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ABSTRACT

A validation study assessed the effectiveness of the Air Force Occupational Attitude Inventory (OAI) in predicting job satisfaction, reenlistment intent, and reenlistment behavior. First, the OAI survey instrument was administered to 1,217 first-term airmen in 1973 and to 4,784 first-term airmen in 1975. Next, criteria consisting of concurrent statements about global job satisfaction, reenlistment intent and subsequent reenlistment behavior were regressed on responses to the 189 non-supervisory occupational attitude items of the OAI and a set of 53 biographical and job-related predictor variables. After cross-validating the OAI responses for each year against the three criteria from the other year, researchers concluded that the OAI was significantly related to global job satisfaction, reenlistment intent, and actual reenlistment. Variance in the criteria was improved by 9 percent to 59 percent with the OAI over the amount achieved with biographical and job-related variables. Based on these findings, recommendations were made calling for use of the instrument in guiding management activities to improve job satisfaction in the enlisted force. (MN)

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AIR FORCE HUMAN RESOURCES LABORATORY

OCCUPATIONAL ATTITUDE INVENTORY: USE IN PREDICTIONS OF JOB SATISFACTION, REENLISTMENT INTENT, AND REENLISTMENT BEHAVIOR

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The purpose of this study was to conduct a validation of the Air Force Occupational Attitude Inventory (OAI), a large facet-specific instrument designed to measure job satisfaction in the Air Force. Concurrent validity was assessed in relation to global job satisfaction and reenlistment intent while predictive validity was evaluated in relation to actual reenlistment behavior.

The OAI was administered to two samples of first-term airmen, 1,217 in 1973 and 4,784 in 1975. Multiple linear regression equations were constructed to assess the effects of OAI occupational attitudes on attitudinal (global job satisfaction and reenlistment intent) and reenlistment behavior (reenlistment versus separation) criteria while

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controlling for the effects of individual biographical variables (e.g., age, education, aptitude, marital status, gender) and job-related variables (e.g., membership in 18 duty and control Air Force Specialty Codes, number of months on the job, number of people supervised, and grade).

A series of statistical F tests revealed that the set of 189 OAI attitude items were significantly related to global job satisfaction, reenlistment intent, and actual reenlistment behavior in all analysis samples over and above the functional relationships between the criteria and 53 biographical and job-related variables used in the Air Force selection, classification, and assignment process.

Specific occupational attitudes shown to be linked with global job satisfaction included job interest, challenge, use of abilities, and accomplishment. Occupational attitudes linked with reenlistment intent included pay and benefits as compared to civilian jobs, the removal of irritants, the consideration that airmen received from the Air Force, and the opportunity to contribute to the national defense. Occupational attitudes linked with reenlistment versus separation included pay and benefits compared with civilian jobs, the consideration that airmen received from the Air Force, and educational and recreational opportunities.

To determine the stability of the occupational attitude equations, least squares regression weights developed on the 1973 samples were cross-applied to the 1975 samples and vice versa. Results from the cross-validation indicated that the relationship of the OAI occupational attitude set was stable and consistent across time with respect to global job satisfaction, reenlistment intent, and actual reenlistment.

SUMMARY

Objective

The objective was determination of the relations between responses to the Occupational Attitude Inventory (OAI) and overall job satisfaction, reenlistment intent, and actual reenlistment decisions.

Background/Rationale

The OAI was developed to assess multiple dimensions of job satisfaction operating in the enlisted work environment. The OAI is composed of three sections. Section I, *General Information*, consists of 51 items concerning demographic, biographic, job-related information, and attitudes toward reenlistment, global job satisfaction, and job interest. Section II, *Occupational Attitude Information*, consists of 200 job satisfaction items addressing specific aspects of the job, the last 10 of which apply to supervisory work. Section III, *Importance of Job Aspects to Career Decisions*, contains 35 items on job aspects. Demonstrating the validity of the OAI would provide Air Force managers with a device for assessing important factors in the work environment that relate to job satisfaction, reenlistment intent, and reenlistment behavior.

Approach

The OAI survey instrument was administered to two samples of first-term airmen: 1,217 in 1973 and 4,784 in 1975. For both years, criteria consisting of concurrent statements about global job satisfaction and reenlistment intent and the subsequent reenlistment behavior were regressed on responses to the 189 non-supervisory occupational attitude items of the OAI and a set of 53 biographical and job-related predictor variables. Analysis samples were developed on the basis of whether airmen were eligible to reenlist and whether separations from service were voluntary. OAI responses for each year were cross-validated against the three criteria from the other year.

Specifics

The OAI was significantly related to global job satisfaction, reenlistment intent, and actual reenlistment. Variance in the criteria was improved by 9% to 59% with the OAI over the amount achieved with biographical and job-related variables.

Specific occupational attitudes shown to be linked with global job satisfaction included job interest, challenge, use of abilities, and accomplishment. Occupational attitudes linked with reenlistment intent included pay and benefits as compared to civilian jobs, removal of irritants, consideration that airmen receive from the Air Force, and the opportunity to contribute to national defense. Occupational attitudes linked with reenlistment versus separation included pay and benefits compared with civilian jobs, consideration that airmen receive from the Air Force, and educational and recreational opportunities. Airmen who were not satisfied with these aspects of the job were more likely to leave the service. These findings were consistent for a number of analysis samples based on several different reenlistment criteria.

