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# NAVAL POSTGRADUATE SCHOOL

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## THESIS

THE EFFECT OF RACE ON DETERMINANTS OF  
JOB SATISFACTION

by

John R. Albiso

December 1985

Thesis Advisor:

George W. Thomas

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The Effect of Race  
on Determinants  
of Job Satisfaction

by

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Lieutenant, United States Navy  
B.S., U. S. Naval Academy, 1979

Submitted in partial fulfillment of the  
requirements for the degree of

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## ABSTRACT

The purpose of this thesis is to determine the effect of race on job satisfaction, and the effect of race on those factors considered to be determinants of job satisfaction. The data used for the research was obtained from a survey of military personnel conducted by the Rand Corporation in early 1979. The data was used to test bivariate and multivariate models with job satisfaction as the dependent variable, and factors thought to be determinants of job satisfaction as independent variables. The types of statistical methods employed to detect the effect of race in the various models were, ANOVA, GLM, Factor Analysis, and Regression Analysis. The results of the analysis indicated that race was a significant factor in the determination of job satisfaction, but that the effect of race in models of job satisfaction was very small.

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## I. INTRODUCTION

### A. BACKGROUND

The study of the job satisfaction of minorities in the military is important to military manpower planners because of the relationship of job satisfaction to employee turnover. Research has consistently identified a negative correlation between job satisfaction and turnover behavior.

The level of turnover in the military is important because the United States has been building up the size of its Armed Forces for the last five years. This build up has resulted in greater demands for personnel to man the Armed Forces. [Ref. 1: p. 85] Unfortunately, the increasing demand for personnel is coming at a time when the supply of personnel is decreasing. The number of males 18 to 24 years of age is expected to decrease for at least another decade. As a result, efforts to minimize the turnover of personnel already in the military assume greater importance.

The importance of minority job satisfaction arises from the fact that minorities have increased their representation in the general population. Also, they have increased their representation in the military. Knowledge of the determinants of job satisfaction for this increasingly important segment of the military manpower is essential to determine the effect of manpower policies on minority turnover.

### B. DISCUSSION

#### 1. Job Satisfaction and Turnover

There is little military manpower planners can do to increase the supply of personnel without changing the entrance requirements for the military. However, the demand for personnel can be reduced if policies can be promulgated which will reduce the turnover of personnel in the military. In order to develop policies which will have a significant

impact on turnover in the military, some knowledge of turnover is required. The reasons individuals quit their job has been studied extensively for many years, and there is a large body of literature on the subject. Prior research indicated there are two main factors involved in an individual's decision to quit his or her job. One factor is the availability of other jobs, and the other factor is how happy the individual is with his or her current job. [Ref. 2: p. 175-178]

The number of alternative job opportunities available to a service person is outside the control of military manpower planners, but the feelings the service person has about the military may be manipulated by manpower planners. Frequently, the feelings a person has about his or her job are a function of the actual type of work involved, the amount of challenge the job provides, the amount of pay, the job security, the type of supervisors, the people he or she works with, and policies that effect promotion opportunities or retirement benefits. These are the type of policies that manpower planners can manipulate to achieve the desired feelings in individuals about their jobs.

The feelings an individual has about his or her job has frequently been identified as 'job satisfaction'. The relationship of job satisfaction to employee turnover behavior is well established. The works of Vroom (64), Herzberg, Mausner, and Snyderman, (59) demonstrate that a dissatisfied worker will be much more likely to quit his job than a satisfied worker. However, this relationship can not be characterized as a linear relationship. In fact, the act of quitting is best characterized by a threshold of satisfaction below which an employee will most certainly quit, and above this threshold an employee will be more likely to stay. [Refs. 2,3: pp. 175, 52]

If an employee is satisfied then the decision to quit or stay is based on other job opportunities, and other

factors other than satisfaction. However, if an employee is dissatisfied with a job, the dissatisfaction will become an overriding factor in the employee's decision to quit or stay.

## 2. The Importance of Turnover in an Internal Labor Market

The alternative of reducing turnover is a method of reducing requirements that is readily available to manpower planners. Also, reducing turnover has economic benefits to the military, and thus to the federal government, which is important in the face of growing budget deficits.

Reducing turnover in the military has economic benefits, because the the military is an internal labor market. Normally, the costs associated with the turnover in labor are minimal, because an employer can readily hire replacements with approximately the same skill. However, in an internal labor market the employee has acquired a certain amount of job specific training, and the employer finds it difficult to find replacements with the requisite skills to replace employees that leave. Consequently, turnover in an internal labor market results in replacement costs. These costs are for the recruiting, screening, and training of new employees. [Ref. 4: p. 14]

The assertion that the military can be characterized as an internal labor market is supported by Piore and Doeringer's (71) definition of an internal labor market.

The internal labor market is defined by an enterprise, or part of an enterprise, or by a craft or professional community. Entry into such markets is limited to particular jobs or ports of entry. The pricing of labor, and its allocation from point of entry to other work positions, is governed by administrative rules and customs. These rules and customs differentiate members of the internal labor market from outsiders and accord them rights and privileges which would not otherwise be available. Typically these 'internal' rights include certain guarantees of job security, opportunities for career mobility, and equity and due process in treatment in the work place. [Ref. 4: p. x]

The description of an internal labor market, provided by the definition above, describes the labor market

in the military. The military has limited the ports of entry to the lower enlisted and officer ranks. Advancement and training are governed by administrative procedures and customs. Individuals in the military are set off from people outside the military by uniforms and terminology. For example, individuals outside the military are referred to as civilians. The military offers job security and a good pension for those who choose a military career. Finally, personnel can not be easily fired from service in the military without substantial due process.

The type of training found in an internal labor is usually specific in nature. Training which is specific in nature is training that is not easily transferable from one job to another. The opposite of specific training is general training, which is readily transferred from one job to another. [Ref. 5: p. 74-76]

The job specific training acquired in the military occurs in many of the jobs categories. These job categories are called Military Occupational Specialties (MOS) or Ratings. Examples of job specific MOS/Ratings are, Tank Turret Repairman, Gunnersmate, Operations Specialist, and Signalman. Also, there is job specific training that all military personnel receive, this is the training which teaches individuals the customs and traditions of the military, their combat roles, and their responsibilities as individuals in the military. This type of specific training provides the greatest difference between an individual in the military and a person in civilian life.

### 3. Importance of Minorities

In order to gain an understanding of what makes an individual satisfied with a particular job, some knowledge of the individual's feelings, desires, and expectations is required. In the military, the make up of the manpower pool is not homogenous. The manpower pool consists of individuals from many racial and ethnic backgrounds. In particular, the

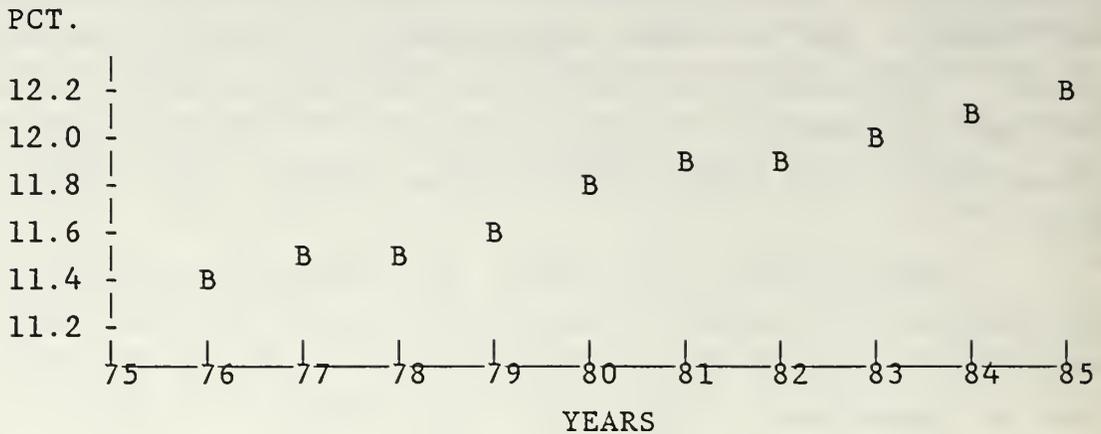
percentage of the personnel in the military who are black and hispanic has increased significantly in the last several years. Therefore, increasing the body of knowledge on the feelings of these two groups towards life in the military is essential for the developing manpower policies for the military.

Information on the number of blacks in the military and general population is readily available. However, information on hispanics in the military and the general population is incomplete. The reason information on hispanics is lacking is because hispanics can be of any race, which has caused significant classification problems for researchers of demographics.

The population of blacks as a percentage of the population in the United States has been increasing. Both the black and hispanic populations are growing about twice as fast as the white population. Figure 1.1 shows that blacks have increased their representation by about one percent in the last ten years. Figure 1.1 does not show data for hispanics because hispanics can be of any race. Thus, if minority representation is increasing in proportion to the rest of the population then it is expected that minority representation in the military would be increasing. [Ref. 6: p. 28]

Minority representation is increasing in the military, and minorities are already over represented in the military. Figure 1.2 shows the increasing number of blacks in the military. One reason for the over representation of blacks in the military is the lack of alternative employment opportunities.

Figure 1.3 shows that black males, 20 years of age and older, experience an unemployment rate which is at least twice that of all males 20 years old or older. Also, the unemployment rate of black males is almost three times that of white males 20 years old or older. Additionally,



Source: (Statistical Abstracts of the United States, Department of Commerce, Bureau of Census, 1980-1985.)

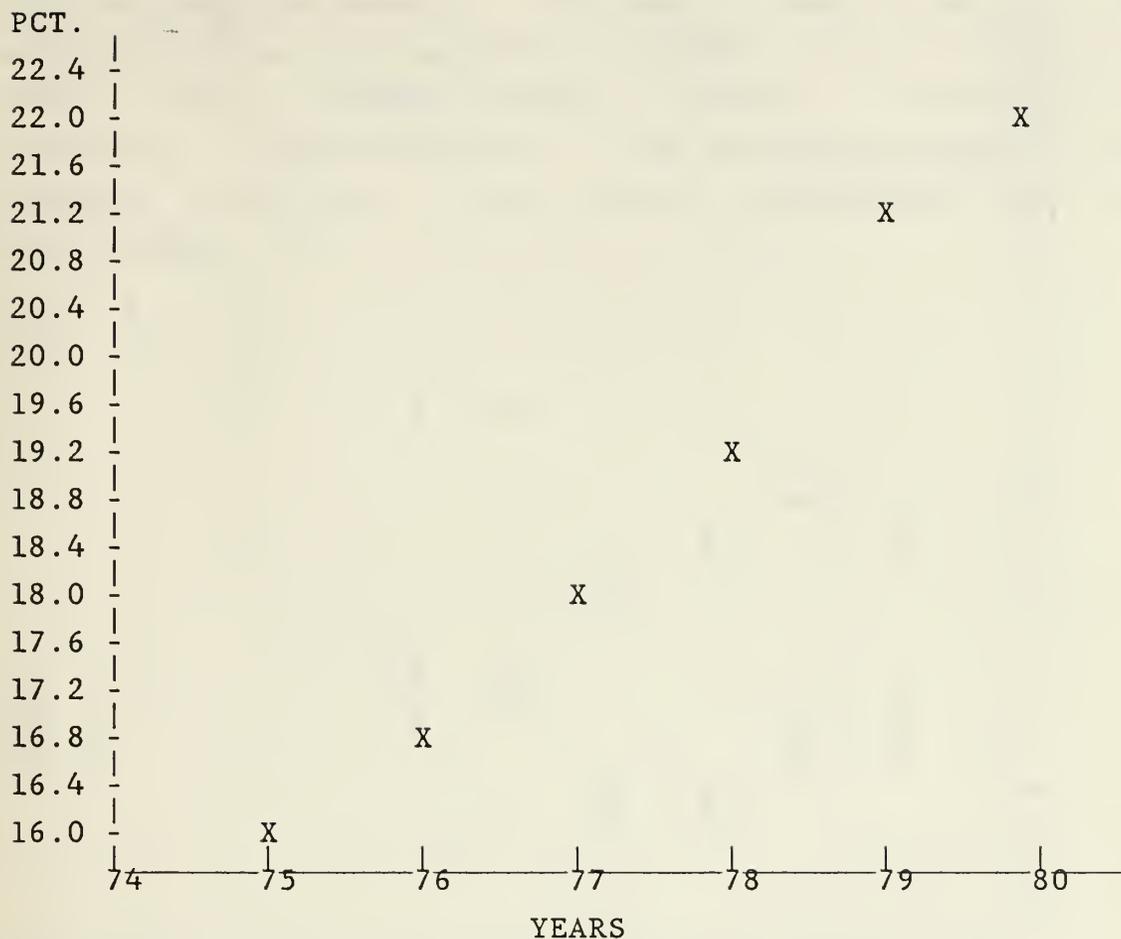
Figure 1.1 Whites & Blacks as Percent of U.S. Population

hispanics have an unemployment rate which is about half again as high as whites. Until there are more employment opportunities for blacks, there will probably be a certain amount of over representation of blacks in the military. [Ref. 7: p. 38]

#### 4. Summary

The increasing proportion of the military represented by minorities due to demographic and economic factors, makes continued research on the attitudes of minorities in the military essential. The focus of the research in this thesis was first term minority enlisted personnel job satisfaction.

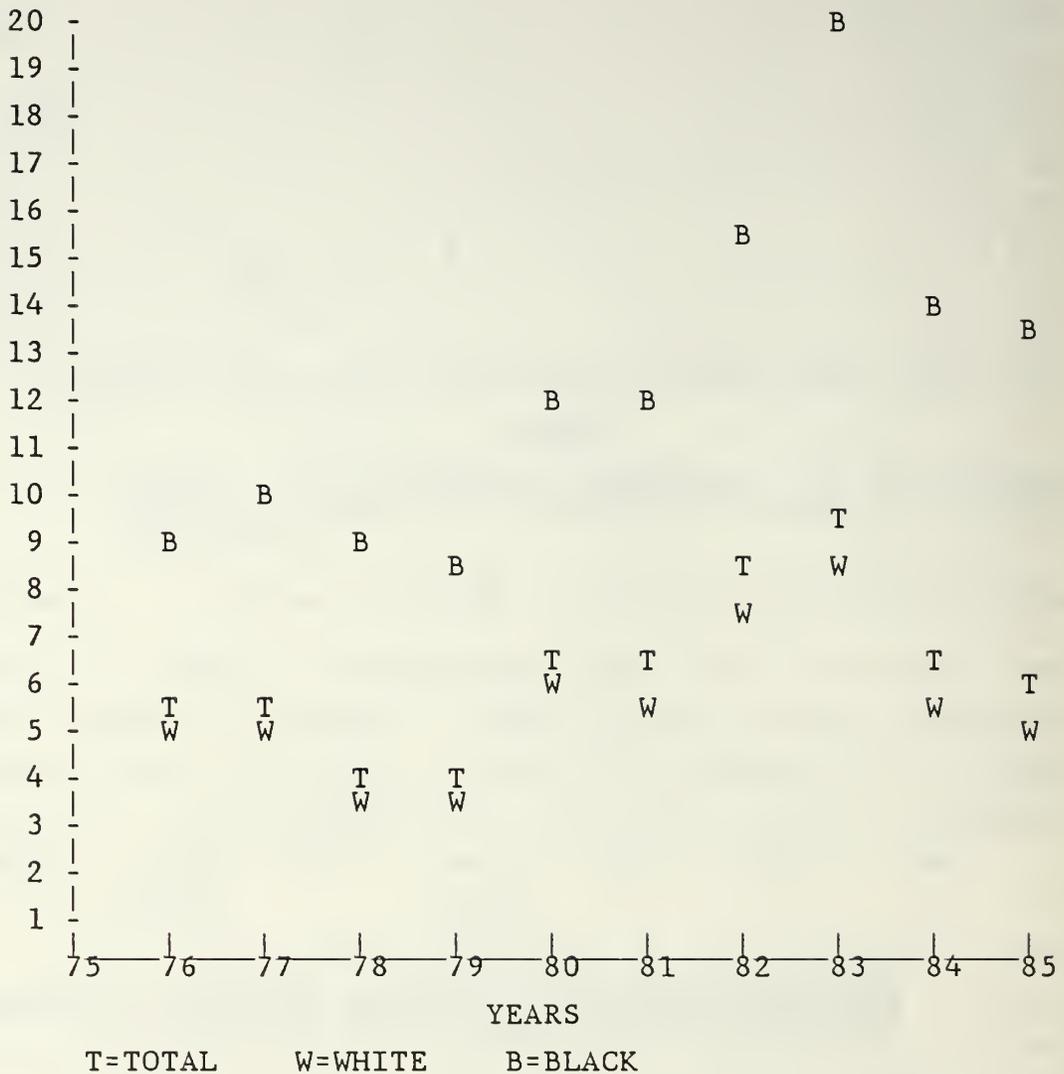
Data for a job satisfaction model was derived from a survey, and variables for analysis were selected based on job satisfaction theory. Only first term enlisted personnel were examined, in order to minimize the effect of selection bias due to dissatisfied personnel leaving the military after their initial obligation. Variables were selected for bivariate analysis if prior research indicated the variable in question may be a determinant of job satisfaction. The variables were screened for inclusion in a multivariate



Source: (Adapted from data in Binkin, M., and Eitelberg, M., Blacks and the Military The Brookings Institution, Washington, D.C., 1982, p. 43.)

Figure 1.2 Blacks as a Percent of the Military

model based on a a bivariate analysis in which the variables related to job satisfaction and determinants of job satisfaction, were analyzed to detect differences by race and service. The bivariate analysis measured differences by race within a branch of service, and differences by branch of service within a racial group. Those variables which exhibited significant differences by race within a branch of service, or branch of service within a racial group, were then considered for a multivariate model.



Source: (Adapted from "Labor and Earnings Statistics" Department of Commerce June 1976-1985)

Figure 1.3 Unemployment of Males Age 20 Years or Older

The multivariate model was used to determine if race was a significant factor in the determination of job satisfaction when other factors associated with job satisfaction were included in the model. The variables which were shown to have different responses in the bivariate analysis by race, and were supported by previous job satisfaction theory to be a determinants of job satisfaction, or associated with job satisfaction, were included as independent variables in

the multivariate models. The models used a measure job satisfaction as the dependent variable. The multivariate models were analyzed using 'Multiple Classification Analysis', 'Factor Analysis', and 'Regression Analysis' to estimate the effect of race on job satisfaction and its determinants.

## II. REVIEW OF LITERATURE

### A. INTRODUCTION

The development of a model to determine the effect of race on job satisfaction in the military was based on previous job satisfaction research. The volume of literature available on the subject was extensive. Therefore, the review was limited to some of the more frequently cited works in the evolution of job satisfaction theory and job satisfaction models. Literature on the topic of race and job satisfaction was significantly less extensive, but provided valuable information concerning the effect of race on models of job satisfaction. The previous research of race and job satisfaction is usually less than ten years old, and there did not seem to be a generally accepted theory for the effect of race on job satisfaction.

### B. DEVELOPMENT OF JOB SATISFACTION THEORY

#### 1. Background

Much of the early research of job satisfaction focused on improving worker productivity by improving the worker's job satisfaction. However, during the 1960's, research of job satisfaction indicated that there was not a strong link between worker productivity, and job satisfaction. This finding led to private corporations becoming disenchanted with job satisfaction research, since it appeared that increasing employee job satisfaction would not increase employee productivity. As a result, the amount of private corporation funds available for job satisfaction research declined significantly. Fortunately, the amount of federal funding for job satisfaction research increased. The federal funding increases coincided with a shift in the focus of job satisfaction research away from improving worker productivity, to improving the workers happiness and

general well being. The shift in research focus also coincided with government goals of improving the living conditions of its citizens. [Ref. 8: pp. 18-19]

The evolution of job satisfaction theory can be traced by reviewing a few of the more significant works in the field of job satisfaction research. The work of Herzberg, Mausner, and Snyderman, was typical of the corporate funded research whose goal was improving worker productivity by improving worker satisfaction. A result of their research was a model of job satisfaction which divided determinants of job satisfaction into two categories, satisfiers and dissatisfiers. This theory was one of the major foundations of future job satisfaction research. The work of Vroom pointed out the importance of an individual's personality in the development of job satisfaction models. The Porter and Steer's model was a multifacet model of job satisfaction which included individual characteristics, job characteristics, and alternative job opportunities as determinants of job satisfaction. The work of Hopkins utilized 'Multiple Classification Analysis' to analyze a multivariate model which included job characteristics and individual characteristics as independent variables. Hopkin's work is typical of the latest job satisfaction research efforts that utilize multivariate statistical analysis techniques enhanced by the advent of powerful computer programs. [Refs. 3,2,8: pp. 22, 278, 101]

a. Herzberg, Mausner, and Snyderman

The work of Herzberg, Mausner, and Snyderman, focused on aspects of job satisfaction which would allow corporations to manipulate worker satisfaction for their own ends. The authors recognized this possibility and felt the possible benefits for worker were worth the risk of employers using the research finding for their own gain.

