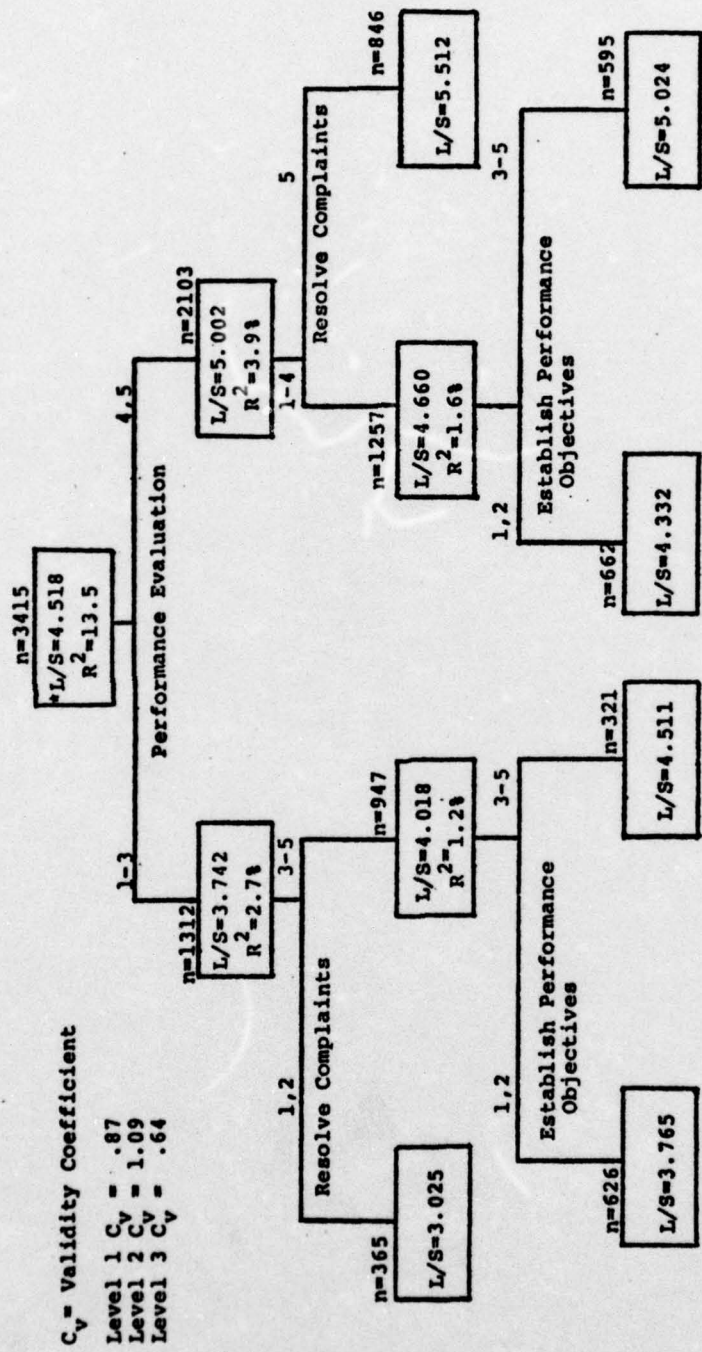
Since leadership/supervision surfaced as a relatively important Quality of Life indicator, it was decided to do some further exploratory research on this variable. The researchers were especially interested in identifying independent variables which impact employee satisfaction with leadership/supervision. Consequently, all variables in the job related category (see Table 6) which measured satisfaction with facets of supervision were used as predictors in a MAID-M analysis using leadership/supervision as the criterion variable. Results of this analysis (see Figure 7) showed that three variables explained a total of 22.85% in leadership/supervision variance. Scale values for the three variables are explained in Table 7. Satisfaction with supervision's fairness and objectivity in performance evaluation was the most significant factor, explaining 13.46% of the variation. Fairness and objectiveness of supervision in resolving complaints and grievances explained a total of 6.58% of the variance. The least significant variable was frequency of supervision meeting with employees to establish performance objectives. This variable explained only 2.81% of the variance in satisfaction with leadership/supervision.

When the results of the leadership/supervision analysis were cross-validated on the validation sample,

Table 6

INDEPENDENT VARIABLES: FACETS
OF SUPERVISION

| Predictor Variable | Corresponding AFMIG Survey Question |
|--|-------------------------------------|
| 1. Military Leadership | # 37 |
| 2. Feedback from Supervisor | # 96 |
| 3. Establishment of Performance Objectives | # 97 |
| 4. Job Recognition | # 98 |
| 5. Fairness in Resolving Complaints | #103 |
| 6. Performance Evaluation | #104 |



*L/S = Mean satisfaction with leadership/supervision
 L/S = Mean satisfaction of subgroup with leadership supervision
 R^2 = Explained variance of leadership/supervision

Figure 7. Facets of Supervision as Predictors of Satisfaction with Leadership/Supervision

Table 7

SCALE VALUES OF FACETS OF SUPERVISION

1. SUPERVISOR FAIR AND OBJECTIVE IN EVALUATING PERFORMANCE

- (1) Never
- (2) Seldom
- (3) Sometimes
- (4) Frequently
- (5) Always

2. SUPERVISORS FAIR AND OBJECTIVE IN RESOLVING COMPLAINTS AND GRIEVANCES

- (1) Never
- (2) Seldom
- (3) Sometimes
- (4) Frequently
- (5) Always

3. FREQUENCY OF MEETING WITH SUPERVISOR TO SET PERSONAL PERFORMANCE OBJECTIVES

- (1) Never
 - (2) Seldom
 - (3) Sometimes
 - (4) Frequently
 - (5) Very Frequently
-

the validity coefficients were good for the first and second level splits (.87 and 1.09) respectively). However, the validity coefficient for the third level splits was relatively low at $C_v = .64$. This indicated that the factor causing the splits at the third level, frequency of supervision in establishing performance objectives, was not reliable and should not be considered a valid predictor of satisfaction with leadership/supervision. Only the variables causing splits at the first and second levels in the split-tree, which pertained to fairness and objectiveness of supervision in performance evaluations and in resolving complaints and grievances, proved to be significant in both samples.

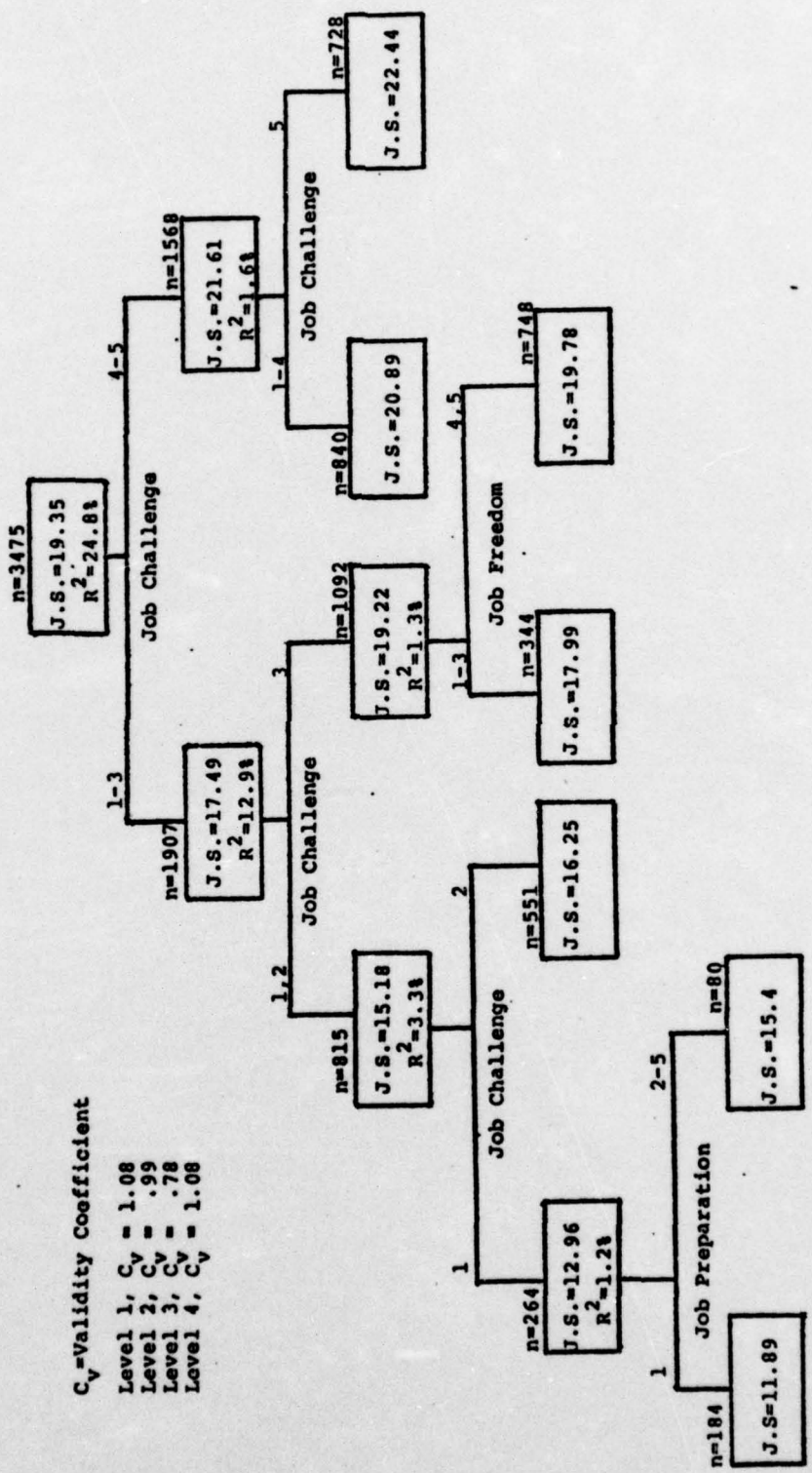
Job Related Variables as
Predictors of Job
Satisfaction

Next, those variables measured in the AFMIG survey which pertained to employees' satisfaction with various facets of their jobs were analyzed as predictors of overall job satisfaction. The job related variables analyzed were:

- (1) Job Challenge
- (2) Job Preparation for Greater Responsibility
- (3) Desire for Greater Responsibility
- (4) Participation in Non-related Job Activities
- (5) Military Leadership

- (6) Influence of Supervisor
- (7) Job Freedom
- (8) Feedback from Supervisor
- (9) Establishment of Performance Objectives
- (10) Job Recognition
- (11) Keeping Informed
- (12) Supervisor Fairness in Resolving Complaints
- (13) Performance Evaluation by Supervisor
- (14) Promotion Opportunity
- (15) Training
- (16) Opportunity to Work with People

Figure 8 presents the split-tree data of the MAID-M analysis. The scale values of predictor variables causing splits in Figure 8 are explained in Table 8. The predictor variable job challenge was found to be clearly the most significant variable explaining 41.04% of the variation in job satisfaction of civilian employees. The only other variables explaining variation in job satisfaction were job preparation for greater responsibility and job freedom. Job preparation for greater responsibility explained 2.80% of the variance and job freedom explained only 1.17%. Cross-validation of the results on the validation sample provided generally good validity coefficients. The validity coefficients for the four split-levels in the split-tree were 1.08, .99, .78 and 1.08 respectively.