Results of a cross-validation demonstrated that the relations of the OAI to global job satisfaction, reenlistment intent, and actual reenlistment were stable and consistent across time.

Conclusions/Recommendations

The strong positive relations between responses to the OAI and overall job satisfaction, reenlistment intent, and actual reenlistment behavior demonstrate that the OAI provides an adequate basis for assessment of work-related attitudes of individual airmen. As a consequence, the instrument would be useful in guiding management activities to improve job satisfaction in the enlisted force. Improvement in job satisfaction may, in turn, result in a host of desirable outcomes, such as maintaining a high quality of working life and increased motivation, productivity, and retention.

PREFACE

This research was conducted under Project 7734, Development of Methods for Describing, Evaluating, and Structuring Air Force Occupations. The investigation was initiated under Work Unit 77340508, "Validation of the Air Force Occupational Attitude Inventory," and was completed under Work Unit 77340817, "Process Models of Personnel Turnover." These Work Units are part of a larger research effort to provide Air Force managers with devices, models, and strategies (a) to improve evaluation of job performance, career motivation, retention, job satisfaction, and individual/unit productivity and (b) to establish comprehensive skill management and reenlistment/career assignment programs. The effort is to involve longitudinal and cross-sectional research studies to accomplish in-depth analyses of attrition, retention, and retraining issues and to identify factors to improve job satisfaction and productivity.

The authors wish to express their appreciation to Dr. Raymond E. Christal, Dr. Joe T. Hazel, and Dr. William E. Alley of the Air Force Human Resources Laboratory for their technical advice in the accomplishment of this study. Recognition is made of the assistance of Sgt Chris Ebaugh, Sgt Jim Williams, and Ms. Kathleen Donahue in conducting computer analyses.

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OCCUPATIONAL ATTITUDE INVENTORY: USE IN PREDICTIONS OF JOB SATISFACTION, REENLISTMENT INTENT, AND REENLISTMENT BEHAVIOR

I. INTRODUCTION

Background

Reenlistment rates are important indicants of the levels of job experience to be found in the Air Force in the future. The mix of experienced and inexperienced personnel has a direct impact on mission readiness. Obviously, as reenlistment rates decrease, accessions must increase. Unfortunately, the pool of young people available for accession into the military is decreasing. The population of high school graduates reached a high of 3.2 million in 1975 and is projected to decline to 2.7 million by 1984 (U.S. Census Bureau, 1977). Assuming that there are no significant changes in the number of women entering the Air Force, the key to recruiting is the pool of men turning 18 years old. the U.S. Census Bureau projects that this number will decline to 1.6 million in 1995 (U.S. Census Bureau, 1977). About 25 percent (400,000) of these men will not be available because they will not meet the minimal entry requirements for military service. About half of the remaining 1.2 million will probably go to college. Therefore, the military services will have to enlist from the other 600,000. Full enlistment of those remaining is doubtful since the services will be in direct competition with civilian business and industry for these entry level manpower resources. For this reason the services must make an even more concentrated effort to keep reenlistment rates among qualified individuals already on board as high as possible.

Numerous research efforts by all the services (Boyd & Boyles, 1969, Goldman & Worstine, 1977, Guinn, Berberich, & Vitola, 1977, LaRocco, Gunderson, & Pugh, 1975, Tuttle & Hazel, 1974) have found significant relationships between job satisfaction and reenlistment decisions. If the job satisfaction variables with the strongest impact on reenlistment decisions can be identified, efforts can be made to change either the variables or perceptions about the variables to improve reenlistment rates.

The Air Force Job Satisfaction Project

Since 1971, a comprehensive job satisfaction research project has been conducted by the Manpower and Personnel Division of the Air Force Human Resources Laboratory. The objective of the project was to investigate the impact of work-related factors on job satisfaction and enlisted career decisions as a step toward reaching the goals of full utilization of personnel, retention of qualified personnel, maintenance of critical skills, and increased productivity. The basic elements of the project were as follows. "(a) define the dimensions of job satisfaction, (b) measure satisfaction levels on these dimensions, (c) identify problem areas which have the greatest potential for improvement through job satisfaction research, (d) determine the effects which specific changes in job content have on job attitudes, and (e) implement job reengineering actions and measure their effects on job attitudes, job performance, and eventual reenlistment decisions" (Gould, 1976, p.5).