The research of Herzberg, et al (59), was based on interviews of engineers and accountants at various

companies. The respondents were asked to recall incidents which gave them especially good or bad feelings about their job. The result of the analysis of these incidents was the identification of factors which effected an individual's feelings about their job. [Ref. 3: p. ix]

The factors identified by the research of Herzberg, et al (59), were divided into two groups. The groups were called satisfiers and dissatisfiers. Satisfiers were those factors most frequently associated with good feelings about an individual's job, and dissatisfiers were those most frequently associated with bad feelings about an individual's job. A list of satisfiers and dissatisfiers developed by Herzberg, Mausner and Snyderman, (59) is provided in Table 1. [Ref. 3: pp. 20-25]

TABLE 1  
FACTORS OF JOB SATISFACTION

<u>SATISFIER</u>	<u>DISSATISFIERS</u>
Achievement	Company Policy and Administration
Recognition	Supervision-Technical
Work Itself	Salary
Responsibility	Interpersonal relations-Supervision
Advancement	Working Conditions

[Ref. 3: pp. 59-83]

b. Vroom

Victor Vrooms's work is significant in the field of job satisfaction for its proposal to combine work role variables and individual personality variables in a job satisfaction model. Vroom's research indicated that the use of work role variables alone as determinants of job satisfaction resulted in large amounts of variance in job satisfaction. Vroom felt that a significant amount of the variance of job satisfaction could be explained by the addition of variables which accounted for differences in individuals. [Ref. 2: pp. 172,174]

Vroom proposed a model of human behavior of which satisfaction was a factor. Vroom's model of human behavior was stated in the form of two propositions. Vroom's hypothesis on job satisfaction was based on the first proposition of his model:

"The valence of an outcome to a person is a monotonically increasing function of the algebraic sum of the products of the valences of all other outcomes and his conceptions of its instrumentality for the attainment of these other outcomes."

The term valence refers to the desire an individual has for a particular outcome. Vroom cautioned against confusing valence for an outcome with the value an individual placed on the outcome. An individual could have a high valence for a particular outcome, but once the outcome was achieved, the individual would place little value on the outcome.

Vroom's hypothesis of job satisfaction was as follows:

"(Job Satisfaction) The valence of a job to a person performing it is a monotonically increasing function of the algebraic sum of the products of the valences of all other outcomes and his conceptions of the instrumentality of the job for the attainment of these other outcomes."

This hypothesis meant that if a person worked at a job which he perceived would result in his achieving a desired outcome, then that individual would be satisfied with the job. The desired outcome depended on the characteristics of the individual's personality, and the ability of the job to achieve the desired outcome depended on the nature of the job. Thus, job satisfaction was described as a function of an individual's characteristics, and the nature of the job he performed. [Ref. 2: pp. 277-280]

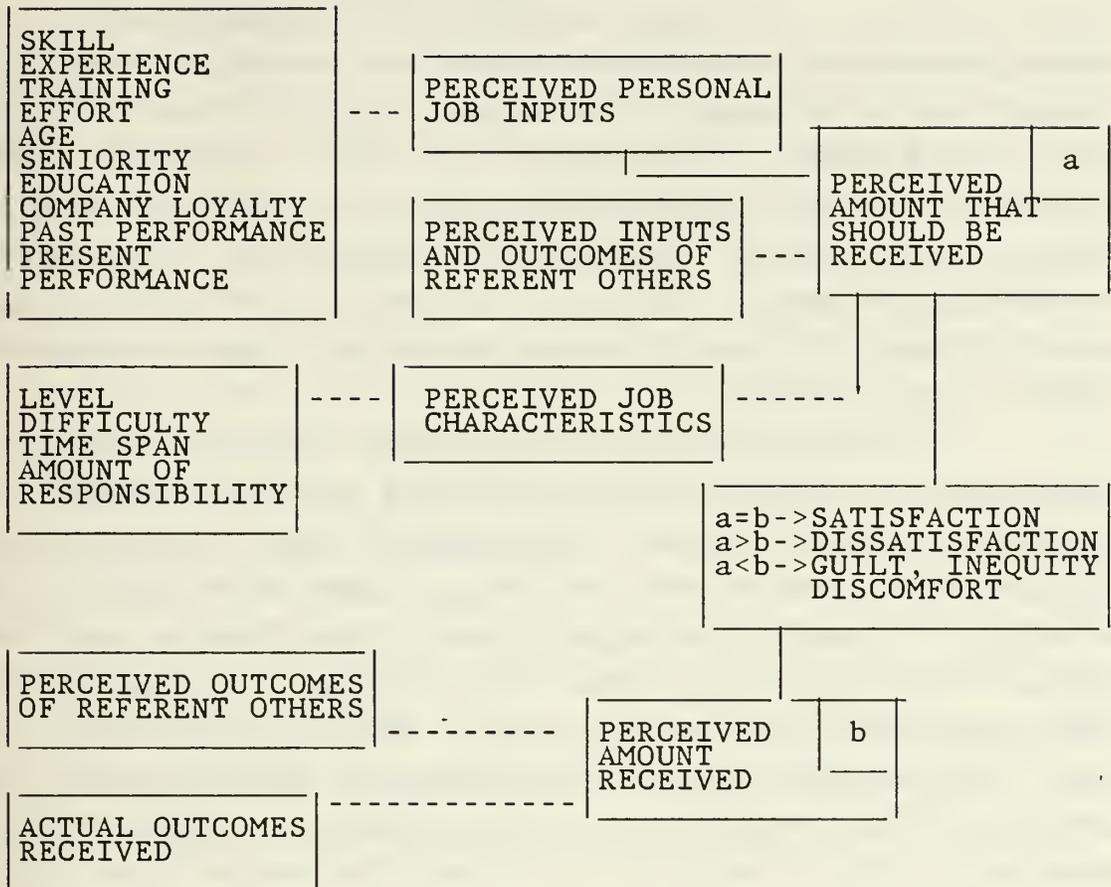
c. Steers and Porter

Steers and Porter (83) pointed out that a great deal of previous research into the determinants of job satisfaction had not substantially increased the knowledge of job satisfaction. They felt that prior research had accumulated a great deal of data on the determinants of job satisfaction, but that the data was unsupported by a theoretical frame work for the causal relationship of the various determinants of job satisfaction. Therefore, they proposed a model of "Facet Satisfaction". The model shown in Fig. 2.1 [Ref. 9: p. 335], was intended to be applicable in determining what made an individual satisfied with a particular facet of his or her job.

The Porter and Steers model of satisfaction indicated that an individual would be satisfied if the individual's perceived outcome is the same as what the individual felt he or she should receive. The individual would be dissatisfied if the outcome he or she perceived to receive was below what the individual felt he or she should receive. Also, the perceived amount of what should be received was a function of what others received.

The Porter and Steers model also indicated satisfaction was a function of individual characteristics and job characteristics. They claimed that a higher level of job input such as an individual characteristics of skill; experience, age, and training, resulted in a higher perceived amount that should be received. Therefore, people who have high job inputs must receive a greater amount of a desired outcome than people with low inputs or they will be dissatisfied. The model also indicated that individuals with jobs more demanding in terms of such things as responsibility, time span, and level of difficulty, would perceive he or she should receive more of a particular outcome. An outcome could be money, recognition, promotion, control over the work performed, or interaction with co-workers. The

valence for a particular outcome depended upon the individual. [Ref. 9: pp.332-338]



Source: (Porter, L. and Steers R., Motivation and Work Behavior, McGraw Hill, Inc. New York, N.Y., 1983, p. 335.)

Figure 2.1 Model of the Determinants of Satisfaction

d. Hopkins

The latest research on job satisfaction has focused on statistical analysis of multivariate models. Hopkins (83) tested several multivariate models of job satisfaction using 'Multiple Classification Analysis'. Hopkins analyzed models which used job characteristics as determinants of job satisfaction, job environment as determinants of job satisfaction, and a model which combined job

characteristics with job environment as a model of job satisfaction. [Ref. 8: pp. 100-112]

The job satisfaction model developed by Hopkins which utilized job characteristics as determinants of job satisfaction contained four independent variables. The independent variables were 'job quality index', 'skill in the use of ones hands', 'co-worker help', and 'authority'. The variables all had significant Betas, but she selected the three variables with the greatest effects for later use in her combined model. The three variables she selected were the 'job quality index', 'co-worker help', and 'authority'. [Ref. 8: pp. 101-104]

The job satisfaction model which utilized job environment variables as determinants of job satisfaction contained five independent variables. These variables were 'fairness of promotion', 'working condition index', 'job mobility', 'quality of supervision', and 'lets alone'. Of these five variables, two were chosen for use in the combined model based on the size of the variable's effect on job satisfaction. These two variables were 'fairness of promotion' and 'quality of supervision'. [Ref. 8: pp. 105-107]

The combined model of job satisfaction developed by Hopkins had four independent variables. The variables 'fairness of promotions' and 'job quality index' were combined to form one variable for the final model. The new variable was called 'job quality and fairness of promotions', this variable also had the largest effect on the dependent variable of job satisfaction. The variable 'quality of supervision' had the next largest effect on job satisfaction. The method of estimating the effects of the independent variables was Multiple Classification Analysis. The model explained about 28 percent of the variation in job satisfaction. Job satisfaction was measured based on the responses to a multifacet job satisfaction questionnaire.

Hopkin's model was useful for its indication of the relative effect of different determinants of satisfaction on job satisfaction. [Ref. 8: pp. 108-110]

### C. RACE AND JOB SATISFACTION

The determinants of job satisfaction discussed above have become part of the traditional factors of job satisfaction. However, research in the 1970's indicated that there were differences in job satisfaction by race. This discovery has resulted in research to determine if the cause of those differences was the result of factors imbedded within the cultural characteristics of each race, or if the differences in satisfaction were the result of socio-economic differences resulting from previous racial discrimination.

There was not a great deal of literature on the effect of race on job satisfaction. The topic of racial differences in job attitudes was not studied extensively prior to 1970. However, with the passage of civil rights legislation in the 50's and 60's, minorities were able to enter the work place in increasing numbers. As a result, there has been increasing desire for information to determine if the races differ in the development of work attitudes. This information would allow employers to provide a satisfying work environment for all employees.

In 1974 Gavin and Ewen were only able to cite three prior studies of race and satisfaction. The results of those studies were conflicting, one study indicated blacks as being less satisfied than whites, another study indicated blacks were more satisfied than whites, and a final study indicated that blacks had the same satisfaction with their job as whites. [Ref. 10]

The study conducted by Gavin and Ewen indicated that black blue collar workers were more satisfied with their job than whites. However, the research indicated that only 2.5 percent of the variance was explained by racial differences. The conclusion of the study was that black and white job

attitudes were very similar, but the higher satisfaction of blacks may have been the result of factors outside the work place, such as the working conditions of blacks employed at other firms, or blacks with no jobs at all. Also, the company where the study was conducted expressed considerable interest in minority employment, and the company was not considered typical of American industry by the researchers. All in all, the study concluded that the determinants of job satisfaction for blacks were not significantly different from whites. [Ref. 10]

The results of Gavin and Ewen's research were similar to the results of Jones, James, Bruni, and Sells. Jones, et al, conducted a study in 1977 to determine if there were satisfaction differences among U.S. Navy sailors by race. The results of their study indicated that blacks had a slightly higher level of satisfaction than their white counterparts. They also reported that blacks exhibited greater satisfaction with extrinsic rewards, such as pay, rules and regulations, and job opportunities. However, they did not discover any significant differences between blacks and whites in their satisfaction with intrinsic rewards, such as achievement and recognition. The higher satisfaction reported by blacks was attributed to two possible explanations. Blacks had reported lower needs than whites. Thus, when whites and blacks receive equal amounts of reward blacks were more satisfied. Also, blacks perceived the military as providing more opportunities than civilian employment for them to achieve their desired objectives. [Ref. 11]

Research on the relationship between race and satisfaction was criticized by Moch in 1980 for focusing on the existence of differences in satisfaction by race, instead of the cause of the differences. Moch conducted a study of a employees at a packaging plant in the south. The plant had been segregated by race about twenty years prior to the study, and about half of the employees in the study had

worked at the plant prior to desegregation. Also, there was a sufficient number of hispanics at the plant to allow for a study of their job satisfaction.

The result of Moch's study indicated that hispanics were more satisfied than whites, and that whites were more satisfied than blacks. Moch was unable to determine a precise cause for the differences in satisfaction other than race. He tried to control for organizational and cultural factors, but neither of these factors offered as much explanatory power as race. In fact, Moch claimed that race accounted for 53 percent of the variation in satisfaction. [Ref. 12]

Moch's contention that race alone explained over half the variation in satisfaction was disputed by Konar. Konar claimed that Moch's inability to demonstrate that cultural, organizational, social and social psychological factors explained racial differences could be traced to weaknesses in Moch's methodology. She proposed that Moch had failed to account for the interaction of the various factors in determining the effect of those factors on differences in satisfaction. As a result, she proposed that further study would show that a significant amount of differences in satisfaction by race could be explained by traditional factors used in models of job satisfaction, job characteristics, and the individual's personality characteristics. [Ref. 13]

The result of research into the effect of race on job satisfaction has shown definite differences in satisfaction by race. However, the cause of those differences is still subject to debate. Therefore, there is a still a need for more information on the differences in satisfaction by race.

#### D. TURNOVER AS A FUNCTION OF JOB SATISFACTION

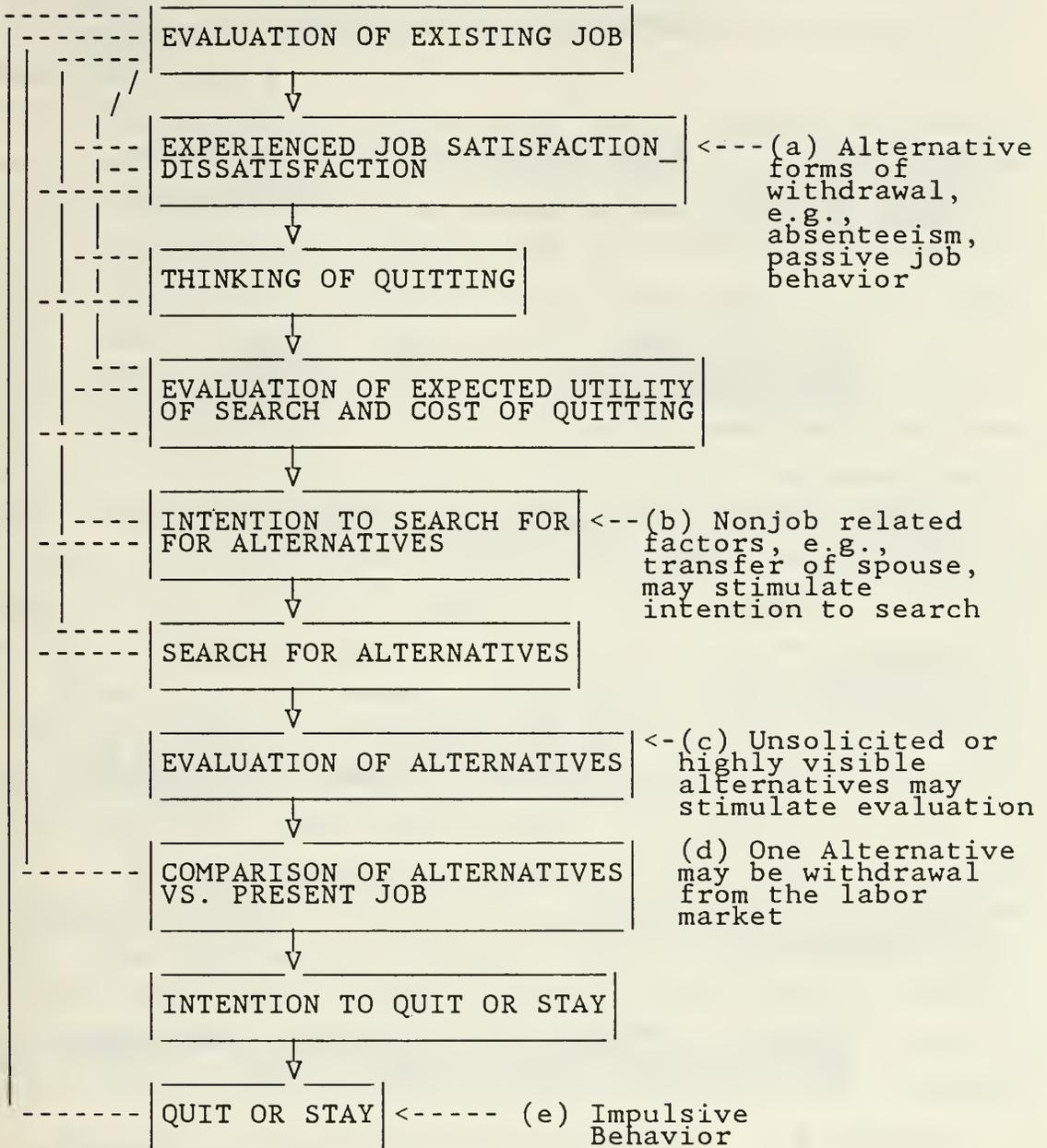
One of the main purposes in determining the cause of differences in job satisfaction by race was based on the assumption that turnover was a function of job satisfaction. Fortunately, this assumption was well supported by the literature of previous job satisfaction research. The works

of Vroom (64) and Mowday, Porter, and Steers, (82) provided a great deal of information on the relationship of satisfaction and turnover.

Vroom cited the results of seven studies to support his conclusion that satisfaction and turnover have a negative relationship. A negative relationship meant that the more job satisfaction was increased the more turnover would decrease. However, even though the relationship of job satisfaction to turnover was consistent, the correlations were considered low. Vroom pointed out that other factors such as the availability of other jobs had a greater impact on job satisfaction.