C_v=Validity Coefficient
 Level 1, C_v = 1.08
 Level 2, C_v = .99
 Level 3, C_v = .78
 Level 4, C_v = 1.08

J.S.=Mean job satisfaction of subgroup
 R²=Explained variance of job satisfaction

Figure 8. Job Related Variables as Predictors of Job Satisfaction

Table 8

SCALE VALUES OF JOB RELATED PREDICTOR VARIABLES

1. **JOB CHALLENGE**
 - (1) Boring
 - (2) Not Challenging
 - (3) Somewhat Challenging
 - (4) Challenging
 - (5) Very Challenging

2. **JOB FREEDOM**
 - (1) Never
 - (2) Seldom
 - (3) Sometimes
 - (4) Often
 - (5) Always

3. **JOB PREPARATION FOR GREATER RESPONSIBILITY**
 - (1) Definitely No
 - (2) Probably No
 - (3) Undecided
 - (4) Probably Yes
 - (5) Definitely Yes

4. **DESIRE FOR GREATER RESPONSIBILITY**
 - (1) Definitely No
 - (2) Probably No
 - (3) Not Sure

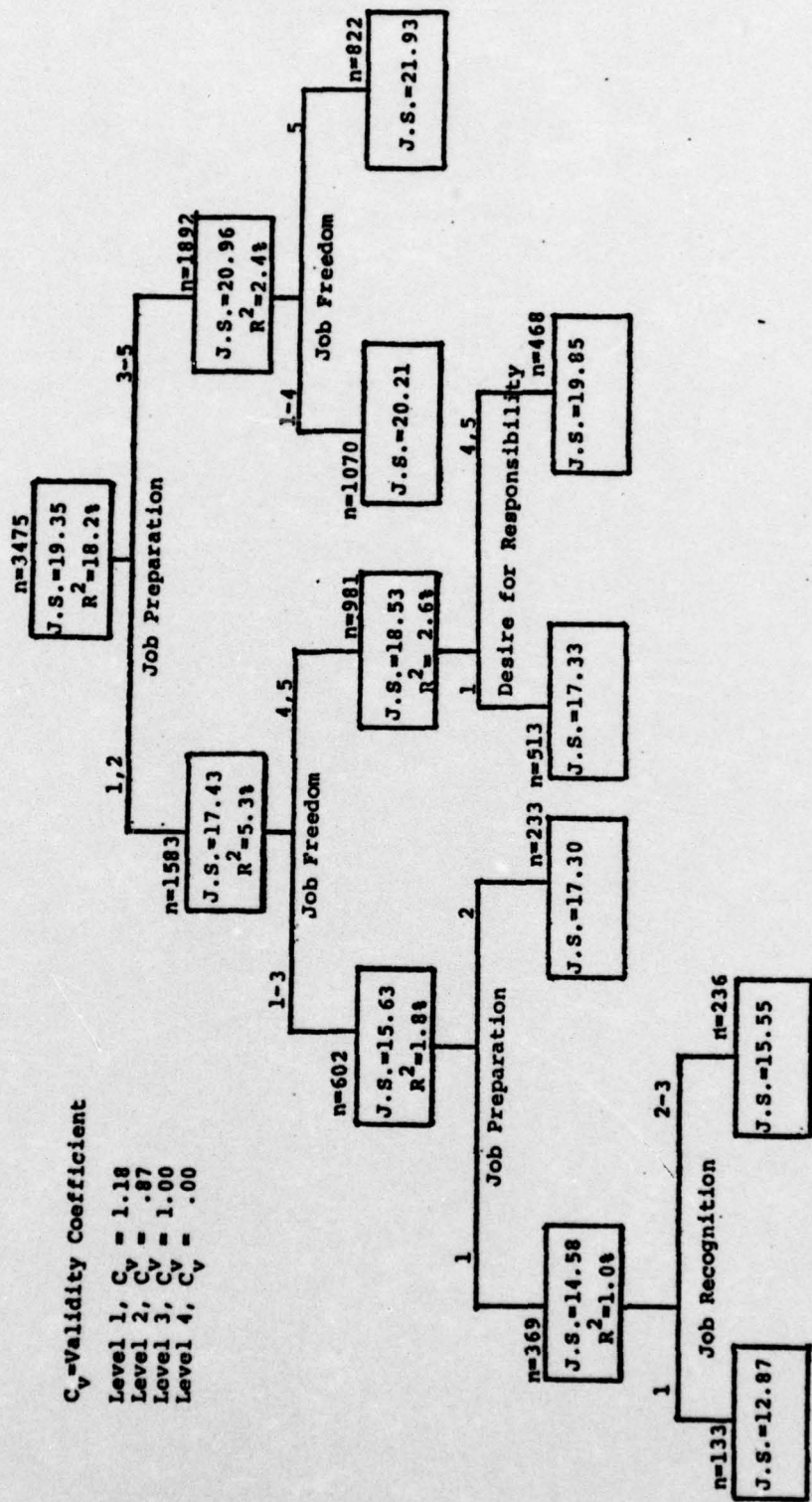
Table 8 (Continued)

- (4) Probably Yes
 - (5) Definitely Yes
 - 5. JOB RECOGNITION
 - (1) Never
 - (2) Seldom
 - (3) Sometimes
 - (4) Frequently
 - (5) Always
-

Job challenge was also found by Thompson (1975) to be the variable having the greatest influence on job satisfaction of military personnel. In addition, job preparation for greater responsibility and job freedom were also found to be important determiners of job satisfaction for the military. The three variables combined explained 61.49% of the total variation in job satisfaction of military personnel. The AFMIG survey questions which measured these factors were the same in both the military and civilian surveys.

From the category of job related variables, job challenge was clearly the most significant individual variable affecting the job satisfaction of Air Force civilian employees. However, there were a number of other variables of interest to the researchers in the job related category which might have surfaced if it were not for the overpowering dominance of job challenge in explaining variance. With this in mind, it was decided to make a second MAID-M analysis using job related variables as predictors of job satisfaction without job challenge.

The results of the second MAID-M analysis of job related variables are shown in Figure 9. Without the presence of job challenge, job preparation for greater responsibility and job freedom assumed greater significance in explaining job satisfaction variance (20.03% and 7.68% respectively). This had been expected because both



C_v = Validity Coefficient
 Level 1, $C_v = 1.18$
 Level 2, $C_v = .87$
 Level 3, $C_v = 1.00$
 Level 4, $C_v = .00$

J.S. = Mean job satisfaction of subgroup
 R^2 = Explained variance of job satisfaction

Figure 9. Job Related Variables Without Job Challenge as Predictors of Job Satisfaction

of these variables had assumed some degree of importance in the first analysis. New variables explaining job satisfaction in the second analysis were desire for greater responsibility and job recognition. However, desire for greater responsibility contributed only 2.60% in variance explained and job recognition only 1.00%. Although these two variables explained only a small portion of the variation in job satisfaction, they combined with the variables of job preparation for greater responsibility and job freedom to explain an overall total of 31.39% variation in job satisfaction.

Further inspection of Figure 9 shows an interesting combination of splits down the far left side of the split-tree ending in a residual subgroup of 133 lowly satisfied employees. The mean job satisfaction for this subgroup was only 12.87, or almost 34% less than the screening mean job satisfaction score of 19.35. The split-tree indicates that this group's dissatisfaction with their job preparation for greater responsibility, job freedom and job recognition contributed to their low job satisfaction scores.

Replication of the results from this second analysis of job-related variables produced relatively good validity coefficients (1.18, .87 and 1.00 respectively) for split-tree levels one, two, and three. The results could not be cross-validated at the fourth level ($C_v = 0$). This indicated that job recognition, which caused the split

at the fourth level, does not consistently explain job satisfaction for civilian employees.

Combined Variables as
Predictors of Job
Satisfaction

After completion of the analyses of demographics, Quality of Life Indicators, and job related variables as predictors of job satisfaction, the most significant predictors from each category were combined. Table 9 shows the combined category of variables.