The first phase of the job satisfaction research project required that an inventory be developed to assess the dimensions of job satisfaction operating in the work environment of the Air Force (Tuttle & Hazel, 1974). In developing the inventory, Tuttle, Gould, and Hazel (1975) hypothesized relevant job satisfaction dimensions and produced a scale for measuring those dimensions. Gould (1978) validated the hypothesized dimensions, examined the rating scale, and reduced the item pool to the minimum number required to assess the job attitude domain of the work environment for enlisted personnel of the Air Force. The resulting inventory, the United States Air Force Occupational Attitude Inventory (OAI), is composed of three sections. Section I, General Information, consists of 51 items concerning an Air Force member's demographical and biographical background, job-related information, attitudes toward reenlistment, global job satisfaction, and job interest. Section II, Occupational Attitude Information, consists of 200 job satisfaction items concerning specific aspects of the job, the last 10 items of which apply to supervisory work and are to be completed only by personnel who supervise others as part of their job. The non-supervisory items from the Occupational Attitude Information Section are shown in Appendix A of this report. The job satisfaction attitudes of respondents toward the items are indicated on a 9-point rating scale ranging from 1 = extremely dissatisfied to 9 = extremely satisfied. Section III, Importance of Job Aspects to Career Decisions,

contains 35 items representing each of the 35 dimensions initially hypothesized in the development of the inventory. The items are rated on a 9-point scale, ranging from 1 = not important to 9 = extremely important. At the end of Section III, space is provided for respondents to write in additional positive or negative comments concerning their service in the Air Force.

The basic instrument used in this study has been under development and refinement during various periods for over 8 years, and represents one of the most comprehensive and carefully researched job satisfaction measures of those commonly in use (Pritchard & Shaw, 1978). Since its development, the OAI has been used and discussed in a number of job satisfaction studies. See Appendix B for a bibliography of various research reports which have resulted from these investigations. Gould (1976) provided a review of OAI-related research through September 1976, and since then, OAI-related research has also included an examination of first-term and careerist attitude differences (Edwards, 1978) and a longitudinal study of attitude differences among Air Force personnel in differing work roles (Finstuen, 1981).

Purpose and Hypotheses

The purpose of the present study was to provide knowledge of the concurrent validity of the OAI against global job satisfaction and reenlistment intent attitudes and to assess the predictive validity of the OAI with respect to actual reenlistment rates. To this purpose, a series of hypotheses were proposed:

H1: Global job satisfaction, reenlistment intent, and actual reenlistment for first-term enlisted airmen will vary as a function of biographical attributes, job-related information, and occupational affect as measured by the OAI.

H2: Functional relationships between the OAI and global job satisfaction, reenlistment intent, and actual reenlistment will be found to exist even when the effects due to biographical and job-related differences are controlled for or held constant in prediction.

H3: The specific OAI items displaying the highest degree of association with global job satisfaction, reenlistment intent, and actual reenlistment will remain stable across time.

H4: Cross-validation of occupational attitude equations developed for samples in separate years will result in consistent and significant predictions of attitudes and reenlistment behavior across time.

II. METHOD

An opportunity to examine the concurrent and predictive validity of the OAI was made available when the instrument was administered in March and April of 1973 and 1975 to random samples of enlisted Air Force personnel.

Samples

The samples included 1,217 and 4,784 first-term airmen (respectively, for 1973 and 1975) for whom complete predictor and criterion data were available. For both years, only first-term airmen who enlisted for a 4-year tour comprised the analysis sample. To assess the representativeness of the samples, comparisons were made of selected characteristics of each sample with corresponding characteristics of the population, i.e., the first-term enlisted force, for both years. The analysis samples were representative with respect to sex, academic education level, marital status, and Duty Air Force Specialty Code (DAFSC). However, both samples were somewhat under-representative of the grades of Airman and Airman First Class and over-representative of Sergeant and Staff Sergeant.

Independent Variables

Two sets of independent measures were included in the study. 189 non-supervisory items from Section II, Occupational Attitude Information, of the OAI, shown in Appendix A, and 53 biographical and job-related variables. The latter group included the following variables. Airman Qualifying Examinations (AQE) aptitude measures, race, sex, age, education, marital status, number of dependents, size of hometown, time spent reading, months of total active Federal military service (TAFMS), months on the job, number of subordinates, grade, and occupational membership.

Dependent Variables

The purpose of this study was to examine the concurrent validity of the OAI against global job satisfaction and reenlistment intent, and the predictive validity of the instrument with respect to reenlistment behavior. Global job satisfaction was assessed with the question. "In general, how satisfied are you with your present job?" Responses were made on an 8-point rating scale ranging from 1 = extremely dissatisfied to 8 = extremely satisfied. Reenlistment intent was measured by responses to the question, "Do you plan to reenlist at the end of your current enlistment?" assessed on a 4-point rating scale ranging from 1 = definitely will not reenlist to 4 = definitely will reenlist.

Both global job satisfaction and reenlistment intent items were included in the 1973 and 1975 administrations of the OAI so that analyses using these criteria could have been accomplished immediately. However, it was not possible to complete all concurrent validation procedures soon after 1975 because additional time was needed for events related to formal reenlistment eligibility to occur. The analyses were performed separately for airmen who were eligible and ineligible to reenlist. Thus, for airmen who had only recently entered the service in 1975, up to 36 months for those on 4-year enlistments were needed to reach the point at which qualitative screening for reenlistment eligibility takes place. Also, with respect to predictive validations, up to 4 years was needed for airmen entering in 1975 to reach the point in their career at which a reenlistment decision was to be made.