Vroom characterized turnover behavior as the function of two forces. There were forces which pushed an individual to stay at a particular job, and there were force which pushed an individual to leave the job. Satisfaction was characterized as one of the forces working to make an individual leave a job. Job satisfaction was a measurement of the valence an individual had for his or her current job. This measure, when combined with the individual's desire for other positions, and the availability of those positions, would lead to a better predictor of the probability an employee would quit, than the use of satisfaction alone. [Ref. 2: pp. 175-178]

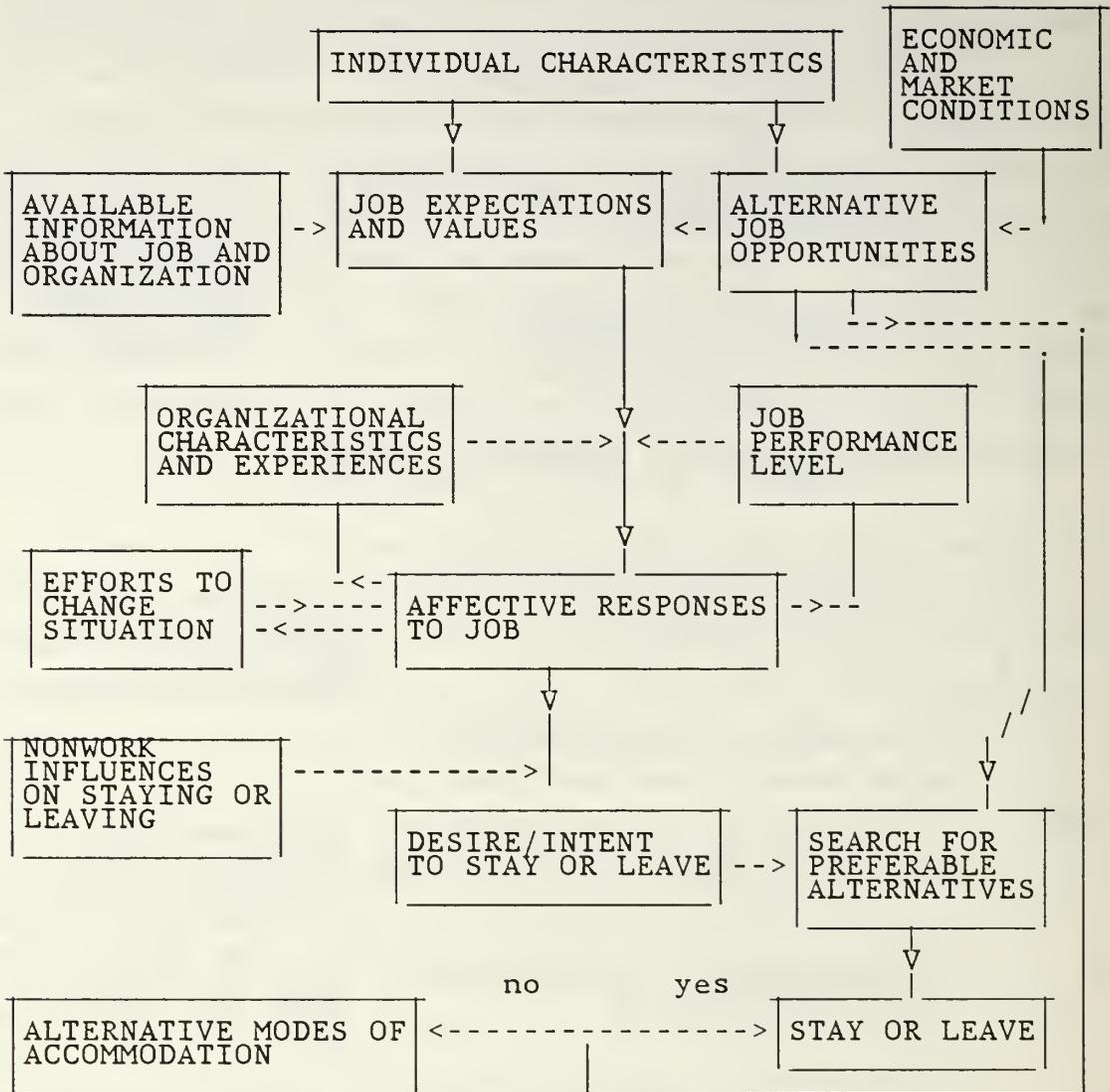
Mowday, Porter, and Steers, (82), presented two models of employee turnover behavior in their discussion of the subject. The first model shown in Fig. 2.2 below [Ref. 14: p. 117], was originally developed by Mobley in 1977. The Mobley model focused on the intermediate linkages in the relationship between job satisfaction and turnover. The model was intended to develop a better understanding of how job satisfaction does, or does not, lead to turnover. The second model, shown in Fig. 2.3 below, was developed by Steers and Mowday in 1981. [Ref. 14: p. 124]



Source: (Mowday, R., Porter, L., and Steers, R., Employee-Organization and Linkages, Academic Press Inc., New York, N.Y., 1982, p. 117.)

Figure 2.2 The Employee Turnover Decision Process

Mowday, Porter, and Steers (82) criticized the Mobley model (Fig. 2.2) for failing to take into account several critical factors of employee turnover. They felt that the



Source: (Mowday, R., Porter, L., and Steers, R., Employee-Organization and Linkages, Academic Press Inc., New York, N.Y., 1982, p. 124.)

Figure 2.3 A Model of Voluntary Employee Turnover

Mobley model ignored job attitude and organizational commitment as factors of turnover behavior, and they felt the Mobley model did not account for nonwork influences such as a spouse being transferred his or her job, or a spouse not being able to transfer his or her job. They also, claimed that the Mobley model did not account for employee attempts

to change the work situation. Mowday, Porter , and Steers', criticism did not focus on Mobley's, model alone. They also included almost all prior models of turnover behavior in their criticism.

Mowday, Porter, and Steers, felt that the Steers and Mowday model (Fig. 2.3) did not have the shortcomings that they had identified in previous models of turnover behavior. The Steers Mowday model began with an individual selecting a particular job over alternative job opportunities. The individual had certain expectations about his or her job depending on the individual's characteristics and the available information about the job. Once the individual had been employed for a period of time, the employee developed attitudes towards his or her job based on the ability of the job to meet his or her expectations, and how the current job compared with the job opportunities foregone. If the employee developed negative attitudes towards his or her job, then he or she began to consider ways of changing the situation. One way to change the situation was to quit the job, but that decision was weighed against the alternative jobs available, and other nonjob influences to stay or leave. If there were other jobs available and the nonjob influences weighed in favor of leaving then the employee left. Thus, the model explained that although job satisfaction was only a small part of the turnover process, it was a significant part that had consistently been shown to have an impact on the quit or stay decision. [Ref. 14: pp. 116-126]

#### E. SUMMARY

Factors consistently used by researchers as determinants of job satisfaction are displayed in Table 2. The Table provides a list of the factors and the names of the researchers who identified the factors as determinants of job satisfaction. The factors listed in Table 2 provided the basis for selecting variables from the data base for analysis. The variables were selected if they appeared to

TABLE 2  
DETERMINANTS OF JOB SATISFACTION

FACTOR	MODEL
WORKING CONDITIONS	HERZBERG et al, VROOM, PORTER AND STEERS, HOPKINS
INDIVIDUAL CHARACTERISTICS	VROOM, PORTER AND STEERS, HOPKINS
EXPECTATIONS	VROOM, PORTER AND STEERS
CO-WORKER RELATIONSHIPS	PORTER AND STEERS, HOPKINS
ALTERNATIVE JOB OPPORTUNITIES	VROOM, MOWDAY AND STEERS

provide information which could be used as a direct or indirect measurement of one of the determinants of satisfaction.

### III. BIVARIATE ANALYSIS

#### A. INTRODUCTION

In order to determine the effect of race on job satisfaction, and the determinants of job satisfaction, a bivariate analysis was conducted. The bivariate analysis sought to determine if there was a significant difference in job satisfaction by race within branch of service, or a significant difference in job satisfaction by branch of service within a racial group. Also, the bivariate analysis sought to determine if there was a significant difference in the measures of factors thought to be determinants of job satisfaction by race within a branch of service, or a significant difference in those measures by branch of service within racial group.

The measures of job satisfaction and determinants of job satisfaction were obtained from survey data. The data provided a single measure of job satisfaction, and measures of satisfaction with other aspects of military life. There was a large number of variables which provided measures of factors thought to be determinants of, or associated with job satisfaction. If the variables exhibited significant differences by race within branch of service, or branch of service within racial group in the bivariate analysis, then they were used as a foundation for the multivariate analysis.

#### B. DATA

##### 1. Rand Survey

The data used in performing the research on job satisfaction in the military were obtained from a survey conducted by the Rand Corporation [Ref. 15]. The survey was fielded in January of 1979, and was completed in June of the same year. The survey was distributed to military

installations worldwide, and to all branches of the Armed Forces. It queried personnel in pay grades E1 to O5. The survey consisted of four forms, two for officers and two for enlisted personnel. The enlisted questionnaire variants are called Form One and Form Two. Form One addresses 'Economic' issues, and Form Two addresses 'Quality of Life' issues .

The data utilized in this thesis were limited to those individuals in the first term of service. Individuals who were dissatisfied with the military probably would have a greater propensity to leave the military after their first enlistment than those who are satisfied. As a result, there would be a selection bias if data for those serving beyond the the first term of were used. Also, individuals with more than one term of service may have entered the military under the draft, and this would result in a sample which is probably dissimilar to the current personnel pool made up of volunteers.

The sample also excluded those individuals whose ethnic classification was other than black, white, or hispanic. These individuals were excluded from the sample because their number was insufficient to perform any meaningful statistical analysis on their survey responses.

## 2. Form One

The data provided in Form One [Ref. 15: p. 45] were mainly economic in nature, but also included variables that allowed observations to be classified by, branch of service, race, sex, length of service, term of service, pay grade, education, marital status, and location. The economic questions which were particularly useful for this research were questions which provide information on gross salary, external income, housing, use of exchanges, education benefits received, perceived probability of promotion, perceived military job versus civilian job comparisons, and intended years of service.

### 3. Form Two

The data provided by Form Two [Ref. 15: p. 127] of the survey deal with quality of life issues. The same classification questions concerning race, service, pay grade, etc. were also included in Form Two. The questions in Form Two that were particularly useful in conducting the research covered the following topics; discrimination in housing, local stores, promotion, exchange services, or how an individual felt about their own race, other races, about the racial climate at their unit, and how their leaders handled racial matters at their unit.

### C. METHODOLOGY

Based on the models of job satisfaction described in the review of literature, questions in the survey which provided a direct or indirect measure of job satisfaction were identified. Also, questions which provided a direct or indirect a measure of factors considered to be a determinants of job satisfaction were identified. The variable for job satisfaction was tested for main effects by race and service by the ANOVA procedure of SAS. Also, job satisfaction and those factors thought to be determinants of, or associated with job satisfaction were tested using the GLM procedure of SAS [Ref. 16: p. 139]. GLM is similar to ANOVA, except GLM will handle unbalanced designs. GLM provided an F statistic for the main effect of the independent variable in a model that had a continuous dependent variable and classification type independent variable. Also, means of the dependent variable were provided for each subgroup created by the classification variable. Options in the procedure allowed for a comparison of the subgroup means using a Tukey HSD test [Refs. 16,17: pp. 151, 383]. The level of significance for the Tukey test is .05.

The model analyzed by the GLM procedure consisted of two variables, the dependent variable was the variable in the data set being investigated for differences by race and

service. The independent variable was a categorical variable with twelve levels. The levels corresponded to an individual's race and service. There were three races and four branches of service, which resulted in twelve subgroups. The procedure calculated the mean response to a variable for each of the twelve subgroups. The Tukey test examined all possible pairwise comparisons and indicated if the means were significantly different. For the purpose of this research, only the comparisons between race within a branch of service, or branch of service within a racial group, were examined. If the test indicated significant differences between any of the races within a service, between or any of the services within a race, then the comparison was indicated to be significant by race, or service, respectively. The race and service differences are indicated in the tables within the bivariate analysis results section.

The GLM procedure was designed for a model with a continuous dependent variable. However, some of the variables analyzed in the Rand Survey were dichotomous, or categorical. In order to determine if the differences indicated by the Tukey HSD test were valid for dichotomous variables a 'Chi Square' test was conducted to validate Tukey HSD test results using the FREQ procedure in SAS [Refs. 16,17: pp. 513, 341]. A Chi Square test compared each of the subgroups for the models with dichotomous variables. The results of the Chi Square test indicated that the Tukey test was slightly more conservative than the Chi Square test. Therefore, the use of the Tukey test to determine significant differences between subgroup means appeared valid.

## D. RESULTS

### 1. Background

The results of the analysis were broken down into two major categories. These categories are as follow:

- Satisfaction with Military Life
- Determinants of Job Satisfaction

The results of the bivariate analysis of the satisfaction variables is in the first part of the results section. The results of the bivariate analysis on the determinants of job satisfaction variables is in the second part of the results section.

Those variables considered measures of factors thought to be determinants of, or associated with job satisfaction, were placed into the categories that follow:

- Demographic
- Discrimination
- Race Relations
- Comparing the Military With a Civilian Job
- Working Conditions
- Feelings about Service Policy
- Expectations

Tables displaying results of the bivariate analysis for each variable are located in Appendix A. Tables within the "Results" section below provide summary information on the variables in each category listed above.

### 2. Satisfaction with Military Life

The literature on job satisfaction revealed that attempts to measure satisfaction usually take on one of two forms. The measurements were either a single measurement, or a multifaceted measurement. The Rand Survey used a single seven point scale measurement of satisfaction, but there were other areas of satisfaction with military life measured in the survey. These other areas examined in the survey

might be used as factors to construct a multifaceted satisfaction measurement. A brief summary of the variables analyzed and the results are provided in Table 3.

TABLE 3  
SUMMARY OF SATISFACTION VARIABLES

VARIABLE	SUBJECT	SIGNIFICANCE
Q83	SATISFACTION WITH THE MILITARY	s,r
Q59	SATISFACTION WITH HOUSING	s,r
Q7	SATISFACTION WITH LOCATION	s,r
Q16	EXPECTED FINAL PAY GRADE	s
Q15	INTENDED YEARS OF SERVICE	s,r
s	Significant differences by service	
r	Significant differences by race	

Respondents were asked how satisfied they were with life in the Military. The analysis indicated significant differences by race and branch of service. Blacks in the Air Force were significantly more satisfied than whites in the Air Force. Also, blacks in the Air Force were significantly more satisfied than blacks in other services. The whites in the Navy were significantly less satisfied than the whites in the other services. If satisfaction was examined for race effects alone, then blacks and hispanics were significantly more satisfied than whites. If satisfaction was examined by branch of service alone, then individuals in the Navy were significantly less satisfied than individuals in the other services, and individuals in the Air Force were significantly more satisfied than individuals in the Army and Marine Corps.

Respondents were also asked what their feelings were about their housing. Analysis revealed significant differences by race and service (Table A-2). Whites in the Navy were significantly less happy with their housing than blacks

in the Navy. Also, blacks in the Air Force were significantly more satisfied with their housing than blacks in the other services. Finally, whites in the Air Force were significantly more satisfied with their housing than whites in the other services.

The question of satisfaction with housing was examined further to determine if there was a difference between satisfaction with military housing and civilian housing. The analysis revealed no differences in satisfaction between those individuals residing in military housing and those individuals residing in civilian housing. However, those individuals living in troop barracks or aboard ship were significantly less satisfied than those individuals living in other accommodations. Analysis results for this topic were not displayed because they were insignificant and the subject was tangential to the central theme of the thesis.

Respondents were asked how satisfied were they with the present location of their duty station. Analysis indicated significant differences by race and service (Table A-3). Whites in the Air Force were significantly more satisfied than blacks in the Air Force. Also, whites in the Air Force were significantly more satisfied than whites in the Army and Marine Corps. Finally, whites in the Navy were significantly more satisfied with their location than whites in the Army.

A measure of LOS and promotion expectations is possible with a question which asked respondents what was the final pay grade they expected to have when they finally left the military. Analysis revealed significant differences by service (Table A-4). Whites in the Navy had a significantly higher expected final pay grade than whites in the Air Force and Marines.

A more precise measure of the LOS expectations is captured by a question which asked the respondents how many years of service did they intend to have when they departed

the military. The analysis revealed significant differences along similar lines to the job satisfaction question (Table A-5). Blacks in the Air Force had a mean intended years of service which was significantly greater than that of whites in the Air Force. Also, blacks in the Air Force had a mean intended years of service which was significantly greater than the mean intended years of service for blacks in the other services. Additionally, whites in the Navy had a mean intended years of service which was significantly less than for whites of the other services.

The results of the various measures of satisfaction indicated that Air Force personnel were the most satisfied of any service group, and that blacks tended to be the most satisfied racial group. Also, blacks and Air Force personnel intended have longer military careers than other individuals. The only exception was that blacks were less satisfied with their housing, and location of duty, than whites and hispanics.

### 3. Determinants of Job Satisfaction

#### a. Selection of Variables

The variables examined in this part of the results section were selected for analysis because they provided direct and indirect measures of factors thought to be determinants of, or associated with, job satisfaction.

#### b. Demographic Data

The demographic data provided information about an individual's characteristics, and job role characteristics, both of which have been shown to be determinants of job satisfaction. Demographic factors analyzed in this section included type of home town, number of dependents, pay grade, gross monthly pay, length of service, education, gross family income, debt, and type of housing. The data created a picture of the personnel in the military, and the general differences in those personnel by race and service.

A summary of the demographic variables used in the analysis, and the results of the analysis, is provided by Table 4.

TABLE 4  
SUMMARY OF DEMOGRAPHIC VARIABLES

VARIABLE	SUBJECT	SIGNIFICANCE
Q22	SIZE OF HOME TOWN	s
Q54	NUMBER OF DEPENDENTS	s,r
Q69	GROSS MONTHLY PAY	s
Q4	PAY GRADE	s,r
Q8	TIME IN SERVICE	s,r
Q52	CURRENT EDUCATION LEVEL	s
Q51	ENTRY EDUCATION LEVEL	s
QH	TYPE OF HOUSING	s,r
Q94	OUTSTANDING DEBT	s
Q237	GROSS FAMILY INCOME	s
Q86	HOURS WORKED AT CIVILIAN JOB	s

s	Significant differences by service
r	Significant differences by race

Respondents were asked what was the size of the community they resided in when they were 16 years old. Analysis indicated significant differences by race (Table A-6). On the average, whites came from a smaller town than blacks in the same branch of service. Also, in the Army, Navy, and Marine Corps, the whites usually were from a smaller town than the hispanics.

Respondents were asked how many dependents they have, not including their spouse or themselves. Analysis indicated differences by race and service, with blacks in the Air Force having more dependents than whites in the Air Force (Table A-7). Also, hispanics in the Marine Corps had a higher average number of dependents than whites in the Marine Corps, and blacks in the Navy had a higher average number of dependents than whites in the Navy. Blacks in the Air Force had a higher average number of dependents than blacks in the Navy and Marine Corps. Whites in the Air Force

had a higher average number of dependents than whites in the Navy and Marine Corps. Finally, whites in the Army had a higher average number of dependents than whites in the Navy.

The survey asked the individuals to estimate their monthly basic pay. Analysis revealed that there were significant differences in base pay by service, but no significant differences by race within a branch of service (Table A-8). The highest mean pay was for blacks in the Air Force, the lowest average pay was for blacks in the Navy. The highest average pay for all races was in the Air Force, but whites and hispanics in the Marine Corps were paid less than their counterparts in the Navy. The pay for blacks in the Navy was on the average sixty dollars less than the pay for blacks in the Air Force.

When the survey asked the respondents what was their current pay grade, the analysis indicated significant differences by race and service (Table A-9). Blacks in the Navy had a mean pay grade that was significantly lower than whites in the Navy. Also, blacks in the Marine Corps had a mean pay grade that was significantly lower than whites and hispanics. Additionally, blacks in the Marine Corps had a mean pay grade which was significantly lower than the mean pay grade for blacks in the other services. Whites in the Navy had a mean pay grade that was significantly higher than the mean pay grade for whites in the other services. Conversely, whites in the Marine Corps had a mean pay grade that was significantly lower than the mean pay grade for whites in the other services.

Perhaps the differences in pay grade may be explained by differences in the length of service. The analysis of length of service data indicated significant differences in the mean length of service by race and service (Table A-10). The significantly lower mean pay grade for blacks in the Navy may be explained by the significantly lower mean time in service for blacks in the Navy when

compared to whites in the Navy. However, there was no significant difference in the mean time in service between blacks and whites in the Marine Corps to explain their differences in pay grade. Individuals in the Air Force have the longest mean time in service of all the groups surveyed, regardless of race.

Without significant differences in length of service to explain the differences between blacks and whites in the Marine Corps, a search for alternative explanations was desirable. The amount of education an individual had received at the time of the survey might provide information on differences in quality service personnel (Table A-11). Blacks and whites in the Air Force indicated attaining a much higher level of education than their counterparts in the other services. Also, whites in the Army had a significantly higher level of education than whites in the Marine Corps. However, there was no indication of a significant difference between the level of education attained by whites in the Marine Corps versus the level of education attained by blacks in the Marine Corps. As a result, there was no explanation of their pay grade differences based on education levels.

In order to determine if there was a significant educational advantage for whites in the Marine Corps when they entered the service, data was analyzed on the highest school grade respondents had completed by the time they entered the military. The analysis indicated that the Air Force and Navy recruited blacks and whites who had a significantly higher mean education level than did the Army and Marine Corps. However, there was no significant difference between the education level of whites and blacks in the Marine Corps which would account for the difference between their mean pay grades. Unfortunately, there were no ASVAB scores provided with this survey to allow further examination of the difference.

Analysis of the type of housing service personnel lived indicated significant differences by race and service, with whites in the Navy more likely to live in civilian quarters than blacks. Also, whites in the Air Force were more likely to live in civilian quarters than whites in the Marine Corps or Army, and whites in the Navy were more likely to live in civilian quarters than whites in the Marine Corps. Finally, blacks in the Air Force were more likely to live in civilian quarters than blacks in the Marine Corps.

Respondents were asked to estimate the amount of their outstanding debt, not including mortgages. Analysis revealed significant differences by service only. Whites in the Air Force had significantly more debt than whites in the other services, and blacks in the Air force had significantly more debt than blacks in the other services. Finally, whites in the Navy had significantly more debt than whites in the Army and Marine Corps.

