JOB SATISFACTION OF OFFICERS ASSIGNED TO THE UNITED STATES AIR FORCE LOGISTICS COMMAND CAREER BROADENING PROGRAM

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CHAPTER I

INTRODUCTION

This study examined the job satisfaction of United States Air Force officers assigned to the Air Force Logistics Command Logistics Career Broadening Program.

The Air Force Logistics Command (AFLC) provides wholesale logistics support to other Department of Defense entities ("retail customers"). AFLC is composed of various organizational elements; its Headquarters (Wright-Patterson Air Force Base, Ohio) and its five Air Logistics Centers comprise the core of the AFLC. Information to further illustrate the nature of the AFLC is found in AFLC's published Facts Pack:

> In FY 1981, AFLC bought approximately 9.5 billion dollars in products and services from industry. The total AFLC contract dollars, when compared to the 1980 sales of firms listed in Fortune magazine's top 500 industrial firms would rank 30th and would exceed the combined 1980 sales of NCR ($3.3 billion), General Tire ($2.2 billion), Allis-Chalmers ($2.1 billion), and Polaroid ($1.5 billion) (Air Force Logistics Command, 1981, p. 7).

The Air Force Logistics Command's five Air Logistics Centers (ALCs) are large, complex, industrial type organizations. The largest employs 22,400 people and the smallest employs 17,500 people. The ALCs are also know as depots; they have four primary functions: distribution of materiel, contracting for materiel, maintenance of weapon systems and equipment, and inventory management (Air Force Logistics Command, 1981).

In order to train a cadre of Air Force officers to assume senior management positions in the AFLC, the Air Force established a management trainee program. The management trainee program - the AFLC Logistics Career Broadening Program - entails assigning Air Force logistics officers to full-time management trainee job assignments in the ALCs for a period of three years. Currently, a total of 93 management trainee positions are authorized in the five ALCs; salaries of those officers would exceed two million dollars annually.

According to Locke (1976, p. 1297), ". . . systematic attempts to study the nature and causes of job satisfaction did not begin until the late 1930's." However, in October of 1982, a computer search of two data bases (BRS and ERIC) yielded 2,680 and 2,265 literature sources, respectively, when keyed on "job satisfaction". There are extremely diverse opinions regarding the nature of job satisfaction. Bradford (1976) commented on the varying perspectives regarding what is associated with job dissatisfaction and what should be done about it:

> Sociologists tend to associate worker dissatisfaction with rigid work structures and recommend projects of job enlargement to relax work structures and enhance worker satisfaction. Psychologists tend to associate worker dissatisfaction with low motivation (aspiration) and an instrumental orientation toward work and recommend projects of job enrichment to enhance work motivation and enhance worker satisfaction (p.6).

Sheppard (1972), author of Where Have All the Robots Gone?: Worker Dissatisfaction in the '70's, said:

> In today's highly regimented, increasingly automated, and deeply impersonal industrial society, the human being who has found fulfilling work is among the blessed. . . . But more and more workers - and everyday this is more apparent - are becoming disenchanted with boring, repetitive tasks set by a merciless assembly line or by a bureaucracy. They feel they have been herded into economic and social cul-de-sacs (p.xi).

Among other things, this study provided insight into whether the officers assigned to the AFLC Logistics Career Broadening Program perceived they were "among the blessed" or were "journeying on a cul-de-sac".

In 1976, the Air Force established the AFLC Logistics Career Broadening Program. The objective of the program is to provide a base of officers experienced in management of the wholesale logistics aspects of the Air Force logistics system. The program is intended to provide the assigned officers a comprehensive background in wholesale logistics. An officer is selected for the program only if the Air Force determines that the officer has a history of superior performance and potential for promotion to senior level logistics management positions (Department of the Air Force, 1977).

The program allows the assigned officers exposure to a wide variety of duties and functions within the ALC. To facilitate this exposure process, the officers experience frequent job rotations. The program gives the officers job experience in each of the four major organizational departments of the ALC; job rotations are normally for a period of six months with a final job assignment for one year.

The program offers a relatively unstructured training environment. The program's structure does not include formal classroom training, instructors, examinations, a specific Air Force curriculum, training evaluation reports per se, nor does it include specific Air Force level learning objectives. Rather, each ALC is allowed to develop its own program structure with the understanding that the Air Force mandated job rotation aspect will be followed.

Officers' job satisfaction with the training experience offered by

the AFLC Logistics Career Broadening Program needed to be studied to increase understanding of learners' reactions to a specific management trainee program.

Statement of the Problem

The problem of this study was to measure the officers' job satisfaction and analyze the measurement in a way that would determine significant variances in job satisfaction between: (1) the officers or groups (categories) of officers assigned and nationally established norms, (2) the various ALCs, (3) categories of military rank, (4) various logistics career fields, (5) categories of educational levels, and (6) categories of officers' longevity in the program.

Purpose of the Study

The primary purpose of this study was to determine the job satisfaction experienced by the officers assigned to the AFLC Logistics Career Broadening Program as related to nationally established norms of job satisfaction. The study also included comparative analysis of the measurement of job satisfaction between ALCs, military ranks of the assigned officers, career fields of the assigned officers, educational levels of the assigned officers, and categories of officers' longevity in the program.

Research Questions

Research questions developed for this study were:

1. Is there significant difference between job satisfaction of officers or groups (categories) of officers assigned to the AFLC

Logistics Career Broadening Program and the job satisfaction norms established for the Minnesota Satisfaction Questionnaire short form?

2. Is job satisfaction of officers assigned to the program significantly different between ALCs?

3. Is job satisfaction of officers assigned to the program significantly different between logistics career fields?

4. Is job satisfaction of officers assigned to the program significantly different between military ranks?

5. Is job satisfaction of officers assigned to the program significantly different between officers holding bachelor's degrees and officers holding master's degrees?

6. Is job satisfaction of officers assigned to the program significantly different between categories of longevity in the program?

Importance of the Study

The study is important to the occupational and adult education community because it increases understanding about adults' reactions to a specific training program. It is particularly useful to people who influence the structural arrangement of educational/training programs. It is important to the Air Force because it provides learners' feedback regarding an expensive training program. It is particularly useful to Air Force decision makers because it provides comparative analysis of job satisfaction between ALCs and between categories of officers assigned to the program. Recommendations for Air Force actions and further study were made based on the findings of the study.

Assumptions

The following assumptions were necessary to make this study meaningful:

1. The AFLC Logistics Career Broadening Program was, in reality, conducted according to expressed Air Force policy guidance.

2. Officers' response to the survey instrument accurately represented their opinions and personal data.

3. The Minnesota Satisfaction Questionnaire was a reliable and appropriate instrument to measure job satisfaction of officers assigned to the program.

Limitations of the Study

This study had the following limitations:

1. The study applied to an exclusive population of Air Force logistics officers because of the Air Force's selection criteria for assigning officers to the program. Generalizing the findings of this study to other populations is not necessarily meaningful.

2. This study was comparative in nature. Therefore, causal relationships cannot be established in an unambiguous manner.

3. The study did not compare job satisfaction of officers assigned to the program to other populations of Air Force officers. Rather, the officers' job satisfaction was compared to norms established by the Minnesota Satisfaction Questionnaire and to internal categories of officers assigned to the program.

Definition of Terms

The following terms are defined as they were used in this study:

1. Air Logistics Centers (ALCs) - Five Air Force installations under the jurisdiction of the Air Force Logistics Command (AFLC). The ALCs are also know as depots. The five ALCs are: Ogden ALC, Hill Air Force Base, Utah; Oklahoma City ALC, Tinker Air Force Base, Oklahoma; San Antonio ALC, Kelly Air Force Base, Texas; Sacramento ALC, McClellan Air Force Base, California; and Warner-Robins ALC, Robins Air Force Base, Georgia.

2. Job Satisfaction - "A pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences", as measured by the Minnesota Satisfaction Questionnaire - short form (Locke, 1976, p. 1300).

3. Logistics Officers - Air Force officers serving in designated career fields of contracting, logistics plans, maintenance, supply, or transportation. Logistics officers are also known as logisticians.

4. Minnesota Satisfaction Questionnaire (MSQ), short form - a validated questionnaire used to measure job satisfaction.

CHAPTER II

REVIEW OF RELATED LITERATURE

This chapter was divided into five sections for the sake of readability. The sections are: (1) Satisfaction Theory, (2) Importance of Job Satisfaction, (3) Factors Associated with Job Satisfaction, (4) Problem Issues, and (5) Summary of Implications for the study.

Satisfaction Theory

Maslow (1970) reported that there are five basic human needs and that those needs can be arranged according to dominance. Maslow's hierarchy of needs includes physiological needs, safety needs, belonging (social) needs, esteem needs and the need for self-actualization. Maslow encouraged matching the job environment to an employee's position in the hierarchy. A key point about the hierarchy of needs theory is Maslow's assertion that a satisfied need is not a motivator.

Herzberg (1970) reported that two separate and unrelated kinds of human needs exist: physical needs and psychological needs. He found that physical needs motivate action on a pain-avoidance principle while psychological needs motivate on a growth basis; it is pleasurable to experience personal growth, but failure to experience personal growth does not necessarily bring displeasure. Herzberg further stated that hygiene factors - working conditions, salary, and policy, for example - can only fulfill or frustrate mankind's psychological needs.

Salancik and Pfeffer (1977) offered a helpful explanation of the need-satisfaction theory. They reported that it is a basically simple concept which:

> . . . posits that persons have basic, stable, relatively unchanging and identifiable attributes, including needs. . . . The model also assumes that jobs have a stable, identifiable set of characteristics that are relevant to those needs of individuals. Job attitudes and, occasionally, motivation are presumed to result from the correspondence betweeen the needs of the individual and the characteristics of the job or job situation. When the characteristics of the job are compatible with the person's needs, the assumption is made that the person is satisfied. . . . Jobs which fulfill a person's needs are satisfying: those that do not are not satisfying (p. 427).

According to Locke (1976), there are three major schools of thought regarding job satisfaction: the Physical-Economic School, the Social (Human Relations) School, and the Work Itself School. The Physical-Economic School is concerned with the physical arrangements of work, working conditions, and salary. The Social School stresses the importance of good supervision, friendly employee-management relations, and cohesive work groups. The most contemporary school -although the others are still active- is the Work Itself School, which emphasizes the attainment of satisfaction made possible by mentally challenging work.

Importance of Job Satisfaction

"Work is important to people . . . though mankind has always worked for economic and social reasons, only recently has job satisfaction been investigated in a systematic way" (Faris, 1976, p. 1). A study commissioned by the U. S. Department of Health, Education and Welfare resulted in a book, Work in America (U. S. Departmment of

Health, Education and Welfare, 1972, p. 2) which stated, "Work plays a pervasive and powerful role in the psychological, social, and economic aspects of our lives."

Sayles (1966) reported that a person's work is the most important activity in his or her life and that people who do not have satisfying jobs rarely have satisfying lives. Lofquist and Dawis (1969, p. 11) also stressed the importance of work in the U. S. culture when they stated, "Work is the single situation most capable of providing some satisfaction of all levels of needs."

In addition to literature regarding the importance of job satisfaction in general terms, there is also considerable literature dealing with the consequences of job dissatisfaction. Barbash (1976), in a study published by the Organization for Economic Cooperation and Development, has reported:

> The concerns of the commentary hold that there is a serious problem of job satisfaction . . . many workers at all occupational levels feel locked in, their mobility blocked, the opportunity to grow lacking in their jobs, challenge missing from their task . . . People show their dissatisfaction in complaints and formal grievances, in industrial disputes, in absences and unpunctuality, in a fairly widespread lack of full commitment in work, and in a very small minority of cases, in calculation that no work or intermittent work would be preferable to continuous employment of the kind offered (p. 12).

Exton (1972) also reported on the possible effects of having alienated people in a work force. He reported that substantially alienated people often seek recourse by withdrawing or by exhibiting hostility. According to Exton, withdrawing all but a minimum effort to meet basic job requirements is a technique often employed by the alienated worker. Exton also reported that alienation often takes on a form of destructive self-indulgence, sometimes resulting in alcoholism

or other forms of drug addiction.

In the article "The Nature and Causes of Job Satisfaction," Locke (1976) summarized the consequences of job satisfaction in this manner:

> Job satisfaction, itself or in combination with the conditions (both in the individual and the job environment) which bring it about, has a variety of consequences for the individual. It can affect his attitude toward life, toward his family, and toward himself. It can affect his physical health and possibly how long he lives. It may be related (indirectly) to mental health and adjustment, and play a causal role in absenteeism and turnover. Under certain conditions, it may also affect other types of on-the job behavior as well (p.1334).

Locke discussed a number of research studies which support his summary statement. The remainder of this section (The Importance of Job Satisfaction) deals with those and additional studies.

Kornhauser (1965) and Iris (1972) found that job satisfaction influenced life satisfaction. More specifically, they found that there were significant correlations between attitudes toward the job and attitudes toward life in general. Kornhauser's (1965) study also revealed significant positive correlations between job satisfaction and attitudes toward family.

Herzberg (1959) found that an individual's job attitudes can also affect his or her view of himself or herself. Herzberg's studies showed that satisfying job experiences, such as achievement and recognition, often increased the individual's self-confidence. However, the studies did not show that dissatisfying experiences affect the individual's view of himself or herself.

Studies have also shown that job satisfaction is associated with physical health and longevity. Burke (1969) found significant

correlations between job satisfaction-dissatisfaction and reported symptoms of fatigue, shortness of breath, headaches, sweating, and general ill health. Herzberg and others (1959) found that physical symptoms such as headaches, loss of appetite, indigestion, and nausea followed dissatisfying job experiences. Sales and House (1971) found correlations as high as -.83 between job satisfaction and rate of mortality from arteriosclerotic heart disease. Jenkins (1971) cited several research studies which reported association between coronary disease and job complaints such as boredom, feeling ill at ease, and personal conflict.