Reenlistment is one of three broad categories of personnel actions which occur at the end of an airman's tour of duty. The other two categories of actions are losses and extensions. Each of these three categories contains many specific events that are recorded as personnel actions in official Air Force personnel files. Prescribed conditions for the classification of particular events into reenlistments, losses, and extension categories are provided in Air Force Manual 35-4 (1980) and in Air Force Regulations 39-12 (1966), 35-41 (1975), 39-10 (1977), and 35-7 (1978). Analyses with reenlistment criteria included only airmen who reenlisted or were lost. Those who extended were excluded.

A number of authors (MacKinney & Wolins, 1959, Muchinsky & Tuttle, 1979, Porter & Steers, 1973, Schuh, 1967, Wild, 1970) have provided both empirical and theoretical reasons to categorize turnover into voluntary versus involuntary terminations. Peronnel action codes associated with events in the loss category unique to these two classifications were grouped, therefore, on the basis of the type of discharge into voluntary and involuntary as shown in Appendix C. A voluntary loss was defined as a separation initiated by the member, in which case, the Air Force would not have objected to that member remaining in service. Examples of voluntary losses were (a) normal separations at the expiration of the obligated term of service, (b) early separations to enroll in educational programs or accept employment with a civilian law enforcement agency, and (c) voluntary discharges requested by members for miscellaneous reasons. An involuntary loss was defined as a separation initiated by the Air Force, in which case, the member may or may not have preferred to remain in service. Examples of reasons for involuntary losses were drug abuse, shirking, financial irresponsibility, and permanent physical disability. The categorization of losses into voluntary and involuntary categories was based on the belief that occupational attitudes assessed by the OAI would be most closely related to reenlistment behavior over which the individual had control.

Beyond division of the actual reenlistment criterion on the basis of voluntary-involuntary separation, the three criteria (global job satisfaction, reenlistment intent, and actual reenlistment) were divided on the basis of formal reenlistment eligibility. Because reenlistment in the Air Force is a privilege, not a legal right or entitlement, at the 36th month point in a 4-year enlistment the unit commander acts on the recommendation of an airman's supervisor to permit or deny the airman's reenlistment. The supervisor's recommendation is based on evaluation of

the duty performance, Unit Personnel Record Group information, and (if applicable) AF Form 1137, the *Unfavorable Information File Summary*, of the airman under consideration. Reenlistment is permitted if the airman (a) does not become ineligible due to such factors as alcohol abuse, involvement in civil court charges for other than minor offenses, or serving a sentence or suspended sentence of a court-martial, (b) has the qualities necessary for continued service, and (c) can fill a specific skill requirement or another skill through retraining (Air Force Regulation 35-16, Vol. I, 1981).

As a result, eight attitudinal and reenlistment criteria were developed. For global job satisfaction and reenlistment intent, there were two categories, each based on formal reenlistment eligibility, eligible and ineligible combined and eligible only. These four categories are shown as criteria 1 to 4 in the following list. This division permitted the assessment of the effects of the independent variables on global job satisfaction and reenlistment intent for airmen whom the Air Force judged suitable for retention. For actual reenlistment, there were two categories of voluntary/involuntary separations for each of the two categories of reenlistment eligibility. The resulting four categories are shown as criteria 5 to 8 below. In certain cases "eligible to reenlist" may be redundant with "involuntary separation," but the use of both in creating analysis samples is justified because an airman declared eligible to reenlist at the 36th month point may become ineligible before reaching the reenlistment decision point.

1. Global Job Satisfaction: Eligible and Ineligible
2. Global Job Satisfaction: Eligible Only
3. Reenlistment Intent: Eligible and Ineligible
4. Reenlistment Intent: Eligible Only
5. Actual Reenlistment: Eligible and Ineligible, Voluntary and Involuntary
6. Actual Reenlistment: Eligible and Ineligible, Voluntary Only
7. Actual Reenlistment: Eligible Only, Voluntary and Involuntary
8. Actual Reenlistment: Eligible Only, Voluntary Only

Figure 1 displays the combinations of outcomes, discharge types, and formal reenlistment eligibility classifications which were used in defining the four actual reenlistment criteria (5 to 8). Reenlistment was coded 1 if airmen were retained, zero otherwise.