In order to determine if there were differences in the overall financial status of service persons, respondents were asked what their family gross income was for 1978. Analysis indicated no significant differences by race or service (Table A-15). However, individuals in the Air Force had the lowest mean income. In contrast, they had the highest mean satisfaction levels, and the highest mean gross monthly pay.

The analysis of the last question is even more interesting when compared to the next question, which asked how many hours an individual spent working at a civilian job per week in 1978 (Table A-16). There were significant differences between whites in the Air Force, and whites in the Army and Navy. Whites in the Air Force spent significantly more hours moonlighting than whites in the the Army, and Navy. In Fact, the mean response for all racial groups in the Air Force was higher than their counterparts in the

other services. But, the only significant difference was between whites. However, the higher number of hours spent moonlighting by Air Force personnel seemed counter with the lower reported family gross income of Air Force personnel discussed above. Perhaps, the higher number of nonspouse dependents reported by Air Force personnel prevented their spouses from working outside the home and earning extra income.

The demographic data indicated that white military personnel were better educated, from smaller home towns, and had fewer dependents, than blacks or hispanics. Also, the data indicated that Air Force personnel were better educated, better payed, worked fewer hours, and had lower gross family incomes than individuals in the other branches of service.

c. Discrimination

The amount of perceived racial discrimination in the work environment, and in the community environment were thought to be significant determinants of job satisfaction in prior research. [Ref. 12] The determination of the amount of perceived discrimination in the military, and how that perception varies by race and service should provide information useful to a model of job satisfaction. A description of the factors represented by the variables in this section and the results of analysis of these variables are provided by Table 5.

Respondents were asked if they have experienced discrimination in the six areas that follow: A) Discrimination in local civilian housing, B) Discrimination at local civilian stores, C) Discrimination at exchange services, D) Discrimination for training and educational opportunities, E) Discrimination in promotion opportunities, and F) Discrimination in daily duty assignments.

The respondents were asked if they had experienced discrimination in local civilian housing. The

TABLE 5  
SUMMARY OF DISCRIMINATION VARIABLES

VARIABLE	SUBJECT	SIGNIFICANCE
Q78A	DISCRIMINATION IN CIVILIAN HOUSING	r
Q78B	DISCRIMINATION IN LOCAL STORES	s,r
Q78C	DISCRIMINATION AT LOCAL EXCHANGE	s
Q78D	DISCRIMINATION IN TRAINING	s,r
Q78E	DISCRIMINATION IN PROMOTION	s,r
Q78F	DISCRIMINATION IN DAILY DUTY ASSIGNMENTS	s,r
Q76	TREATMENT OF RACES	s,r

s	Significant differences by service
r	Significant differences by race

analysis indicated the only significant differences occurred between blacks and whites in the Air Force, and blacks and whites in the Navy (Table A-17). In both cases blacks indicated being discriminated against more often than whites.

The respondents were asked if they experienced discrimination at local civilian stores. Analysis indicated blacks experience significantly greater discrimination than whites in all branches of the service (Table A-18). Also, blacks in the Air Force experienced more discrimination than hispanics. Additionally, whites in the Army reported greater discrimination than whites in the Navy and Air Force.

There was little indication of discrimination being experienced at the exchanges. The only significant difference in the responses to this question was between whites in the Army and whites in the Air Force (Table A-19). This difference may be significant, but may also be explained by the chance that a significant difference was indicated, when actually there was no significant difference.

Analysis revealed there were significant differences in the response to a question which asked if an individual had experienced discrimination in training and education opportunities (Table A-20). In the Army, Navy, and Marine Corps, blacks indicated they were discriminated against significantly more than whites. Also, blacks in the Army indicated receiving more discrimination than blacks in the Marine Corps or Air Force. Finally, whites in the Army indicated significantly more discrimination than whites in all other services.

Respondents were asked if they had experienced discrimination in promotional opportunities. Analysis indicated more significant differences between the various subgroups for this type of discrimination, than for any other type of discrimination (Table A-21). Blacks in the Army, Navy, and Marine Corps reported receiving significantly more discrimination than whites. Hispanics in the Navy and Marine Corps indicated receiving less discrimination than blacks in those same services. However, blacks in the Air Force received significantly less discrimination than blacks in the Army, Navy, and Marine Corps, and blacks in the Navy received significantly less discrimination than blacks in the Army, and Marine Corps. Also, hispanics in the Army indicated receiving more discrimination than hispanics in the Navy and Air force. Finally, whites in the Navy and Air force experienced significantly less discrimination than whites in the Army and Marine Corps.

The response to a question concerning discrimination in daily duty assignments indicated differences by race and branch of service (Table A-22). Blacks in the Army, Navy, and Marine Corps reported more discrimination than whites. The hispanics in the Marine Corps reported less discrimination than the blacks in the Marine Corps. Also, blacks in the Air Force reported significantly less discrimination than blacks in the other services. Finally, whites

in the Army indicated receiving more discrimination than whites in the other services.

Respondents were asked if they thought blacks were treated better than whites, or worse than whites in their unit. The analysis indicated that blacks perceived their treatment as being a great deal worse than hispanics or whites perceived it. Also, hispanics perceived the treatment of blacks as worse than the whites perceived it (Table tuq76). The difference was true across all branches of the service. Also, there was a significant difference between whites in the Navy, Marine Corps and Air Force, as to the treatment of blacks.

The results of this section indicated significant differences by race and service in perceived discrimination. However, despite indications of experiencing significantly more discrimination than their white and hispanic counterparts, blacks indicated being more satisfied than their counterparts in all branches of the military, except the Marine Corps, where hispanics were the most satisfied.

#### d. Race Relations

The following factors concern race relations and the importance of race relations to leadership in the military. These factors provided information on the amount of ill feeling that existed between the races at the time of the survey, and the significance of race problems to members of the military. A description of the variables analyzed in this section and the results are provided by Table 6.

Respondents were asked how important race relations and equal opportunity training was to their leaders in the military. The analysis indicated virtually no difference among races or branches of service (Table A-24). The only difference that appeared was between blacks and whites in the Navy, where blacks felt race relations were more important to leaders in the military than whites did.

TABLE 6  
SUMMARY OF RACE RELATIONS VARIABLES

VARIABLE	SUBJECT	SIGNIFICANCE
Q75	IMPORTANCE OF RACE RELATIONS TO LEADERS	r
Q74A	OTHER RACES TREATED BETTER	s, r
Q74B	AVOID DOING THINGS WITH PEOPLE OF OTHER RACES	s
Q74C	TALK BADLY ABOUT OTHER RACES	s, r
Q74D	TALK ABOUT PROBLEMS OF OTHER RACES	s, r

s	Significant differences by service
r	Significant differences by race

The topic of race relations was broken into four areas, those areas addressed the following: A) How often does your own race complain that other races were treated better? B) How often does your own race avoid association with other races? C) How often does your own race talk bad about other races? D) How often does your own race talk about the problems of other races? A lower response indicated the incident in question occurred often, and a higher response indicated the incident rarely occurred.

The analysis of the question concerning other races being treated better indicated significant differences by race and service (Table A-25). In the Army and the Navy, the mean response for blacks was significantly lower than the mean response for whites. Whites in the Army had a significantly lower response than whites in the other services. Also, blacks in the Army had a significantly lower response than blacks in the Navy or Air Force.

The analysis concerning how often members of a respondent's race avoided associating with members of other races, indicated that whites in the Army had a significantly lower response than whites in the other services (Table

A-26). Also, whites in the Marine Corps had a significantly lower response than whites in the Navy and Air Force.

Respondents were asked how often members of an their race talked bad about other races. The analysis indicated significant differences by race and service (Table A-27). Whites in the Air Force had a significantly higher response than blacks in the Air Force. Whites in the Army and the Marine Corps had a significantly lower response than whites in the Air Force. Also, Blacks in the Army and the Marine Corps had a significantly lower response than Blacks in the Air Force.

The analysis of the question which asked respondents how often members of an their race talk about the problems of other races, indicated that blacks in the Navy and Marine Corps had a significantly lower response than than whites (Table A-28). Also, whites in the Army had a significantly lower response than whites in the Navy and Air Force.

The overall response to the survey questions analyzed in this section indicated that there was not a significant amount of race relations problems in the military. There were significant differences to the degree of the problems by race and service, but the respondents perceived a relatively low level of race relations problems in general.

#### e. Military Policies and Working Conditions

In order to obtain information on feelings about working conditions and policies in the military the following factors were analyzed: job environment, service policies, promotion chances, morale, equipment, and the unit's ability to perform its mission. A description of the factors represented by variables in this section and the results the analysis is provided by Table 7.

The respondents were asked about the ability of the equipment in their unit to perform its war time mission.

TABLE 7  
SUMMARY OF SERVICE POLICY VARIABLES

VARIABLE	SUBJECT	SIGNIFICANCE
Q68	EQUIPMENT IN WARTIME MISSION	s,r
Q67	PERSONNEL IN WARTIME MISSION	s
Q65	UNIT MORALE	r
Q37	TOTAL HOURS WORKED PER WEEK	s
Q34	TIME NOT WORKING IN MOS/RATING	s
Q43	ENLISTMENT BONUS RECEIVED	s
Q80F	WOMEN IN COMBAT	s,r
Q17	RESERVE SERVICE INTENTIONS	s,r
Q27	PROMOTION PROBABILITY	s
Q28	PROMOTION RELATIVE TO PEERS	s
Q50	REENLISTMENT PROBABILITY	s,r
Q49	REENLISTMENT PROB. W/TRAINING	s,r
	GUARANTEE	

s Significant differences by service  
r Significant differences by race

The analysis indicated significant differences by race and service (Table A-29). Blacks in the Army and Navy, had a significantly higher response than whites in the Army and Navy. Whites in the Army had a significantly lower response than whites in the Navy, Marine Corps, and Air Force. Also, the response of whites in the Marine Corps was significantly lower than the response of whites in the Navy and Air Force. Finally, blacks in the Marine Corps had a significantly lower response than blacks in the Navy and Air Force. The lower response indicated equipment was not expected to perform its wartime mission very well.

Respondents were asked about their unit's ability to perform its wartime mission (Table A-30). Analysis revealed significant differences in the responses by service, with blacks in the Air Force indicating a significantly higher response than blacks in the Army and Marines. A lower response indicated the personnel were not expected to perform well in combat.

Respondents were asked about their unit's morale, Analysis indicated a significant difference in the response of blacks and whites in the Navy (Table A-31). Blacks in the Navy indicated higher mean response than whites. The higher mean indicated that blacks perceived unit morale being higher than whites perceived it to be.

Respondents were asked how many hours an they worked at their military job, including duty, per week. The analysis indicated significant differences between all branches of the service, but there were not any significant differences by race within a particular service (Table A-32). Notably, blacks in the Air Force work significantly fewer hours than blacks in the other services, also whites in the Air Force work significantly fewer hours than whites in the other services.

Respondents were asked how many hours per week were spent working outside their primary MOS/Rating (Table A-33). The analysis indicated significant differences by service with blacks in the Air Force working more time within their MOS/Ratings than blacks in the other services. Also, whites in the Air Force spent more time working within their MOS/Rating than whites in the other services.

The respondents were asked if they received an Enlistment Bonus upon entering the military. The analysis indicated significant differences by 'service only (Table A-34). The response for whites in the Army was significantly higher than the response of whites in the all the other services. The response of blacks in the Army was significantly higher than the response for blacks in all the other services. Finally, the response for whites in the Marine Corps was significantly higher than that of whites in the Navy and Air Force, but it was still significantly lower than the response of whites in the Army. The groups with a higher response received more bonuses.

The issue of women in combat was addressed when respondents were asked if women should be trained for, and used in combat. The analysis indicated differences by race and service (Table A-35). Blacks in the Army were much more agreeable to the use of women in combat than whites in the Army. Also, whites in the Navy were more in favor of women in combat than whites in the Marines and Air Force. However, blacks in the Marine Corps were more opposed to women in combat than blacks in the Army and Navy.

Respondents were asked about their intentions to join the National Guard or Reserves when they finally left the military. Analysis indicated significant differences by race and service (Table A-36). Blacks in the Navy were more likely to consider joining the a reserve unit than whites in the Navy, and whites in the Air Force were more likely to consider joining a reserve unit than whites in the Army.

Respondents were asked about their promotion chances. Analysis revealed significant differences by service (Table A-37). Whites in the Air Force had higher expectations of being promoted than whites in the other services, and blacks in the Air Force had higher expectations of being promoted than blacks in the Army and Marine Corps. Also, hispanics in the Air Force had higher expectations of being promoted than hispanics in the Army and Marine Corps. Finally, whites in the Navy had a higher expectation of being promoted than whites in the Marine Corps.

Respondents were asked about their expected time of promotion relative to other persons in their service with the same time in service. Analysis indicated significant differences by service (Table A-38). Whites in the Air Force expected to be promoted ahead of their contemporaries more often than whites in the other services. Also, blacks in the Marine Corps expected to be promoted ahead of their

peers more often than blacks in the Air Force and Navy. Finally, whites in the Marine Corps expected to be promoted ahead of their peers more often than whites in the Navy.

The respondents were asked how likely they would be to reenlist if they received guaranteed training in a new career field. There were significant differences by race and service (Table A-39). The response of blacks was significantly higher than the response of whites for all services. Also, hispanics in the Marine Corps had a significantly higher response than whites in the Marine Corps. Whites in the Air Force had a significantly higher response than whites Marine Corps and Navy. Also, blacks in the Air Force had a significantly higher response than blacks in the Marine Corps and Navy. The higher response indicated a greater probability of reenlisting.

Respondents were asked how likely they were to reenlist without any guarantees. The analysis indicated fewer differences by race and service than in the previous question (Table A-40). Blacks had a significantly higher response than whites in the Army, Navy, and Air Force. Also, blacks in the Air Force had a significantly higher response than blacks in the Navy and Marine Corps.

Individuals in the Air Force had shorter work weeks, spent more time working in their MOS, perceived better promotion chances, thought their equipment was better, and were more likely to reenlist, than individuals in the other services. These results could be one reason individuals in the Air Force had a higher level of satisfaction than individuals in the other services.

#### f. Comparing the Military With a Civilian Job

The factors to be analyzed in this portion of the results section consisted of topics which cover perceptions of the military job versus a civilian job, the probability of getting a civilian job, and expected earnings in a civilian job. The description of the factors represented

by the variables analyzed in this section and the results of the analysis is provided in Table 8.

TABLE 8  
SUMMARY OF JOB COMPARISON VARIABLES

QUESTION	SUBJECT	SIGNIFICANCE
Q102A	IMMEDIATE SUPERVISORS	s
Q102B	HAVING A SAY	s
Q102C	RETIREMENT BENEFITS	s
Q102D	MEDICAL BENEFITS	s,r
Q102E	CHANCE FOR INTERESTING WORK	
Q102F	WAGES AND SALARIES	s
Q102G	CHANCE FOR PROMOTION	
Q102H	TRAINING OPPORTUNITY	s
Q102I	PEOPLE YOU WORK WITH	s
Q102J	WORK SCHEDULE AND HOURS	s
Q102K	JOB SECURITY	s
Q102L	JOB EQUIPMENT	s
Q102M	JOB LOCATION	s
Q100	PROBABILITY OF USING MILITARY SKILLS IN CIVILIAN JOB	s
Q98	PROBABILITY OF FINDING GOOD CIVILIAN JOB	s,r
Q99	EXPECTED ANNUAL CIVILIAN EARNINGS	

s Significant differences by service  
r Significant differences by race

There were thirteen military to civilian job comparisons in which the respondent was asked to compare his current military job with a civilian job he would expect to have if he could leave the military at the time of the survey.

Respondents were asked to compare their immediate supervisors. The analysis indicated that blacks in the Air Force had a significantly higher response than blacks in all other services, and whites in the Air Force had a significantly higher response than whites in the other services (Table A-41). The higher response indicated the respondents felt the military was better than the civilian job.

Respondents were asked to compare how much say they would have in the civilian job versus their current military job. The analysis indicated that the response of whites in the Air Force was significantly higher than the response of whites in the other services (Table A-42). Also, the response of blacks in the Air Force was significantly higher than the response blacks in the Navy and Marine Corps.

The analysis indicated that whites in the Navy felt that retirement benefits were better in a civilian job than whites in the other services (Table A-43). Although the difference was not statistically significant, hispanics in all branches of service felt retirement benefits in the civilian job would be better than respondents of other races.

The respondents were asked to compare medical benefits between jobs. The analysis indicated significant differences by race and service (Table A-44). Blacks in the Air Force had a significantly higher response than hispanics in the Air Force. Also, The response for whites in the Navy was significantly less than for whites in the Army and Marine Corps. Finally, the response for whites in the Marine Corps was significantly higher than for whites in the Air Force. The higher response indicated the military compared more favorably.

Respondents were asked if a civilian job would provide a better chance to do interesting work. The analysis indicated there were no significant differences by race or service (Table A-45). The level of response indicated that military personnel perceive that a civilian job would provide more opportunities for interesting work than a military job.

Respondents were asked about the comparability of wages and salaries between the military and the civilian job market. The analysis of this question revealed a

difference between whites in the Navy and whites in the Army and Air Force (Table A-46). Whites in the Navy felt that civilian wages would be better than military wages more often than whites in the Army and Air Force.

Respondents were asked how promotion chances in the military compare with promotion chances in a civilian job. Analysis revealed no significant differences between races or branch of service (Table A-47). The general level of response indicated that promotion opportunities in a civilian job were perceived as slightly better than in a military job.

Respondents were asked how job training opportunities in the military compare with job training opportunities in a civilian job. Analysis revealed a significant difference between whites in the Air Force and whites in the Army and Marine Corps (Table A-48). The whites in the Air Force felt that training opportunities were better in the military than whites in the Army and Marine Corps did. The general level of response indicated civilian training opportunities were perceived to be slightly better on a civilian job.

Respondents were asked to compare the people they work with in the military with the people they thought they would work with in a civilian job. Analysis indicated significant differences by service (Table A-49). Blacks in the Air Force had a significantly higher response than blacks in the other services. Also, whites in the Air Force had a significantly higher response than whites in the other services. Finally, whites in the Army had a significantly lower response than whites in the other services. The higher response indicated the military compared more favorably.

Respondents were asked to compare their work schedule in the military with the work schedule in a civilian job (Table A-50). The analysis indicated that

response for the race categories in the Air Force was significantly higher than the response for the race categories in the other three services. Also, the response for whites in the Marine Corps was significantly higher than the response for whites in the Army and Navy. The higher response indicated the military compared more favorably.

Respondents were asked how job security in the military compared with job security on a civilian job. Analysis revealed significant differences by service (Table A-51). Whites in the Air Force had a significantly higher response than whites in the Army or Marine Corps. Also, blacks in the Air Force had a significantly higher response than blacks in the Army or Marine Corps. Blacks in the Navy had a significantly higher response than blacks in the Army, and whites in the Navy had a significantly higher response than whites in the Army. The higher response level indicated that job security in the military was felt to be better in the military than in a civilian job.

Respondents were asked how equipment in the military would compare with equipment used in a civilian job. Analysis revealed significant differences by service (Table A-52). Whites in the Air Force had a significantly higher response than whites in the other services, and whites in the Navy had a significantly higher response than whites in the Army and Marine Corps. Also blacks in the Marine Corps had a significantly lower response than blacks in the Navy and Air Force. A higher response level indicated the military equipment was felt to be better in the military than in a civilian job.

Respondents were asked how job locations in the military compared with job locations in a civilian job. Analysis revealed significant differences by service (Table A-53). Whites in the Air Force had a significantly higher response than whites in the other services, and blacks in the Air Force had a significantly higher response than

blacks in the Army and Navy. The higher level of response indicated that the location of jobs in the military was perceived to be better in the military than in a civilian job.

Respondents were asked how likely they would be to find a civilian job that uses the skills in their military career field. The only significant difference revealed in the analysis was between the services (Table A-54). Whites in the Navy reported a significantly greater likelihood of using their military skills in a civilian job than did whites in the other services. Also, whites in the Air Force reported a significantly greater likelihood of using their military job skills in a civilian job than did whites in the Army.

Respondents were asked about the likelihood of finding a good civilian job if they could leave the military at the time of the survey. The analysis indicated significant differences by race and service (table A-A-55). Blacks in all the services had a significantly lower expectation of finding a good job than did the whites in the same branch of service. Also, blacks in the Air Force had lower expectations of finding a good job than did hispanics in the Air Force. Finally, the expectation of finding a good job for whites in the Air Force was lower than that of whites in the Navy and Marine Corps.