Table 9

COMBINED VARIABLES AS PREDICTORS
OF JOB SATISFACTION

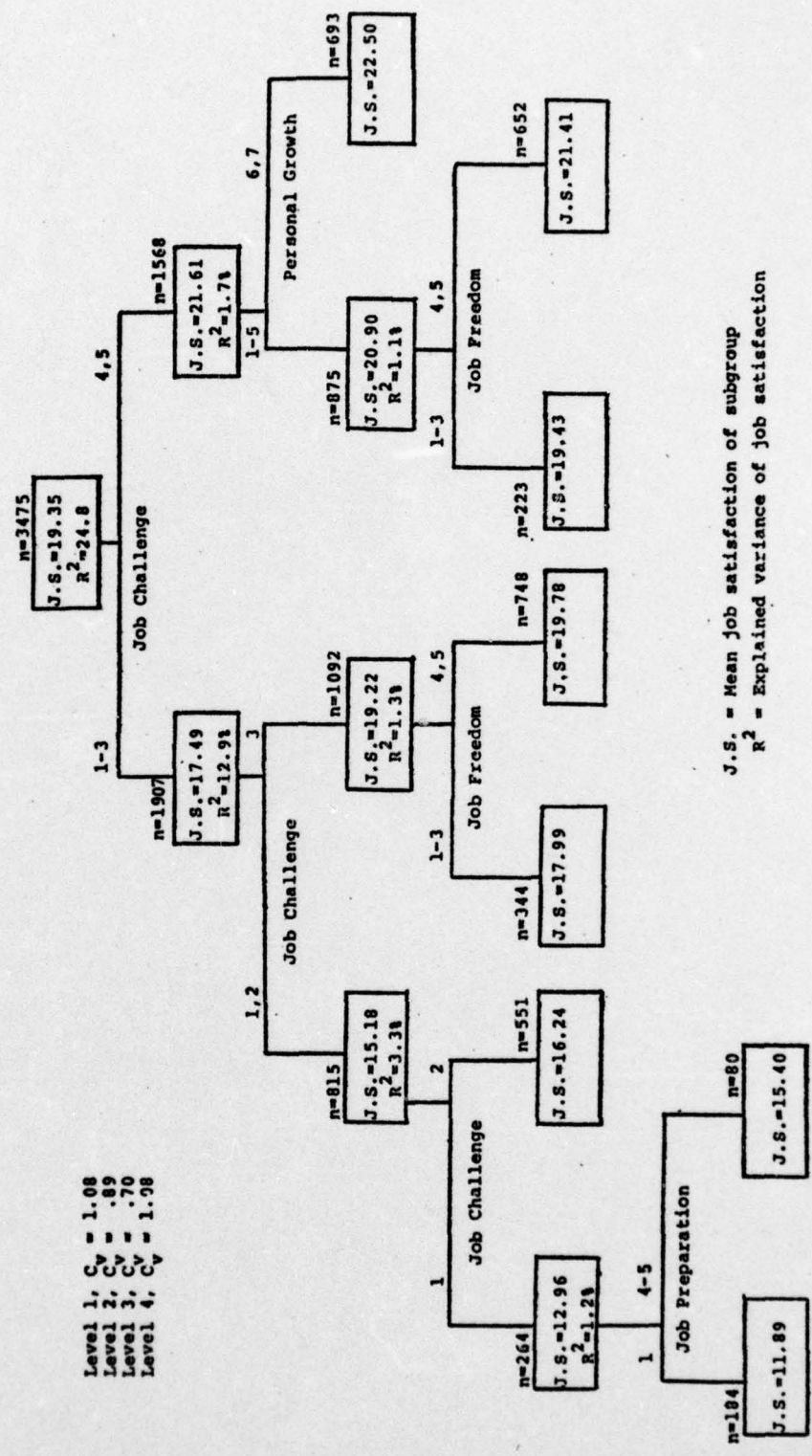
| Predictor | AFMIG Question |
|---------------------------|----------------|
| 1. Age | # 12 |
| 2. Job Challenge | # 38 |
| 3. Job Preparation | # 39 |
| 4. Job Freedom | # 95 |
| 5. Leadership/Supervision | #136 |

The intent of the research at this point was to use the combined category of variables as predictors of job satisfaction. The researchers expected job challenge to produce the most dramatic results since it had proven to be the most powerful predictor in all the MAID-M analyses

to date. On the other hand, it was uncertain as to which of the other variables in the combined category would assume importance in explaining job satisfaction. Those variables surfacing to explain job satisfaction would be considered the most significant determinants of civilian employee job satisfaction in the AFMIG Survey.

Figure 10 shows the analysis of the combined variables. As expected, job challenge was easily the most significant variable, explaining 41.04% of the variance in job satisfaction. In addition to job challenge, three other variables surfaced. Job Freedom explained 2.39% of the variation in job satisfaction, personal growth explained 1.67%, and job preparation for greater responsibility explained 1.17%. The four variables combined to explain 46.27% in job satisfaction variance. The two variables of age and leadership/supervision failed to explain the variation in job satisfaction.

The split-pattern on the left side of the split-tree (Figure 10) shows that dissatisfaction with job challenge and job preparation for greater responsibility resulted in a group ($n = 184$) of employees with the lowest mean job satisfaction score ($\bar{X} = 11.89$). While on the right side of the split-tree the most highly satisfied group ($n = 693$) of employees (mean job satisfaction score = 22.50) expressed high satisfaction with job challenge and personal growth.



Level 1, $C_v = 1.08$
 Level 2, $C_v = .89$
 Level 3, $C_v = .70$
 Level 4, $C_v = 1.98$

J.S. = Mean job satisfaction of subgroup
 R^2 = Explained variance of job satisfaction

Figure 10. Combined Variables as Predictors of Job Satisfaction

Again, as had occurred throughout most of the research, cross-validation of the results obtained from the screening sample on the validation sample provided generally good validity coefficients. Validity estimates for the first and fourth level splits were very good ($C_V = 1.08$) while the second and third level splits had validity coefficients of $C_V = .84$ and $C_V = .70$ respectively.

Summary of MAID-M Analysis

Inspection of the split-trees show that demographic variables assume little importance in explaining the job satisfaction of civilian employees. Age surfaced as the only demographic variable in the MAID-M analysis. However, when age was combined with other significant variables, as a predictor of job satisfaction, it assumed no importance.

The initial MAID-M analysis of Air Force Quality of Life indicators as predictors of job satisfaction found work satisfaction to be the only indicator explaining variance in job satisfaction. But when this variable was excluded from further study because of its similarity with job satisfaction, two other Quality of Life indicators assumed importance: leadership/supervision and personal growth. Leadership/supervision was clearly the most dominant of the two.

Job challenge emerged as the most powerful variable in explaining job satisfaction when the category of job related variables was analyzed. Overall, high job challenge contributed to high job satisfaction and perceived low job challenge explained lower job satisfaction scores. Other variables emerging from the job related category were job preparation for greater responsibility and job freedom. Initially these variables explained only a small portion of the variation in job satisfaction. However, when job related variables were analyzed without job challenge, these variables were much more powerful in explaining job satisfaction.

A final MAID-M analysis was made on a category of combined variables which had emerged as significant in the earlier analyses. The combined category was comprised of the factor's age, leadership/supervision, personal growth, job challenge, job preparation for greater responsibility, and job freedom. From the combined category of variables, job challenge again emerged as the most powerful predictor of job satisfaction. Other factors explaining job satisfaction in this analysis (in the order of their importance) were job freedom, personal growth, and job preparation for greater responsibility.

Overall, replications of the results obtained from MAID-M analyses of the screening sample (n = 3,500) appeared to be successful when forced on the validation

sample ($n = 3,500$). Twenty of the 22 validity coefficients computed for the split-levels in the MAID-M analyses ranged from $C_V = .70$ to $C_V = 1.18$ (for 100% accuracy between samples, $C_V = 100$). The highest coefficient was 1.64 (more variation explained in second sample than first sample at this split-level) and the lowest was 0 (results from first sample could not be replicated on second sample).

Finally, the variables found to be important in explaining job satisfaction for civilian employees are basically the same factors important to military personnel job satisfaction. Thompson (1975) found job challenge, job preparation for greater responsibility, and job freedom to be the most important determinants of military job satisfaction. The same three factors were found to be important to civilian employees as well. However, one additional variable, personal growth, assumed some importance in determining civilian employee job satisfaction.

Chapter V

CONCLUSIONS

The purpose of the final chapter is to present the researchers' conclusions of the research results. First, comparisons of the research results with the research objectives are made. Second, a limitation of the research is discussed. Third, implication of the research results for Air Force management is presented. And finally, recommendations for further research are given.

Comparison of Research Results with Research Objective One

The first objective of the research was to identify the major determinants of job satisfaction for Air Force civilian employees. In order to accomplish this objective, a total of 34 independent variables from three separate categories were analyzed as predictors of Air Force Civilian employee job satisfaction. The three categories of predictor variables were demographic characteristics, Air Force Quality of Life indicators and job related variables. Analyses were conducted on each category. Then, the most significant predictor variables from each category were combined and analyzed as predictors of civilian employee job satisfaction. Conclusions on each analysis performed follows.

Analysis of Demographics and Job Satisfaction.

The first analysis examined demographic variables as predictors of job satisfaction. Age was the only demographic variable examined which explained a portion of the variation in job satisfaction. It appears that as civilian employees get older, their satisfaction with their jobs increases. Similar findings have been made in other studies of the relationship between age and job satisfaction. It is generally reported in the literature that job satisfaction tends to form a U-shaped curve as age increases. That is, as age increases, job satisfaction shows an initial decline for younger employees and then gradually increases in a curvilinear manner with age (Lawler, 1973). Overall, the research results indicate that, with the exception of age, demographic characteristics of Air Force civilian employees are not determinants of job satisfaction.

Analysis of Air Force Quality of Life Indicators and Job Satisfaction. Air Force Quality of Life indicators were used as predictors of job satisfaction in the second analysis. The Air Force Quality of Life indicators are general measures of the satisfaction civilian employees have with different facets of their lives. Two indicators emerged as important predictors of job satisfaction from this category: satisfaction with Air Force leadership/

supervision and personal growth. Satisfaction with leadership/supervision was the stronger of the two.

In examining six facets of leadership/supervision, it was found that fairness and objectiveness of supervisors were very important to civilian employees. More specifically, the fairness and objectiveness of supervisors in evaluating employee performance and in resolving employee complaints and grievances surfaced as the most significant predictors of satisfaction with leadership/supervision. Although there are obviously many more facets of supervision than the six used in the analysis, the perceived fairness and objectiveness of supervision would perhaps influence employee satisfaction as much or more than any other facet. Fairness and objectiveness are characteristics so basic to good leadership/supervision that maybe they are often overlooked. However, the findings in the present study indicate that civilian employees think fairness and objectiveness of their supervisors are especially important to their overall job satisfaction. Also, job recognition was found to explain some of the civilian employee satisfaction with leadership/supervision. However, job recognition explained such a small portion of variation in satisfaction with leadership/supervision, it could not be cross-validated as a significant factor. This was an unexpected result. Job recognition was expected to be a more powerful predictor of satisfaction with

leadership/supervision and overall job satisfaction. The study of Herzberg, Mausner, and Snyderman (1959) found job recognition to be a very important determinant of job satisfaction. Therefore, even though job recognition proved insignificant in the present research, it should not be discarded as insignificant to Air Force civilian employee job satisfaction without further study.

In addition to satisfaction with leadership/supervision, satisfaction with personal growth (to be able to develop individual capacities) also surfaced from the category of Air Force Quality of Life indicators to explain job satisfaction. This suggests that job satisfaction is influenced by employees' perceived opportunity to achieve personal growth in their jobs. It also suggests that jobs should be designed in such a manner that they allow employees to experience personal growth and achieve their higher-order needs.

Analysis of Job Related Variables and Job Satisfaction. The third analysis considered job related variables as predictors of job satisfaction. From this analysis, satisfaction with job challenge emerged clearly as the most important predictor of civilian employee job satisfaction. In fact, it explained more variation in job satisfaction than any other variable analyzed in the research. The demonstrated strength of job challenge in

explaining job satisfaction of civilian employees prompts one to raise questions about this important variable. What makes a job challenging? Does it require setting the goals of a job high enough where the incumbent must extend his personal capabilities in order to accomplish the goals and feel satisfaction from his accomplishments? Or, does it require creating an unstructured job around many unrelated tasks allowing the incumbent to rise to his own level of competence? In all probability there are many factors that make a challenging job, and a challenging job is perceived differently by each individual. Identification of those general factors which make a job challenging for Air Force civilian employees would be a major research effort in itself.