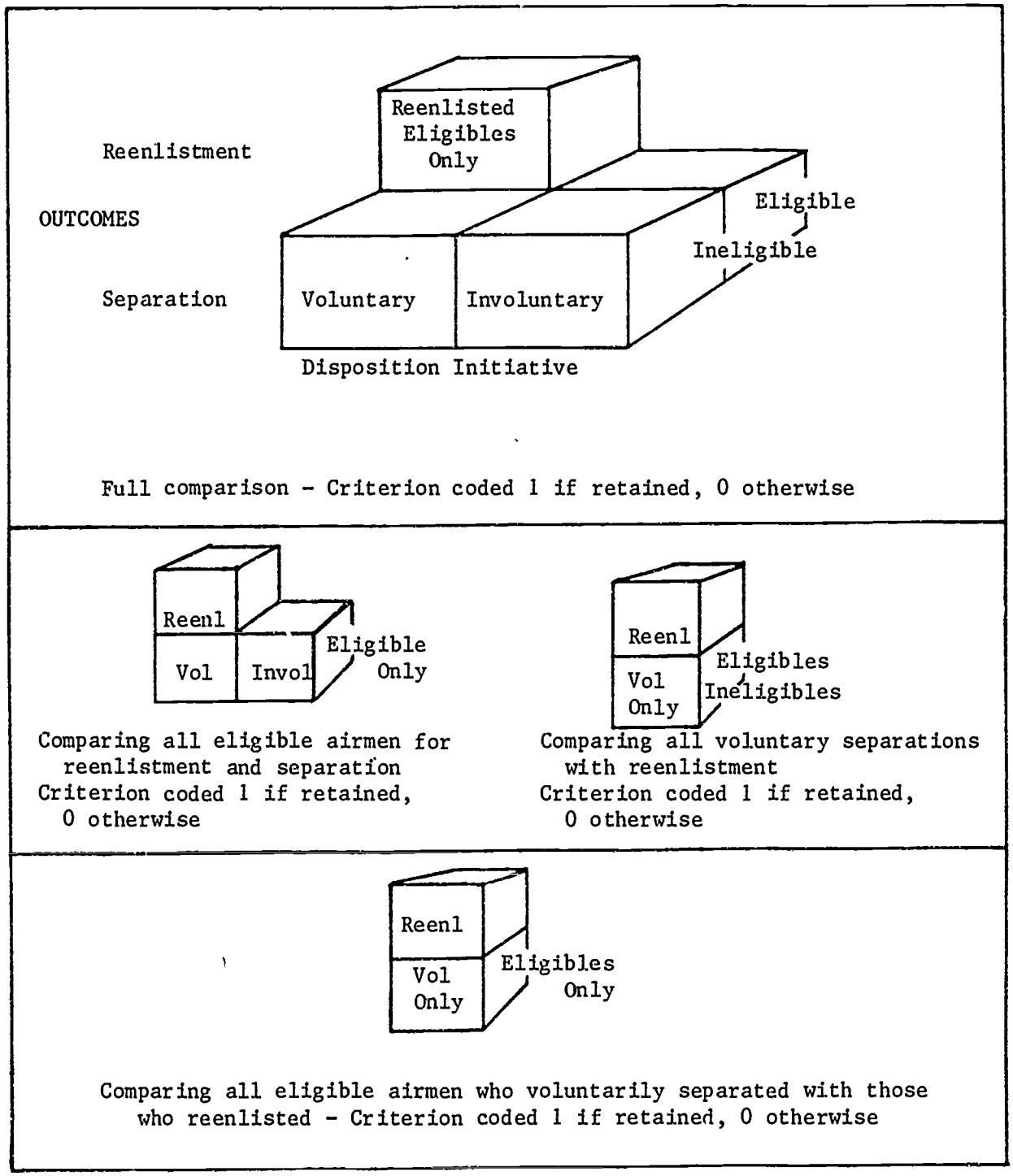

Figure 1. **Three-dimensional data structures for making predictions of reenlistment using various separation classifications.**[a]

[a]The four criterion data sets portray various separation and reenlistment outcomes. Outcomes are classified by formal eligibility, either eligible to reenlist or ineligible, and by disposition initiative, either voluntary or involuntary. Those airmen that reenlist must be eligible. Both the 1973 and 1975 samples were coded as shown above.

III. RESULTS

As noted earlier, this study examined four hypotheses. The analytic procedures used to test the hypotheses are described in the following paragraphs. The results are presented in the following order. (a) descriptive statistics for dependent and independent variables, (b) development and tests of multiple linear regression equations, (c) analyses of specific occupational attitude items, and (d) discussion of the results of the cross-application of the 1973 regression equation weights to the 1975 sample, and vice versa.

Descriptive Statistics

Table 1 presents means and standard deviations for (a) the criterion attitude items, (b) global job satisfaction and reenlistment intent measures, and (c) the actual reenlistment rates for the 1973 and 1975 samples, divided into eligible only and eligible/ineligible categories. Global job satisfaction and reenlistment intent appeared to be slightly higher for the samples comprised solely of airmen eligible to reenlist. As would be expected, actual reenlistment rates were also slightly higher when only eligible airmen were considered. With the exception of the eligible-only/voluntary-involuntary samples, attitudes and reenlistment rates appeared similar for both 1973 and 1975. Overall, however, these data indicated that 60 to 70 percent of the first-term airmen in these samples did not reenlist, whether categorized by eligibility or separation type.

Table 1. Descriptive Statistics for Criteria—Global Job Satisfaction, Reenlistment Intent, and Actual Reenlistment

		Eligible Only			Eligible-Ineligible		
Criterion	Year	N	Mean	SD	N	Mean	SD
Attitudes							
Global Job Satisfaction	1973	961	4.75	2.10	1,217	4.65	2.14
	1975	3,753	4.82	2.11	4,784	4.69	2.15
Reenlistment Intent	1973	961	1.95	.84	1,217	1.91	.84
	1975	3,753	2.29	.99	4,784	2.22	.99
Reenlistment Rates by Type of Separation	Year	N	%		N	%	
Voluntary/Involuntary	1973	896	35.60		1,131	29.00	
	1975	2,993	40.83		4,017	30.92	
Voluntary Only	1973	835	38.20		968	33.88	
	1975	2,988	40.90		3,650	34.03	

Note. Global job satisfaction was scaled 1 = extremely dissatisfied to 8 = extremely satisfied. Reenlistment intent was scaled 1 = definitely will not reenlist to 4 = definitely will reenlist.