Respondents were asked what they would expect their annual earnings to be in a civilian job if they could leave the military at the time of the survey. Analysis did not reveal any significant differences by race or service (Table A-56). The general level of expected annual earnings was around 13,000 dollars. Interestingly, blacks in the Air Force had one of the lower expected annual earnings in a civilian job.

There was a general trend for enlisted personnel in the Air Force to compare the military more favorably to a

civilian job than enlisted personnel in the other services. Also, for twelve of the thirteen job characteristics, blacks in the Air Force rated the military more favorably than any other race-branch subgroup. Finally, blacks in the Air Force had the lowest expected probability of finding a good civilian job of all the subgroups. The high rating blacks in the Air Force gave their service corresponds with their indication of a high level of job satisfaction.

g. Expectations

An individual's perception of his or her ability to achieve a desired outcome by choosing employment with a particular organization has been characterized as that individual's expectations for employment with a particular organization. The degree to which a job lives up to an individual's expectations has been theorized to be an important determinant of job satisfaction. The factors examined in this section were chosen for the information they provided on expectations of personnel in the military. A description of the factors represented by survey variables and analysis results, is provided in Table 9.

TABLE 9  
EXPECTATIONS

VARIABLE	SUBJECT	SIGNIFICANCE
Q104A	MILITARY LIFE AS EXPECTED	S
Q104B	FUTURE MILITARY PERSONNEL WILL NOT HAVE AS GOOD OF RETIREMENT BENEFITS	S
Q104C	MILITARY PAY AND BENEFITS WILL NOT KEEP UP WITH INFLATION	s,r
Q104D	MY FAMILY WOULD BE BETTER OFF IF I HAD A CIVILIAN JOB	s,r

s Significant differences by service  
r Significant differences by race

Respondents were asked if they agreed with the statement that military life was as they expected. The analysis indicated that there were significant differences by service (Table A-57). Whites in the Air Force agreed with the statement more than whites in the other services. Also, whites in the Navy agreed with the statement more than whites in the Army.

Respondents were asked if they agreed with the statement that future military personnel would not have as good retirement benefits as the respondents had at the time of the survey. Analysis indicated significant differences by service in response to this question (Table A-A-58). Hispanics in the Air Force agreed with the statement more than hispanics in the Army and Marine Corps. Whites in the Air Force agreed with the statement more than whites in the other services. Also, blacks in the Air Force agreed with the statement more than blacks in the Army. There was a definite tendency for Air Force Personnel to be pessimistic about future retirement benefits.

Respondents were asked if they agreed with the statement that future military pay and benefits would not keep up with inflation. analysis indicated significant differences by race and service (Table A-A-59). Whites in the Navy agreed with the statement more than blacks in the Navy, and whites in the Army agreed with the statement more than hispanics in the Army. Also, Blacks in the Army agreed with the statement more than whites in the Army. Whites in the Navy agreed with the statement more than whites in the Army and Marine Corps, and hispanics in the Air Force agreed with the statement more than hispanics in the Army. There did not seem to be any pattern to the in the responses by branch or service.

Respondents were asked if they agreed with the statement that their family would be better off if they took a civilian job. Analysis indicated significant differences

by race and service (Table A-A-60). Whites in all of the services agreed with the statement more than blacks in their respective services. Also, Whites in the Navy agreed with the statement more than whites in the other services, and blacks in the Navy agreed with the statement more than blacks in the Army and Marine Corps. There was a definite attitude expressed by whites that they would be better off in a civilian job, and individuals in the Navy expressed a similar attitude. The feelings of whites in the Navy corresponded to their low satisfaction with military life in general.

There were two strong trends pointed out by the questions in this section. First, individuals in the Air Force agreed with statement that military life was as they expected, more often than personnel in the other services. Second, blacks in the military indicated, more often than whites, that they would not be better off with a civilian job.

#### E. SUMMARY

The results of the bivariate analysis indicated significant differences in job satisfaction by race within branch of service, and/or service within racial group. Blacks in the Air Force were significantly more satisfied with life in the military than whites in the Air Force. Also, a test for the main effect of race on satisfaction with life in the military indicated that blacks were significantly more satisfied than whites. The service differences were the results of individuals in the Air Force being more satisfied than individuals in the other branches, and individuals in the Navy being less satisfied than individuals in the other services.

There were significant differences by race within a branch of service, and branch of service within a racial group for those factors thought determinants of, or associated with job satisfaction. The racial differences occurred

mainly with questions concerning such topics as discrimination, race relations, and the probability of finding a good civilian job. The service differences indicated that the attitude of individuals in the Air Force towards their service was significantly more positive than the attitude of individuals in the other services. This attitude was apparent in the comparisons of the military to civilian jobs, the amount of racial discrimination experienced, the amount of race relations problems, and the perception of working conditions.

The significant differences in response to certain questions by races within branch of service, or branch of service within racial group was not explained by the bivariate analysis. The bivariate analysis merely indicated the existence of the differences. The use of a multivariate model which measures the effect of several variables may provide an explanation of race and service differences.

#### IV. MULTIVARIATE ANALYSIS

##### A. BACKGROUND

The bivariate analysis indicated significant differences in the measure of job satisfaction by race. This finding was similar to recent research of job satisfaction which has indicated significant differences in job satisfaction by race [Refs. 10,12]. However, the bivariate analysis and recent research did not provide any clues as to the cause of differences in the level of job satisfaction by race. It has been proposed that the differences in satisfaction by race were the result of factors which were correlated with race, being excluded from models of job satisfaction. These factors include an individual's education level, his or her quality of education, their family life, type of community, etc.

The theory of Vroom and the theory of Porter and Steers proposed that job satisfaction was a function of many factors such as job characteristics, individual characteristics, comparisons of alternative job opportunities, and the interactions of these factors [Refs. 2,9: pp. 145, 332]. Therefore, if race can be called an individual characteristic, then race should be a determinant of job satisfaction. Based on this theory and the results of the bivariate analysis the following hypothesis was tested utilizing a multivariate model, and a statistical method called 'Multiple Classification Analysis' (MCA):

(Hypothesis 1) Race is a significant factor in the determination of job satisfaction.

The bivariate analysis indicated significant differences by race in factors which were considered to be determinants of job satisfaction. These factors included the comparison

of alternative job opportunities, the equipment used on the job, and the ability of wages and salaries to keep pace with inflation. Vroom theorized that the relative importance of job characteristics was a function of the individual personality, and that an individual personality determined the valence an individual attached to a specific job characteristic. Thus, if there were personality differences associated with race, then these differences may be reflected in the individual's valence for certain job characteristics. This different valence would result in the effect of various determinants of satisfaction being different by race, which would result in differences in satisfaction by race in the same job.

In order to determine if the association of job characteristics was different by race the following hypothesis was tested using factor analysis, on job comparison data:

(Hypothesis 2) Race has a significant effect on clustering of the perceived job characteristics.

In order to determine if the effect of the factors extracted in the factor analysis varied by race, the following hypothesis was tested using regression analysis:

(Hypothesis 3) Race has a significant effect on the valence attached to job characteristics when evaluating satisfaction with the job.

Also, the regression analysis would determine if the variables selected for factor analysis were determinants of, or at least associated with satisfaction with military life.

## B. METHODOLOGY

### 1. Multiple Classification Analysis

The MCA method of multivariate analysis is a main-effects-only ANOVA and ANCOVA form of the ANOVA procedure in the SPSSX statistical software package. The ANOVA procedure

performed a stepwise multiple regression on the model selected for analysis. [Ref. 18: p. 449]

The models used to test Hypothesis 1 consisted of one dependent variable and eight independent variables. The independent variables were entered into the model as either main effects or covariates. The main effect variables were categorical variables, and the covariates were continuous variables. A separate model was run for each job satisfaction determinant factor. If the factor was indicated by the bivariate analysis to have significant differences by race within a branch of service, then the variable representing the factor was used as the dependent variable in the model. The main effect independent variables were education, sex, marital status, service, and race. The covariate independent variables were length of service, number of dependents, and age.

The ANOVA procedure provided a measure of significance of the effect of the independent variables in the model. This significance measure was an F statistic. The F statistic allowed for a test of the null hypothesis that the value of the BETA coefficient was zero.

The output of the MCA indicated the effect of each main effect variable on the dependent variable in two ways. These estimates were named ETA and BETA. The ETA value was the effect of the main effect variable on the dependent variable alone, without any other variables in the model. The BETA value was the effect of the main effect variable on the dependent variable in a model that included all the independent variables. Also, the MCA output indicated a deviation from the grand mean on the dependent variable for each categorical level of the main effect variables. The F statistic provided an estimate of the level of significance for the BETA values of each main effect and covariate variable.

## 2. Factor Analysis

The factor analysis method utilized was principal components with iterated communalities in the diagonal, and a varimax rotation to simple structure. The factor analysis reduced a large set of variables into a smaller set of independent component factors. Also, it allowed for these new factors to be used to generate factor scores for use as independent variables in the multiple regression of a multivariate model of job satisfaction. The factor analysis was performed utilizing the factor analysis procedure in the SPSSX statistical software package [Ref. 18: p. 646].

The factor scores estimated by the factor analysis for use in the regression procedure were a function of the standardized value for each case of the variables observed, and the factor score coefficients. The factor scores were used as data for output to a file which provided factor scores for each case in the data file. These factor scores were standardized variables and had a mean of zero. [Ref. 18: p. 655]

The rotated factor matrix output of the factor analysis provided the factor loadings for each variable. Examination of this matrix allowed for a determination of which variables were associated with each factor. Therefore, if certain variables were clustered by their loadings with a particular factor, then those variables were highly correlated with each other and that factor. This association of variables could provide empirical evidence on the clustering of determinants of job satisfaction.

Measures of the job characteristics used in the factor analysis procedure were from Form One of the Rand survey, and are listed on Table 10 below. These variables were the result of asking respondents to compare their job in the military with a hypothetical civilian job they would have if left the military. Also, the respondents were asked

to determine for each job characteristic whether the civilian job would be better or worse than the military job.

TABLE 10  
VARIABLES IN FACTOR ANALYSIS

VARIABLE NUMBER	VARIABLE SUBJECT
Q102A	CIV VS MIL JB-IMMED SUPERVISORS
Q102B	CIV VS MIL JB-HAVING SAY
Q102C	CIV VS MIL JB-RETIREMENT BENEFITS
Q102D	CIV VS MIL JB-MEDICAL BENEFITS
Q102E	CIV VS MIL JB-CHNCE INTRSTNG WK
Q102F	CIV VS MIL JB-WAGES-SALARIES
Q102G	CIV VS MIL JB-CHANCE PROMOTION
Q102H	CIV VS MIL JB-TRNG OPPORTUNITY
Q102I	CIV VS MIL JB-PEOPLE WRK WITH
Q102J	CIV VS MIL JB-WORK SCHED-HOURS
Q102K	CIV VS MIL JB-JOB SECURITY
Q102L	CIV VS MIL JB-EQUIPMENT
Q102M	CIV VS MIL JB-JOB LOCATION

The models tested by the factor analysis were for male blacks and male whites. Females were excluded from the sample, because sex accounted for a great deal of the variation in the measures of job satisfaction and its determinants. Therefore, it was decided to make the sample more homogeneous by eliminating sex as a factor in the final model. Hispanics were excluded from the final model because the number of male hispanics in the data sample, after the exclusion of female hispanics from the data sample, was too small for a statistically significant analysis of the data from that subgroup to be conducted.

### 3. Regression Analysis

Regression analysis was used to test a model of job satisfaction to determine if the job characteristics examined in the factor analysis were in fact determinants of, or at least associated with, satisfaction with military life. If the job characteristics selected in the factor analysis were determinants of satisfaction with military life, as theory indicated they would be, then these job

characteristics would be significant when satisfaction with military life was regressed against them.

The regression models consisted of a single dependent variable to measure job satisfaction. The measure of job satisfaction was a from the Rand survey, and provided a seven point scale for levels of satisfaction with military life. '1' was the lowest value on the scale and the value corresponded to being very dissatisfied with life in the military. '7' was the highest value on the scale and corresponded to being very satisfied with life in the military. The independent variables were the factors scores generated in the factor analysis, and a dummy variable for the individual's service.

The regression forced the variables into the model and calculated the significance of each variable's contribution to the model. The final output of the regression analysis indicated the effect of the variables in the model, the T statistic for each variable, and the significance of the T statistic. Regressions were run against job satisfaction for black males and white males. There were regressions run with the dummy variable for service in the Marine Corps excluded from the model, and there were regressions run for service in the Air Force excluded from the model.

## C. RESULTS

### 1. Multiple Classification Analysis

The results of the MCA indicated significant differences by race in every case that the bivariate analysis indicated significant differences by race. The effect of race on satisfaction with military life is shown in the first part of Table 11 below. The effect of race on the determinants of satisfaction with military life is shown in the second part of Table 11 below. Table 11 provides the subject of the dependent variable analyzed, the size of the race variable BETA coefficient, and the level of significance of the race variable BETA coefficient.

TABLE 11  
RESULTS OF MULTIPLE CLASSIFICATION ANALYSIS

DEPENDENT VARIABLE NUMBER	SUBJECT	BETA OF RACE	SIGN. OF F
JOB SATISFACTION			
Q105	SATISFACTION WITH MILITARY LIFE	.08	.001
DETERMINANTS OF JOB SATISFACTION			
Q78A	DISCRIMINATION IN CIVILIAN HOUSING	.09	.001
Q78B	DISCRIMINATION IN CIVILIAN STORES	.18	.001
Q78D	DISCRIMINATION IN TRAINING OPPORTUNITIES	.15	.001
Q78E	DISCRIMINATION IN PROMOTION OPPORTUNITIES	.25	.001
Q78F	DISCRIMINATION IN DAILY DUTY ASSIGNMENTS	.16	.001
Q74A	OWN RACE COMPLAINS OTHERS TREATED BETTER	.16	.001
Q74C	OWN RACE TALKS BADLY ABOUT OTHER RACES	.09	.001
Q74D	OWN RACE TALKS ABOUT THE PROBLEMS OF OTHER RACES	.10	.001
Q68	EQUIPMENT IN WARTIME MISSION	.09	.001
Q102D	CIV. VS. MIL. MEDICAL BENEFITS	.05	.002
Q98	PROBABILITY OF FINDING GOOD CIVILIAN JOB	.11	.001
Q104C	MILITARY PAY AND BENEFITS WILL KEEP UP WITH INFLATION	.07	.001
Q104D	MY FAMILY WOULD BE BETTER OF IF I HAD A CIVILIAN JOB	.10	.001

The effect of race on satisfaction with military life was statistically significant, but small. Race explained less than one percent of the variation in the satisfaction with military life model. Sex and branch of

service variables had a larger effect than race on determining an individual's satisfaction with military life.

The effect of race on the determinants of satisfaction with military life was significant, but small. When the contribution of the race variable was calculated by taking the square root of its BETA, at most, race explained five percent of the variation in the response measured. In most cases race accounted for less than 2 percent of the variation in the measure of the response. The MCA indicated that in many cases sex or service had a larger effect on the dependent variable than race. Sex had a larger effect than race in explaining the variation in response to questions concerning the ability of military pay to keep up with inflation, whether or not an individual would be better off with a civilian job, promotion probability, and how often an individuals own race talks bad about other races. Also, in cases where race had the larger effect on variation, sex and service were still very important factors in explaining the variance of the dependent variables.

The results of the MCA indicated there were significant differences by race in job satisfaction and the determinants of job satisfaction. However, even though the effect of race was significant, it did not add a great deal to the explanatory power of a job satisfaction model.

## 2. Factor Analysis

The factor analysis extracted two factors from the input variables for the models of black males and white males. The factor loadings indicated that variables placed into the factor analysis fell into two groups. Factor One variables could be characterized as short term job aspects, and Factor Two variables could be characterized as long term job aspects.

The factor loading values from the varimax rotation matrix are provided on Table 12 below. The factor loading values indicated the clustering of each variable by each

factor. There was one set of loading values from the model for black males, and there was one set of loading values from the model for white males.

TABLE 12  
FACTOR LOADING MATRIX

VARIABLE	BLACK MALES		WHITE MALES	
	FACTOR ONE	FACTOR TWO	FACTOR ONE	FACTOR TWO
MEDICAL BENEFITS		.7970		.7018
RETIREMENT BENEFITS		.7087		.6985
JOB SECURITY	.3905	.5233	.3845	.4782
IMMED SUPERVISORS	.6528		.6270	
PEOPLE WRK WITH	.5932		.6098	
HAVING SAY	.6025		.5478	
CHNCE INTRSTNG WK	.5983		.5351	.3024
EQUIPMENT	.5520	.3495	.5029	.3099
TRNG OPPORTUNITY	.5280	.4012	.5012	.4428
JOB LOCATION	.5603		.4913	
CHANCE PROMOTION	.5389	.4008	.4628	.4408
WORK SCHED-HOURS	.5354		.4482	
WAGES-SALARIES	.5698		.3635	.3560

Note: Factor loading values below 0.3 were excluded from the table.

Interestingly, the factor loading of the 'Wages and Salaries' variable for whites was very different than the factor loading of the same variable for blacks. The factor loading of the 'Wages and Salaries' variable for whites did not indicate that the variable was strongly associated with either Factor One or Factor Two. In contrast, the factor loading of the 'Wages and Salaries' variable for blacks was strongly associated with Factor One, the short term job aspect factor.

The analysis also indicated that 'Promotions', 'Training Opportunities', and 'Work Schedule-Hours' variables were more strongly clustered with the short term factor for blacks than they were for whites. The difference in the clusterings of the variables, as indicated by the

factor loading, supports Hypothesis Two. However, these results did not provide comparisons of the statistical significance of the different loading factors.

### 3. Regression Analysis

The results of the regression analysis indicated that not all of the independent variables had a significant effect on the determination of job satisfaction. The variables from the factor analysis had a significant effect on job satisfaction, but the effect of the dummy variables for service varied by race.

The results of analysis indicated definite similarities between the two models. The models exhibited about the same amount of explanatory power with both models having R squares of about .31. Also, the BETA values for Factor 1 were similar in both models, and the BETA values for Factor 2 were similar in both models, as shown in Table 13. The similarity of the estimates of the BETA coefficients in both models did not support Hypothesis Three. The results did indicate that short term job characteristics had the strongest effect on determining job satisfaction for both blacks and whites.

The BETA coefficient estimates for the Army and Navy dummy variables varied slightly depending on whether the Marine Corps dummy variable or the Air Force dummy variable was excluded from the model. The more conservative estimate of the effects of the Army and Navy dummy variables was presented in Table 13. Also, the regression analysis indicated that service was not a significant factor in the determination of job satisfaction for blacks, but the analysis did indicate that service had a significant effect in the determination of job satisfaction for whites. The dummy variable for service in the Navy had a significant effect on the determination of job satisfaction for white males. The model for white males indicated the effect of the dummy variables for service in the Army, Marine Corps, and Air

Force was not significant. This result was not affected by the small variation in the estimates of the BETA coefficients of the dummy variables for service in the Army and Navy.

TABLE 13  
REGRESSION ANALYSIS RESULTS

BLACK MALES			
VARIABLE	BETA	STAT. SIGN.	CUM. R. SQ.
FACTOR 1	.5073	.001	.27
FACTOR 2	.1369	.001	.31
NAVY	-.0560	.186	.31
ARMY	-.0793	.149	.31
MARINE CORPS	-.0191	.670	.31
AIR FORCE	.0171	.670	.31
WHITE MALES			
VARIABLE	BETA	STAT. SIGN.	CUM. R. SQ.
FACTOR 1	.4870	.001	.25
FACTOR 2	.1512	.001	.30
NAVY	-.0976	.001	.31
ARMY	-.0098	.602	.31
MARINE CORPS	.0042	.951	.31
AIR FORCE	-.0042	.951	.31

In order to determine if there was a significant difference in the estimates of the BETA coefficient for service in the Navy, between the models for blacks and whites, a T test was conducted. The level of significance of the test was .05, the degrees of freedom were 3872, and the

resulting value of the T statistic was 0.9077. The result of the test indicated that the research hypothesis was not supported, and that there was not a significant difference between the effect of service in the Navy in the models for blacks or whites.