When job challenge was removed from the category of job related variables, satisfaction with job preparation for greater responsibility became the most important predictor of civilian employee job satisfaction. No doubt, job preparation for greater responsibility is important only to those employees who want greater responsibility than they currently have. Therefore, it is safe to assume, based on the research results, that many employees want more responsibility. For these employees, the extent to which their jobs are preparing them for greater responsibility is a factor contributing to their job satisfaction or dissatisfaction.

In addition to job challenge and job preparation for greater responsibility, satisfaction with job freedom surfaced as a significant predictor of job satisfaction from the analysis of job related variables. It could be seen that the combination of satisfaction with job freedom (the freedom to do one's job well) and satisfaction with job challenge produced the most satisfied subgroups of employees in the analysis. This indicates that employees want challenging jobs plus the freedom to accomplish their jobs in the best manner they think is appropriate. Perhaps some employees see job freedom as a factor which makes their jobs more challenging. For example, job freedom to some employees may mean a personal challenge of coming up with their own ideas and implementing those ideas to accomplish their work. The research findings seem to imply that, when possible, jobs should be unstructured, allowing employees the freedom to accomplish their jobs in the best manner they see fit.

Analysis of Combined Variables and Job Satisfaction. In the three category analyses, the variables of age, leadership/supervision, personal growth, job challenge, job preparation for greater responsibility and job freedom had surfaced as significant to Air Force civilian employee job satisfaction. Subsequently, these six significant variables were combined into one category and analyzed as predictors of job satisfaction. From this analysis, four

variables emerged as major determinants of civilian employee job satisfaction. As had happened earlier in the analysis of job related variables, job challenge was the over-powering explainer of job satisfaction. The other three independent variables explaining job satisfaction were job freedom, personal growth, and job preparation for greater responsibility. Satisfaction with job challenge and personal growth produced the most satisfied group of employees. Conversely, dissatisfaction with job challenge and job preparation for greater responsibility resulted in the least satisfied employees.

Summary. In searching for the major determinants of Air Force civilian employee job satisfaction, six independent variables were found to be significant in explaining employee job satisfaction. The six variables were: age, leadership/supervision, personal growth, job challenge, job preparation for greater responsibility and job freedom. However, when the six variables were combined and analyzed as predictors of civilian job satisfaction, four variables assumed the most importance in explaining job satisfaction. They were job challenge, job preparation for greater responsibility, job freedom and personal growth. Although job challenge was clearly the most dominant of the four variables, all four are considered major determinants of Air Force civilian employee job satisfaction.

Comparison of Research
Results with Research
Objective Two

The second research objective was to compare the determinants of job satisfaction found for civilian employees with the determinants of job satisfaction for the Air Force's active duty military personnel. This comparison was possible due to an earlier study of military job satisfaction by Thompson (1975) using Air Force Management Improvement Group survey data similar to that gathered on civilian employees. The comparison revealed that the determinants of job satisfaction for military personnel and civilian employees tend to be the same. Thompson found that job challenge, job preparation for greater responsibility and job freedom explained a major portion of the variation in job satisfaction for military personnel. These same factors are major contributors to the job satisfaction of Air Force civilian employees. In addition, one other variable, personal growth, was found to be of major importance to civilian employee job satisfaction. Overall, comparison of Air Force military and civilian job satisfaction indicates there is basically little difference in the major determinants of job satisfaction between these two groups.

Limitation of the Research

Although the major objective of the research was to identify the major determinants of Air Force civilian employee job satisfaction, this objective was only partially accomplished. Only those variables which were measured in the AFMIG survey and considered by the researchers to be possible predictors of job satisfaction were used in the research. Obviously, there are many other possible determinants of civilian employee job satisfaction that were not measured in the AFMIG survey and therefore not included in the research. For example, a number of the factors which appear in the Air Force Occupational Attitude Instrument and in Lawler's Model of Facet Satisfaction (refer to Chapter II) were not measured in the AFMIG survey. Consequently, the significance of the research findings should be assessed with this limitation in mind.

Implications of Research Results for Air Force Management

The overall implication of the research is that many Air Force civilian employees want much more from their jobs than economic rewards such as pay, job security and fringe benefits. The research results show that they want jobs that offer challenge, personal freedom, opportunity to grow and preparation for greater responsibility.

Perhaps this suggests that Air Force managers should place emphasis on designing meaningful work situations wherein self-challenge, self-development and freedom of both action and thought are significant aspects of employees' work.

There are a number of techniques in use today which are based squarely on providing more challenge, freedom and growth. Two of the most promising techniques are job enrichment and management by objectives (MBO).

Basically, job enrichment entails building characteristics into an employee's job so that it is possible for him to obtain personally rewarding experiences by doing well on his job. Five important characteristics of "enriched" jobs that have been suggested by Hackman and Oldman (1975) are: (1) Task Significance, (2) Task Identity, (3) Skill Variety, (4) Autonomy, and (5) Feedback. Hackman and Oldman predict that jobs possessing these characteristics will improve employee motivation, satisfaction and performance.

MBO is a managerial technique which uses goal setting to obtain increased employee motivation and performance. The heart of MBO, goal setting, involves setting specific goals and objectives which have been negotiated by the supervisor and employee. The result, in theory, is high personal commitment by employees to achieve their negotiated goals and thereby experience

intrinsic rewards when the goals are accomplished (Porter, et al., 1975).

The research findings indicate that a large portion of the Air Force civilian employee population desires the same job characteristics and outcomes as those provided by job enrichment and MBO. The most important determinant of civilian employee job satisfaction is job challenge. In order for a job to be challenging, it must be linked to meaningful goals. The MBO process provides a means for managers to create challenging work goals for their employees. A second determinant of civilian employee job satisfaction is job freedom. This factor is synonymous with job autonomy, one of the characteristics of an enriched job.

A third determinant of civilian job satisfaction, job preparation for greater responsibility, is related to skill variety and task significance, enrichment characteristics. If an employee's job is expanded horizontally to provide more variety and increased vertically to enhance the significance of his job, then an employee will most likely perceive his job as preparing him for greater responsibility. The fourth determinant of civilian employee job satisfaction is personal growth. This factor can best be visualized as an outcome of job enrichment just as job challenge is an expected outcome of the MBO goal setting process. Thus it can be seen from the previous discussion that the determinants of civilian

employee job satisfaction are closely related with the characteristics of enriched jobs as well as the outcomes obtained from job enrichment and MBO.

In summary, Air Force civilian employees indicate they want jobs which offer challenge, freedom, growth and sense of preparation for greater responsibility. The literature suggests that application of job enrichment and MBO will result in the job outcomes desired most by civilian employees. Accordingly, it is suggested here that Air Force management should consider incorporating job enrichment and MBO techniques in the design of work for Air Force civilian employees.

Recommendations for Further Research

Two suggestions for future research can be made on the basis of the preceding discussion of the research results.

1. A study to determine those factors which make a job challenging for Air Force civilian employees should be made. Since job challenge was clearly established in the research as the most powerful predictor of job satisfaction for civilian employees, it appears that a study to identify the major facets of a challenging job would have high reward potential in terms of restructuring employees' jobs to make them more challenging.

2. Deeper analysis of some of the residual groups identified in the MAID-M analysis should be made. What do these individuals have in common? For example, it would be interesting to explore the differences between the most dissatisfied and the most satisfied groups. Do the most dissatisfied employees seek greater responsibility or is the reverse true? What characteristics do dissatisfied employees have in common versus highly satisfied employees?

Another suggestion for future research is based on the computed mean job satisfactions of Air Force civilian employees by demographic categories which are presented in Appendix B.

3. Perhaps research should be initiated to determine if the differences in computed mean job satisfactions by demographic categories of Air Force civilian employees are significant.

APPENDIX A
UNITED STATES AIR FORCE QUALITY OF LIFE
SURVEY QUESTIONS

APPENDIX A

UNITED STATES AIR FORCE QUALITY OF LIFE
SURVEY QUESTIONS

A. Independent Factors: Demographic Questions

4. What is your present pay system?

- A. GS (General Schedule)
- B. WS (Wage Supervisor)
- C. WL (Wage Leader)
- D. WG (Wage Graded)

5. What is your present grade level?

- | | | | |
|----|----|----|----|
| A. | 1 | K. | 11 |
| B. | 2 | L. | 12 |
| C. | 3 | M. | 13 |
| D. | 4 | N. | 14 |
| E. | 5 | O. | 15 |
| F. | 6 | P. | 16 |
| G. | 7 | Q. | 17 |
| H. | 8 | R. | 18 |
| I. | 9 | S. | 19 |
| J. | 10 | | |

6. How much total active federal civilian service have you completed?

- A. Less than 1 year
- B. 1 year but less than 2
- C. 2 years but less than 3
- D. 3 years but less than 4
- E. 4 years but less than 5
- F. 5 years but less than 6
- G. 6 years but less than 7
- H. 7 years but less than 8
- I. 8 years but less than 9
- J. 9 years but less than 10
- K. 10 years but less than 11
- L. 11 years but less than 12
- M. 12 years but less than 13
- N. 13 years but less than 14
- O. 14 years but less than 15
- P. 15 years but less than 16

- Q. 16 years but less than 17
- R. 17 years but less than 18
- S. 18 years but less than 19
- T. 19 years but less than 20
- U. 20 years but less than 21
- V. 21 years but less than 22
- W. 22 years but less than 23
- X. 23 years but less than 24
- Y. 24 years but less than 25
- Z. 25 years but less than 26
- Ø. 26 years but less than 27
- 1. 27 years but less than 28
- 2. 28 years but less than 29
- 3. 29 years but less than 30
- 4. 30 years or more

7. What is your highest level of education now (include accepted GED credits)?

- A. Grammar school (did not graduate)
- B. Grammar school graduate (no high school)
- C. High school (did not graduate)
- D. High school graduate (no college)
- E. Trade or technical school (no college)
- F. Some college, but less than one year
- G. One year college, but less than two
- H. Two years college, but less than three (including two-year associate degree)
- I. Three years or more college, no degree
- J. Registered nurse diploma program
- K. College degree (BS, BA, or equivalent, except LL.B)
- L. Graduate work beyond bachelor degree (no master's degree)
- M. Master's degree
- N. Postgraduate work beyond master's degree
- O. Doctorate degree (includes LL.B, J.D., D.D.S, M.D., and D.V.M)

8. Indicate the primary function in which you are currently employed.

- | | |
|-------------------------|--|
| A. Maintenance | J. Investigations |
| B. Logistics Management | K. Medical |
| C. Supply | L. Research and Development |
| D. Procurement | M. Operations |
| E. Comptroller | N. Communications |
| F. Transportation | O. Services |
| G. Personnel | P. Administration |
| H. Civil Engineering | Q. Other (specify in comments section) |
| I. Security | |

10. How much prior active Federal military service have you completed?
- A. None
 - B. Less than 2 years
 - C. 2 - 4 years
 - D. 5 - 10 years
 - E. 11 - 15 years
 - F. 16 - 19 years
 - G. 20 years or more
12. In what age group do you fall?
- A. 19 years or younger
 - B. 20 - 24 years
 - C. 25 - 29 years
 - D. 30 - 34 years
 - E. 35 - 39 years
 - F. 40 - 44 years
 - G. 45 - 49 years
 - H. 50 - 54 years
 - I. 55 - 59 years
 - J. 60 - 64 years
 - K. 65 - 69 years
 - L. 70 years or older
14. Is the person who prepares your performance report military or civilian?
- A. Military
 - B. Civilian
17. Which one of the following do you consider yourself?
- A. Black
 - B. Spanish surname
 - C. American Indian
 - D. Oriental
 - E. Other than A through D
18. What is your sex?
- A. Male
 - B. Female

LEADERSHIP/SUPERVISION: Has my interests and that of the Air Force at heart; keeps me informed; approachable and helpful rather than critical; good knowledge of the job.