Studies have also shown job satisfaction to be associated with mental health. Kornhauser (1965) developed an index of mental health from six component indices involving anxiety and tension, self-esteem, hostility, sociability, life satisfaction, and personal morale. Kornhauser found that there were consistent relationships between satisfaction and the total mental health index. Kahn (1964, p. 67) also found that ". . . chronic conditions of conflict in one's work role tend to be demoralizing as well as tension producing."

Job satisfaction has also been linked to absenteeism and turnover. In studies by Atchinson and Lefferts (1972) and Taylor (1972) significant relationships were found between job satisfaction-dissatisfaction and absenteeism and turnover.

Complaint and grievance rates, which are definitionally tied to satisfaction, have also been studied and linked with job satisfaction. Fleisham (1962) and Maher (1971) studied grievance and complaint rates and found significant relationships between them and satisfaction with the work itself.

The final portion of this section deals with the controversial topic of the relationship between job satisfaction and job performance. There is contradictory evidence regarding the nature of the relationship and even whether there is a relationship. Porter (1968) has even reported that an alternative way to view the satisfaction-performance relationship is to view performance as cause of satisfaction.

Locke (1976) stated that there is a negligible relationship between job satisfaction and performance or productivity. On the other hand, Herzberg (1959) reported a direct effect of satisfying experience on performance on the job. When Schwab (1971) attempted to replicate Herzberg's finding, he found a relationship between performance and satisfaction, but not in the exact order found by Herzberg.

In the discussion of his findings, Ivancevich (1978) reported:

> . . . The results highlight the inescapable complexity of the performance to satisfaction causal direction. . . . The results indicate that there is no single 'correct' relationship between performance and satisfaction for either stimulating or non-stimulating jobs in his organization. As the results . . . indicate there is sometimes no relationship at all (p.362).

Wanous (1974a, p. 145) found a relationship between job satisfaction and performance ". . . the data in this research are in general agreement with a reciprocal causation view of job satisfaction and performance . . ."

A study by Szilagyi (1977) reported a causal relationship between role ambiguity-conflict and job satisfaction - performance for administrators and people in higher organizational levels. Schuler (1975, p. 686) also reported a relationship ". . . both role ambiguity and role conflict had an equivalent negative relationship with

performance."

Factors Associated with Job Satisfaction

Job satisfaction has been associated with many conditions or factors. Research has been accomplished, with varying degrees of success, in an attempt to establish causal relationships between various factors and job satisfaction. This section of the literature review discusses several of the factors researchers have linked with job satisfaction.

The work an individual does has been identified as one factor associated with job satisfaction. Patchen (1970) found that if the challenge of the work is sufficient and is accepted by the worker, the worker will become both interested and involved in the job. Herzberg (1966) found that too little challenge can result in dissatisfaction and too great a challenge can lead to frustration with the work. His studies showed that if a moderate challenge was found in the work, the worker would be more likely to experience pleasure and satisfaction. Herzberg also found that achievement on the job is an important determinant of work satisfaction. A study by Hackman (1971) showed that a person's feelings of accomplishment are greater if the person completes a "whole" piece of work or if the person's own contribution is visible. Additional support for the importance of the work is added by a study accomplished by Lawler (1970). The study reported, "Findings suggest that the way jobs are designed can directly influence the satisfaction levels of the job holders." Rousseau (1977) also found that job characteristics were related to job satisfaction. He reported "Results of this study indicate that satisfaction,

alienation, and involvement are substantially related to perceived job characteristics" (p. 40). Studies by Friend (1977) and James (1980) also concluded that job characteristics are causally related to job satisfaction.

Job satisfaction has also been associated with the workers' pay. Lawler (1971) contrasted two theories of pay satisfaction - the discrepancy theory and the equity theory. The discrepancy theory holds that pay satisfaction depends on the difference between obtained pay and valued pay while equity theory views pay satisfaction as a function of obtained pay in relation to the individual's perceived inputs in relation to other people holding similar jobs. Lawler also found that the pay an individual receives is of major significance to that person. Seybolt (1976) found there is a significant relationship between pay and job satisfaction. A study by Miskel (1975, p. 40) reported, ". . . both in common and theoretical senses, individual work motivation attitudes and the perceived organizational incentives are logically related to each other and to job satisfaction." Two studies on merit pay or bonuses have also shown a significant relationship between those forms of pay and job satisfaction (Cherrington, 1971 and Greene, 1973).

Promotion or advancement in the work organization has also been associated with job satisfaction. A study by Campbell (1970) documented the great value that people in the United States' culture place on promotion. Locke (1976) reports that promotions perceived as being fair can be a satisfier; however, promotions perceived as being unfair can be a frustrater. Faris (1976) reported that perceived success attained through advancement in the organizational hierarchy

appeared to be a major determinant of job satisfaction. It should be noted that Bray (1974) found that promotions which require individuals to change communities may be unattractive to some workers.

Recognition has also been associated with job satisfaction. Locke (1973) reported that recognition was one of the single most frequently mentioned events causing job satisfaction. House (1967) also found lack of recognition to be one of the most frequently mentioned dissatisfiers using Herzberg's methodology. Locke (1968) found that recognition is a form of feedback and, in the form of criticism or praise, can be used to correct past errors and to set future goals. He also added that it is clear that many people attempt to gain self-esteem or a positive self-concept by gaining the approval of significant others.

Job satisfaction has also been associated with working conditions. Locke (1976) found that workers value physical surroundings which are not dangerous or uncomfortable for them. He also reported that temperature, humidity, ventilation, lighting, and noise in the work environment can influence comfort and one's ability to work. Barnowe (1972) found that workers value a location close to home, new facilities, cleanliness, and adequate tools and equipment. Physical working conditions are often taken for granted unless they are extremely good or bad; they do not become salient without some standard of comparison (Chadwick-Jones, 1969). Research has also shown that workers' shifts affect the workers' attitudes about the job. Mott (1965) found that the workers' perceptions of work hours depend on the degree to which they facilitate or interfere with the workers' valued off-the-job activities. It should be noted that Herzberg (1966)

reported that complaints about physical working conditions are sometimes symbols or manifestations of frustrations, distrust of management, or other actual causes.

Another factor that has been associated with job satisfaction is organizational climate. The psychological climate of an organization is generally referred to as organizational climate (Pritchard and Karasick, 1973). Organizational climate has been identified by Litwin and Stringer (1968, p. 1) as ". . . a set of measurable properties of work environment, perceived directly or indirectly by the people who live and work in the environment and assumed to influence their motivation and behavior." Ivancevich (1972) reported:

> It is the author's contention, based on previous organizational analysis and an extensive review of prior climate research, that the causal direction is from climate to satisfaction. . . . Various climate dimensions are determinants of individual job satisfaction (p. 35).

A study by La Follette (1975) found that organizational climate and job satisfaction have a statistically significant relationship. Friend and Burns (1977) found that

> Generally, these data show the relative importance of job characteristics in the determination of workers' satisfaction with their jobs. Therefore, at present, the search for positive alterations in the job environment still seems to be the best course of action when we want to affect job satisfaction (p.605).

Additional studies which found relationships between job satisfaction and organizational climate were reported by Miskel (1979), Schneider (1975), Downey (1974), and Odetola (1972).

Work related values have also been associated with job satisfaction. Hulin (1968, p. 41) found that ". . . job satisfaction . . . is dependent to a great extent on the backgrounds of the workers

in the sample." Hulin identified work values as one of the important variables in workers' backgounds. Further, Hulin described work values in terms of the Protestant work ethic or the internalization of middle class work norms. Wanous (1974b) reported that the greater the degree to which the Protestant work ethic had been internalized, the greater the relationship to specific types of job satisfaction and overall job satisfaction. Wanous used the Minnesota Satisfaction Questionnaire, short form. However, a study by Stone (1976) reported that the Protestant work ethic is probably not an important difference to consider when practitioners are concerned with how satisfaction with the work itself will be influenced by changes in the job scope. Aldag (1975) found that

> The significant positive correlation of the proProtestant Ethic score with age is consistent with popular conceptions of that relationship. Similarly, the findings related to correlations of work values with higher order need strength agree with the arguments and findings of Wanous (1974) (p.759).

It should be noted that Stone (1975) used United States Navy personnel in a study which purposely tested Hulin's (1968) study. Stone concluded that several predictions stemming from Hulin's model were unsupported.

Many research studies have shown that the perceived role construct is correlated with job satisfaction. Kahn (1964) developed a theory of role dynamics which indicated that stress on workers resulted from conflicting or incompatible expectations and unclear or vague expectations. Kahn's theory stated that expectations which are in conflict result in role conflict for the worker, while unclear or vague expectations may cause role ambiguity. Since role conflict and ambiguity pose adjustment problems for the worker, Kahn predicted and

found lower levels of satisfaction for workers with high conflict and ambiguity. Rizzo and House (1970) supported the Kahn theory and found conflict and ambiguity to be clearly associated with low job satisfaction and dysfunctional behavior. Keller (1975) researched role conflict and ambiguity and reported:

> Too often, it appears, employees are left to fend for themselves in determining what is expected of them in job behavior. The results are often low satisfaction and inadequate performance. . . . A substantial body of research now shows that employees are generally more satisfied with their jobs when expectations for performance are made clear and non-conflicting. Effective personnel practices should therefore strive to let employees know what is expected of them in the performance of their organizational roles. . . . The research strongly shows that employees are significantly more satisfied with their jobs when expectations for performance are clear and non-conflicting (pp.63-64).

A study by Bernardin (1979, p. 149) reported, "Findings corroborate earlier work with different operational definitions of ambiguity (Keller, 1975)." Additional research which supported the correlation between role conflict-ambiguity and job satisfaction was found in studies by House (1972), Miles (1975) and Schuler (1977).

Job satisfaction has also been associated with job level (organizational level of assignment), tenure, and status. A study by Szilagyi (1977) showed that the effects of role construct on job satisfaction were moderated by the workers' level of assignment in the organizational hierarchy. Szilagyi examined role constructs and job satisfaction at three organizational levels: high, middle, and low. The study showed that workers at the middle level were less able to adjust to role construct problems than were workers at higher or lower levels. Cummings (1970) found that job level was related to satisfaction. He reported, "Role diversity and job level are found to be more significantly related to need satisfaction and possibly need

fulfillment than subunit size or company size" (p. 1).

Stumpf and Rabinowitz (1981) found career stage to be a moderator of job satisfaction. They reported, "The results indicate that career stage has an important moderating effect on facets of job satisfaction . . ." (p. 215). The study used career stage, defined in terms of years in the profession, rather than age or tenure in the organization -although definitional interrelation is virtually unavoidable. Herzberg (1957, p. 13) found, ". . . workers begin with high morale which drops during the first year of service and remains low for a number of years. As service increases, morale tends to go up . . . ." However, research by Hulin (1965) failed to replicate Herzberg's findings. A study by Edwards (1978), using Air Force enlisted personnel as subjects, found that a larger percent of careerists were satisfied with their jobs than were "first termers". In another study, using Air Force subjects, Finstuen and Edwards (1980) found that months on the job and total service time contributed significantly to predicting job satisfaction and felt utilization. The study also found that months on the job, aptitude, and military rank contributed to the prediction of overall satisfaction.

Status was reported to be related to job satisfaction in a study by Harris (1976) using United States Army personnel as subjects. Harris reported that the relationship between job satisfaction and role ambiguity was stronger for high objective status subjects than for low objective status subjects.

Organizational structure has also been associated with job satisfaction. A study by Miskel (1979) found that more effective schools, as perceived by teachers, are characterized by more

participative organizational processes, less centeralized decision making, more formalized general rules, and higher levels of professional activity. Miskel's hypothesis that the participative processes and less structure would lead to higher job satisfaction was partially supported. Likert (1978) reported that the more participative a situation, the greater the likelihood of superior performance. Additional findings regarding organizational structure-job satisfaction have been previously stated in the paragraph (above) regarding role constructs.

Several studies have been conducted to determine the relationship between the workers' educational level and perceptions of job satisfaction. Quinn (1977) studied 16 research resources and found that five of them found a positive association between educational level and job satisfaction, three found a negative association, and eight found the relationship to be nonexistent or equivocal. Quinn concluded that educational level was significantly related to satisfaction with the financial rewards provided by jobs, and to how challenging and self-developing those jobs were. Vecchio (1980) found educational level a weak moderator of job satisfaction. Seybolt (1976) reported:

> The present study supports the proposition that level of formal education moderates the relationship between work environment characteristics and job satisfaction. . . . While level of education may be just as or more indicative of social status, cultural background, and personal need as it is of ability or intelligence, it is clear from previous research that it leads to higher individual expectations. If the job and work organization do not meet the expectations of the highly educated individual, the results of the present study imply that the individual will be less satisfied than the individual with lower education in a similar job (pp. 73-74).

Faris (1976) found that education was directly related to job satisfaction for workers with post-graduate education. He reported that workers with the master's degree expressed the lowest level of job satisfaction and those with a doctorate expressed the highest.

Problem Issues

Research shows that national levels of job satisfaction remained stable between 1958 and 1978. After reviewing 15 national surveys between 1958 and 1973, Quinn (1974, p. 6) reported, ". . . there has been no substantial change in overall levels of job satisfaction over the last decade." Weaver (1980) used data from seven national surveys to extend Quinn's evidence through 1978 Weaver reported, "As was true in the previous decade, there were no substantial changes in overall levels of job satisfaction through 1978. . . (p. 364)." Weaver added,

> The data reported here provide evidence that across the years from 1972 to 1978, there were no significant changes in global job satisfaction among full-time employees in the United States and that there were no important modifications in relationships reported over the previous decade between job satisfaction and race, sex, level of education, age, personal income, and occupation. It appears, therefore, that the global measure of job satisfaction has been very stable and may be somewhat unresponsive to changes in society (p.367).

The evidence provided by Weaver and Quinn would lend credibility to the argument that measures of job satisfaction are generally reliable. However, a number of research studies have surfaced questions about popular concepts of job satisfaction and measurement of job satisfaction.