#### D. SUMMARY

The results of the MCA indicated that the effect of race was significant in determining the level of satisfaction with military life. Therefore, Hypothesis One was supported on the basis of those results. However, the survey data used in the analysis limited the number and type of variables used in the MCA. Also, the effect of race on satisfaction with military life was so small, it is quite possible that analysis of a more elaborate model would eliminate race as a significant factor.

The results of the MCA indicated that race had a significant effect on various determinants of job satisfaction. However, the effect of race was small in all cases, and the effect of race was frequently exceeded by the effect of sex or branch of service in many cases.

The results of the factor analysis indicated that the association of certain job characteristics did vary by race. The difference by race in the factor loadings for job characteristics associated with the short term job aspects indicated blacks perceived greater reward in such job characteristics as wages, promotion, and working hours than whites. This result supported Hypothesis Two that race had a significant effect on the clustering of perceived job characteristics.

The regression analysis indicated that the variables from the factor analysis were fairly strong determinants of job satisfaction, and it indicated that the final models do not vary significantly by race. The effect of the Factor variables was similar in both models, and the effect of dummy variables for branch of service was relatively

insignificant in both models. This result indicated that race was not a significant factor in determining the valence for job characteristics.

The different results of the various analysis resulted in no strong conclusions being made as to the effect of race on job satisfaction. While the differences in job satisfaction were significant, they were so small that the possibility of the elimination of race effect in a more elaborate job satisfaction cannot be ruled out. A more elaborate model would include other factors such as perceived promotion chances, coworker relations, and the individuals specific job type. Perhaps inclusion of these variables would eliminate the effect of race on the determination of job satisfaction.

## V. CONCLUSION

### A. JOB SATISFACTION AND ITS DETERMINANTS

The effect of race on satisfaction with military life was significant in every analysis conducted by this study except two. The bivariate analysis indicated that blacks in the Air Force were significantly more satisfied than whites in the Air Force. Also, the bivariate analysis indicated that race was a significant main effect in the determination of satisfaction. The MCA indicated that race had a significant effect on the determination of job satisfaction, even with other mitigating factors added to the model. The factor analysis indicated that the association of job characteristic variables was different for blacks and whites. However, this test did not provide any measure of the significance of this difference. Finally, the regression analysis did not indicate significant differences by race.

All of the results, except the regression analysis, provided evidence to support the hypothesis that race has a significant effect on the determination of job satisfaction. There was no significant difference between the models for blacks and the model for whites in the regression results. Also, the results of the regression analysis indicated that if the effects of different job characteristics were accounted for, then there were no significant differences in satisfaction with military life by service.

Measures of those factors considered to be determinants of job satisfaction were shown to vary by race in this study. The bivariate analysis indicated significant differences by race within a branch of service in the measure of such factors as an individual's perception of civilian job opportunities, the equipment an individual used on the job, perceived race relations, and perceived discrimination. The MCA showed that race was still a significant factor in

determining the variation of these factors. Even when other factors were included to explain the variation in satisfaction with military life by race, the effect of race was still significant.

Although the analysis indicated that race was a significant factor in determining the levels of job satisfaction, and explaining the variation in the determinants of job satisfaction, the amount of variation explained by race was very small. Race accounted for less than two percent of the variation in the job satisfaction model in tested with MCA. Also, race accounted for less than two percent of the variation of the determinants of job satisfaction in every case except one. Only in perceived promotion discrimination did race account for more than two percent of the variation exhibited by a determinant of job satisfaction.

The two results of the analysis, significance of the race effect, and the size of the race effect, did not allow for a strong conclusion on the impact of race on the determination of job satisfaction. The persistent significance of the race effect indicated that race was important in the determination of job satisfaction. However, the very small amount of job satisfaction explained by race suggests that differences by race could be equally well explained if alternative variables were included in a model of job satisfaction.

## B. RESEARCH LIMITATIONS

The models developed in this study were limited by the data base used in the analysis. The data base was constructed from a survey of military personnel. The purpose of the survey was to gather general information about military personnel. The survey did not focus specifically on the topic of job satisfaction of military personnel.

Since the survey did not focus specifically on the topic of job satisfaction in the military, there was information which would have been helpful in the development of job

satisfaction models missing from the data base. Information on an individual's expectations about life in the military did not indicate whether or not life in the military was better or worse than expected. The information about the feelings of military personnel towards their supervisors was limited to civilian versus military job comparisons. The information about feelings towards coworkers was limited. The information about the individuals themselves was limited to civilian versus military job comparisons and race relations. The information on the type of home environment the individual had as a child was limited to the size of the respondents home town. There was not any information about previous civilian work experience. Also, there was no information on whether or not the individual had been fired or quit another job. Also, there was no information on the individual's disciplinary record. This type of information may have resulted in the development of job satisfaction models which would account for differences in job satisfaction by race.

The measure of job satisfaction provided in the survey was of questionable accuracy. The measure of satisfaction used in the survey was a single facet measure, which asked the individual to rate his or her satisfaction with military life on a seven point scale. The use of single measures of satisfaction has been criticized in previous job satisfaction research as not reflecting accurately an individual's feelings towards the job [Ref. 8: p. 28]. The single one time measure of job satisfaction may actually be measuring an individual's mood at the time of the survey. It is quite possible that an individual who is normally very satisfied with his or her job would express a great deal of dissatisfaction if they were surveyed shortly after an unpleasant work related experience. In contrast, a multifaceted

measure of job satisfaction would make the respondent focus on several facets of job satisfaction which might provide a more accurate picture of the respondent's feelings.

The construction of the survey form data files made development of more elaborate job satisfaction models very difficult. There were separate data files for each form of the survey. Also, the separate data files contained items with the same variable names. The data from one form represented a different set of individuals than the data from another form. Thus, the construction of single file by consolidating all forms of the survey would have required extensive amounts of time to reformat the data in the files, and comparisons of data would have been meaningless.

The results of this study might not indicate the status of job satisfaction in the military as it exists today. The data from the survey is seven years old, and the military has undergone significant changes which may have effected the levels of satisfaction by race, service, and sex. Since the time of the survey, the military has continued efforts toward improving race relations, and minority opportunities for advancement. The military has reduced the effect of drug abuse on life in the military by the use of urinalysis since the time of the survey. The military has increased the role of women in the military since the time of the survey. There have been significant increases in the salaries of military personnel since the time of the survey, and there have been significant increases in the unemployment rate since the time of the survey. All of these factors contribute to a very different military today from the military of seven years ago.

#### C. RECOMMENDATIONS FOR FUTURE RESEARCH

Future research on the effect of race on job satisfaction in the military would be greatly enhanced by the availability of data which provided more detailed information on job satisfaction and its determinants. Also, future research

should use information which is more current than the data used in this research.

A study to determine what are the significant factors which resulted in a higher level of satisfaction for Air Force personnel might be helpful to the other branches of service. The results of the bivariate analysis and the MCA indicated that individuals in the Air Force were significantly more satisfied than their counterparts in the other branches of service. The discovery of the job characteristics which account for the difference in satisfaction might allow the other branches of the Armed Forces to modify their policies to improve the job satisfaction of their personnel. The regression analysis indicated that service differences were eliminated when job characteristics were accounted for. The bivariate analysis indicated that Air Force personnel worked fewer hours, received more pay, and perceived better promotion opportunities than personnel in the other service branches. Further research may suggest that job satisfaction in the other branches of service may be improved by manipulation of these job characteristics.

A study into the effect of gender on levels of job satisfaction might be helpful in view of the increasing role of women in the military. The results of this study indicated that gender had a significant effect on the determination of job satisfaction in the military. The MCA indicated that the effect of gender was larger than the effect of race as a determinant of an individual's job satisfaction. Analysis of the effect of gender on the determination of job satisfaction may reveal that the effect of gender on job satisfaction may be correlated to other factors which account for the variation by gender. This would result may be similar to the theory that variation explained by race is the result of the race variable measuring the effect of other factors highly correlated by race.

The study of the effect of race on job satisfaction by specific occupational groupings may be useful. The examination of job satisfaction by race within specific occupation groupings, should provide an excellent method for controlling job characteristics. Occupation groupings are those MOS/RATINGS which are similar. The type of groupings might be electronics, supply, medical, and combat specialties. A study by these specific groupings would eliminate many service, personnel, and job characteristic differences contained in the sample used for research in this thesis. The result of this narrow sample could provide a more accurate estimate of the effect of race on job satisfaction.

Future research should attempt to study the effect of race on job satisfaction for a single branch of the military. The effect of different branch of service missions, equipment, organization, administrative procedures, deployments, and the distribution and types of jobs available, could result in a great number of job characteristics not being accurately measured in studies across branch of service. The accumulation of a large amount of data about minorities in a specific branch of service would allow for estimation of the effects of race and the interaction of the effects of various job characteristics, and probably a more accurate estimation of the effect of race on job satisfaction in the military.

APPENDIX A  
BIVARIATE ANALYSIS TABLES

The tables contained in this appendix display the results of the bivariate analysis for each variable analyzed. The tables provide the mean response, the standard deviation, and the number of respondents, for each subgroup. Also, the tables display the question from the Rand Survey, and response scales if they were used in the question.

TABLE A-1  
SATISFACTION WITH MILITARY LIFE (Q83)

---

Taking all things together, how satisfied or dissatisfied are with the military as a way of life?

---

	VERY DISSATISFIED				VERY SATISFIED		
	_____	_____	_____	_____	_____	_____	_____
	1	2	3	4	5	6	7

---

SERVICE				
	ARMY	NAVY	MARINE CORPS	AIR FORCE CORPS

---

RACE				
BLACK	3.53 (1.70) N= 226	3.12 (1.65) N= 419	3.25 (1.84) N= 278	3.99 (1.72) N= 142
HISPANIC	3.33 (1.58) N= 61	3.12 (1.77) N= 66	3.61 (1.83) N= 106	3.78 (1.86) N= 45
WHITE	3.22 (1.80) N= 573	2.91 (1.75) N=1262	3.21 (1.83) N= 873	3.35 (1.72) N= 944

---

TABLE A-2  
SATISFACTION WITH CURRENT HOUSING (Q59)

"How satisfied are you with your current housing"

	VERY DISSATISFIED				VERY SATISFIED		
	_____	_____	_____	_____	_____	_____	
	1	2	3	4	5	6	7
SERVICE							
	ARMY	NAVY	MARINE CORPS	AIR FORCE			
RACE							
BLACK	3.39 (2.02) N= 269	3.21 (2.04) N= 355	3.41 (2.13) N= 229	4.27 (2.00) N= 167			
HISPANIC	3.55 (2.00) N= 76	3.50 (2.00) N= 64	4.12 (2.06) N= 113	4.62 (2.07) N= 71			
WHITE	3.56 (2.14) N= 758	3.75 (2.07) N=1609	3.80 (2.16) N= 962	4.20 (2.01) N=1262			

TABLE A-3  
SATISFACTION WITH CURRENT LOCATION (Q7)

---

How do you feel about your current location?

---

	VERY DISSATISFIED			VERY SATISFIED
	_____	_____	_____	_____
	1	2	3	4
				5
				6
				7

---

SERVICE

---

	ARMY	NAVY	MARINE CORPS	AIR FORCE
--	------	------	-----------------	-----------

---

RACE

BLACK	3.41 (1.92) N= 273	3.89 (1.81) N= 356	3.79 (1.95) N= 233	3.79 (2.01) N= 164
HISPANIC	3.97 (2.12) N= 75	4.37 (1.95) N= 65	3.95 (1.79) N= 116	4.14 (1.85) N= 70
WHITE	3.66 (1.91) N= 755	4.14 (1.81) N=1612	3.90 (1.79) N= 970	4.33 (1.88) N=1263

---

TABLE A-4  
FINAL PAY GRADE EXPECTED (Q16)

---

When you leave the military, what pay grade do you think you will have?

---

VERY DISSATISFIED VERY SATISFIED

|\_\_\_\_\_||\_\_\_\_\_||\_\_\_\_\_||\_\_\_\_\_||\_\_\_\_\_||\_\_\_\_\_||

1            2            3            4            5            6            7

---

SERVICE

---

ARMY                      NAVY                      MARINE  
CORPS                      AIR FORCE

---

RACE

BLACK	4.86 (1.70) N= 273	5.12 (1.55) N= 354	4.78 (1.84) N= 233	5.20 (1.61) N= 167
HISPANIC	4.88 (1.91) N= 77	4.98 (1.92) N= 64	4.87 (1.72) N= 117	4.61 (1.20) N= 70
WHITE	4.85 (1.66) N= 754	5.08 (1.45) N=1613	4.70 (1.60) N= 971	4.88 (1.44) N=1254

---

TABLE A-5  
INTENDED YEARS OF SERVICE (Q15)

---

When you finally leave the military how many total years of service do you expect to have?

---

	SERVICE			
	ARMY	NAVY	MARINE CORPS	AIR FORCE
<hr/>				
RACE				
BLACK	5.50 (5.45) N= 245	5.98 (4.33) N= 328	6.19 (6.12) N= 213	8.78 (6.97) N= 166
HISPANIC	4.85 (4.19) N= 72	5.61 (3.58) N= 61	5.97 (5.59) N= 112	6.43 (4.62) N= 67
WHITE	5.18 (5.05) N= 713	5.98 (4.19) N=1594	5.20 (4.46) N= 921	7.38 (6.14) N=1237

---

TABLE A-6  
 SIZE OF HOMETOWN (Q22)

In what type of place did you live when you were 16 years old?

LARGE CITY OVER 250000	LARGE CITY SUBURB 250000+	MEDIUM CITY 50000-250000	SUBURB OF MEDIUM CITY	SMALL TOWN UNDER 5000	ON FARM OR RANCH	RURAL BUT NOT FARM
1	2	3	4	5	6	7

SERVICE

ARMY	NAVY	MARINE CORPS	AIR FORCE
------	------	--------------	-----------

RACE

BLACK	3.43 (2.02) N= 234	2.97 (2.00) N= 427	3.08 (1.98) N= 288	3.22 (2.02) N= 144
HISPANIC	2.85 (1.89) N= 65	3.33 (1.98) N= 66	2.94 (1.76) N= 109	3.57 (1.93) N= 46
WHITE	4.14 (1.94) N= 583	4.16 (1.92) N=1273	4.17 (1.93) N= 895	4.21 (1.92) N= 952

TABLE A-7  
NUMBER OF DEPENDENTS (Q54)

---

How many dependents do you have? Do not include yourself or your spouse.

---

	SERVICE			
	ARMY	NAVY	MARINE CORPS	AIR FORCE
<hr/>				
RACE				
BLACK	0.65 (0.98) N= 271	0.51 (0.87) N= 350	0.57 (0.99) N= 230	0.89 (1.14) N= 170
HISPANIC	0.64 (0.81) N= 77	0.46 (1.05) N= 65	0.62 (1.04) N= 114	0.68 (0.92) N= 71
WHITE	0.54 (0.93) N= 754	0.31 (0.72) N=1612	0.34 (0.81) N= 968	0.64 (0.96) N=1267

---

TABLE A-8  
GROSS MONTHLY INCOME (Q69)

---

What is the amount of your monthly basic pay before  
taxes and other deductions?

---

SERVICE

---

	ARMY	NAVY	MARINE CORPS	AIR FORCE
<hr/>				
RACE				
BLACK	594.55 (139.57) N= 238	557.95 (101.72) N= 310	567.21 (128.66) N= 194	620.84 (137.21) N= 160
HISPANIC	592.43 (130.53) N= 68	563.62 (78.73) N= 58	561.63 (110.70) N= 110	615.86 (129.16) N= 69
WHITE	592.60 (133.23) N= 721	574.72 (85.36) N=1542	568.61 (127.57) N= 907	602.51 (116.15) N=1221

---

TABLE A-9  
PAY GRADE (Q4)

---

What is your present pay grade?

---

SERVICE

---

	ARMY	NAVY	MARINE CORPS	AIR FORCE
<hr/>				
RACE				
BLACK	3.91 (0.71) N= 278	3.67 (0.94) N= 358	3.31 (1.00) N= 234	3.92 (0.54) N= 169
HISPANIC	3.88 (0.80) N= 76	3.86 (1.01) N= 65	3.67 (1.08) N= 116	3.82 (0.54) N= 71
WHITE	3.98 (0.73) N= 761	4.13 (0.92) N=1620	3.53 (1.02) N= 974	3.93 (0.57) N=1269

---

TABLE A-10  
LENGTH OF SERVICE (Q8)

---

To the nearest year and month how long have you been  
on active duty? (DATA IN MONTHS)

---

SERVICE

---

	ARMY	NAVY	MARINE CORPS	AIR FORCE
<hr/>				
RACE				
BLACK	32.70 (10.85) N= 247	34.17 (15.55) N= 350	29.67 (13.91) N= 212	44.33 (15.09) N= 168
HISPANIC	33.39 (12.12) N= 71	38.86 (14.12) N= 63	33.73 (15.14) N= 112	45.36 (15.14) N= 70
WHITE	32.27 (11.10) N= 736	40.89 (15.27) N=1588	31.72 (14.01) N= 952	44.88 (14.49) N=1255

---

TABLE A-11  
CURRENT EDUCATION (Q52)

---

As of today, what is your highest level of education?

---

SERVICE

---

	ARMY	NAVY	MARINE CORPS	AIR FORCE
<hr/>				
RACE				
BLACK	12.38 (1.19) N= 277	12.46 (1.11) N= 356	12.18 (1.12) N= 233	12.86 (1.25) N= 170
HISPANIC	12.36 (1.26) N= 77	12.34 (0.76) N= 65	12.13 (0.92) N= 116	12.62 (1.01) N= 71
WHITE	12.48 (1.22) N= 760	12.39 (1.00) N=1614	12.27 (1.02) N= 973	12.71 (1.16) N=1269

---

TABLE A-12  
ENTRY EDUCATION (Q51)

---

When you first entered active service, what was the highest grade or year of regular school or college you had completed and gotten credit for?

---

SERVICE

---

	ARMY	NAVY	MARINE CORPS	AIR FORCE
--	------	------	-----------------	-----------

---

RACE

BLACK	11.91 (1.25) N= 273	12.31 (1.14) N= 356	11.92 (1.14) N= 231	12.43 (1.18) N= 170
HISPANIC	11.94 (1.52) N= 77	12.18 (0.73) N= 65	11.83 (1.01) N= 116	12.15 (0.86) N= 71
WHITE	12.02 (1.28) N= 761	12.19 (0.97) N=1616	12.02 (1.05) N= 974	12.27 (0.96) N=1270

---

TABLE A-13  
TYPE OF HOUSING (QQH)

---

In what type of housing do you live, military or civilian?

---

	MILITARY 1	CIVILIAN 0		
	SERVICE			
	ARMY	NAVY	MARINE CORPS	AIR FORCE
<hr/>				
RACE				
BLACK	0.69 (0.46) N= 273	0.64 (0.48) N= 357	0.75 (0.44) N= 233	0.55 (0.46) N= 170
HISPANIC	0.74 (0.44) N= 77	0.58 (0.50) N= 64	0.67 (0.47) N= 117	0.49 (0.50) N= 71
WHITE	0.58 (0.44) N= 758	0.52 (0.50) N=1613	0.65 (0.48) N= 967	0.47 (0.50) N=1266

---

TABLE A-14  
OUTSTANDING DEBTS (Q94)

As of today, what is your estimate of the total amount of outstanding debts that you may have? Exclude any mortgage.

NO DEBTS	\$1- \$499	\$500- \$1,999	\$2,000- \$4,999	\$5,000- \$9,999	\$10,000- \$14,999	\$15,000 OR MORE
1	2	3	4	5	6	7

SERVICE

ARMY	NAVY	MARINE CORPS	AIR FORCE
------	------	-----------------	-----------

RACE

BLACK	2.29 (1.36) N= 266	2.62 (1.25) N= 343	2.35 (1.25) N= 215	3.04 (1.25) N= 163
HISPANIC	2.57 (1.46) N= 72	2.98 (1.50) N= 63	2.71 (1.38) N= 106	2.88 (1.42) N= 69
WHITE	2.44 (1.32) N= 734	2.67 (1.31) N=1585	2.48 (1.33) N= 952	3.14 (1.40) N=1243

TABLE A-15  
GROSS FAMILY INCOME (Q37 FORM 2)

---

What was your family's total income, before taxes  
and other deductions, for all of 1978?