136. To what degree are you satisfied with the LEADERSHIP/SUPERVISION aspects of your life? (Select one of the seven points)

A....B....C....D....E....F....G
Highly Dissatisfied Neutral Highly Satisfied

EQUITY: Equal opportunity in the Air Force; a fair chance at promotion; an even break in my job/assignment selections.

138. To what degree are you satisfied with the EQUITY aspects of your life? (Select one of the seven points.)

A....B....C....D....E....F....G
Highly Dissatisfied Neutral Highly Satisfied

PERSONAL GROWTH: To be able to develop individual capacities; education/training; making full use of my abilities; the chance to further my potential.

140. To what degree are you satisfied with the PERSONAL GROWTH aspects of your life? (Select one of the seven points.)

A....B....C....D....E....F....G
Highly Dissatisfied Neutral Highly Satisfied

PERSONAL STANDING: To be treated with respect; prestige; dignity; reputation; status.

142. To what degree are you satisfied with the PERSONAL STANDING aspects of your life? (Select one of the seven points.)

A....B....C....D....E....F....G
Highly Dissatisfied Neutral Highly Satisfied

HEALTH: Physical and mental well-being of self and dependents; having illnesses and ailments detected, diagnosed, treated and cured; quality and quantity of health care services provided.

C. Independent Factors: Work Related Questions

38. How do you evaluate your present Air Force job?

I want a challenging job, and my present job is:

- A. Boring
- B. Not challenging
- C. Somewhat challenging
- D. Challenging
- E. Very challenging

I do not want a challenging job, and my present job is:

- F. Boring
- G. Not challenging
- H. Somewhat challenging
- I. Challenging
- J. Very challenging

40. Do you think your present job is preparing you to assume future positions of greater responsibility?

- A. Definitely no
- B. Probably no
- C. Undecided
- D. Probably yes
- E. Definitely yes

41. Do you want a job which has greater responsibility than your current job?

- A. Definitely no
- B. Probably no
- C. Not sure
- D. Probably yes
- E. Definitely yes

48. The Air Force requires me to participate in too many activities that are not related to my job.

- A. Strongly disagree
- B. Disagree
- C. Undecided
- D. Agree
- E. Strongly agree

49. Do you feel that the work you are now doing is appropriate to the grade you hold?
- A. My grade is much too high for the work I am doing.
 - B. My grade is somewhat too high for the work I am doing.
 - C. My grade is about right for the work I am doing.
 - D. My grade is somewhat too low for the work I am doing.
 - E. My grade is much too low for the work I am doing.
 - F. No opinion
93. What is your opinion of the quality of military leadership in the Air Force?
- A. Excellent
 - B. Above average
 - C. Average
 - D. Below average
 - E. Poor
 - F. No Opinion
94. What kind of influence does your immediate supervisor have on your organization?
- A. Very favorable
 - B. Favorable
 - C. Neutral
 - D. Unfavorable
 - E. Very unfavorable (please comment)
 - F. Don't know
95. Are you given the freedom you need to do your job well?
- A. Never
 - B. Seldom
 - C. Sometimes
 - D. Often
 - E. Always
96. How often are you given feedback from your supervisor about your job performance?
- A. Never
 - B. Seldom
 - C. Sometimes
 - D. Frequently
 - E. Very frequently

97. How often do you and your supervisor get together to set your personal performance objectives?
- A. Never
 - B. Seldom
 - C. Sometimes
 - D. Frequently
 - E. Very Frequently
98. Does your immediate supervisor give you recognition for a job well done?
- A. Never
 - B. Seldom
 - C. Sometimes
 - D. Frequently
 - E. Always
99. The Air Force does a good job of keeping me informed about what is going on.
- A. Strongly disagree (please comment)
 - B. Disagree
 - C. Undecided
 - D. Agree
 - E. Strongly agree (please comment)
103. Is your immediate supervisor fair and objective in resolving complaints and grievances?
- A. Always
 - B. Frequently
 - C. Sometimes
 - D. Seldom
 - E. Never
 - F. Don't know
104. Is your immediate supervisor fair and objective in evaluating your performance?
- A. Always
 - B. Frequently
 - C. Sometimes
 - D. Seldom
 - E. Never
105. In my organization the best qualified persons are selected for promotion.
- A. Strongly disagree (please comment)
 - B. Disagree
 - C. Undecided

- D. Agree
- E. Strongly agree (please comment)

117. The training I have received with the Air Force has helped me in my job and career.

- A. Strongly disagree
- B. Disagree
- C. Undecided
- D. Agree
- E. Strongly agree
- F. I have had no training from the Air Force

118. To what extent is dealing with people a part of your job?

- A. Very little
- B. Little
- C. Some moderate amount
- D. Much
- E. Very much

APPENDIX B

MEAN JOB SATISFACTIONS OF AIR FORCE
CIVILIAN EMPLOYEES BY DEMOGRAPHIC
CATEGORY

AD-A032 485

AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OHIO SCHO--ETC F/6 5/9
A STUDY OF JOB SATISFACTION OF AIR FORCE CIVILIAN EMPLOYEES.(U)
SEP 76 P A BRANSON, W R PEACOCK

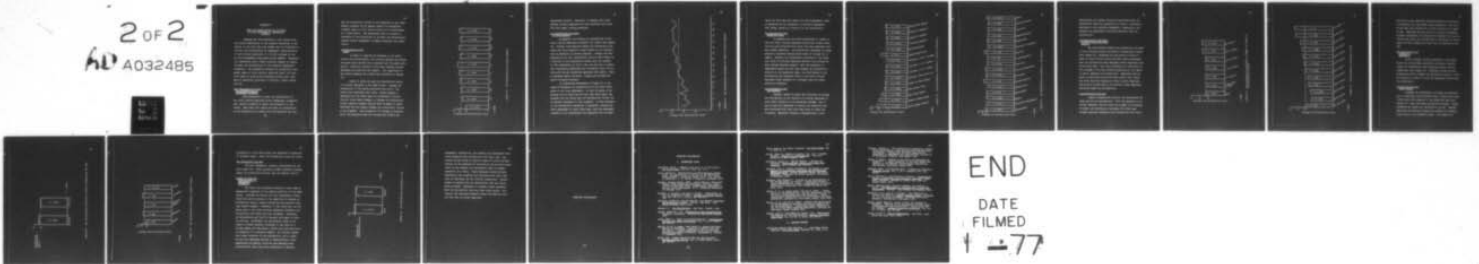
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APPENDIX B

MEAN JOB SATISFACTIONS OF AIR FORCE CIVILIAN EMPLOYEES BY DEMOGRAPHIC CATEGORY

Although the data presented in this section does not relate specifically to the research objectives of the thesis, it was felt that some readers may be interested in the mean job satisfactions by demographic characteristics of the civilian population (N = 16,751) surveyed by the Air Force Management Improvement Group (AFMIG). Therefore, the researchers used a simple computer program to compute the mean job satisfactions of nine selected demographic categories. The categories selected for presentation are: grade, years of civil service, education level, job function, years of prior active military service, age, category of supervisor (military or civilian), ethnic origin and sex.

Data Presentation of Mean Job Satisfactions by Demographic Category

Data presentation of mean job satisfactions of Air Force civilian employees within demographic categories will consist primarily of charts and discussion of the charts. Each chart will depict the mean job satisfaction of the population by a broken line and represent the aver-

age job satisfaction scores of the subgroups in each demographic category by bar graphs (except the demographic category years of civil service which will be represented by a trend chart). The researchers made no attempt to determine if the differences in the mean job satisfactions between various demographic category subgroups were significant.

Job Satisfaction and Grade

In order to simplify any analysis of job satisfaction by civilian grade, the civilian employee pay system and grade level factors were collapsed into ten grade categories. Grade One consists of the lower ranking civilian employees and Grade Ten the highest. The composition of each grade category has already been presented in Chapter III.