Landy (1978) found that job satisfaction has been used as a dependent variable, an independent variable, a covariate and a

moderator variable. Further, he found that it has been linked to productivity, motivation, absenteeism, accidents, mental health, physical health and life satisfaction. He concluded that fifty years of research had attempted to document the relationship between an individual's feelings about his or her job and that individual's behavior. Landy reported that current treatment of job satisfaction implies an affective state and that it is normally the person's emotional state that is referred to as job satisfaction. Landy reported:

> Job satisfaction seems to convey a position as the hedonic or affective component in theories of motivation. In spite of its importance, little theory is available for understanding the affective state represented by the concept of job satisfaction (p. 533).

Barbash (1976) surfaced more specific problems regarding the current methodology used in job satisfaction studies. He reported that studies rely mainly on self-reporting by respondents. He identified several problems inherent in self-reporting: "Self-reporting contains elements of expediency, self-deception, ignorance, social pressure, and false beliefs about the world in which (the employee) lives . . . ." (p.22). He further reported that job satisfaction is so closely related to one's self-esteem that the worker may not really answer questions as to whether or not she/he is satisfied with the job so much as whether she/he is satisfied that her or his life is worthwhile. Quinn (1974) also reported that ego defense, even in the privacy of the questionnaire, risked biased responses in favor of job satisfaction. Barbash (1976) concluded that what has been measured may not be job satisfaction in work, but a deep need in the respondent to say that he or she has found some acceptable way to accommodate the environment.

Salancik and Pfeffer (1977) examined popular methods and concepts regarding job satisfaction and offered extensive criticism. They reported:

> A need-satisfaction theoretical model has been ubiquitous in studies and writings on job attitudes and by extension, motivation, job design, and other organizational performance improvement issues. An examination of such need models indicates that they are frequently formulated so as to be almost impossible to refute, and the research testing them has been beset with the consistency and priming artifacts. Furthermore, available empirical data fails to support many of the crucial elements of need-satisfaction theories. An examination of the components of need-satisfaction models - needs, job characteristics, and job attitudes - indicates that all three have been incompletely considered. Need models may have persisted in part because of perceptual biases, their consistency with other theories of rational choice behavior, and because of what they seem to imply about human behavior. The models appear to deny, however, that people have the capacity to provide their own satisfaction by cognitively reconstructing situations (p. 427).

Salancik and Pfeffer (1977) also examined the methodology used in job satisfaction research and reported problems with the methodology. They found that need-satisfaction models have seldom been able to account for substantial proportions of variance in behaviors and attitudes. They also found that the findings of many need-satisfaction studies have alternate interpretations because the procedures used to observe correlations between job characteristics and satisfaction may produce consistency and priming artifacts. They reported that the most prevalent form of testing the need-satisfaction model is to ask workers to identify their needs on scales presented to them, to describe their job on scales presented to them, and to describe their job satisfaction on scales presented to them. Salanick and Pfeffer also reported that the methods being used may create attitudes as much as measure them.

Summary of Implications for the Study

The literature review indicated that officers in the AFLC Logistics Career Broadening Program have needs; their needs include psychological and physical needs. Further, the literature shows that there is a relationship between the officers' satisfaction of their needs and their work life.

The literature review indicated that the working life of the officers in the program is an important part of their lives. Their work life plays a powerful role in the psychological, social and economic aspects of their lives.

Job satisfaction experienced by the officers in the program is important, according to the literature. The literature further indicated that job satisfaction experienced by the officers is important to the individual officer because it may influence the officer's psychological state, physical health, attitude toward family, and attitude toward life satisfaction. Additionally, the literature indicated that the job satisfaction of the officers is important to the Air Force because it may influence the officers' performance, their career intentions, their general health, and their general work attitudes.

According to the literature, job satisfaction of the officers in the program is influenced by a host of variables. Some of those variables are: the officers' needs, the nature of the work assignments in each ALC, the pay received, the perceived opportunity for career advancement, recognition received by the officers, the working conditions experienced in each ALC, the ALC's organizational climate,

the officers' attitude toward work, the role constructs perceived by the officers, the officers' job levels, their military status, and their educational levels.

The literature review also showed that job satisfaction -- across the United States -- has been stable during the 1960's and 1970's. Further, the literature indicated that data gathered by the Minnesota Satisfaction Questionnaire has an attitudinal orientation rather than a behavioral orientation. Implications for the study also included that the analysis of data indicates how well satisfied -as an emotional reaction-the officers were with their work, as compared to satisfaction levels established for the MSQ.

CHAPTER III

METHODOLOGY

This was a study of United States Air Force officers assigned to the AFLC Logistics Career Broadening Program in March, 1983. The officers in the program were serving in full-time management training positions at five ALCs. Officers were selected for the program by a central selection process at the Air Force Military Personnel Center. The program was not fully "staffed" in the sense that there were some vacant job positions in the program, i. e., although there were 93 program positions, there were only 69 officers assigned in March of 1983.

Air Force records were searched to identify officers assigned to the program. Each ALC has identified a personnel specialist, in the base personnel office, who serves as the local monitor for the ALC's program; their help was solicited in the collection of data.

The Air Force was asked to endorse this study. More specifically, the Director of Personnel at the Oklahoma City ALC - a member of the Oklahoma City ALC Career Broadening Program Guidance Committee (an officer holding the military rank of Colonel)- was asked to endorse and assist in the study.

The literature review indicated that several factors influenced job satisfaction. According to Guion (1978), the Minnesota Satisfaction Questionnaire (MSQ) is a reliable, valid, and well normed indicator of satisfaction at work. Additional demographic information

was needed to supplement the MSQ in order to further examine the association of various factors with job satisfaction.

Selection of Subjects

All officers assigned to the AFLC Logistics Career Broadening Program were included in this study. Their response was strictly voluntary. Data cannot be identified with a particular officer nor can the officers be identified.

Selection of the Instrument

The Minnesota Satisfaction Questionnaire short form was used to measure job satisfaction of officers in the program. Many studies have been conducted using this validated questionnaire. Borman (1978) reported that the MSQ has been used successfully in a military context. Guion (1978) provided the following evaluative statement regarding the MSQ:

> It seems appropriate to compare the MSQ with another widely used instrument of job satisfaction, the Job Description Index. . . . Like the MSQ, the JDI is a result of the research of the 1960's, has an underlying rationale, is based on empirical research, provides reliable scores, has evidence of construct validity, and is extensively normed. Despite the similarities, the two are distinctly different. First of all, the MSQ has four times as many scales. . . . The substantial intercorrelations among MSQ scales justify the global satisfaction score; the persistent efforts to create independence of JDI scales make an additive score inappropriate . . . . In summary, the MSQ is well developed, it holds up well in comparison with a major alternate instrument and it can give detailed diagnostic or parsimonious summary statements according to the investigator's needs (pp. 1679-1680).

A study by Dunham (1977) further supported the selection of the MSQ to measure job satisfaction. Dunham compared four popular instruments and reported:

> The first requirement is that validity values (correlations of different methods of measuring the same trait) be significantly different from zero and sufficiently large to encourage further examination of validity. . . . Overall, the MSQ provides the highest average convergent validities . . . . The second discriminant validity criterion requires that the convergent validity of each trait exceed the correlations between that trait and other traits measured with the same method. This more stringent criterion requires that common trait variance exceed common method variance. . . this test of discriminant validity is met in 77 percent of the cases for the IOR method, 70 percent of the MSQ cases, and 55 percent of the cases for both the Faces and the JDI. While all of these proportions are statistically significant ($p<.01$). . . the proportion of .77 for the IOR method is certainly good, while the proportion of .55 for the JDI and Faces is perhaps marginal. . . . The final discriminant validity criterion states that the pattern of trait intercorrelations should be replicated within all heterotrait -monomethod and heterotrait -heteromethod triangles. The MSQ has high values for this criterion for the combined sample (.71) and consistently high values across each subsample [other values were: JDI (.41), Faces (.56), and IOR (.61)] (pp. 429-430).

The MSQ short form has 20 questionnaire items and measurements are made on three scales. Six of the items make up a scale of extrinsic satisfaction, 12 of the items make up a scale of intrinsic satisfaction, and all 20 of the items form a scale of general satisfaction. Table I shows the make-up of the respective scales.

The responses to the MSQ items are structured on a five point Likert-style scale, ranging from "Very Dissatisfied" to "Very Satisfied." Table II shows how the point values were determined.

TABLE I

SCALES FOR THE MINNESOTA SATISFACTION QUESTIONNAIRE

Scale	Item
Intrinsic	1, 2, 3, 4, 7, 8, 9, 10, 11, 15, 16, and 20
Extrinsic	5, 6, 12, 13, 14, and 19
General	17, 18 and all items for intrinsic and extrinsic satisfaction

TABLE II
POINT VALUE OF MINNESOTA SATISFACTION QUESTIONNAIRE RESPONSES

Point Values	Response
1	Very Dissatisfied (VDS)
2	Dissatisfied (DS)
3	Neither (N)
4	Satisfied (S)
5	Very Satisfied (VS)

Collection of the Data

Permission from the University of Minnesota was necessary prior to using the Minnesota Satisfaction Questionnaire. A letter requesting permission to use the MSQ in this study was sent and the reply granting permission is included in Appendix A. Approval from the United States Air Force was also necessary; the Air Force's approval letter is

included in Appendix A. The Air Force's letter granting approval to conduct the survey mandated that each questionnaire be accompanied by a privacy act statement - this stipulation was accommodated as shown in Appendix B. The Air Force's letter also requested that the word "company" in one survey questionnaire item be changed to reflect the proper military context - the word "company" was changed to read "ALC".

A short supplement to the MSQ was prepared to collect additional information from the officers (Appendix B). Items included in the supplement were used to determine the following: officer's ALC of assignment, military rank, logistics career field, academic degree, and longevity in the program.

The MSQs and the questionnaire supplements were mailed to each ALC's Director of Personnel on March 8, 1983. The MSQs and supplements were accompanied by a cover letter from the Oklahoma City ALC Director of Personnel (see Appendix A). The cover letter outlined the nature of the study, solicited the directors' assistance, explained how they could assist in collecting the data, and thanked them for their cooperation. The MSQ and supplement for each officer was accompanied by a letter also from the Oklahoma City ALC Director of Personnel (see Appendix A); the letter explained the nature of the study, guaranteed anonymity, solicited responses, and thanked the officers for their cooperation.

The Logistics Career Broadening Program Monitors were asked to distribute the MSQs and supplements to the officers and to encourage the officers to return them to the researcher. Postage was provided to the officers on a pre-addressed envelope. Returns used in the study were received no later than April 15, 1983.

Data Analysis

In order to satisfy the research questions stipulated in Chapter I, it was necessary to group the data in several ways. Returns were grouped by ALC, by military rank, by logistics career field, by academic degree and by longevity in the program.

Means of officers' scores on the MSQ were calculated for component MSQ scales - intrinsic, extrinsic, and general satisfaction. Each scale mean was compared to its respective norm mean score. The T-test technique was used to determine whether there was a significant difference between the means. This statistical procedure determined whether there were differences between job satisfaction of officers in the program and the MSQ norms for job satisfaction. The same procedure was then applied to officers' mean scores for each MSQ scale grouped by ALC, career field, military rank, academic degree and longevity in the program.

Officers' scores on the MSQ scales were grouped according to their ALC of assignment. Means of officers' scores were calculated on MSQ scales for each ALC. The mean scores for officers assigned to a given ALC were compared to the mean scores of the remaining officers in the program. Therefore, 15 additional means had to be calculated - one with the scores from each ALC withdrawn from the composite scores. The one-way Analysis of Variance (ANOVA) technique was used to determine whether there was significant difference between officers' job satisfaction at a given ALC and the job satisfaction of the composite of the officers assigned to the remaining ALCs. The satisfaction of officers assigned to Ogden ALC was compared to the composite satisfaction of officers assigned to the remaining ALCs; the job

satisfaction of officers assigned to Sacramento ALC was compared to the composite job satisfaction of officers assigned to the remaining ALCs, and so forth.

Comparisons of job satisfaction were also made between the officers' career fields. Groupings were made for officers in contracting, logistics plans, maintenance, supply and transportation career fields. Means of officers' scores in each category were compared to the mean scores of the remaining officers. Fifteen additional means had to be calculated -one with the scores from each career field withdrawn from the composite score. The ANOVA technique was used to determine whether there was a significant difference between job satisfaction of officers serving in a given career field and the job satisfaction of the remaining officers. Therefore, the job satisfaction of officers serving in the supply career field was compared to the composite job satisfaction of the remaining officers; the job satisfaction of officers serving in the maintenance career field was compared to the composite job satisfaction of the remaining officers, and so forth.

Comparison of job satisfaction was also made between military ranks held by the officers assigned to the program. Officers holding the following ranks were assigned to the program: first lieutenant, captain and major. Means of the officers' scores were calculated on MSQ scales for each rank. Because there was only one lieutenant assigned, his or her scores could not be disclosed without jeopardizing the officer's identity. The mean scores for officers holding a given military rank were compared to the mean scores of the remaining officers in the program. Six additional means had to be calculated

- one with the scores from each rank withdrawn from the composite scores. The ANOVA technique was used to determine whether there was significant difference between satisfaction of officers holding a given rank and the composite job satisfaction of the officers holding the remaining ranks. Therefore, the job satisfaction of captains assigned to the program was compared to the composite job satisfaction of the remaining officers and the job satisfaction of majors was compared to the composite job satisfaction of the remaining officers.

Comparisons of job satisfaction were also made between academic degrees held by the officers. Since a baccalaureate degree is a minimum prerequisite for selection in the program and there were no doctoral degrees held, the comparison was made between officers holding baccalaureate degrees and those holding a master's degree. Means of officers' scores in both degree categories were calculated for MSQ scales. The mean scores of officers holding a bachelor's degree was compared to the mean score of officers holding a master's degree. The ANOVA technique was used to determine whether there was significant difference between job satisfaction of officers with a bachelor's degree and job satisfaction of officers with a master's degree.