Table 2 presents means and standard deviations for the biographical and job-related variables. The biographical variables were aptitude scores, race, gender, age, education, marital status, number of dependents, population of pre-enlistment residence, and time spent reading. Job-related variables were total active Federal military service (TAFMS), total months spent on the job, the number of people supervised, military grade, and occupational membership. Squared terms were introduced to account for specific curvilinear relationships in subsequent linear regression equations. Means for education, martial status, and grade represent the proportion of membership in each of the dichotomously coded categories, and when added, the proportions sum to 1.0 or 100% of the sample.

Table 2. Means and Standard Deviations for Biographical and Job-Related Variables

Variable Name	Predictor	1973 (N = 1,131)[a] Mean	1973 (N = 1,131)[a] SD	1975 (N = 4,017).[a] Mean	1975 (N = 4,017).[a] SD
	AQE Aptitude Measures				
Apt(1)	Mechanical	61.69	21.74	58.90	21.75
Apt(2)	Administrative	64.45	21.29	56.65	20.60
Apt(3)	General	67.19	18.72	63.71	17.89
Apt(4)	Electronics	66.24	21.05	63.84	19.79
Apt(5)	(Mechanical)^2	4,277.39	2,553.75	3,942.52	2,501.90
Apt(6)	(Administrative)^2	4,606.30	2,602.22	3,632.85	2,341.59
Apt(7)	(General)^2	4,865.14	2,404.75	4,378.32	2,274.58
Apt(8)	(Electronics)^2	4,830.90	2,639.85	4,466.71	2,459.77
Apt(9)	AFQT/AFWST	63.35	22.67	61.21	18.06
Apt(10)	(AFQT/AFWST)^2	4,527.15	2,714.42	4,073.07	2,272.03
Race(1)	Race	.92	.27	.86	.35
Sex(1)	Sex	.95	.23	.91	.29
Age(1)	Age in Months	271.52	23.88	266.19	22.87
Age Sqrd (2)	(Age)^2	74,294.10	13,399.11	71,378.40	12,630.95
	Education				
Ed(1)	Less than High School and GED	.06	.24	.06	.25
Ed(2)	High School Only	.74	.44	.80	.40
Ed(3)	Some College	.14	.34	.12	.32
Ed(4)	College Graduate and Beyond	.06	.25	.02	.14
	Family				
	Marital Status				
Fam(1)	Single	.53	.50	.51	.50
Fam(2)	Married	.45	.50	.45	.50
Fam(3)	Divorced	.02	.14	.04	.19
Fam(4)	Number of dependents	1.70	.82	1.74	.87
Fam(5)	(Dependents)^2	3.55	3.29	3.78	3.73
	Background				
Bkgd(1)	Population of Residence	2.75	1.32	2.63	1.14
Bkgd(2)	Time Spent Reading	2.94	1.20	3.24	1.16
	Job-Related				
Job(1)	Total Active Federal Military Service (TAFMS)	24.95	11.84	27.83	12.43
Job(2)	(TAFMS)^2	762.39	658.86	914.96	736.09
Job(3)	Total Months on Job (MOJ)	15.42	10.90	16.93	11.56
Job(4)	(MOJ)^2	356.63	479.32	420.16	517.26
Job(5)	Number of Subordinates	.43	1.50	.45	1.59
Job(6)	(NSUPV)^2	2.43	13.76	2.78	16.23
	Grade				
Grd(1)	Airman	.02	.14	.03	.17
Grd(2)	Airman First-Class	.07	.25	.11	.31
Grd(3)	Sergeant	.74	.44	.80	.39
Grd(4)	Staff Sergeant	.17	.38	.06	.23

Note. In addition, there were 18 occupational membership variables including Control AFSC—nine categories (CAFSC) and Duty AFSC—nine categories (DAFSC). Variables were coded 1 if in that category, 0 otherwise. Occupational membership categories consisted of: (1) Electrical Equipment Repairmen, (2) Communications and Intelligence Specialists, (3) Medical and Dental Specialists, (4) Other Technical and Allied Specialists, (5) Administrative Specialists and Clerks, (6) Mechanical Equipment Repairmen, (7) Craftsmen, (8) Service and Supply Handlers, and (9) all remaining occupations classified as Other.

[a]Sample reflect eligible and ineligible members, both voluntary and involuntary separations.

Comparing the characteristics of the two samples, as revealed in Table 2, average aptitude scores appeared to be somewhat higher in the 1973 sample than in the 1975 sample. Race and sex were dichotomous variables, coded respectively 1 if Caucasian, 0 otherwise, and 1 if male, 0 otherwise. In the 1973 and 1975 samples, the percentage of Caucasians were, respectively, 92% and 86%, and the respective percentages of males were 95% and 91% In both

samples. 94% of the airmen had completed high school and approximately one-half were single. Pre-enlistment residence size (hometown) was scaled 1 = farm/ranch or town of less than 1,000 population, 2 = town of 1,000 but less than 50,000, 3 = town of 50,000 but less than 100,000, 4 = city of 100,000 but less than 500,000, and 5 = city of 500,000 or larger. Amount of time spent reading was scaled from 1 = none to 5 = more than 7 hours per week. There appeared to be few important differences between the two samples on the dimensions of these background variables. In addition, airmen in the two samples did not differ meaningfully in terms of time in the service or time on the present job. In both samples, airmen had served approximately 2 years in the service and had spent an average of about 16 months on their present jobs. Most airmen in both samples, 91% in 1973 and 86% in 1975, had attained the grades of Sergeant and Staff Sergeant.