---

SERVICE

---

	ARMY	NAVY	MARINE CORPS	AIR FORCE
<hr/>				
RACE				
BLACK	12318.17 (17232.55) N= 126	10824.67 (12164.61) N= 254	11822.22 (13795.77) N= 148	9877.36 (8150.67) N= 115
HISPANIC	11478.03 (16616.30) N= 38	8417.12 (4144.31) N= 43	10491.46 (9420.32) N= 57	9204.55 (3454.08) N= 38
WHITE	10367.00 (10758.28) N= 402	9630.11 (8905.94) N=1002	10459.95 (11442.76) N= 637	9699.30 (7303.60) N= 821

---

TABLE A-16  
HOURS WORKED AT A CIVILIAN JOB (Q86)

---

During 1978, how many hours a week did you spend  
on the average working at a civilian job or at your  
own business during your off-duty hours?

---

SERVICE

---

	ARMY	NAVY	MARINE CORPS	AIR FORCE
<hr/>				
RACE				
BLACK	2.12 (9.77) N= 263	2.06 (9.07) N= 346	3.65 (11.36) N= 218	4.54 (10.54) N= 164
HISPANIC	2.50 (7.46) N= 74	3.80 (9.58) N= 60	3.08 (9.20) N= 111	2.74 (7.03) N= 69
WHITE	2.69 (9.48) N= 743	2.68 (8.89) N=1599	3.64 (11.06) N= 954	4.20 (10.26) N=1252

---

TABLE A-17  
DISCRIMINATION-LOCAL CIV. HOUSING (Q78A)

---

At your present post, base, or duty station have you personally experienced racial or ethnic discrimination in local civilian housing?

---

YES	NO
1	0

---

SERVICE

---

ARMY	NAVY	MARINE CORPS	AIR FORCE
------	------	-----------------	-----------

---

RACE

BLACK	0.23 (0.42) N= 209	0.19 (0.39) N= 402	0.14 (0.35) N= 273	0.25 (0.44) N= 139
-------	--------------------------	--------------------------	--------------------------	--------------------------

HISPANIC	0.22 (0.42) N= 60	0.09 (0.29) N= 65	0.14 (0.35) N= 98	0.11 (0.32) N= 45
----------	-------------------------	-------------------------	-------------------------	-------------------------

WHITE	0.14 (0.35) N= 563	0.12 (0.32) N=1245	0.11 (0.32) N= 852	0.10 (0.30) N= 938
-------	--------------------------	--------------------------	--------------------------	--------------------------

---

TABLE A-18  
DISCRIMINATION-LOCAL CIV. STORES (Q78B)

---

At your present post, base, or duty station have you personally experienced racial or ethnic discrimination in local civilian stores?

---

YES	NO
1	0

---

SERVICE

---

ARMY	NAVY	MARINE CORPS	AIR FORCE
------	------	-----------------	-----------

---

RACE

BLACK	0.43 (0.50) N= 215	0.38 (0.49) N= 405	0.36 (0.48) N= 271	0.43 (0.50) N= 139
HISPANIC	0.34 (0.48) N= 61	0.29 (0.46) N= 65	0.27 (0.45) N= 96	0.18 (0.39) N= 45
WHITE	0.27 (0.45) N= 566	0.20 (0.40) N=1252	0.20 (0.40) N= 855	0.18 (0.38) N= 941

---

TABLE A-19  
DISCRIMINATION-EXCHANGE SERVICES (Q78C)

---

At your present post, base, or duty station have you personally experienced racial or ethnic discrimination in exchange services?

---

	YES	NO
	1	0

---

SERVICE

---

	ARMY	NAVY	MARINE CORPS	AIR FORCE CORPS
 RACE				
BLACK	0.19 (0.40) N= 212	0.14 (0.35) N= 404	0.12 (0.33) N= 264	0.11 (0.31) N= 139
HISPANIC	0.12 (0.32) N= 66	0.11 (0.31) N= 65	0.17 (0.38) N= 99	0.02 (0.15) N= 45
WHITE	0.13 (0.34) N= 565	0.08 (0.28) N=1245	0.09 (0.29) N= 854	0.07 (0.25) N= 938

---

TABLE A-20  
DISCRIMINATION-EDUCATION OPPORTUNITIES (Q78D)

---

At your present post, base, or duty station have you personally experienced racial or ethnic discrimination in training and education opportunities?

---

YES	NO
1	0

---

SERVICE

---

ARMY	NAVY	MARINE CORPS	AIR FORCE
------	------	-----------------	-----------

---

RACE

BLACK	0.26 (0.44) N= 212	0.22 (0.41) N= 403	0.17 (0.37) N= 264	0.12 (0.33) N= 138
-------	--------------------------	--------------------------	--------------------------	--------------------------

HISPANIC	0.24 (0.43) N= 59	0.09 (0.29) N= 65	0.16 (0.37) N= 98	0.05 (0.21) N= 44
----------	-------------------------	-------------------------	-------------------------	-------------------------

WHITE	0.14 (0.34) N= 560	0.07 (0.26) N=1244	0.08 (0.27) N= 846	0.05 (0.21) N= 941
-------	--------------------------	--------------------------	--------------------------	--------------------------

---

TABLE A-21  
DISCRIMINATION-PROMOTION OPPORTUNITIES (Q78E)

---

At your present post, base, or duty station, have you personally experienced racial or ethnic discrimination in promotion opportunities?

---

	YES	NO
	1	0

---

SERVICE

---

	ARMY	NAVY	MARINE CORPS	AIR FORCE
--	------	------	-----------------	-----------

---

RACE

BLACK	0.51 (0.50) N= 217	0.31 (0.46) N= 410	0.54 (0.50) N= 269	0.15 (0.35) N= 137
HISPANIC	0.38 (0.49) N= 61	0.09 (0.29) N= 65	0.30 (0.46) N= 99	0.09 (0.29) N= 44
WHITE	0.22 (0.42) N= 566	0.09 (0.28) N=1244	0.15 (0.36) N= 848	0.07 (0.25) N= 939

---

TABLE A-22  
DISCRIMINATION-DAILY DUTY ASSIGNMENTS (Q78F)

---

At your present post, base, or duty station have you personally experienced racial or ethnic discrimination in daily duty assignments.

---

YES	NO
1	0

---

SERVICE

---

ARMY	NAVY	MARINE CORPS	AIR FORCE CORPS
------	------	-----------------	--------------------

---

RACE

BLACK	0.46 (0.50) N= 216	0.44 (0.50) N= 409	0.47 (0.50) N= 269	0.27 (0.45) N= 139
-------	--------------------------	--------------------------	--------------------------	--------------------------

HISPANIC	0.43 (0.50) N= 60	0.26 (0.44) N= 65	0.28 (0.45) N= 99	0.18 (0.39) N= 45
----------	-------------------------	-------------------------	-------------------------	-------------------------

WHITE	0.33 (0.47) N= 567	0.21 (0.41) N=1242	0.22 (0.41) N= 852	0.21 (0.41) N= 943
-------	--------------------------	--------------------------	--------------------------	--------------------------

---

TABLE A-23  
TREATMENT OF BLACKS (Q76)

In general, which of the following statements comes closest to your opinion? In my service, blacks are treated a lot better than whites, or to the other extreme in my service blacks are treated a lot worse than whites.

	Treated A LOT BETTER	1	2	3	4	5 A LOT WORSE
SERVICE						
	ARMY	NAVY	MARINE CORPS	AIR FORCE CORPS		
<b>RACE</b>						
<b>BLACK</b>	3.73 (0.76) N= 220	3.68 (0.745) N= 400	3.54 (0.85) N= 266	3.64 (0.73) N= 129		
<b>HISPANIC</b>	2.98 (0.81) N= 58	3.00 (0.65) N= 63	3.25 (0.63) N= 97	2.72 (0.78) N= 46		
<b>WHITE</b>	2.63 (0.72) N= 565	2.62 (0.69) N=1246	2.74 (0.68) N= 857	2.50 (0.70) N= 935		

TABLE A-24  
IMPORTANCE OF RACE RELATIONS TO LEADERS (Q75)

How important do you think the subject of equal opportunity and race relations training is to your service leaders?

	VERY IMPORTANT		NOT IMPORTANT	
	_____	_____	_____	
	1	2	3	
			4	
SERVICE				
	ARMY	NAVY	MARINE CORPS	
	AIR FORCE			
RACE				
BLACK	2.16 (1.15) N= 227	2.07 (1.15) N= 417	2.06 (1.12) N= 274	2.00 (1.13) N= 136
HISPANIC	2.31 (1.17) N= 62	2.09 (1.20) N= 65	1.95 (1.05) N= 101	2.07 (1.16) N= 46
WHITE	2.26 (1.08) N= 568	2.28 (1.06) N=1259	2.20 (1.07) N= 865	2.17 (1.01) N= 937

TABLE A-25

## OWN RACE COMPLAINS OTHERS TREATED BETTER (Q74A)

---

In your primary work unit, how often do people of your own race complain about better treatment being given to other races or ethnic groups in the Armed Forces?

---

	VERY OFTEN	1	2	3	4	5	NEVER
--	---------------	---	---	---	---	---	-------

---

SERVICE							
	ARMY		NAVY		MARINE CORPS		AIR FORCE

---

RACE							
BLACK	2.79		3.15		3.05		3.64
	(1.38)		(1.37)		(1.45)		(1.16)
	N= 216		N= 347		N= 246		N= 118
HISPANIC	3.08		3.86		3.34		4.03
	(1.37)		(1.04)		(1.38)		(1.00)
	N= 53		N= 28		N= 87		N= 34
WHITE	3.46		3.76		3.78		3.71
	(1.25)		(1.22)		(1.24)		(1.20)
	N= 553		N=1222		N= 845		N= 924

---

TABLE A-26  
OWN RACE AVOIDS OTHER RACES (Q74B)

In your primary work unit, how often do people of your own race avoid doing things with people of other races or ethnic groups?

VERY	_____	_____	_____	_____	NEVER
OFTEN	1	2	3	4	5

SERVICE

	ARMY	NAVY	MARINE CORPS	AIR FORCE
--	------	------	-----------------	-----------

RACE

BLACK	3.67 (1.09) N= 211	3.82 (1.20) N= 345	3.72 (1.23) N= 243	3.84 (1.16) N= 117
HISPANIC	3.74 (1.08) N= 50	3.83 (0.80) N= 29	4.02 (1.15) N= 86	4.41 (0.78) N= 34
WHITE	3.58 (1.26) N= 551	4.01 (1.11) N=1217	3.79 (1.22) N= 838	4.08 (1.04) N= 919

TABLE A-27  
OWN RACE TALKS BAD ABOUT OTHER RACES (Q74C)

---

In your primary work unit, how often do people of your own race talk badly or tell racist jokes about people of other races or ethnic groups?

---

	VERY OFTEN	_____	_____	_____	_____	NEVER
	1	2	3	4	5	

---

SERVICE				
	ARMY	NAVY	MARINE CORPS	AIR FORCE
RACE				
BLACK	3.39 (1.12) N= 213	3.62 (1.23) N= 346	3.41 (1.33) N= 244	3.88 (1.06) N= 116
HISPANIC	3.18 (1.29) N= 51	3.83 (1.00) N= 29	3.40 (1.36) N= 87	3.74 (1.12) N= 35
WHITE	3.23 (1.22) N= 553	3.39 (1.19) N=1220	3.25 (1.24) N= 838	3.48 (1.10) N= 920

---

TABLE A-28

## OWN RACE TALKS OF PROBLEMS OF OTHER RACES (Q74D)

---

In your primary work unit, how often do people of your own race talk to each other about the problems of other races or ethnic groups in the Armed Forces?

---

VERY | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ | NEVER  
 OFTEN 1            2            3            4            5

---

## SERVICE

---

	ARMY	NAVY	MARINE CORPS	AIR FORCE CORPS
--	------	------	-----------------	--------------------

---

## RACE

BLACK	3.15 (1.31) N= 210	3.22 (1.23) N= 348	3.27 (1.34) N= 245	3.34 (1.19) N= 118
HISPANIC	2.98 (1.13) N= 50	3.62 (1.08) N= 29	3.36 (1.32) N= 86	3.74 (1.07) N= 35
WHITE	3.36 (1.20) N= 553	3.66 (1.11) N=1213	3.55 (1.16) N= 836	3.66 (1.05) N= 923

---

TABLE A-29  
EQUIPMENT IN WARTIME (Q68)

How well would the equipment on your base or duty station work in a wartime mission?

NOT PERFORM AT ALL							PERFORM VERY WELL
_____	_____	_____	_____	_____	_____	_____	
1	2	3	4	5	6	7	
SERVICE							
	ARMY	NAVY	MARINE CORPS	AIR FORCE			
RACE							
BLACK	4.56 (1.75) N= 167	4.94 (1.82) N= 314	4.40 (1.89) N= 202	5.27 (1.62) N= 102			
HISPANIC	3.88 (1.91) N= 50	3.49 (1.72) N= 51	4.38 (1.68) N= 78	4.68 (1.90) N= 38			
WHITE	3.86 (1.75) N= 472	4.56 (1.76) N=1006	4.25 (1.82) N= 703	4.82 (1.66) N= 804			

TABLE A-30  
PERSONNEL IN WARTIME (Q67)

How well do you think most of the personnel at your present post, base or duty station would perform their war time mission?

	NOT PERFORM AT ALL				PERFORM VERY WELL		
	_____	_____	_____	_____	_____	_____	_____
	1	2	3	4	5	6	7
<hr/>							
SERVICE							
<hr/>							
	ARMY	NAVY	MARINE CORPS	AIR FORCE			
<hr/>							
RACE							
BLACK	4.40 (1.68) N= 183	4.82 (1.74) N= 328	4.49 (1.69) N= 229	5.13 (1.36) N= 112			
HISPANIC	4.16 (1.71) N= 49	4.83 (1.65) N= 54	4.58 (1.65) N= 93	4.63 (1.68) N= 35			
WHITE	4.01 (1.57) N= 521	4.69 (1.57) N=1080	4.51 (1.60) N= 759	4.78 (1.53) N= 843			

TABLE A-31  
CURRENT MORALE (Q65)

---

How would you describe the morale of military personnel at your current location?

---

	VERY LOW					VERY HIGH
	_____	_____	_____	_____	_____	_____
	1	2	3	4	5	6
						7

---

SERVICE

---

	ARMY	NAVY	MARINE CORPS	AIR FORCE
--	------	------	-----------------	-----------

---

RACE

BLACK	3.03 (1.63) N= 222	3.18 (1.64) N= 418	3.15 (1.66) N= 274	3.11 (1.66) N= 141
HISPANIC	2.66 (1.50) N= 62	3.08 (1.66) N= 66	3.26 (1.60) N= 103	3.33 (1.62) N= 46
WHITE	2.76 (1.45) N= 578	2.87 (1.47) N=1264	3.02 (1.53) N= 881	2.85 (1.41) N= 952

---

TABLE A-32  
TOTAL HOURS WORKED (Q37 FORM 1)

---

What are the total hour you worked during the last seven days, including hours worked during other than regular daytime hours?

---

SERVICE

---

	ARMY	NAVY	MARINE CORPS	AIR FORCE
<hr/>				
RACE				
BLACK	50.46 (22.87) N= 254	52.06 (21.26) N= 343	50.49 (23.26) N= 218	43.17 (13.73) N= 160
HISPANIC	54.77 (19.75) N= 71	57.56 (23.14) N= 62	53.30 (17.88) N= 106	43.71 (13.29) N= 69
WHITE	54.48 (20.13) N= 748	53.32 (19.04) N=1593	51.37 (18.66) N= 945	43.69 (12.93) N=1248

---

TABLE A-33  
HOURS WORKED OUTSIDE MOS/RATING (Q34)

---

Last month, how much of the time did you work in jobs  
outside your current primary MOS/RATING/AFSC?

---

SERVICE

---

	ARMY	NAVY	MARINE CORPS	AIR FORCE CORPS
 RACE				
BLACK	3.10 (1.62) N= 278	3.21 (1.63) N= 353	3.38 (1.63) N= 232	4.07 (1.30) N= 168
HISPANIC	2.91 (1.67) N= 76	3.03 (1.59) N= 63	3.32 (1.65) N= 115	4.00 (1.30) N= 71
WHITE	2.81 (1.60) N= 757	3.24 (1.49) N=1613	3.09 (1.65) N= 969	3.82 (1.42) N=1268

---

TABLE A-34  
REENLISTMENT BONUS RECEIVED (Q43)

---

When you first entered active service, did you  
receive an enlistment bonus?

---

YES	NO
1	0

---

SERVICE

---

ARMY	NAVY	MARINE CORPS	AIR FORCE
------	------	-----------------	-----------

---

RACE

BLACK	0.14 (0.35) N= 251	0.01 (0.10) N= 325	0.03 (0.18) N= 204	0.03 (0.16) N= 150
-------	--------------------------	--------------------------	--------------------------	--------------------------

HISPANIC	0.08 (0.28) N= 72	0.00 (0.00) N= 58	0.07 (0.26) N= 108	0.02 (0.13) N= 63
----------	-------------------------	-------------------------	--------------------------	-------------------------

WHITE	0.15 (0.36) N= 717	0.02 (0.12) N=1524	0.08 (0.27) N= 885	0.01 (0.12) N=1194
-------	--------------------------	--------------------------	--------------------------	--------------------------

---

TABLE A-35  
FEELINGS ABOUT WOMEN IN COMBAT (Q80F)

---

How much do you agree or disagree with the following statement? Women should be given training and used in combat situations.

---

STRONGLY AGREE					STRONGLY DISAGREE
_____	_____	_____	_____	_____	
1	2	3	4	5	

---

SERVICE

---

	ARMY	NAVY	MARINE CORPS	AIR FORCE
--	------	------	-----------------	-----------

---

RACE

BLACK	2.46 (1.29) N= 219	2.54 (1.28) N= 414	2.90 (1.46) N= 270	2.73 (1.32) N= 142
HISPANIC	3.03 (1.51) N= 61	2.60 (1.23) N= 63	3.12 (1.51) N= 95	2.98 (1.32) N= 44
WHITE	2.91 (1.43) N= 570	2.69 (1.37) N=1244	3.15 (1.49) N= 866	2.97 (1.38) N= 935

---

TABLE A-36  
RESERVE SERVICE INTENTIONS (Q17)

---

When you finally leave the military, do you plan to  
join a National Guard or Reserve unit?

---

DEFINITELY YES		DEFINITELY NO
_____  _____	_____  _____	_____  _____
1	2	3
		4

---

SERVICE

---

	ARMY	NAVY	MARINE CORPS	AIR FORCE
--	------	------	-----------------	-----------

---

RACE

BLACK	2.66 (1.16) N= 194	2.66 (1.05) N= 267	2.78 (1.02) N= 168	2.84 (1.00) N= 128
HISPANIC	2.66 (1.16) N= 53	2.92 (1.02) N= 51	2.84 (0.90) N= 88	3.17 (0.90) N= 52
WHITE	2.92 (0.98) N= 542	3.04 (0.98) N=1233	3.05 (0.95) N= 728	3.14 (0.94) N= 973

---

TABLE A-37  
PROMOTION CHANCES (Q27)

---

What do you think your chances of being promoted  
to the next higher pay grade?

---

NO CHANCE		CERTAIN
___	___	___
0	1	2
3	4	5
6	7	8
9	10	

---

SERVICE

---

	ARMY	NAVY	MARINE CORPS	AIR FORCE CORPS
--	------	------	-----------------	--------------------

---

RACE

BLACK	6.17 (3.07) N= 151	7.11 (2.77) N= 279	6.28 (3.28) N= 172	7.58 (2.88) N= 106
-------	--------------------------	--------------------------	--------------------------	--------------------------

HISPANIC	5.40 (3.36) N= 35	6.95 (2.58) N= 43	5.99 (3.10) N= 75	8.08 (2.61) N= 37
----------	-------------------------	-------------------------	-------------------------	-------------------------

WHITE	6.78 (3.22) N= 381	7.14 (2.71) N= 974	6.46 (3.21) N= 634	7.73 (2.71) N= 651
-------	--------------------------	--------------------------	--------------------------	--------------------------

---

TABLE A-38  
PROMOTION CHANCES RELATIVE TO OTHERS (Q28)

When do you expect your next promotion relative to  
personnel with the same total years of service as you?