Officers' scores on the MSQ scales were grouped according to categories of longevity in the program. The categories selected were: less than six months, more than six months but less than one year, more than one year but less than two years, and more than two years. Means of officers' scores in each category were compared to the mean scores of the remaining officers. Twelve additional means had to be calculated - one with the scores from each category withdrawn from the composite score. The ANOVA technique was used to determine whether

there was a significant difference between job satisfaction of the remaining officers. Therefore, the job satisfaction of officers with less than six months longevity was compared to the composite job satisfaction of the remaining officers; the job satisfaction of officers with over two years longevity was compared to the composite job satisfaction of the remaining officers, and so forth.

Statistical Methods

The research questions were stated in null hypothesis form when testing for statistical significance. That is, the research questions were restated into a format which stated that there was no difference between the respective means. The ANOVA technique and T-test verified the statements in null hypothesis form or indicated that there were significant differences. The 0.05 alpha level was used in all cases to determine whether or not to reject the null hypothesis.

The T-test and ANOVA technique are alternate ways of comparing the difference between two means. Both statistical techniques were used in this study. Support for this selection was found in Huck, Cormier and Bounds (1974). They stated:

> A one-way analysis of variance (abbreviated ANOVA) is an inferential statistical procedure which has the same general purpose as the 't' test: to compare groups in terms of mean scores. The difference between the two procedures lies in the number of groups that can be compared. Whereas the 't' test is designed for comparing two groups, a one-way ANOVA can be used to compare two or more groups. Both procedures yield identical results in a two-group comparison, but the one-way ANOVA is more versatile because it can also be used to compare three or more groups. The one-way ANOVA is, in effect an extension of the 't' test to a greater number of groups compared (p.58).

Additional support was found in Linton and Gallo (1975). They

stated:

> First, the 't' test is merely a special case of the analysis of variance; in fact, the value of 't^2' equals 'F' when there are only two treatment conditions. Second, the computing rules for the analysis of variance are simpler than those for the 't' test. Third, the analysis of variance may be used whenever the 't' test is appropriate, but the 't' test may be employed only with two treatment conditions (p. 122).

Linton and Gallo (1974) also stated:

> Analysis of variance is one of the most powerful and flexible statistical tests of significance. It is applicable to simple, two-condition experiments, but it can be extended to analyze research with any number of independent variables and any number of levels of those variables (p.122).

CHAPTER IV

RESULTS

The purpose of this study was to determine whether there were significant differences between the job satisfaction of officers assigned to the AFLC Logistics Career Broadening Program and nationally established norms of job satisfaction, as measured by the Minnesota Satisfaction Questionnaire. The study also included comparisons of the officers' job satisfaction between ALCs of assignment, logistics career fields, military ranks, academic degrees, and categories of longevity in the program. Job satisfaction scores of officers in the program were calculated for intrinsic, extrinsic, and general satisfaction based on the Minnesota Satisfaction Questionnaire (MSQ) scales.

Questionnaires Returned

There were 69 officers assigned to the program during March of 1983. Questionnaires were mailed to each officer; 57 questionnaires were returned by the deadline of April 15,1983. The return rate was 82.61 percent. Of the 57 questionnaires returned, 13 were from Ogden ALC, 11 were from Oklahoma City ALC, 11 were from Sacramento ALC, 10 were from San Antonio ALC, and 12 were from Warner Robins ALC. Nine questionnaires were returned by contracting officers, four were returned by logistics plans officers, 23 were returned by maintenance officers, 14 were returned by supply officers, and seven were returned

by transportation officers. Forty questionnaires were returned by officers holding the military rank of captain and 16 were returned by officers holding the military rank of major. Thirty-five questionnaires were returned by officers holding bachelor's degrees and 22 were returned by officers holding master's degrees. Five questionnaires were returned by officers who had been in the program less than six months, 19 were from officers who had been in the program more than six months but less than one year, 16 were returned from officers who had been in the program more than one year but less than two years, and 17 were returned from officers who had been in the program for more than two years. A categorical summary of the survey response is provided in Appendix C.

Analysis of the Responses

Analysis of the questionnaires received from the officers included: comparison of the officers' scores on each MSQ scale to the MSQ norms, comparison of groups (categories) of officers' scores on each MSQ scale to the MSQ norms, and comparison of officers' scores on each MSQ scale between groups of officers. After the officers' composite mean scores were compared to the MSQ norm for each scale, the officers' scores were grouped by ALC, career field, military rank, academic degree, and categories of longevity; each group was then compared to the MSQ norm for each scale. Finally, comparisons were made between groups- the officers' scores at each ALC were compared to the officers' scores at the remaining ALCs, the officers' scores in each career field were compared to the officers' scores in the remaining career fields, captains' and majors' scores were compared to

the officers' scores for the remaining military ranks, the officers' scores for those holding bachelor's degrees were compared to officers' scores for those holding master's degrees, and officers' scores for each category of longevity were compared to the officers' scores in the remaining categories of longevity. The results of analysis, based on the previously mentioned factors and comparisons, are included on the following pages.

Officers' Scores Compared to MSQ Norms

Officers' mean scores were calculated for the intrinsic, extrinsic, and general satisfaction scales. The data were treated to determine if there were significant differences between job satisfaction mean scores of the officers and the respective MSQ norms. It was assumed, in null hypothesis form, that there were no significant differences between the respective means.

For the intrinsic job satisfaction variable, the 57 officers' mean score was 45.70, the standard deviation was 9.27, the standard error was 1.06, and the range was 58.0 to 21.0. The MSQ norm was 47.14. The t value for the comparison of the two means (the officers' mean and the MSQ norm) was 1.36. There was no significant difference in intrinsic job satisfaction between the officers' mean score and the MSQ norm at the 0.05 alpha level (see Table III).

For the extrinsic job satisfaction variable, the 57 officers' mean score was 21.98, the standard deviation was 4.56, the standard error was 0.68, and the range was 30.0 to 14.0. The MSQ norm was 19.98. The t value for the comparison of the two means was 2.94. There was a significant difference in extrinsic job satisfaction between the

officers' mean score and the MSQ norm at the 0.05 and 0.01 alpha level (see Table III). The null hypothesis was rejected in favor of the determination of an acceptable statistical probability that a real difference existed.

TABLE III

JOB SATISFACTION OF OFFICERS IN THE CAREER BROADENING PROGRAM COMPARED TO MSQ NORMS

Variable	Source	N	Mean	Standard Deviation	t Value
Intrinsic	Officers	57	45.70	9.27	1.36
	MSQ Norm	1723	47.14	7.42	
Extrinsic	Officers	57	21.98	4.56	2.94**
	MSQ Norm	1723	19.98	4.78	
General	Officers	57	75.04	14.03	0.11
	MSQ Norm	1723	74.85	11.92	

**$p < .01$

For the general job satisfaction variable, the 57 officers' mean score was 75.04, the standard deviation was 14.03, the standard error was 1.70, and the range was 98.0 to 39.0. The MSQ norm was 74.85. The t value for the comparison of the two means was 0.11. There was no

significant difference in general job satisfaction between the officers' mean score and the MSQ norm at the 0.05 alpha level (see Table III).

Comparison to MSQ Norms By ALC

Officers' intrinsic, extrinsic, and general job satisfaction was examined based on their ALC of assignment. The mean scores for each ALC were compared to the MSQ norm for each scale of job satisfaction.

For the 13 officers that responded from Ogden ALC, mean scores were: 46.69 for intrinsic job satisfaction, 22.38 for extrinsic job satisfaction, and 77.08 for general job satisfaction. The results of the T-test showed that there were no significant differences between the officers' mean scores at Ogden ALC and the MSQ norms for any of the MSQ scales (see Table IV).

For the 11 officers that responded from Oklahoma City ALC, mean scores were: 40.09 for intrinsic job satisfaction, 19.73 for extrinsic job satisfaction, and 66.91 for general job satisfaction. The results of the T-test showed that there was no significant difference between the officers' mean scores and the MSQ norm for extrinsic job satisfaction. However, there was a significant difference on the intrinsic satisfaction scale at the 0.05 and 0.01 alpha levels and a significant difference on the general satisfaction scale at the 0.05 alpha level (see Table IV). The null hypothesis was rejected on the intrinsic and general job satisfaction scales in favor of the determination of acceptable statistical probability that real differences existed.

TABLE IV

JOB SATISFACTION OF OFFICERS GROUPED BY
ALC COMPARED TO MSQ NORMS

Variable	Source	N	Mean	Standard Deviation	t Value
Intrinsic	Ogden	13	46.69	7.08	0.21
	Oklahoma City	11	40.09	10.66	3.16**
	Sacramento	11	46.27	8.48	0.39
	San Antonio	10	52.30	5.81	2.20*
	Warner Robins	12	43.75	9.22	1.44
	MSQ Norm	1723	47.14	7.42	
Extrinsic	Ogden	13	22.38	3.52	1.78
	Oklahoma City	11	19.73	3.67	0.03
	Sacramento	11	22.73	4.39	1.92
	San Antonio	10	23.80	4.42	2.53*
	Warner Robins	12	21.42	5.51	1.07
	MSQ Norm	1723	19.98	4.78	
General	Ogden	13	77.08	11.40	0.66
	Oklahoma City	11	66.91	15.08	2.22*
	Sacramento	11	76.27	12.43	0.40
	San Antonio	10	83.70	8.56	2.35*
	Warner Robins	12	71.92	15.11	0.87
	MSQ Norm	1723	74.85	11.92	

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

For the 11 officers that responded from Sacramento ALC, mean scores were: 46.27 for intrinsic job satisfaction, 22.73 for extrinsic job satisfaction, and 76.27 for general job satisfaction. The results of the T-test indicated no significant difference existed between the officers' mean scores and the MSQ norm for any of the MSQ scales at the .05 level (see Table IV).

For the 10 officers that responded from San Antonio ALC, mean scores were: 52.30 for intrinsic job satisfaction, 23.80 for extrinsic job satisfaction, and 83.70 for general job satisfaction. The results of the T-test showed that significant differences between the officers' mean scores and the MSQ norms were present at the 0.05 alpha level for each of the job satisfaction scales (see Table IV). The null hypothesis was rejected in favor of the determination of acceptable statistical probability that real differences existed on each scale.

For the 12 officers that responded from Warner Robins ALC mean scores were: 43.75 for intrinsic job satisfaction, 21.42 for extrinsic job satisfaction, and 71.92 for general job satisfaction. The results of the T-test showed that there were no significant differences between the officers' mean scores at Warner Robins ALC and the MSQ norm for any of the MSQ scales at the 0.05 alpha level (see Table IV).

Comparison to MSQ Norms By Career Field

Nine contracting officers responded to the survey; their mean scores were: 48.67 for intrinsic job satisfaction, 23.44 for extrinsic job satisfaction, and 79.89 for general job satisfaction. When the contracting officers' mean scores were compared to the MSQ norms -using the T-test- the comparison showed no significant difference between the

officers' mean scores and the MSQ norms for intrinsic or general job satisfaction; however, a statistically significant difference (0.05 alpha level) was found on the extrinsic scale (see Table V).

Four logistics plans officers responded to the survey; their mean scores were: 47.75 for intrinsic job satisfaction, 23.50 for extrinsic job satisfaction, and 77.50 for general job satisfaction. When the logistics plans officers' mean scores were compared to the MSQ norms -using the T-test- the comparison showed no significant difference between the officers' mean scores and the MSQ norm for any MSQ scale (see Table V).

Twenty-three maintenance officers responded to the survey; their mean scores were: 45.23 for intrinsic job satisfaction, 21.48 for extrinsic job satisfaction, and 74.57 for general job satisfaction. When the maintenance officers' mean scores were compared to the MSQ norms -using the T-test- the comparison showed no significant difference between the officers' mean scores and the MSQ norm for any MSQ scale (see Table V).

Sixteen supply officers responded to the survey; their mean scores were: 42.86 for intrinsic job satisfaction, 20.14 for extrinsic job satisfaction, and 69.71 for general job satisfaction. When the supply officers' mean scores were compared to the MSQ norms -using the T-test- the comparison showed no significant difference between the officers' mean scores and the MSQ norms for extrinsic or general job satisfaction; however, a statistically significant difference (0.05 alpha level) was found on the intrinsic scale (see Table V).

TABLE V

JOB SATISFACTION OF OFFICERS GROUPED BY CAREER FIELD COMPARED TO MSQ NORMS

Variable	Source	N	Mean	Standard Deviation	t Value
Intrinsic	Contracting	9	48.67	8.08	0.62
	Logistics Plans	4	47.75	10.28	0.16
	Maintenance	23	45.43	9.37	1.15
	Supply	14	42.86	8.53	2.35*
	Transportation	7	47.29	9.39	0.05
	MSQ Norm	1723	47.14	7.42	
Extrinsic	Contracting	9	23.44	4.37	2.18*
	Logistics Plans	4	23.50	3.35	1.47
	Maintenance	23	21.48	3.92	1.58
	Supply	14	20.14	5.34	0.14
	Transportation	7	24.57	3.46	2.56*
	MSQ Norm	1723	19.98	4.78	
General	Contracting	9	79.89	13.49	1.27
	Logistics Plans	4	77.50	13.34	0.44
	Maintenance	23	74.57	12.34	0.12
	Supply	14	69.71	14.85	1.75
	Transportation	7	79.57	13.62	1.06
	MSQ Norm	1723	74.85	11.92	

* P< .05

Seven transportation officers responded to the survey; their mean scores were: 47.29 for intrinsic job satisfaction, 24.57 for extrinsic job satisfaction, and 79.57 for general job satisfaction. When the transportation officers' mean scores were compared to the MSQ norms -using the T-test- the comparison showed no significant difference between the officers' mean scores and the MSQ norms for the intrinsic or general job satisfaction scales however, a statistically significant difference (0.05 alpha level) was found on the extrinsic scale (see Table V).

Comparison to MSQ Norms By Rank

The data were also treated to determine whether there were significant differences between the job satisfaction mean scores of captains and majors and the MSQ norms.