Development and Tests of Regression Equations

Multiple linear regression equations (Bottenberg, 1960, Bottenberg & Ward, 1963, Ward & Jennings, 1973) were constructed to assess the effects of occupational attitudes upon three criteria. global job satisfaction, reenlistment intent, and reenlistment behavior, while controlling for the effects of biographical and job-related variables. These equations are shown in Table 3 and are specified using the variable names identified in the first column of Table 2. A diagram depicting these functional relationships for first-term enlisted airmen is presented in Figure 2.

Table 3. Specifications of Multiple Linear Regression Equations

Biographical and Job-Related Variables Restricted Model (A)

$$Y = w_0U + w_1Apt^{(1)} + w_2Apt^{(2)} + \ldots + w_{10}Apt^{(10)}$$
$$+ w_{11}Race^{(1)} + w_{12}Sex^{(1)} + w_{13}Age^{(1)} + w_{14}AgeSqrd^{(2)}$$
$$+ w_{15}Ed^{(1)} + \ldots + w_{18}Ed^{(4)} + w_{19}Fam^{(1)} \ldots + w_{23}Fam^{(5)}$$
$$+ w_{24}Bkgd^{(1)} + w_{25}Bkgd^{(2)} + w_{26}Job^{(1)} + \ldots + w_{31}Job^{(6)}$$
$$+ w_{32}Grd^{(1)} + \ldots + w_{35}Grd^{(4)} + w_{36}CAFSC^{(1)} + \ldots + w_{44}CAFSC^{(9)}$$
$$+ w_{45}DAFSC^{(1)} + \ldots + w_{53}DAFSC^{(9)}$$

OAI Restricted Model(B)

$$Y = w_0U + w_1OAI^{(1)} + \ldots + w_{189}OAI^{(189)}$$

Full Model Biographical, Job-Related, and OAI Variables (C)

$$Y = w_0U + w_1Apt^{(1)} + \ldots + w_{53}DAFSC^{(9)} + w_{54}OAI^{(1)} + \ldots + w_{242}OAI^{(189)}$$

Note. In the equations above, Y is a criterion variable representing various attitude and reenlistment variables, w coefficients are raw least squares regression weights, superscripted vectors are variables identified in Table 2, and U is a unit vector where the w0 weight represents a regression constant.

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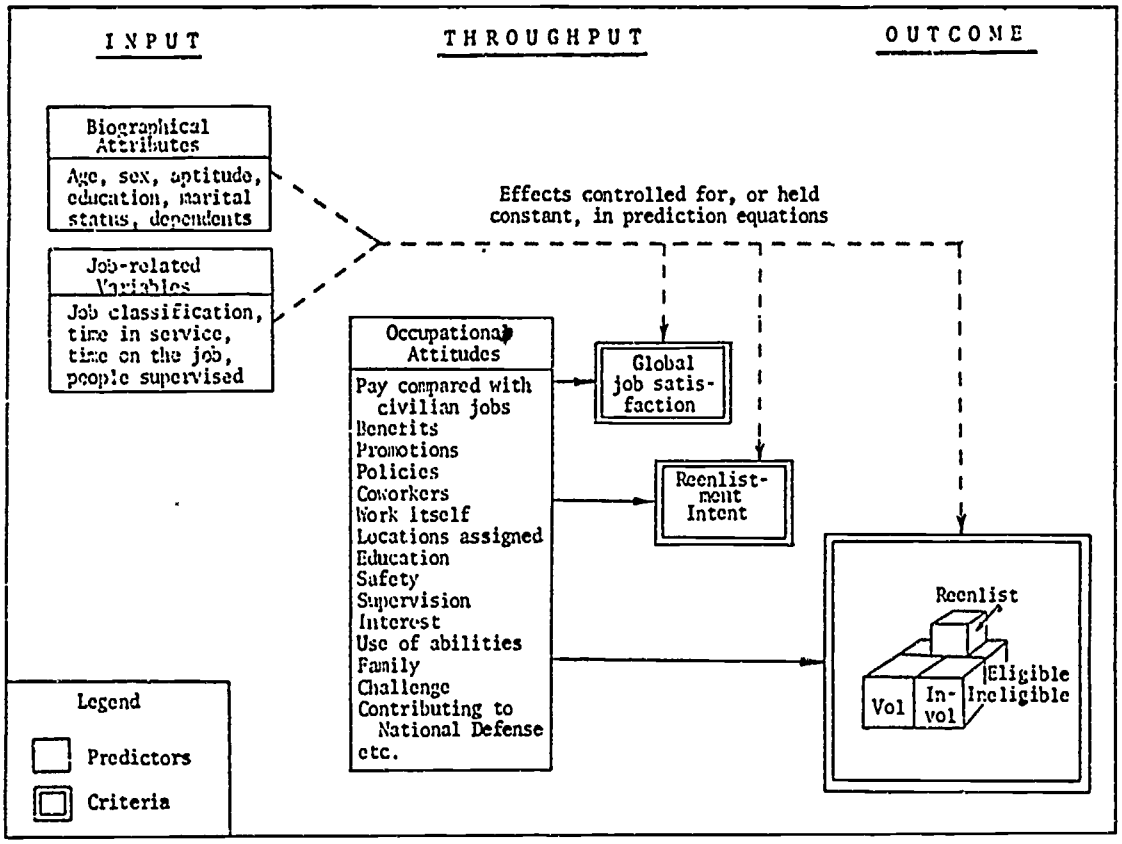