Figure 11 shows the mean job satisfaction scores of civilian employees in the AFMIG survey. Average job satisfaction of the survey population was 19.45. The broken line represents this score. Grade Category I employees had the lowest mean job satisfaction (18.24). However, after Grade Category I, average job satisfaction scores steadily increase through Grade Category VI whose employees had the highest average job satisfaction (20.29) of any subgroup. Then Categories VII through X fluctuate above the population mean job satisfaction without any

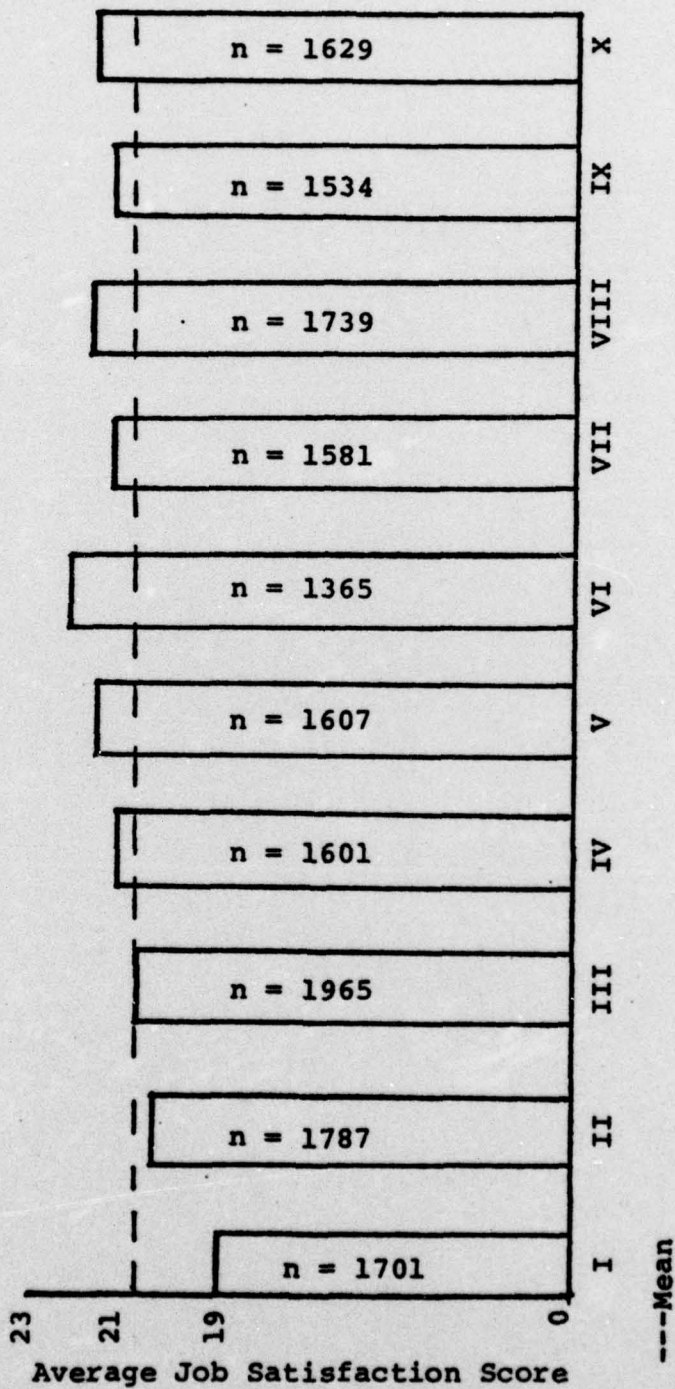


Figure 11. Job Satisfaction by Grade Category

discernible pattern. Generally, it appears that lower ranking civilian employees are less satisfied with their jobs than higher ranking employees.

Job Satisfaction and Years
of Civil Service

In general, the average job satisfaction of Air Force civilian employees increases with tenure (see Figure 12). Similar relationships between job satisfaction and tenure has been reported in many studies on job satisfaction of employees in private industry. Perhaps the best explanation for this relationship could be that tenure is a function of job satisfaction rather than the reverse. If this explanation is valid, then one only has to reason that dissatisfied employees will eventually leave the Air Force and the more satisfied employees will remain. Thus, as employee tenure increases, average job satisfaction should obviously increase.

An interesting development in Figure 12 is the trend of decreased job satisfaction for the first three years of Air Force employment. In fact the group of employees with at least two but less than three years' employment had the lowest mean job satisfaction (18.57) for all groups considered in this category. If this decrease in job satisfaction culminates in employees' leaving Air Force employment in their third year, then the subsequent increase in job satisfaction for employees with at least

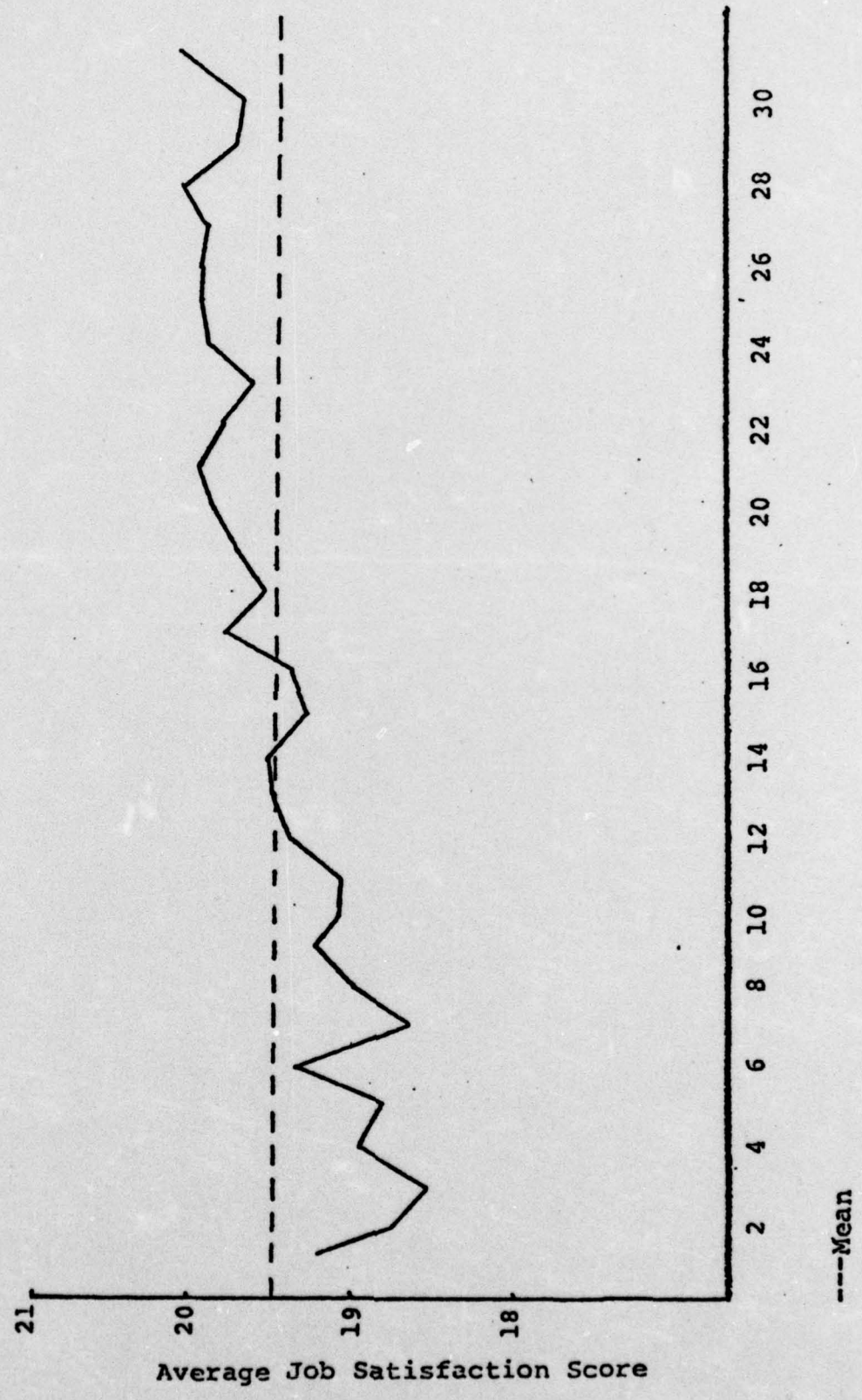


Figure 12. Job Satisfaction According to Years of Civil Service

----Mean

three but less than four years' Air Force employment could be explained by the discussion in the prior paragraph. That being, tenure is a function of job satisfaction.

Job Satisfaction and Education Level

It appears from the trend established in Figure 13 that Air Force civilian employees having less formal education are more satisfied with their jobs than employees with more formal education. Job satisfaction decreases as formal education increases through three years of college but no degree. However, job satisfaction increases as the education level of civilian employees advances from college degree through doctorate degree. With the exception of registered nurses who have high average job satisfaction relative to the population mean, the relationship of job satisfaction and education level of Air Force civilian employees forms somewhat of a U-shaped curve as formal education increases.

Job Satisfaction and Job Function

Overall, Figure 14 shows that variation in average job satisfaction by job function of civilian employees is quite small relative to the population average. But it can be seen that employees in certain job functions were more satisfied with their jobs than those in other job functions. Employees working in transportation, civil