Intrinsic satisfaction mean scores were: 46.55 for captains and 43.31 for majors. Extrinsic satisfaction mean scores were: 22.53 for captains and 20.44 for majors. General satisfaction scores were: 76.80 for captains and 70.25 for majors. Using the T-test to determine whether significant differences existed between captains' mean scores and the MSQ norms, it was found that no significant difference was present (at the 0.05 alpha level) on the intrinsic or general satisfaction scales, however there was a significant difference on the extrinsic scale (see Table VI). The T-test showed no significant differences between majors' mean scores and the MSQ norms for extrinsic or general job satisfaction at the 0.05 alpha level; however, a significant difference was found at the 0.05 alpha level on the intrinsic scale (see Table VI).

TABLE VI

JOB SATISFACTION OF OFFICERS GROUPED BY MILITARY RANK COMPARED TO MSQ NORMS

Variable	Source	N	Mean	Standard Deviation	t Value
Intrinsic	Captain	40	46.55	8.80	0.46
	Major	16	43.31	10.18	2.09*
	MSQ Norm	1723	47.14	7.42	
Extrinsic	Captain	40	22.53	3.85	3.07**
	Major	16	20.44	5.77	0.25
	MSQ Norm	1723	19.98	4.78	
General	Captain	40	76.80	12.39	0.94
	Major	16	70.25	16.50	1.57
	MSQ Norm	1723	74.85	11.92	

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

Comparison to MSQ Norms By Academic Degree

Statistical tests for significant differences were also conducted to determine whether there were differences between officers' mean scores grouped according to academic degree held and the MSQ norms. Twenty-two of the officers responding to the survey held bachelor's degrees and 35 held master's degrees.

For officers with bachelor's degrees, the mean scores for job satisfaction were: 42.82 for intrinsic, 21.45 for extrinsic, and 71.36

for general. The results of the T-test revealed that there was no significant difference between officers' (with bachelor's degrees) mean scores and the MSQ norms for the extrinsic or general scales; however, there was a significant difference between the officers' mean score for intrinsic satisfaction and the MSQ norm (see Table VII).

For officers with master's degrees, the mean scores for job satisfaction were: 47.51 for intrinsic, 22.31 for extrinsic, and 77.34 for general. The results of the T-test revealed that there was no significant difference between the mean scores of the officers with master's degrees and the MSQ norms on the intrinsic or general scales; however, there was a significant difference between the mean score for officers with a master's degree and the MSQ norm for extrinsic job satisfaction (at the 0.05 alpha level, see Table VII).

Comparison to MSQ Norms By Longevity

Officers' scores on the MSQ were grouped according to categories of time they had been assigned to the Logistics Career Broadening Program. The T-test was used to determine whether significant differences in job satisfaction were present between the scores for various longevity categories and the MSQ norms.

TABLE VII

JOB SATISFACTION OF OFFICERS GROUPED BY ACADEMIC DEGREE COMPARED TO MSQ NORMS

Variable	Source	N	Mean	Standard Deviation	t Value
Intrinsic	Bachelor's	22	42.82	9.38	2.59**
	Master's	35	47.51	8.72	0.29
	MSQ Norm	1723	47.14	7.42	
Extrinsic	Bachelor's	22	21.45	4.13	1.37
	Master's	35	22.31	4.77	2.81**
	MSQ Norm	1723	19.98	4.78	
General	Bachelor's	22	71.36	13.37	1.31
	Master's	35	77.34	13.74	1.20
	MSQ Norm	1723	74.85	11.92	

** $p < .01$

For intrinsic job satisfaction, the officers' mean scores -by category- were: 40.20 for officers who had been in the program less than six months, 45.42 for officers who had been in the program more than six months but less than one year, 45.63 for officers who had been in the program more than one year but less than two years, and 47.71 for officers who had been in the program more than two years. When officers' mean scores -by category- for intrinsic job satisfaction were compared to MSQ norms, it was determined that there were significant differences between officers' mean scores and the MSQ norm for

intrinsic satisfaction except for officers in the program for less than six months (see Table VIII). Officers in the program for less than six months scored significantly lower than the MSQ norm on intrinsic job satisfaction (at the 0.05 alpha level, see Table VIII).

For extrinsic job satisfaction, the officers' mean scores -by category- were: 20.20 for officers who had been in the program less than six months, 23.11 for officers who had been in the program more than six months but less than one year, 20.19 for officers who had been in the program more than one year but less than two years, and 22.94 for officers who had been in the program more than two years. When officers' mean scores -by category- for extrinsic job satisfaction were compared to MSQ norms, it was determined that there were no significant differences between officers' mean scores and the MSQ norm for job satisfaction for officers in the program for less than six months and for officers in the program more than one year but less than two years. However, statistically significant differences (at the .05 alpha level) existed for officers who had been in the program for more than six months but less than one year and for officers who had been in the program for more than two years. Mean scores for officers who had been in the program for more than six months but less than one year and officers who had been in the program for more than two years were significantly higher than the MSQ norm for extrinsic job satisfaction (at the 0.05 alpha level, see Table VIII).

TABLE VIII

JOB SATISFACTION OF OFFICERS GROUPED BY CATEGORIES OF LONGEVITY COMPARED TO MSQ NORMS

Variable	Source	N	Mean	Standard Deviation	t Value
Intrinsic	A#	5	40.20	5.78	2.10*
	B	19	45.42	10.38	1.03
	C	16	45.63	8.36	0.83
	D	17	47.71	8.88	0.31
	MSQ Norm	1723	47.14	7.42	
Extrinsic	A	5	20.20	1.72	0.10
	B	19	23.11	4.54	2.93**
	C	16	20.19	5.46	0.18
	D	17	22.94	3.37	2.53*
	MSQ Norm	1723	19.98	4.78	
General	A	5	67.80	7.47	1.19
	B	19	76.16	15.43	0.49
	C	16	72.56	13.43	0.78
	D	17	78.24	12.79	1.16
	MSQ Norm	1723	74.85	11.92	

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

#:A - Less than six months in the program
B - More than six months, less than one year
C - More than one year, less than two years
D - More than two years in the program

For general job satisfaction, the officers' mean scores -by category- were: 67.80 for officers who had been in the program less than six months, 76.16 for officers who had been in the program more than six months but less than one year, 72.56 for officers who had been in the program more than one year but less than two years, and 78.24 for officers who had been in the program more than two years. When officers' mean scores -by category- for general job satisfaction were compared to MSQ norms, it was determined that there were no significant differences between the officers' mean scores and the MSQ norm (at the 0.05 alpha level, see Table VIII).

Officers at Ogden ALC Compared to Other Officers

The mean scores for job satisfaction of officers assigned to Ogden ALC were: 46.69 on the intrinsic scale, 22.38 on the extrinsic scale, and 77.08 on the general scale. Mean scores of all other officers in the program were: 45.41 on the intrinsic scale, 21.86 on the extrinsic scale, and 74.43 on the general scale. The ANOVA technique was used to determine whether significant differences between the respective means were present; results showed no significant difference between the job satisfaction of officers at Ogden and the other officers in the program on any MSQ scale (see Table IX).

TABLE IX

JOB SATISFACTION OF OFFICERS AT OGDEN ALC
COMPARED TO ALL OTHER OFFICERS IN
THE PROGRAM

Variable	Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Intrinsic	Between Groups	16.52	1	16.52	0.19
	Within Groups	4877.41	55	88.68	
	Total	4893.93	56		
Extrinsic	Between Groups	2.72	1	2.72	0.13
	Within Groups	1180.26	55	21.46	
	Total	1182.98	56		
General	Between Groups	70.21	1	70.21	0.35
	Within Groups	10957.72	55	199.23	
	Total	11027.93	56		

Officers at Oklahoma City ALC

Compared to Other Officers

The mean scores for job satisfaction of officers assigned to Oklahoma City ALC were: 40.09 on the intrinsic scale, 19.73 on the extrinsic scale, and 66.91 on the general scale. Mean scores of all other officers in the program were: 47.04 on the intrinsic scale, 22.52 on the extrinsic scale, and 76.98 on the general scale. Results of the ANOVA technique showed that there was no statistically significant difference (at the 0.05 alpha level) between the extrinsic job satisfaction of officers at Oklahoma City ALC and the other officers in the program. However, there were significant differences between officers' mean scores at Oklahoma City and the remaining

officers' mean scores for general and intrinsic job satisfaction (see Table X).

TABLE X

JOB SATISFACTION OF OFFICERS AT OKLAHOMA CITY ALC COMPARED TO ALL OTHER OFFICERS IN THE PROGRAM

Variable	Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Intrinsic	Between Groups	429.11	1	429.11	5.29*
	Within Groups	4464.82	55	81.18	
	Total	4893.93	56		
Extrinsic	Between Groups	69.32	1	69.32	3.42
	Within Groups	1113.66	55	20.25	
	Total	1182.98	56		
General	Between Groups	900.04	1	900.04	4.89*
	Within Groups	10127.89	55	184.14	
	Total	11027.93	56		

* $p<.05$

Officers at Sacramento ALC

Compared to Other Officers

The mean scores for job satisfaction of officers assigned to Sacramento ALC were: 46.27 on the intrinsic scale, 22.73 on the extrinsic scale, and 76.27 on the general scale. Mean scores of all other officers in the program were: 45.57 on the intrinsic scale, 21.80 on the extrinsic scale, and 74.74 on the general scale. Results

of the ANOVA technique showed that there was no statistically significant difference between the mean scores of officers at Sacramento and the other officers in the program on any MSQ scale (see Table XI).

TABLE XI

JOB SATISFACTION OF OFFICERS AT SACRAMENTO ALC COMPARED TO ALL OTHER OFFICERS IN THE PROGRAM

Variable	Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Intrinsic	Between Groups	4.44	1	4.44	0.05
	Within Groups	4889.49	55	88.90	
	Total	4893.93	56		
Extrinsic	Between Groups	7.56	1	7.56	0.35
	Within Groups	1175.42	55	21.37	
	Total	1182.98	56		
General	Between Groups	20.88	1	20.88	0.10
	Within Groups	11007.05	55	200.13	
	Total	11027.93	56		

Officers at San Antonio ALC

Compared to Other Officers

The mean scores for job satisfaction of officers assigned to San Antonio ALC were: 52.30 on the intrinsic scale, 23.80 on the extrinsic scale, and 83.70 on the general scale. Mean scores of all other

officers in the program were: 44.30 on the intrinsic scale, 21.60 on the extrinsic scale, and 73.19 on the general scale. Results of the ANOVA technique showed that there was no statistically significant difference (at the 0.05 alpha level) between the extrinsic job satisfaction of officers at San Antonio and the other officers in the program. However, there were significant differences between officers' mean scores at San Antonio and the remaining officers' mean scores for general and intrinsic job satisfaction (see Table XII).

TABLE XII

JOB SATISFACTION OF OFFICERS AT SAN ANTONIO ALC COMPARED TO ALL OTHER OFFICERS IN THE PROGRAM

Variable	Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Intrinsic	Between Groups	528.00	1	528.00	6.65*
	Within Groups	4365.93	55	79.38	
	Total	4893.93	56		
Extrinsic	Between Groups	40.06	1	40.06	1.93
	Within Groups	1142.92	55	20.78	
	Total	1182.98	56		
General	Between Groups	910.55	1	910.55	4.95*
	Within Groups	10117.38	55	183.95	
	Total	11027.93	56		

* $p<.05$

Officers at Warner Robins ALC Compared to Other Officers

The mean scores for job satisfaction of officers assigned to Warner Robins ALC were: 43.75 on the intrinsic scale, 21.42 on the extrinsic scale, and 71.92 on the general scale. Mean scores of all other officers in the program were: 46.22 on the intrinsic scale, 22.13 on the extrinsic scale, and 75.87 on the general scale. Results of the ANOVA technique showed that there was no statistically significant difference between the mean scores of officers at Warner Robins and the other officers in the program on any MSQ scale (see Table XIII).

TABLE XIII

JOB SATISFACTION OF OFFICERS AT WARNER ROBINS ALC COMPARED TO ALL OTHER OFFICERS IN THE PROGRAM

Variable	Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Intrinsic	Between Groups	57.90	1	57.90	0.66
	Within Groups	4836.03	55	87.93	
	Total	4893.93	56		
Extrinsic	Between Groups	4.87	1	4.87	0.23
	Within Groups	1178.11	55	21.42	
	Total	1182.98	56		
General	Between Groups	147.81	1	147.81	0.75
	Within Groups	10880.12	55	197.82	
	Total	11027.93	56		

Contracting Officers Compared to Other Officers

The officers' mean scores were also treated to determine whether officers' job satisfaction varied significantly when compared by their respective career fields. Mean scores for officers in the contracting career field were compared, using the ANOVA technique, to the mean scores of all other officers in the program.

Contracting officers' mean scores for job satisfaction were: 48.67 on the intrinsic scale, 23.44 on the extrinsic scale, and 79.89 on the general scale. Mean scores for the remaining officers in the program were: 45.15 on the intrinsic scale, 21.71 on the extrinsic scale, and 74.13 on the general scale. The ANOVA technique showed that there was no significant difference between the job satisfaction mean scores of contracting officers and the mean scores of the remaining officers in the program on any MSQ scale (see Table XIV).

TABLE XIV

JOB SATISFACTION OF CONTRACTING OFFICERS COMPARED TO ALL OTHER OFFICERS IN THE PROGRAM

Variable	Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Intrinsic	Between Groups	93.95	1	93.95	1.08
	Within Groups	4799.98	55	87.27	
	Total	4893.93	56		
Extrinsic	Between Groups	22.84	1	22.84	1.08
	Within Groups	1160.14	55	21.09	
	Total	1182.98	56		
General	Between Groups	251.79	1	251.79	1.29
	Within Groups	10776.14	55	195.93	
	Total	11027.93	56		

Logistics Plans Officers Compared to Other Officers

Mean scores for officers in the logistics plans career field were compared to the respective mean scores of all other officers in the program. Logistics plans officers' mean scores for job satisfaction were: 47.75 on the intrinsic scale, 23.50 on the extrinsic scale, and 77.50 on the general scale. Mean scores for the remaining officers were: 45.55 on the intrinsic scale, 21.87 on the extrinsic scale, and 74.85 on the general scale. The ANOVA technique showed that there was no significant difference between the job satisfaction mean score of logistics plans officers and the mean score of the remaining officers in the program on any MSQ scale (see Table XV).