	EARLIER		LATER
	_____	_____	_____
	1	2	3
	SERVICE		
	ARMY	NAVY	MARINE CORPS
			AIR FORCE
<hr/>			
RACE			
BLACK	2.33 (1.72) N= 172	2.06 (0.95) N= 289	2.59 (1.83) N= 192
			1.89 (1.17) N= 112
HISPANIC	2.82 (2.37) N= 45	2.30 (1.59) N= 50	2.60 (1.90) N= 85
			2.00 (1.20) N= 37
WHITE	2.27 (1.75) N= 435	2.22 (1.51) N=1048	2.51 (1.83) N= 701
			1.82 (0.94) N= 677

TABLE A-39  
REENLISTEMENT PROB. WITH TRAINING (Q50)

How likely would you be to reenlist if you could receive guaranteed training in a new career field? Assume that no Reenlistment Bonus Payments will be given, but that that all other special pays you receive will continue.

	NO CHANCE										CERTAIN		
	0	1	2	3	4	5	6	7	8	9	10		
SERVICE													
	ARMY			NAVY			MARINE CORPS			AIR FORCE			
RACE													
BLACK	4.36 (4.04) N= 190			3.54 (3.68) N= 359			3.64 (3.81) N= 238			5.29 (4.13) N= 126			
HISPANIC	3.12 (3.31) N= 50			2.74 (3.40) N= 50			4.176 (3.65) N= 76			4.47 (4.05) N= 38			
WHITE	3.09 (3.64) N= 495			2.13 (3.14) N=1116			2.64 (3.35) N= 772			3.36 (3.75) N= 839			

TABLE A-40  
REENLISTMENT PROB. WITHOUT TRAINING (Q49)

How likely are you to reenlist at the end of your current term of service? Assume that no Reenlistment Bonus Payments will be given, but that all other special pays which you currently receive are still in effect.

	NO CHANCE										CERTAIN	
	0	1	2	3	4	5	6	7	8	9	10	
SERVICE												
	ARMY			NAVY			MARINE CORPS			AIR FORCE		
RACE												
BLACK	3.08 (3.38) N= 160			2.31 (3.14) N= 322			2.49 (3.22) N= 204			4.18 (4.01) N= 120		
HISPANIC	1.85 (2.81) N= 46			1.52 (2.96) N= 46			2.66 (3.34) N= 68			3.02 (3.61) N= 40		
WHITE	2.01 (3.15) N= 468			1.46 (2.71) N=1055			1.91 (2.85) N= 699			2.22 (3.30) N= 819		

TABLE A-41  
CIV VS MIL-IMMEDIATE SUPERVISORS (Q102A)

If you were to leave the military right now and take a civilian job, how do you think that job would compare with your present military job in regard to the immediate supervisors?

---

CIVILIAN JOB | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ | CIVILIAN JOB  
A LOT BETTER 1            2            3            4            5 A LOT WORSE

---

SERVICE

---

	ARMY	NAVY	MARINE CORPS	AIR FORCE
--	------	------	-----------------	-----------

---

RACE

BLACK	1.96 (1.03) N= 249	2.12 (1.04) N= 332	1.97 (0.95) N= 215	2.45 (1.03) N= 161
HISPANIC	1.94 (0.93) N= 70	1.92 (0.90) N= 61	2.02 (1.05) N= 107	2.07 (0.97) N= 69
WHITE	1.85 (0.96) N= 731	2.04 (0.98) N=1590	1.98 (1.00) N= 935	2.34 (1.00) N=1248

---

TABLE A-42  
CIV VS MIL-HAVING A SAY (Q102B)

If you were to leave the military right now and take a civilian job, how do you think that job would compare with your present military job in regard to having a say?

CIVILIAN JOB A LOT BETTER	1	2	3	4	5	CIVILIAN JOB A LOT WORSE
SERVICE						
	ARMY	NAVY	MARINE CORPS	AIR FORCE		
<b>RACE</b>						
<b>BLACK</b>	1.77 (1.00) N= 247	1.70 (0.97) N= 328	1.65 (0.87) N= 210	1.99 (1.04) N= 160		
<b>HISPANIC</b>	1.86 (1.01) N= 66	1.63 (0.75) N= 62	1.82 (1.00) N= 104	1.66 (0.83) N= 67		
<b>WHITE</b>	1.53 (0.80) N= 736	1.62 (0.86) N=1586	1.57 (0.93) N= 938	1.78 (0.91) N=1247		

TABLE A-43  
CIV VS MIL-RETIREMENT BENEFITS (Q102C)

If you were to leave the military right now and take a civilian job, how do you think that job would compare with your present military job in regard to the retirement benefits?

---

CIVILIAN JOB | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ | CIVILIAN JOB  
A LOT BETTER 1            2            3            4            5 A LOT WORSE

---

SERVICE

---

ARMY                      NAVY                      MARINE                      AIR FORCE  
CORPS

---

RACE

BLACK	2.93 (1.22) N= 245	2.71 (1.20) N= 320	2.81 (1.19) N= 210	3.01 (1.10) N= 160
HISPANIC	1.94 (1.19) N= 66	1.92 (1.02) N= 60	2.02 (1.17) N= 101	2.07 (1.20) N= 66
WHITE	2.87 (1.22) N= 724	2.61 (1.18) N=1563	2.85 (1.21) N= 924	2.84 (1.18) N=1235

---

TABLE A-44  
CIV VS MIL-MEDICAL BENEFITS (Q102D)

If you were to leave the military right now and take a civilian job, how do you think that job would compare with your present military job in regard to the medical benefits?

---

CIVILIAN JOB | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ | CIVILIAN JOB  
A LOT BETTER 1            2            3            4            5 A LOT WORSE

---

SERVICE

---

	ARMY	NAVY	MARINE CORPS	AIR FORCE
--	------	------	-----------------	-----------

---

RACE

BLACK	3.42 (1.17) N= 243	3.26 (1.23) N= 316	3.35 (1.14) N= 210	3.52 (1.12) N= 161
HISPANIC	3.48 (1.15) N= 64	2.89 (1.16) N= 62	3.21 (1.23) N= 103	2.91 (1.25) N= 66
WHITE	3.38 (1.21) N= 716	3.13 (1.24) N=1560	3.45 (1.20) N= 926	3.25 (1.19) N=1223

---

TABLE A-45  
CIV VS MIL-INTERESTING WORK (Q102E)

If you were to leave the military right now and take a civilian job, how do you think that job would compare with your present military job in regard to chances for interesting work?

---

CIVILIAN JOB | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ | CIVILIAN JOB  
A LOT BETTER 1            2            3            4            5 A LOT WORSE

---

SERVICE

---

ARMY                      NAVY                      MARINE                      AIR FORCE  
CORPS

---

RACE

BLACK	1.85 (1.01) N= 245	1.93 (1.07) N= 321	1.92 (1.02) N= 212	2.03 (1.08) N= 159
-------	--------------------------	--------------------------	--------------------------	--------------------------

HISPANIC	1.85 (1.06) N= 66	1.61 (0.86) N= 61	1.87 (1.00) N= 105	1.68 (0.97) N= 65
----------	-------------------------	-------------------------	--------------------------	-------------------------

WHITE	1.74 (0.99) N= 732	1.78 (0.93) N=1585	1.81 (1.02) N= 933	1.79 (0.93) N=1245
-------	--------------------------	--------------------------	--------------------------	--------------------------

---

TABLE A-46  
CIV VS MIL-WAGES AND SALARIES (Q102F)

If you were to leave the military right now and take a civilian job, how do you think that job would compare with your present military job in regard to wages and salaries?

CIVILIAN JOB	_____	_____	_____	_____	CIVILIAN JOB
A LOT BETTER	1	2	3	4	5 A LOT WORSE
<b>SERVICE</b>					
	ARMY	NAVY	MARINE CORPS	AIR FORCE	
<b>RACE</b>					
BLACK	1.52 (0.74) N= 248	1.35 (0.74) N= 332	1.42 (0.69) N= 211	1.50 (0.91) N= 159	
HISPANIC	1.76 (0.93) N= 66	1.40 (0.71) N= 62	1.48 (0.85) N= 106	1.38 (0.65) N= 65	
WHITE	1.52 (0.80) N= 731	1.35 (0.67) N=1591	1.42 (0.75) N= 937	1.50 (0.80) N=1241	

TABLE A-47  
CIV VS MIL-PROMOTION CHANCES (Q102G)

---

If you were to leave the military right now and take a civilian job, how do you think that job would compare with your present military job in regard to chances for promotion?

---

CIVILIAN JOB | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ | CIVILIAN JOB  
A LOT BETTER 1            2            3            4            5 A LOT WORSE

---

SERVICE

---

	ARMY	NAVY	MARINE CORPS	AIR FORCE
--	------	------	-----------------	-----------

---

RACE

BLACK	2.06 (1.06) N= 241	2.11 (1.02) N= 324	2.18 (1.05) N= 210	2.11 (1.06) N= 159
HISPANIC	2.15 (1.03) N= 68	1.80 (0.92) N= 60	2.12 (1.05) N= 103	1.87 (0.92) N= 67
WHITE	1.98 (1.04) N= 728	1.93 (0.95) N=1582	2.05 (1.06) N= 927	1.96 (0.96) N=1245

---

TABLE A-48  
CIV VS MIL-TRAINING OPPORTUNITIES (Q102H)

If you were to leave the military right now and take a civilian job, how do you think that job would compare with your present military job in regard to training opportunities?

CIVILIAN JOB A LOT BETTER	1	2	3	4	5	CIVILIAN JOB A LOT WORSE
SERVICE						
RACE						
	ARMY	NAVY	MARINE CORPS	AIR FORCE		
BLACK	2.18 (1.11) N= 244	2.36 (1.11) N= 324	2.13 (1.10) N= 213	2.37 (1.13) N= 160		
HISPANIC	2.20 (1.14) N= 66	2.19 (1.08) N= 62	2.09 (1.10) N= 106	2.18 (1.06) N= 68		
WHITE	2.10 (1.10) N= 728	2.20 (1.05) N=1581	2.12 (1.13) N= 927	2.32 (1.05) N=1237		

TABLE A-49  
CIV VS MIL-PEOPLE YOU WORK WITH (Q102I)

If you were to leave the military right now and take a civilian job, how do you think that job would compare with your present military job in regard to the people you work with?

---

CIVILIAN JOB | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ | CIVILIAN JOB  
A LOT BETTER 1            2            3            4            5 A LOT WORSE

---

SERVICE

---

	ARMY	NAVY	MARINE CORPS	AIR FORCE
<hr/>				
RACE				
BLACK	2.11 (1.00) N= 246	2.20 (0.99) N= 319	2.10 (0.97) N= 207	2.52 (0.94) N= 161
HISPANIC	2.03 (0.93) N= 66	2.11 (1.03) N= 61	2.04 (0.97) N= 102	2.36 (0.90) N= 67
WHITE	1.91 (0.96) N= 731	2.17 (0.93) N=1586	2.09 (1.00) N= 930	2.39 (0.87) N=1238

---

TABLE A-50  
CIV VS MIL-WORK SCHEDULE AND HOURS (Q102J)

If you were to leave the military right now and take a civilian job, how do you think that job would compare with your present military job in regard to the work schedule and hours of work?

---

CIVILIAN JOB | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ | CIVILIAN JOB  
A LOT BETTER 1            2            3            4            5 A LOT WORSE

---

SERVICE

---

	ARMY	NAVY	MARINE CORPS	AIR FORCE
--	------	------	-----------------	-----------

---

RACE

BLACK	1.71 (0.97) N= 249	1.72 (1.01) N= 325	1.93 (1.07) N= 204	2.37 (1.10) N= 161
HISPANIC	1.61 (0.97) N= 67	1.69 (0.95) N= 62	1.85 (0.97) N= 102	2.40 (0.95) N= 68
WHITE	1.71 (0.95) N= 733	1.68 (0.93) N=1582	1.90 (1.03) N= 830	2.28 (1.04) N=1241

---

TABLE A-51  
CIV VS MIL-JOB SECURITY (Q102K)

If you were to leave the military right now and take a civilian job, how do you think that job would compare with your present military job in regard to job security?

---

CIVILIAN JOB | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ | CIVILIAN JOB  
A LOT BETTER 1            2            3            4            5 A LOT WORSE

---

SERVICE

---

	ARMY	NAVY	MARINE CORPS	AIR FORCE CORPS
--	------	------	-----------------	--------------------

---

RACE

BLACK	2.80 (1.22) N= 240	3.21 (1.19) N= 323	2.98 (1.25) N= 205	3.49 (1.19) N= 160
HISPANIC	3.06 (1.32) N= 64	2.98 (1.18) N= 61	3.05 (1.15) N= 105	3.14 (1.17) N= 65
WHITE	2.93 (1.26) N= 723	3.19 (1.16) N=1567	3.09 (1.22) N= 925	3.33 (1.04) N=1239

---

TABLE A-52  
CIV VS MIL-JOB EQUIPMENT (Q102L)

If you were to leave the military right now and take a civilian job, how do you think that job would compare with your present military job in regard to job equipment?

---

CIVILIAN JOB | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ | CIVILIAN JOB  
A LOT BETTER 1            2            3            4            5 A LOT WORSE

---

SERVICE

---

	ARMY	NAVY	MARINE CORPS	AIR FORCE
--	------	------	-----------------	-----------

---

RACE

BLACK	1.81 (0.90) N= 247	2.03 (0.98) N= 319	1.74 (0.91) N= 208	2.11 (0.94) N= 159
HISPANIC	1.73 (0.80) N= 66	1.87 (0.93) N= 62	1.53 (0.82) N= 104	1.96 (0.98) N= 68
WHITE	1.66 (0.88) N= 731	1.89 (0.91) N=1581	1.67 (0.89) N= 934	2.06 (0.95) N=1239

---

TABLE A-53  
CIV. VS MIL JOB LOCATION (Q102M)

If you were to leave the military right now and take a civilian job, how do you think that job would compare with your present military job in regard to job location?

---

CIVILIAN JOB | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ | CIVILIAN JOB  
A LOT BETTER 1            2            3            4            5 A LOT WORSE

---

SERVICE

---

	ARMY	NAVY	MARINE CORPS	AIR FORCE CORPS
--	------	------	-----------------	--------------------

---

RACE

BLACK	1.61 (0.94) N= 251	1.58 (0.82) N= 333	1.63 (0.93) N= 212	1.91 (1.00) N= 160
HISPANIC	1.46 (0.85) N= 68	1.55 (0.84) N= 62	1.50 (0.84) N= 106	1.64 (0.89) N= 69
WHITE	1.48 (0.84) N= 737	1.53 (0.83) N=1589	1.48 (0.83) N= 932	1.78 (0.91) N=1247

---

TABLE A-54

PROB. OF FINDING CIV. JOB FOR MIL. SKILL (Q100)

Suppose you were to leave the service NOW and try to find a civilian job. How likely would you be to find a civilian job that uses the skills in your military career field?"

---

NO CHANCE CERTAIN

|\_\_\_| |\_\_\_| |\_\_\_| |\_\_\_| |\_\_\_| |\_\_\_| |\_\_\_| |\_\_\_| |\_\_\_| |\_\_\_|

0    1    2    3    4    5    6    7    8    9    10

---

SERVICE

---

ARMY                      NAVY                      MARINE  
CORPS                      AIR FORCE

---

RACE

BLACK	3.98 (3.68) N= 264	5.70 (3.35) N= 342	4.72 (3.78) N= 229	4.82 (3.57) N= 161
HISPANIC	4.32 (4.04) N= 73	5.90 (3.42) N= 61	4.75 (3.76) N= 111	5.59 (3.21) N= 69
WHITE	4.31 (3.90) N= 738	6.12 (3.54) N=1591	4.66 (3.80) N= 949	5.16 (3.75) N=1246

---

TABLE A-55  
 PROB. OF FINDING GOOD CIV. JOB (Q98)

If you were to leave the service now and try to find a civilian job, how likely would you be to find a good civilian job?

NO CHANCE											CERTAIN	
	0	1	2	3	4	5	6	7	8	9	10	
SERVICE												
	ARMY			NAVY			MARINE CORPS			AIR FORCE		
RACE												
BLACK	6.95 (2.83) N= 255			7.19 (2.53) N= 339			7.31 (2.76) N= 222			6.53 (2.77) N= 159		
HISPANIC	7.16 (2.66) N= 74			7.80 (2.50) N= 61			7.46 (2.43) N= 112			7.84 (1.99) N= 67		
WHITE	7.65 (2.59) N= 734			7.91 (2.34) N=1589			8.02 (2.29) N= 936			7.49 (2.55) N=1233		

TABLE A-56  
 EXPECTED CIV. JOB SALARY (Q99)

---

If you left the military right now, how much would  
 expect to earn per year in wages and salary if you  
 took a full-time civilian job?

---

SERVICE

---

	ARMY	NAVY	MARINE CORPS	AIR FORCE
<hr/>				
RACE				
BLACK	14232.86 (11956.66) N= 165	14454.29 (11613.00) N= 240	13087.94 (7119.11) N= 137	12088.42 (5271.55) N= 120
HISPANIC	10979.42 (10736.87) N= 43	13275.10 (4799.76) N= 49	13076.74 (5355.81) N= 65	14332.04 (12653.78) N= 53
WHITE	13010.62 (6753.53) N= 512	14064.05 (6374.87) N=1260	14282.71 (8144.07) N= 697	13716.83 (5911.82) N= 938

---

TABLE A-57  
MILITARY LIFE WHAT I EXPECTED (Q104A)

How much do you agree or disagree with the following statement about military life? Life in the military is about what I expected it to be.

	STRONGLY DISAGREE 1	2	3	4	5	STRONGLY AGREE
SERVICE						
	ARMY	NAVY	MARINE CORPS	AIR FORCE CORPS		
RACE						
BLACK	3.29 (1.19) N= 267	3.20 (1.15) N= 343	3.40 (1.14) N= 229	3.06 (1.16) N= 166		
HISPANIC	3.44 (1.28) N= 75	2.90 (1.21) N= 63	3.28 (1.07) N= 111	3.15 (1.14) N= 67		
WHITE	3.31 (1.18) N= 746	3.08 (1.14) N=1606	3.22 (1.18) N= 956	2.90 (1.09) N=1260		

TABLE A-58  
FUTURE RET. BENEFITS NOT AS GOOD (Q104B)

How much do you agree or disagree with the following statement about military life? Military personnel in the future will not have as good as retirement benefits as I have now.

---

STRONGLY | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ | STRONGLY  
DISAGREE 1            2            3            4            5 AGREE

---

SERVICE

---

	ARMY	NAVY	MARINE CORPS	AIR FORCE
--	------	------	-----------------	-----------

---

RACE

BLACK	2.48 (1.14) N= 266	2.37 (1.13) N= 342	2.41 (1.07) N= 224	2.15 (1.12) N= 165
HISPANIC	2.41 (1.01) N= 73	2.23 (1.15) N= 62	2.44 (1.07) N= 111	1.75 (0.96) N= 69
WHITE	2.32 (1.01) N= 744	2.17 (1.01) N=1608	2.25 (0.99) N= 954	1.96 (0.95) N=1257

---

TABLE A-59

## PAY WILL NOT KEEP UP WITH INFLATION (Q104C)

How much do you agree or disagree with the following statement about military life? My military pay and benefits will not keep up with inflation.

	STRONGLY DISAGREE 1	2	3	4	5	STRONGLY AGREE
SERVICE						
	ARMY	NAVY	MARINE CORPS	AIR FORCE		
RACE						
BLACK	2.05 (1.18) N= 269	1.85 (1.06) N= 343	1.88 (1.00) N= 224	1.67 (0.94) N= 166		
HISPANIC	2.22 (1.16) N= 74	1.63 (0.91) N= 62	1.96 (1.01) N= 112	1.41 (0.60) N= 68		
WHITE	1.80 (0.99) N= 745	1.58 (0.86) N=1609	1.87 (0.99) N= 952	1.60 (0.87) N=1260		

TABLE A-60  
 BETTER OFF WITH A CIVILIAN JOB (Q104D)

---

How much do you agree or disagree with the following statement about military life? My family would be better off if I took a civilian job.

---

STRONGLY | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ | STRONGLY  
 DISAGREE 1            2            3            4            5 AGREE

---

SERVICE

---

	ARMY	NAVY	MARINE CORPS	AIR FORCE
<hr/>				
RACE				
BLACK	2.29 (1.09) N= 263	1.98 (1.06) N= 340	2.17 (1.07) N= 221	2.32 (1.16) N= 163
HISPANIC	2.20 (0.95) N= 71	1.68 (0.93) N= 60	2.04 (1.07) N= 110	2.00 (1.03) N= 69
WHITE	2.02 (1.03) N= 741	1.75 (0.93) N=1599	1.93 (0.97) N= 949	1.99 (1.01) N=1252

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