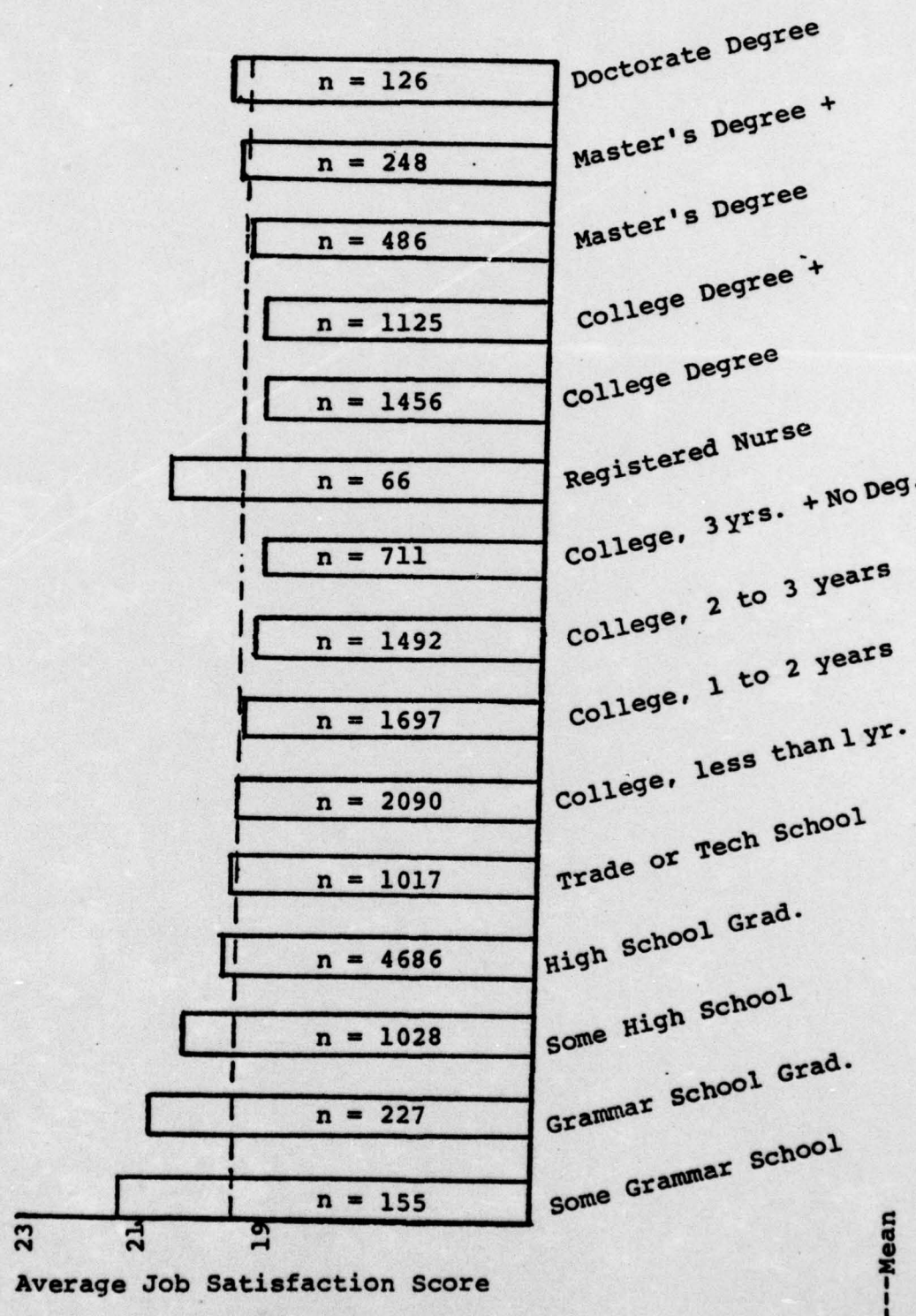


Figure 13. Job Satisfaction According to Level of Education

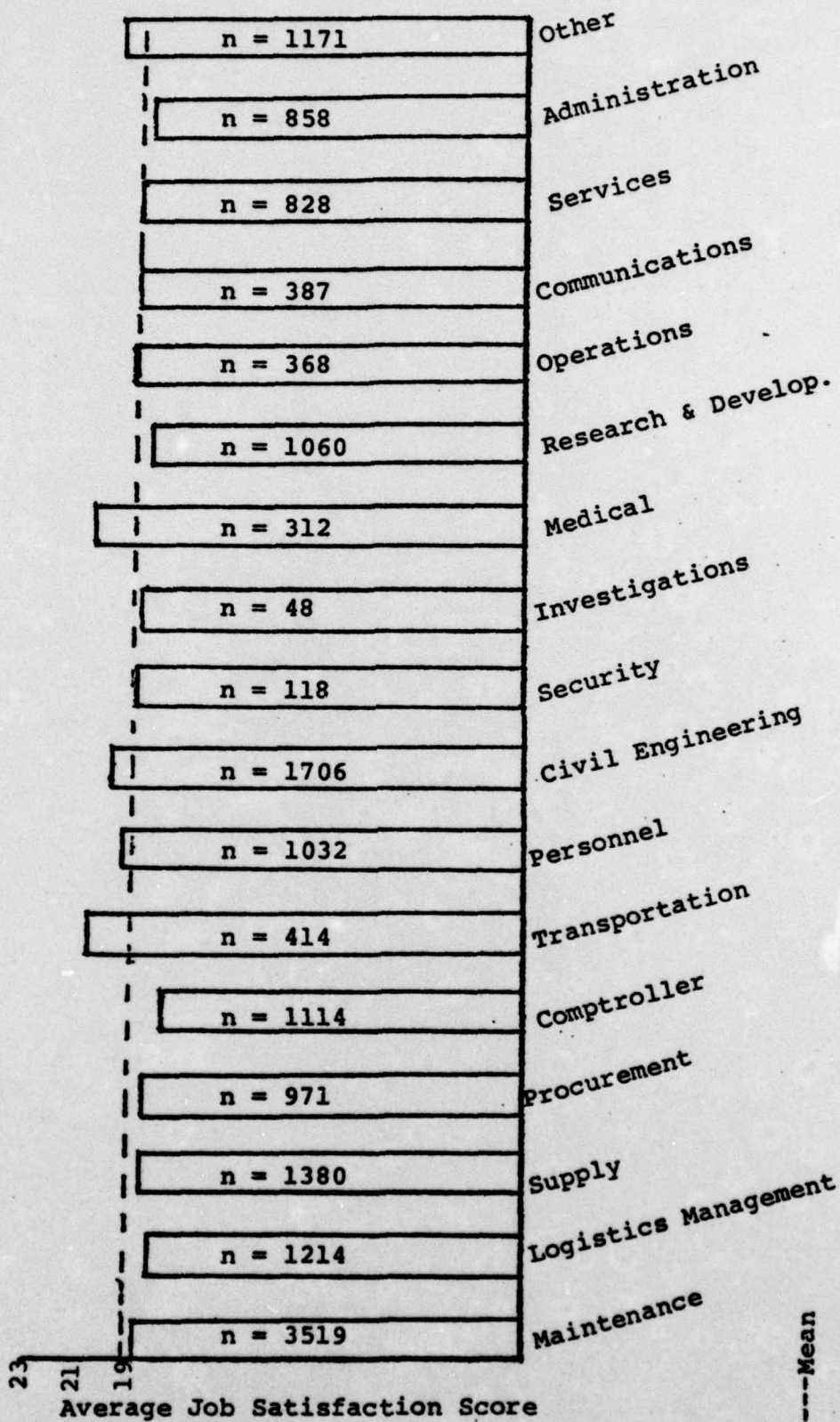


Figure 14. Job Satisfaction According to Job Function

engineering, and medical functions experienced more job satisfaction than the population as a whole. Conversely, employees in the logistics management, comptroller, and research and development functions perceived less job satisfaction.

Job Satisfaction and Years of Prior Active Military Service

The relationship between job satisfaction and years of prior military service provided an interesting finding (see Figure 15). Employees who had served at least 16 years or more of prior active military service expressed more job satisfaction than employees having completed less active duty time. This could possibly be a reflection of the findings in the next section pertaining to the impact of age on employee job satisfaction. Employees with 16 years or more prior active military service most likely are older than the average Air Force civilian employee, and as will be seen next in the section, older employees perceived higher job satisfaction.

Job Satisfaction and Age

Figure 16 graphically depicts the relationship between age and job satisfaction. With the exception of an initial decrease (from 19 years and younger to 20 through 24 years) job satisfaction increases with older age. Younger employees expressed less satisfaction with their

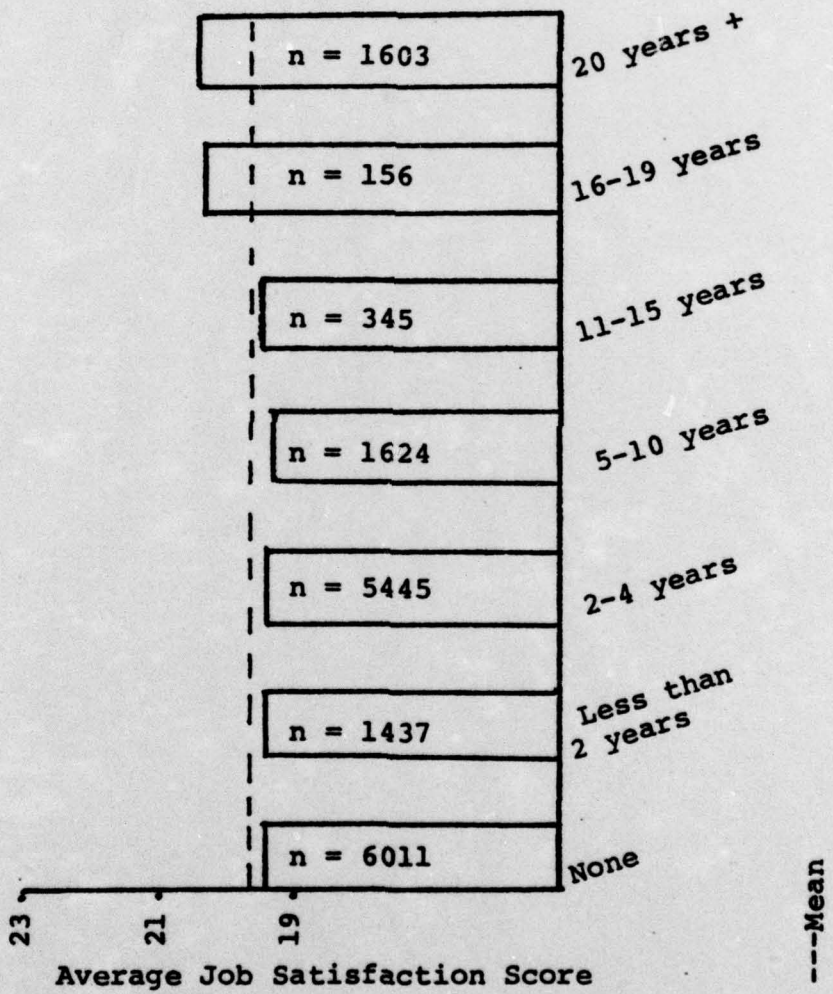


Figure 15. Job Satisfaction According to Number of Years of Prior Military Service