TABLE XV

JOB SATISFACTION OF LOGISTICS PLANS OFFICERS COMPARED TO ALL OTHER OFFICERS IN THE PROGRAM

Variable	Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Intrinsic	Between Groups	18.05	1	18.05	0.20
	Within Groups	4875.88	55	88.65	
	Total	4893.93	56		
Extrinsic	Between Groups	9.91	1	9.91	0.46
	Within Groups	1173.07	55	21.33	
	Total	1182.98	56		
General	Between Groups	26.14	1	26.14	0.13
	Within Groups	11001.79	55	200.03	
	Total	11027.93	56		

Maintenance Officers Compared to Other Officers

Mean scores for officers in the maintenance career field were compared to the respective mean scores of all other officers in the program. Maintenance officers' mean scores for job satisfaction were: 45.43 on the intrinsic scale, 21.48 on the extrinsic scale, and 74.57 on the general scale. Mean scores for the remaining officers were: 45.88 on the intrinsic scale, 22.32 on the extrinsic scale, and 75.35 on the general scale. The ANOVA technique showed that there was no significant difference between the job satisfaction mean scores of maintenance officers and the mean scores of the remaining officers on any MSQ scale (see Table XVI).

TABLE XVI

JOB SATISFACTION OF MAINTENANCE OFFICERS COMPARED TO ALL OTHER OFFICERS IN THE PROGRAM

Variable	Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Intrinsic	Between Groups	2.75	1	2.75	0.03
	Within Groups	4891.18	55	88.93	
	Total	4893.93	56		
Extrinsic	Between Groups	9.80	1	9.80	0.46
	Within Groups	1173.18	55	21.33	
	Total	1182.98	56		
General	Between Groups	8.51	1	8.51	0.04
	Within Groups	11019.42	55	200.35	
	Total	11027.93	56		

Supply Officers Compared to Other Officers

Mean scores for officers in the supply career field were compared to the respective mean scores of all other officers in the program. Supply officers' mean scores for job satisfaction were: 42.86 on the intrinsic scale, 20.14 on the extrinsic scale, and 69.71 on the general scale. Mean scores for the remaining officers were: 46.63 on the intrinsic scale, 22.58 on the extrinsic scale, and 76.77 on the general scale. The ANOVA technique showed that there was no significant difference between the job satisfaction mean scores of supply officers and the mean scores of the remaining officers on any MSQ scale (see Table XVII).

TABLE XVII

JOB SATISFACTION OF SUPPLY OFFICERS COMPARED TO ALL OTHER OFFICERS IN THE PROGRAM

Variable	Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Intrinsic	Between Groups	150.17	1	150.17	1.74
	Within Groups	4743.76	55	86.25	
	Total	4893.93	56		
Extrinsic	Between Groups	62.80	1	62.80	3.08
	Within Groups	1120.18	55	20.37	
	Total	1182.98	56		
General	Between Groups	525.40	1	525.40	2.75
	Within Groups	10502.53	55	190.96	
	Total	11027.93	56		

Transportation Officers Compared to Other Officers

Mean scores for officers in the transportation career field were compared to the respective mean scores of all other officers in the program. Transportation officers' mean scores for job satisfaction were: 47.29 on the intrinsic scale, 24.57 on the extrinsic scale, and 79.57 on the general scale. Mean scores for the remaining officers were: 45.48 on the intrinsic scale, 21.62 on the extrinsic scale, and 74.40 on the general scale. The ANOVA technique showed that there was no significant difference between the job satisfaction mean scores of transportation officers and the mean scores of the remaining officers on any MSQ scale (see Table XVIII).

TABLE XVIII

JOB SATISFACTION OF TRANSPORTATION OFFICERS COMPARED TO ALL OTHER OFFICERS IN THE PROGRAM

Variable	Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Intrinsic	Between Groups	20.02	1	20.02	0.23
	Within Groups	4873.91	55	88.62	
	Total	4893.93	56		
Extrinsic	Between Groups	53.49	1	53.49	2.60
	Within Groups	1129.49	55	20.54	
	Total	1182.98	56		
General	Between Groups	164.22	1	164.22	0.83
	Within Groups	10863.71	55	197.52	
	Total	11027.93	56		

Captains Compared to Other Officers

Data were also treated to determine whether officers' job satisfaction varied significantly when compared by the officers' respective ranks. Mean scores for captains were compared, using the ANOVA technique, to the mean scores of all other officers in the program.

Job satisfaction mean scores for captains were: 46.55 on the intrinsic scale, 22.53 on the extrinsic scale, and 76.80 on the general scale. Job satisfaction mean scores for the remaining officers were: 43.71 on the intrinsic scale, 20.71 on the extrinsic scale, and 70.88 on the general scale. The ANOVA results showed that there was no statistically significant difference between captains' mean scores and the mean scores of the remaining officers on any MSQ scale (see Table XIX).

TABLE XIX

JOB SATISFACTION OF CAPTAINS COMPARED TO ALL OTHER OFFICERS IN THE PROGRAM

Variable	Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Intrinsic	Between Groups	96.50	1	96.50	1.11
	Within Groups	4797.43	55	87.23	
	Total	4893.93	56		
Extrinsic	Between Groups	39.48	1	39.48	1.90
	Within Groups	1143.50	55	20.79	
	Total	1182.98	56		
General	Between Groups	417.77	1	417.77	2.17
	Within Groups	10610.16	55	192.91	
	Total	11027.93	56		

Majors Compared to Other Officers

Job satisfaction mean scores for majors were: 43.31 on the intrinsic scale, 20.44 on the extrinsic scale, and 70.25 on the general scale. Job satisfaction mean scores for the remaining officers were: 46.63 on the intrinsic scale, 22.59 on the extrinsic scale, and 76.90 on the general scale. The ANOVA results showed that there was no statistically significant difference between majors' mean scores and mean scores of the remaining officers on any MSQ scale (see Table XX).

TABLE XX

JOB SATISFACTION OF MAJORS COMPARED TO ALL OTHER OFFICERS IN THE PROGRAM

Variable	Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Intrinsic	Between Groups	126.98	1	126.98	1.47
	Within Groups	4766.95	55	86.67	
	Total	4893.93	56		
Extrinsic	Between Groups	53.09	1	53.09	2.58
	Within Groups	1129.89	55	20.54	
	Total	1182.98	56		
General	Between Groups	509.32	1	509.32	2.66
	Within Groups	10518.61	55	191.25	
	Total	11027.93	56		

Scores Compared by Academic Degree

Officers' scores on the MSQ were also grouped according to the academic degree. Twenty-two of the respondents held bachelor's degrees; 35 of the respondents held master's degrees. Mean scores on the MSQ for officers holding bachelor's degrees were: 42.82 on the intrinsic scale, 21.45 on the extrinsic scale, and 71.36 on the general scale. Mean scores for officers holding master's degrees were: 47.51 on the intrinsic scale, 22.31 on the extrinsic scale, and 77.34 on the general scale. Results of the ANOVA technique showed that there was no statistically significant difference between the mean scores of officers holding bachelor's degrees and the mean scores of officers holding master's degrees (see Table XXI).

Officers With Less Than Six Months in the Program

The data were treated to compare the MSQ scores of officers by categories of longevity in the program. Five of the officers responding to the survey had been in the program less than six months. The mean scores for those officers were: 40.20 on the intrinsic job satisfaction scale, 20.20 on the extrinsic job satisfaction scale, and 67.80 on the general job satisfaction scale. The mean scores for all other officers were: 46.23 on the intrinsic job satisfaction scale, 22.15 on the extrinsic job satisfaction scale, and 75.73 on general job satisfaction scale. Results of the ANOVA technique showed that there was no statistically significant difference between mean scores of officers with less than six months in the program and the mean scores of other officers in the program (see Table XXII).

TABLE XXI

JOB SATISFACTION OF OFFICERS HOLDING BACHELOR'S DEGREES COMPARED TO OFFICERS HOLDING MASTERS DEGREES

Variable	Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Intrinsic	Between Groups	297.91	1	297.91	3.57
	Within Groups	4596.02	55	83.56	
	Total	4893.93	56		
Extrinsic	Between Groups	9.99	1	9.99	0.47
	Within Groups	1172.99	55	21.33	
	Total	1182.98	56		
General	Between Groups	482.95	1	482.95	2.52
	Within Groups	10544.98	55	191.73	
	Total	11027.93	56		

TABLE XXII

JOB SATISFACTION OF OFFICERS WITH LESS THAN SIX MONTHS IN THE PROGRAM COMPARED TO ALL OTHER OFFICERS IN THE PROGRAM

Variable	Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Intrinsic	Between Groups	165.90	1	165.90	1.93
	Within Groups	4728.03	55	85.96	
	Total	4893.93	56		
Extrinsic	Between Groups	17.41	1	17.41	0.82
	Within Groups	1165.57	55	21.19	
	Total	1182.98	56		
General	Between Groups	286.90	1	286.90	1.47
	Within Groups	10741.03	55	195.29	
	Total	11027.93	56		

Officers With More Than Six Months But Less Than One Year

The mean scores for officers in the program for more than six months but less than one year were: 45.42 on the intrinsic job satisfaction scale, 23.11 on the extrinsic job satisfaction scale, and 76.16 on the general job satisfaction scale. The mean scores for the other officers were: 45.84 on the intrinsic job satisfaction scale, 21.42 on the extrinsic job satisfaction scale, and 74.47 on the general job satisfaction scale. Results of the ANOVA technique showed that there was no statistically significant difference between mean scores of officers with more than six months but less than one year in the program and the mean scores of other officers in the program on any MSQ scale (see Table XXIII).

Officers With More Than One Year But Less Than Two Years

The mean scores for officers in the program for more than one year but less than two years were: 45.63 on intrinsic job satisfaction, 20.19 on extrinsic job satisfaction, and 72.56 on general job satisfaction. The mean scores for the other officers were: 45.73 on intrinsic job satisfaction, 22.68 on extrinsic job satisfaction, and 76.00 on general job satisfaction. Results of the ANOVA technique showed that there was no statistically significant difference between mean scores of officers with more than one year but less than two years in the program and the mean scores of other officers in the program on any MSQ scale (see Table XXIV).

TABLE XXIII

JOB SATISFACTION OF OFFICERS WITH MORE THAN SIX MONTHS BUT LESS THAN ONE YEAR IN THE PROGRAM COMPARED TO ALL OTHER OFFICERS IN THE PROGRAM

Variable	Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Intrinsic	Between Groups	2.25	1	2.25	0.03
	Within Groups	4891.68	55	88.94	
	Total	4893.93	56		
Extrinsic	Between Groups	35.93	1	35.93	1.72
	Within Groups	1147.05	55	20.86	
	Total	1182.98	56		
General	Between Groups	35.93	1	35.93	0.18
	Within Groups	10992.00	55	199.85	
	Total	11027.93	56		

TABLE XXIV

JOB SATISFACTION OF OFFICERS WITH MORE THAN ONE YEAR BUT LESS THAN TWO YEARS IN THE PROGRAM COMPARED TO ALL OTHER OFFICERS IN THE PROGRAM

Variable	Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Intrinsic	Between Groups	0.13	1	0.13	0.001
	Within Groups	4893.80	55	88.93	
	Total	4893.93	56		
Extrinsic	Between Groups	71.67	1	71.67	3.55
	Within Groups	1111.31	55	20.21	
	Total	1182.98	56		
General	Between Groups	135.99	1	135.99	0.69
	Within Groups	10891.94	55	198.04	
	Total	11027.93	56		

Officers With More Than Two Years in the Program

The mean scores for officers in the program for more than two years were: 47.71 on intrinsic job satisfaction, 22.94 on extrinsic job satisfaction, and 78.24 on general job satisfaction. The mean scores for the other officers were: 44.85 on intrinsic job satisfaction, 21.58 on extrinsic job satisfaction, and 73.66 on general job satisfaction. Results of the ANOVA technique showed that there was no statistically significant difference between mean scores of officers with more than two years in the program and the mean scores of other officers in the program on any MSQ scale (see Table XXV).

TABLE XXV

JOB SATISFACTION OF OFFICERS WITH MORE THAN TWO YEARS IN THE PROGRAM COMPARED TO ALL OTHER OFFICERS IN THE PROGRAM

Variable	Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Intrinsic	Between Groups	97.30	1	97.30	1.12
	Within Groups	4796.63	55	87.21	
	Total	4893.93	56		
Extrinsic	Between Groups	22.27	1	22.27	1.06
	Within Groups	1160.71	55	21.10	
	Total	1182.98	56		
General	Between Groups	248.10	1	248.10	1.27
	Within Groups	10779.83	55	196.00	
	Total	11027.93	56		

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary of the Study

The purpose of this study was to determine whether there were significant differences between the job satisfaction of officers or groups (categories) of officers assigned to the Air Force Logistics Command Logistics Career Broadening Program and nationally established norms of job satisfaction, as measured by the Minnesota Satisfaction Questionnaire. Additionally, the study included a comparative analysis of the officers' job satisfaction between officers' ALCs of assignment, logistics career fields, military ranks, academic degrees, and categories of longevity in the program.

The United States Air Force approved and endorsed this study; the Air Force requested and received copies of the study. The study measured and analyzed the job satisfaction of the 57 officers responding to the survey. The officers were assigned to the AFLC Logistics Career Broadening Program and were serving at the following Air Logistics Centers: Ogden, Oklahoma City, Sacramento, San Antonio, and Warner Robins. The officers were serving in the following logistics career fields: contracting, logistics plans, maintenance, supply, and transportation. The officers held the following military ranks: captain, first lieutenant, or major. The officers held either

bachelor's or master's degrees. The officers' longevity in the program was categorized as follows: less than six months, more than six months but less than one year, more than one year but less than two years, and more than two years.

This study used the copyrighted Minnesota Satisfaction Questionnaire, short form, and a brief supplement prepared by the researcher to gather the necessary data. The questionnaires and supplements were mailed to the Director of Personnel at each ALC. The Directors distributed the surveys to the 69 officers; 57 officers responded by the deadline of April 15, 1983. The MSQ has three scales for measuring job satisfaction: intrinsic, extrinsic, and general.

The T-test and one-way analysis of variance (ANOVA) statistical methods were used to determine whether significant differences existed between officers' job satisfaction scores and the MSQ norms and between groups of officers' mean scores. It was assumed, in null hypothesis form, that no significant differences existed between means; the 0.05 alpha level was used as the threshold for rejecting the null hypothesis. The results of the statistical analysis follow in the summary of the findings.

Summary of the Findings

The findings of the study follow as directly related to each research question presented in Chapter I.

> Question 1: Is there significant difference between job satisfaction of officers or groups (categories) of officers assigned to the AFLC Logistics Career Broadening Program and the job satisfaction norms established for the Minnesota Satisfaction Questionnaire short form?

The officers' mean scores on the MSQ were: 45.70 on the intrinsic

scale, 21.98 on the extrinsic scale, and 75.04 on the general satisfaction scale. The respective MSQ norms were: 47.14, 19.98, and 74.85. The t values found when comparing the respective means to the MSQ norms were: 1.36 for the intrinsic scale, 2.94 for the extrinsic scale, and 0.11 for the general scale. The t value for extrinsic satisfaction (2.94) exceeded the 0.05 and 0.01 alpha levels; there was a significant difference between the officers' mean scores for extrinsic job satisfaction and the MSQ norm.

The officers' scores were grouped according the officers' ALC of assignment and their mean scores were compared to the MSQ norm for each satisfaction scale. On the intrinsic scale, the officers' mean scores -by ALC- were: 46.69 for Ogden, 40.09 for Oklahoma City, 46.27 for Sacramento, 52.30 for San Antonio, and 43.75 for Warner Robins. The t values found when comparing the mean scores -by ALC- to the MSQ norm (47.14) were; 0.21 for Ogden, 3.16 for Oklahoma City, 0.39 for Sacramento, 2.20 for San Antonio, and 1.44 for Warner Robins. There were statistically significant differences between the officers' intrinsic satisfaction mean scores and the MSQ norms for officers responding from Oklahoma City ALC and for officers responding from San Antonio ALC. The officers' mean score for Oklahoma City was significantly lower than the MSQ norm at the 0.05 and 0.01 alpha levels; the officers' mean score for San Antonio was significantly higher than the MSQ norm at the 0.05 alpha level.

On the extrinsic scale, the officers' mean scores -by ALC- were: 22.38 for Ogden, 19.73 for Oklahoma City, 22.73 for Sacramento, 23.80 for San Antonio, and 21.42 for Warner Robins. The t values found when comparing the officers' mean scores -by ALC- to the MSQ norm (19.98)

were: 1.78 for Ogden, 0.03 for Oklahoma City, 1.92 for Sacramento, 2.53 for San Antonio, and 1.07 for Warner Robins. There was a significant difference between the officers' extrinsic satisfaction mean score and the MSQ norm for officers assigned to San Antonio (at the 0.05 alpha level).

On the general satisfaction scale, the officers' mean scores -by ALC- were: 77.08 for Ogden, 66.91 for Oklahoma City, 76.27 for Sacramento, 83.70 for San Antonio, and 71.92 for Warner Robins. The t values found when comparing the officers' mean scores -by ALC- to the MSQ norm (74.85) were: 0.66 for Ogden, 2.22 for Oklahoma City, 0.40 for Sacramento, 2.35 for San Antonio, and 0.87 for Warner Robins. The officers' general satisfaction mean score for Oklahoma City ALC was significantly lower than the MSQ norm at the 0.05 alpha level while the officers' general satisfaction mean score for San Antonio ALC was significantly higher than the MSQ norm at the 0.05 alpha level.

The officers' scores were also grouped according to their logistics career fields and their mean scores were compared to the MSQ norm for each scale. On the intrinsic scale, the officers' mean scores -by career field- were: 48.67 for contracting, 47.75 for logistics plans, 45.43 for maintenance, 42.86 for supply, and 47.29 for transportation. The t values found when comparing the mean scores -by career field- to the MSQ norm (47.14) were: 0.62 for contracting, 0.16 for logistics plans, 1.15 for maintenance, 2.35 for supply, and 0.05 for transportation. The mean score for supply officers was significantly lower than the MSQ norm at the 0.05 alpha level.

For the extrinsic scale, the officers' mean scores -by career field- were: 23.44 for contracting, 23.50 for logistics plans, 21.48

for maintenance, 20.14 for supply, and 24.57 for transportation. The t values found when comparing the officers' mean scores -by career field- to the MSQ norm (19.98) were: 2.18 for contracting, 1.47 for logistics plans, 1.58 for maintenance, 0.14 for supply, and 2.56 for transportation. The extrinsic satisfaction mean scores for contracting and transportation officers were significantly higher than the MSQ norm at the 0.05 alpha level.

Officers' mean scores -by career field- were also compared to the MSQ norm for general job satisfaction. There was no significant difference between the officers' mean scores and the MSQ norm for general job satisfaction for any of the logistics career fields.

The officers' scores were also grouped according to their military rank and their mean scores were compared to the MSQ norm for each job satisfaction scale. Since only one first lieutenant was assigned (and responded to the survey) to the program, that score was not treated, individually, in order to preserve the officer's anonymity. For intrinsic job satisfaction, the officers' mean scores -by rank- were: 46.55 for captains and 43.31 for majors. The t values found when comparing the mean scores -by rank- to the MSQ norm (47.14) were: 0.46 for captains and 2.09 for majors. There was a statistically significant difference between the majors' intrinsic satisfaction score and the MSQ norm at the 0.05 alpha level.

For the extrinsic job satisfaction scale, the officers' mean scores -by rank- were: 22.53 for captains and 20.44 for majors. The t values found when comparing the mean scores -by rank- to the MSQ norm (19.98) were: 3.07 for captains and 0.25 for majors. The captains' extrinsic satisfaction mean score was significantly higher than the MSQ

norm at the 0.05 and 0.01 alpha levels.

Officers' mean scores -by rank- were also compared to the MSQ norm for general job satisfaction. There was no significant difference between the officers' mean scores and the MSQ norm for general job satisfaction for either captains or majors.

The officers' scores were also grouped according to the academic degree they held and their mean scores were compared to the MSQ norm for each scale. On the intrinsic satisfaction scale, the officers' mean scores -by academic degree- were: 42.82 for officers with bachelor's degrees and 47.51 for officers with master's degrees. The t values found when comparing the mean scores -by academic degree- to the MSQ norm (47.14) were: 2.59 for officers with a bachelor's degree and 0.29 for officers with a master's degree. The mean score on intrinsic job satisfaction for officers with a bachelor's degree was significantly lower than the MSQ norm at the 0.05 and 0.01 alpha levels.

On the extrinsic satisfaction scale, the officers' mean scores -by academic degree- were: 21.45 for officers with a bachelor's degree and 22.31 for officers with a master's degree. The t value found when comparing the mean scores -by academic degree- to the MSQ norm (19.98) were: 1.37 for officers with a bachelor's degree and 2.81 for officers with a master's degree. The mean score on extrinsic job satisfaction for officers with a master's degree was significantly higher than the MSQ norm at the 0.05 and 0.01 alpha levels.

Officers' mean scores -by academic degree- were also compared to the MSQ norm for general job satisfaction. There was no significant difference between the officers' mean scores and the MSQ norm for

general job satisfaction for either officers with a bachelor's or master's degree.

Officers' scores were also grouped according to categories of their longevity in the program and their mean scores were compared to the MSQ norm for each scale. On the intrinsic satisfaction scale, the officers' mean scores -by longevity- were: 40.20 for officers who had been in the program for less than six months, 45.42 for officers who had been in the program for more than six months but less than one year, 45.63 for officers who had been in the program for more than one year but less than two years, and 47.71 for officers who had been in the program for over two years. The t values found when comparing the officers' mean scores -by longevity- to the MSQ norm (47.14) were: 2.10 for less than six months, 1.03 for more than six months but less than one year, 0.83 for more than one year but less than two years, and 0.31 for more than two years. The intrinsic satisfaction mean score for officers with less than six months in the program was significantly lower than the MSQ norm at the 0.05 alpha level.

On the extrinsic satisfaction scale, the officers' mean scores -by longevity- were: 20.20 for officers who had been in the program for less than six months, 23.11 for officers who had been in the program for more than six months but less than one year, 20.19 for officers who had been in the program for more than one year but less than two years, and 22.94 for officers who had been in the program for more than two years. The t values found when comparing the officers' mean scores -by longevity- to the MSQ norm (19.98) were: 0.10 for less than six months, 2.93 for more than six months but less than one year, 0.18 for more than one year but less than two years, and 2.53 for more than two

years. The mean score for officers who had been in the program for more than six months but less than one year was significantly higher than the MSQ norm at the 0.05 and 0.01 alpha levels. The mean score for officers who had been in the program for more than two years was significantly higher than the MSQ norm at the 0.05 alpha level.

Officers' mean scores -by categories of longevity- were also compared to the MSQ norm for general job satisfaction. There was no significant difference between the officers' mean scores and the MSQ norm for general job satisfaction for any category of longevity.

Question 2: Is job satisfaction of officers assigned to the program significantly different between ALCs?

There were significant differences between mean scores when the officers' scores were grouped and treated by ALC. Officers assigned to Oklahoma City ALC and San Antonio ALC had mean scores which were significantly different from the composite mean scores of other officers in the program for both intrinsic and general job satisfaction.

The mean scores for officers assigned to Oklahoma City ALC were: 40.09 on the intrinsic scale, 19.73 on the extrinsic scale, and 66.91 on the general scale. The composite mean scores for officers assigned to the remaining ALCs were : 47.04 on the intrinsic scale, 22.52 on the extrinsic scale, and 76.98 on the general scale. Mean scores for officers assigned to Oklahoma City ALC were significantly lower (at the 0.05 alpha level) than the composite mean scores for officers assigned to the remaining ALCs on the intrinsic and general job satisfaction scales. The F values for the ANOVA were: 5.29 for the intrinsic satisfaction scale, 3.42 for the extrinsic satisfaction scale, and 4.89 for the general job satisfaction scale.

The mean scores for officers assigned to San Antonio ALC were: 52.30 on the intrinsic scale, 23.80 on the extrinsic scale, and 83.70 on the general scale. The mean scores for the officers assigned to the remaining ALCs were : 44.30 on the intrinsic scale, 21.60 on the extrinsic scale, and 73.19 on the general scale. Mean scores for officers assigned to San Antonio ALC were significantly higher (at the 0.05 alpha level) than the composite mean scores for officers assigned to the remaining ALCs on the intrinsic and general job satisfaction scales. The F values for the ANOVA were: 6.65 for the intrinsic scale, 1.93 for the extrinsic scale, and 4.95 for the general job satisfaction scale.

Question 3: Is job satisfaction of officers assigned to the program significantly different between logistics career fields?

Mean scores for officers grouped by logistics career fields were also compared, using the ANOVA technique, to determine whether significant differences in job satisfaction existed between officers' career fields. There was no significant difference between the mean score for any particular career field and the composite mean score for other career fields on any MSQ scale.

Question 4: Is job satisfaction of officers assigned to the program significantly different between military ranks?

Mean scores for officers grouped by military rank were compared, using the ANOVA technique, to determine whether significant differences in job satisfaction existed between ranks. There was no significant difference between the mean scores for any particular rank and the composite mean scores for the remaining ranks on any MSQ scale.

Question 5: Is job satisfaction of officers assigned to the program significantly different between officers holding bachelor's degrees and officers holding master's degrees?

Mean scores for officers with bachelor's degrees were compared, using the ANOVA technique, to mean scores of officers holding master's degrees to determine whether significant differences in job satisfaction existed between officers with bachelor's degrees and officers with master's degrees. There was no significant difference between the mean scores of officers with bachelor's degrees and the mean scores of officers with master's degrees.

Question 6: Is job satisfaction of officers assigned to the program significantly different between categories of longevity in the program?

Mean scores for officers grouped by categories of longevity were compared, using the ANOVA technique, to determine whether significant differences existed between categories of longevity. There was no significant difference between the mean scores for any particular category of longevity and the composite mean scores for other categories of longevity on any of the MSQ scales.

Conclusions

As a group, the officers assigned to the AFLC Logistics Career Broadening Program had scores on the extrinsic satisfaction scale which were significantly higher than the norm for the MSQ. It should be noted, however, that only one ALC (San Antonio) had a mean score significantly higher than the MSQ norm for the extrinsic scale. This is attributed to the increased N used in the T-test (57 versus 11 to 13) allowing for increased statistical probability of a real difference being present rather than officers' scores from San Antonio ALC being extremely different enough to change the average significantly. The mean score for officers excluding scores from San Antonio ALC was still

significantly different from the MSQ norm.

The officers' mean scores for intrinsic and general job satisfaction were not significantly different from the norm for the MSQ. The officers' mean score for intrinsic job satisfaction was, mathematically, lower than the MSQ norm (45.70 versus 47.14) and the officers' mean score for general job satisfaction was, mathematically, higher than the MSQ norm (75.04 versus 74.85).

When the officers' scores were grouped by their ALC of assignment and compared to the MSQ norms and to each other, there were significant variances present. Officers' mean scores from Oklahoma City ALC were significantly lower than the MSQ norm and significantly lower than the composite mean score of the officers at the remaining ALCs for intrinsic and general job satisfaction. By contrast, officers' mean scores from San Antonio ALC were significantly higher than each MSQ scale and were significantly higher than the composite mean scores of officers at the remaining ALCs on the intrinsic and general job satisfaction scales. There was statistical evidence that the job satisfaction of officers in the program at Oklahoma City was relatively low, while the job satisfaction of officers in the program at San Antonio was relatively high.