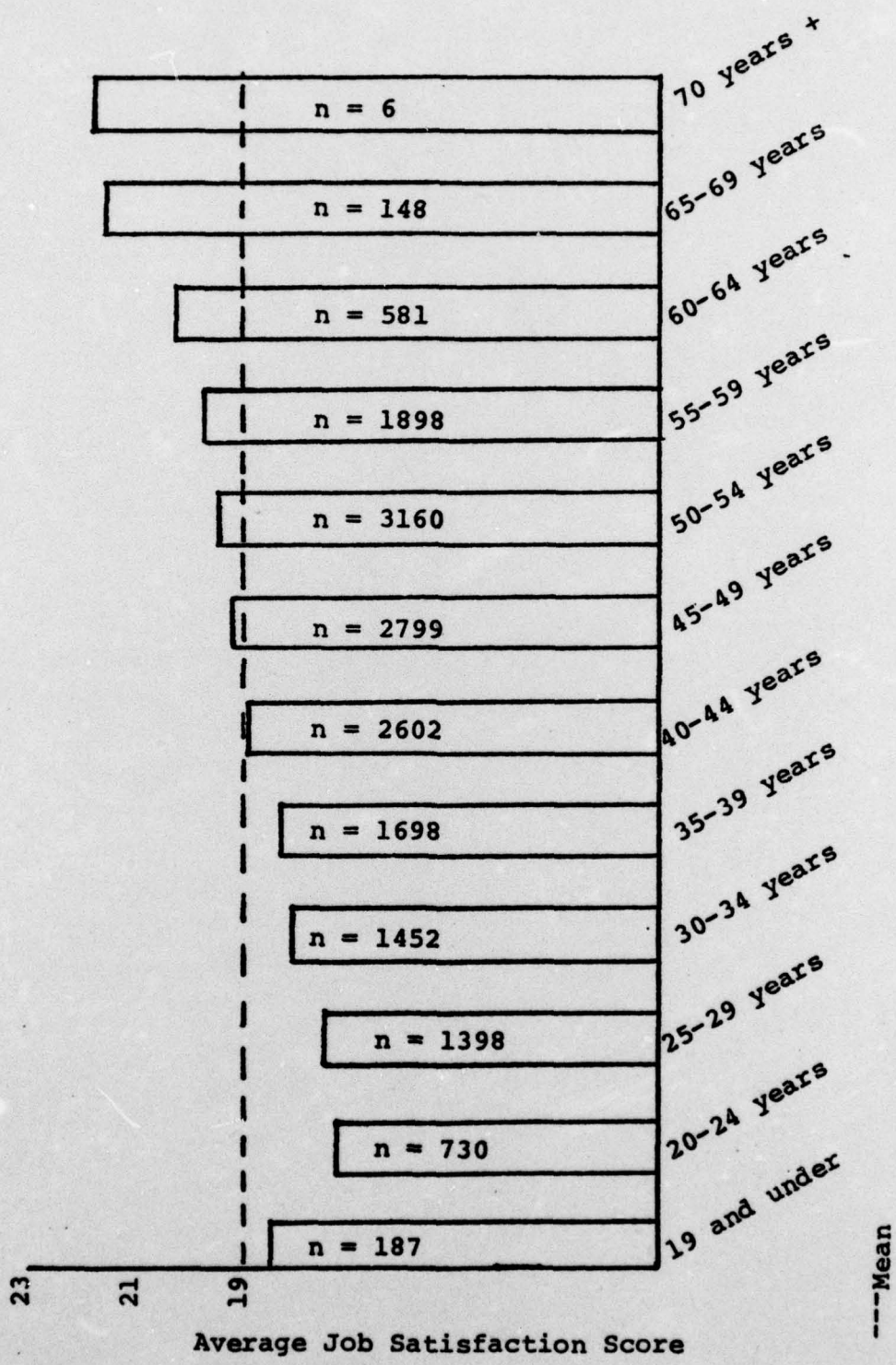


Figure 16. Job Satisfaction According to Age

jobs while older employees expressed greater satisfaction. In analyzing the total AFMIG survey population, the split around mean job satisfaction (19.45) occurred at 45 years of age. Employees falling into the 45 years and greater category experienced job satisfaction greater than the population mean while job satisfaction of employees in the 44 years and less category was less than the population average.

Job Satisfaction and
Category of
Supervisor

On the average, civilian employees in the AFMIG survey who had military supervisors expressed slightly higher job satisfaction than employees having civilian supervisors (see Figure 17). Employees having military supervisors had an average job satisfaction score of 19.87 as opposed to a score of 19.32 for employees having civilian supervisors.

Job Satisfaction and
Ethnic Origin

Although the differences in average job satisfaction of employees from different ethnic origins were relatively minor when compared to the population mean (see Figure 18), there were some interesting findings. Blacks expressed the lowest job satisfaction (19.05). Spanish Americans and American Indians had average job satisfactions close to the population mean. The highest job

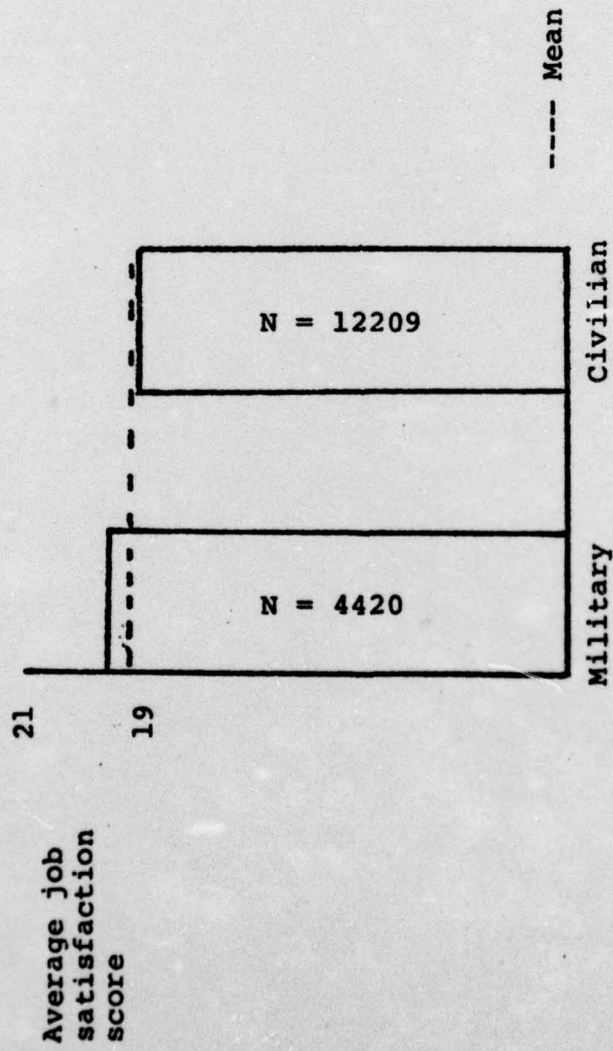
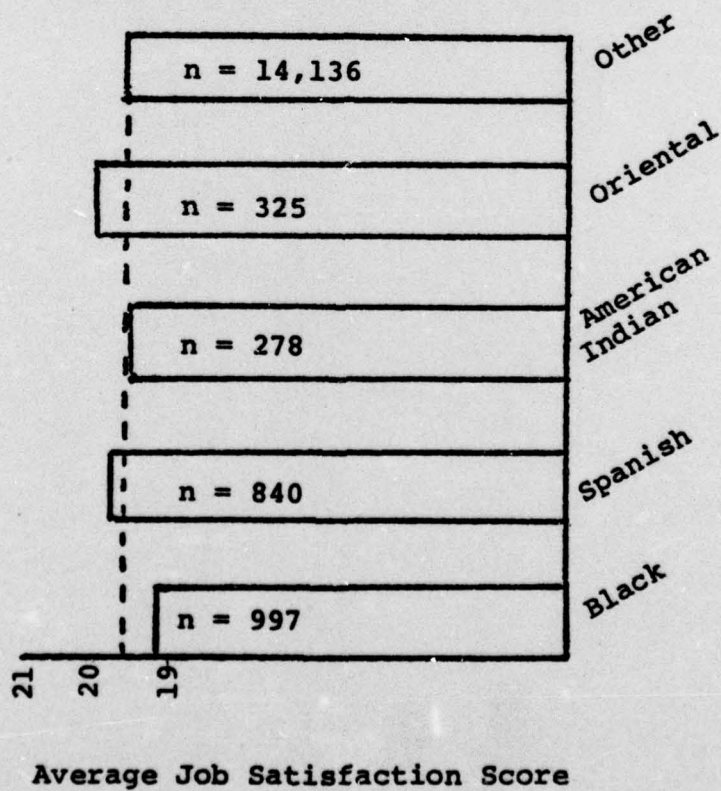


Figure 17. Job Satisfaction According to Type of Supervisor One Has



---Mean

Figure 18. Job Satisfaction According to Ethnic Origin

satisfaction of any ethnic group was expressed by employees of oriental origin. Their job satisfaction score was 19.98.

Job Satisfaction and Sex

The last demographic category investigated was sex (see Figure 19). Males surveyed by AFMIG expressed slightly higher job satisfaction (19.50) than did females (19.37).

Summary of Mean Job Satisfactions by Demographic Categories

The charts just presented represent a wide range of demographic categories of the sample population in the AFMIG survey. Although the charts show that demographics caused relatively minor variation in the magnitude of average job satisfaction scores, certain trends and some specific findings deserve comment. Generally, it was found that, as the grade level of Air Force civilian employees increases, the satisfaction with their jobs also increases. Similarly, job satisfaction was found to increase with years of service and age. Conversely, job satisfaction tends to decrease as formal education increases to the level of a college degree and then shows a slight rise from that point to possession of a doctorate degree. Job function caused only slight variation in job satisfaction, but it could be seen that employees working in transportation, civil engineering and medical functions were generally more satisfied with their jobs while employees in logistics

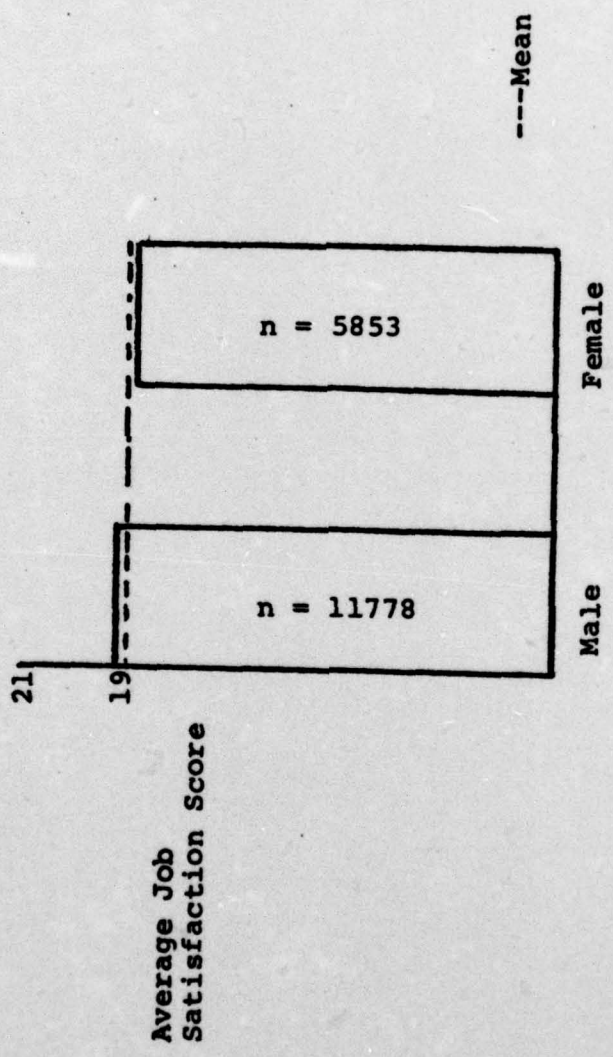


Figure 19. Job Satisfaction According to Sex

management, comptroller, and research and development functions expressed less satisfaction with their jobs. Employees having served at least 16 years of active military service and now employed as civilians by the Air Force were found to have greater job satisfaction than the sample population as a whole. Those employees having military supervisors were slightly more satisfied with their jobs than the employees who had civilian supervisors. Blacks tended to express less job satisfaction than any ethnic group surveyed. Employees of oriental origin expressed more job satisfaction than any other ethnic group. And finally, men expressed slightly higher satisfaction with the jobs than did women employees.

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