Several statistically significant differences were present between officers' mean scores and the MSQ norms for intrinsic and extrinsic job satisfaction when the officers' scores were grouped by career fields, ranks, academic degrees, and categories of longevity. However, statistically significant differences were not present when comparing the officers' scores between respective groups. For example, supply officers' scores were significantly lower than the MSQ norm for

intrinsic job satisfaction; however, when their scores were compared to other officers' scores, there was no significant difference. Since none of the differences occurred on the general job satisfaction scale and differences between particular groups (other than ALC groups) were not present, it was determined that the differences between particular groups and the MSQ norms for intrinsic and extrinsic job satisfaction should not be treated as meaningful findings.

This study did not support findings by Faris (1967). He found that workers with a master's degree were significantly less satisfied than other workers. This study showed that officers with a master's degree scored higher, mathematically, than those with a bachelor's degree - although there was not a statistically significant relationship. It also failed to support Seybolt's (1976) finding that individuals with higher educational levels are less satisfied than individuals with lower educational levels when working on similar jobs. The study also failed to support findings by Finstuen and Edwards (1980). They reported that months on the job and total service time contributed significantly to predicting overall job satisfaction (they used Air Force enlisted people as subjects). Since months on the job was measured directly by this study and since rank corresponds, approximately, with time in service, failure to find statistically significant relationships for either longevity or rank tends not to support Finstuen and Edwards' findings.

Recommendations

It is recommended that a more definite baseline be established for the continuation of the study of job satisfaction of officers assigned

to the AFLC Logistics Career Broadening Program. More specifically, it is recommended that the MSQ be administered to a sufficient sample of Air Force officers to establish an Air Force norm for the MSQ. This would allow Career Broadening officers' job satisfaction scores to be compared to norms for other Air Force officers rather than to the standard MSQ norms which did not include a military population.

It is recommended that follow-ups to this study be conducted periodically. More specifically, it is recommended that the MSQ be administered to officers in the program on an annual basis. This would provide a more definite baseline and would enable the Air Force to determine whether trends are developing.

Additionally, it is recommended that a study be conducted to determine causal relationships and to account for the variance in job satisfaction between ALCs. It is apparent that significant variance existed between Career Broadening officers' job satisfaction at Oklahoma City ALC and Career Broadening officers' job satisfaction at San Antonio ALC. That variance needs to be investigated to at least account for the causes and, hopefully, to rectify the differences. A Career Broadening officer symposium might be beneficial; it would allow officers from various ALCs to explain the "pros" and "cons" of their programs. The ALCs could possibly adopt the strongest parts of each other's programs.

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APPENDIX A

CORRESPONDENCE

UNIVERSITY OF MINNESOTA
TWIN CITIES

Department of Psychology
Elliott Hall
75 East River Road
Minneapolis, Minnesota 55455

Major John Hall
1829 Briar Hill
Moore, Oklahoma 73160

March 3, 1983

Dear John:

Thank you for your interest in instruments published by Vocational Psychology Research. You are hereby granted permission to administer, score, analyze and interpret the Minnesota Satisfaction Questionnaire, Short Form in your doctoral dissertation research.

You are also granted permission to reproduce and include any sections of the MSQ you would like in the publication of your dissertation. We recommend that you also include the citation, "Reproduced by permission of Vocational Psychology Research, University of Minnesota, copyright 1977", in your report of the results and copying the instrument.

We ask of you the favor of sending Vocational Psychology Research a copy or abstract of any papers, publications, or reports that result from your use of the Minnesota Satisfaction Questionnaire. We attempt to maintain an archives and bibliography of current Vocational Psychology Research, and your addition to our collection would be greatly valued and appreciated.

Best wishes for the successful and quick completion of your dissertation. If there is any additional service or information we can prvide to make the process easier, please do not hesitate to contact me.

Sincerely,

Nancy Holt

Nancy Holt
Coordinator, Vocational Psychology Research

David J. Weiss
Director, Vocational Psychology Research

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE MANPOWER AND PERSONNEL CENTER
RANDOLPH AIR FORCE BASE, TX 78150

REPLY TO ATTN OF MPCYPS

7 MAR 1983

SUBJECT Survey Approval

TO OC-ALC/MMM (Maj Hall)

1. Your request to use the Minnesota Satisfaction Questionnaire is approved for use as described in your research proposal. A Privacy Act Statement is required and a sample is attached that can be adapted to your effort. Additionally, because the Minnesota Satisfaction Questionnaire was not designed for the military community, the use of the word "company" in item 12 is not appropriate in a military setting. If you elect not to change the word, a brief reference in your cover letter to the respondent should clarify its meaning.

2. A control number of USAF SCN 83-18 is assigned and expires on 31 Jul 83. Questions regarding these actions can be directed to Mr. Hamilton, AUTOVON 487-2449/6122.

FOR THE COMMANDER

BERT K. ITOGA, Lt Col, USAF
Chief, Research & Measurement Div

1 Atch
Sample privacy statement

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS OKLAHOMA CITY AIR LOGISTICS CENTER (AFLC)
TINKER AIR FORCE BASE, OKLAHOMA 73145

07 MAR 1983

REPLY TO ATTN OF: DP

SUBJECT: Job Satisfaction Survey of Career Broadening Officers

TO: SM-ALC/DP

1. Please ask your local Career Broadening Program monitor to distribute the attached surveys to your career broadeners.

2. The survey is being conducted by Major John Hall, a career broadener and doctoral student. Major Hall will make the results of the study available to the Air Force; you will receive a copy.

3. The survey has been approved by HQ MPC/MPCYPS; HQ AFLC/MP concurs in the project. Please contact Major Hall, autovon 735-3241/3174, if you have any questions.

BOBBY G. KNAPP, Colonel, USAF
Director of Personnel

1 Atch
____ Surveys

USAF Survey Control Number 83-18
Expires 31 July 1983

AFLC - Lifeline of the Aerospace Team

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS OKLAHOMA CITY AIR LOGISTICS CENTER (AFLC)
TINKER AIR FORCE BASE, OKLAHOMA 73145

07 MAR 1983

REPLY TO ATTN OF: DP

SUBJECT: Job Satisfaction Survey of Career Broadening Officers

TO:

1. Major John Hall, an OC-ALC Career Broadening Officer and doctoral student at Oklahoma State University, is conducting a survey of all officers assigned to the AFLC Career Broadening Program. The survey will be used to determine the relative job satisfaction experienced by officers assigned to the program. Results will be compared to nationally established norms of job satisfaction and will be examined between Air Logistics Centers, officer's ranks, categories of longevity in the program, various logistics specialties, and between education levels of the officers.

2. The questionnaire, the Minnesota Satisfaction Questionnaire, is a validated, copyrighted instrument with well established national norms. Major Hall has prepared a brief supplement to the questionnaire which will be used to gather the demographic information necessary to perform the comparative analysis mentioned previously.

3. I urge you to spend a few moments to fill out this survey. Your anonymity is assured and you may direct any comments or questions to Major John Hall, Autovon 735-3241/3174. Please forward your reply promptly to Major Hall in the pre-addressed envelope provided. Thank you for your cooperation.

BOBBY G. KNAPP, Colonel, USAF
Director of Personnel

2 Atch
1. MSQ Survey (1 ea)
2. Supplemental Questionnaire (1 ea)

USAF Survey Control Number 83-18
Expires 31 July 1983

AFLC - Lifeline of the Aerospace Team

APPENDIX B

QUESTIONNAIRE

Questionnaire

The Minnesota Satisfaction Questionnaire was used in this study. It is a copyrighted instrument, and thus, cannot be included in this dissertation. The Manual for the Minnesota Satisfaction Questionnaire and information on purchasing and using the MSQ are available from:

Vocational Psychology Research
Department of Psychology
University of Minnesota
N 620 Elliott Hall
75 East River Road
Minneapolis, Minnesota 55455

The supplemental information requested from the officers was gathered using the instrument shown on the following page.

QUESTIONNAIRE SUPPLEMENT

Please check or complete the most appropriate response to the following questions:

1. Which ALC are you assigned to?

_____Ogden _____Sacramento

_____Oklahoma City _____San Antonio

_____Warner Robins

2. What is your current military rank?

_____Captain _____Other (Please Specify) _____

_____Major

3. What is your primary AF logistics speciality?

_____Contracting _____Supply

_____Logistic Plans _____Transportation

_____Maintenance _____Other (Please Specify) _____

4. How long have you been assigned to the Career Broadening Program?

_____Less than six months

_____More than six months, but less than one year

_____More than one year, but less than two years

_____More than two years

_____Other (Please Specify) _____

5. What is your highest academic degree?

_____Baccalaureate

_____Master's

_____Other (Please Specify) _____

PRIVACY ACT STATEMENT

In accordance with the Air Force Privacy Act Program, AFR 12-35, paragraph eight, the following information about this survey is provided:

a. Authority. 10 U.S.C., 8012, Secretary of the Air Force: Powers and Duties Delegation by.

b. Principle Purpose. This survey is being conducted to compare career broadening officers' scores on the Minnesota Satisfaction Questionnaire to national norms for the MSQ and to compare officers' scores between ALCs, career fields, ranks, academic degrees, and longevity in the program.

c. Routine Use. Survey data will be used to complete a doctoral dissertation. Data will be released to the Air Force; however, individual officers will not be identified.

d. Participation in this survey is entirely voluntary.

e. No adverse action of any kind may be taken against any individual who elects not to participate in any or all of this survey.

APPENDIX C

CATEGORICAL SOURCES OF QUESTIONNAIRES RETURNED

TABLE XXVI

CATEGORICAL SOURCES OF QUESTIONNAIRES RETURNED

Source	Questionnaires Mailed	Questionnaires Returned	Return Rate %
ALC			
Ogden	17	13	76.47
Oklahoma City	11	11	100.00
Sacramento	15	11	73.33
San Antonio	12	10	83.33
Warner Robins	14	12	85.71
Total	65	57	82.61
Career Field			
Contracting	u	9	
Logistics Plans	u	4	
Maintenance	u	23	
Supply	u	14	
Transportation	u	7	
Total	69	57	
Military Rank			
Captain	52	40	78.43
Major	17	16	94.12
Lieutenant	1	1	100.00
Total	69	57	82.61
Academic Degree			
Baccalaureate	u	22	
Master's	u	35	
		57	
Category of Longevity			
Less than six months	u	5	
More than six months, but less than one year	u	19	
More than one year, but less than two years,	u	16	
More than two years	u	17	
		57	

u = unknown at time of mailing

APPENDIX D

OFFICERS' MSQ SCORES

TABLE XXVII

OFFICERS' SCORES ON GENERAL MSQ SCALE

Officer	Score	Officer	Score	Officer	Score
1	98	21	81	41	69
2	95	22	80	42	69
3	94	23	80	43	65
4	93	24	80	44	63
5	92	25	80	45	62
6	92	26	79	46	62
7	91	27	78	47	60
8	89	28	78	48	60
9	89	29	77	49	58
10	89	30	77	50	58
11	89	31	76	51	58
12	88	32	76	52	56
13	88	33	75	53	56
14	88	34	75	54	55
15	87	35	73	55	44
16	86	36	73	56	42
17	86	37	72	57	39
18	84	38	70		
19	83	39	70		
20	81	40	69		

Mean Score = 75.04 SD for officers = 14.03
MSQ Norm = 74.85 SD for MSQ = 11.92

TABLE XXVIII

OFFICERS' SCORES ON INTRINSIC MSQ SCALE

Officer	Score	Officer	Score	Officer	Score
1	59	21	50	41	41
2	58	22	50	42	39
3	58	23	50	43	39
4	58	24	50	44	39
5	57	25	49	45	38
6	57	26	49	46	36
7	56	27	48	47	36
8	56	28	48	48	35
9	55	29	48	49	35
10	55	30	48	50	33
11	55	31	48	51	33
12	54	32	46	52	33
13	54	33	46	53	32
14	53	34	45	54	31
15	53	35	45	55	30
16	52	36	45	56	22
17	52	37	43	57	21
18	52	38	43		
19	52	39	42		
20	51	40	42		

Mean Score = 45.70 SD for officers = 9.27
MSQ Norm = 47.14 SD for MSQ = 7.42

TABLE XXIX

OFFICERS' SCORES ON EXTRINSIC MSQ SCALE

Officer	Score	Officer	Score	Officer	Score
1	30	21	24	41	20
2	29	22	24	42	20
3	28	23	23	43	20
4	28	24	23	44	20
5	28	25	23	45	19
6	28	26	22	46	19
7	27	27	22	47	19
8	27	28	22	48	18
9	27	29	22	49	18
10	27	30	22	50	18
11	26	31	22	51	17
12	26	32	21	52	14
13	26	33	21	53	14
14	26	34	21	54	14
15	26	35	21	55	14
16	26	36	21	56	13
17	25	37	21	57	7
18	25	38	21		
19	24	39	20		
20	24	40	20		

Mean Score = 21.98
MSQ Norm = 19.98

SD for officers = 4.56
SD for MSQ = 4.78

VITA 2

John Elms Hall

Candidate for the Degree of

Doctor of Education

Thesis: JOB SATISFACTION OF OFFICERS ASSIGNED TO THE UNITED STATES AIR FORCE LOGISTICS COMMAND CAREER BROADENING PROGRAM

Major Field: Occupational and Adult Education

Biographical:

Personal Data: Born in McAlester, Oklahoma, May 1, 1947, Son of Mr. and Mrs. Wilson Hall.

Education: Graduated from Stuart High School, Stuart, Oklahoma, in May, 1965; received Bachelor of Arts in Education degree from East Central Oklahoma State University in 1969; received Master of Arts degree in Human Relations from Webster College, St. Louis, Missouri, in 1975; completed requirements for Doctor of Education degree at Oklahoma State University, Stillwater, Oklahoma, in July 1983.

Professional Experience: United States Air Force Officer from January 1970 to present.