Figure 2. Schematic diagram of dependent and independent variables.

Three regression models were developed as shown in Table 3. The first equation (A) was restricted to the 53 biographical and job-related variables, the second (B) was restricted to the 189 OAI items, and the third (C) included both the biographical and job-related variables as well as the 189 OAI items. The third regression equation is referred to as the full model while the first two are restricted models. For each of the three models, the eight attitudinal and reenlistment criteria were regressed for both samples. Table 4 presents the multiple determination coefficients which resulted from computations for the full models (C) and the biographical and job-related restricted models (A). In support of hypothesis 1, that airmen attitudes and reenlistment rates will vary as a function of biographical attributes, job-related information, and occupational affect as measured by the OAI, significant correlation coefficients emerged on all criteria. In terms of magnitude, the strengths of the full model multiple relationships (column 2) appear to be greater for the concurrently measured attitudinal criteria than for the behavioral criteria for both years. This difference was not as clearly evident for the restricted models which contained only biographical and job-related variables. For example, the level of predictive efficiency (.12) associated with the restricted model for the 1975 sample of eligible-ineligible, voluntary/involuntary airmen exceeded all other 1975 restricted model correlations.

Table 4. Validation Summary and F Tests for Global Job Satisfaction, Reenlistment Intent and Actual Reenlistment

Criterion	Full Models (C)	Restricted Models (A)	(C)-(A)	N	df_1	df_2	F[a]
Attitudes			**March — April 1973 Survey**				
Global Job Satisfaction							
Eligible-Ineligible	.71	.13	.57	1,217	189	979	10.02
Eligible Only	.76	.17	.59	961	189	723	9.38
Reenlistment Intent							
Eligible-Ineligible	.46	.16	.30	1,217	189	979	2.86
Eligible Only	.51	.19	.32	961	189	658	2.53
Actual Reenlistment							
Eligible-Ineligible							
Voluntary-Involuntary	.34	.15	.19	1,131	189	893	1.36
Voluntary Only	.37	.14	.23	968	189	730	1.37
Eligible Only							
Voluntary-Involuntary	.39	.16	.23	896	189	723	1.46
Voluntary Only	.44	.17	.28	835	189	597	1.56
Attitudes			**March — April 1975 Survey**				
Global Job Satisfaction							
Eligible-Ineligible	.60	.09	.52	4,784	189	4,546	31.21
Eligible Only	.61	.08	.53	3,753	189	3,515	25.02
Reenlistment Intent							
Eligible-Ineligible	.34	.12	.22	4,784	189	4,546	7.78
Eligible Only	.35	.12	.23	3,753	189	3,515	6.55
Actual Reenlistment							
Eligible-Ineligible							
Voluntary-Involuntary	.22	.12	.09	4,017	189	3,779	2.33
Voluntary Only	.20	.10	.10	3,650	189	3,412	2.28
Eligible Only							
Voluntary-Involuntary	.21	.10	.12	2,993	189	2,755	2.15
Voluntary Only	.22	.10	.12	2,988	189	2,750	2.15

Note. Full Models (C) contain OAI and all biographical and job related predictors. For restricted models (A) the OAI items have been removed. Entries are multiple correlation coefficients. Each of the models (C) coefficients were statistically different from zero; $p < .01$.

[a]All F tests comparing full and restricted models were significant at $p < .01$.

A series of statistical F tests was conducted between the results of the full (C) and restricted (A) models to determine whether the OAI items, as a set, contributed significantly to the prediction of all criteria, beyond the predictability attained from employing only the traditional selection, classification, and assignment variables represented by the restricted models.[1] Obtained results fully supported the second hypothesis, that substantive functional relationships between the OAI and the attitudinal and reenlistment criteria would emerge even when effects due to biographical and job-related differences were held constant. The set of OAI items was highly and

[1]There have been Monte Carlo studies that indicate that the F test is "robust" under violation of non-normality conditions even in the extreme case of a binary dependent variable. That is, the sampling distribution of the F statistic has about the same shape as it would if the dependent variable were normally distributed (see Glass, Peckham, & Sanders (1972), and Lunney (1970)).

significantly associated with all criteria in both samples ($p < .01$). This finding was interpreted as providing supportive evidence that post-enlistment occupational attitudes were indeed related to airmen's global job satisfaction and reenlistment intention and, more importantly, that occupational attitudes were related to reenlistment behavior.

Based on the evidence that occupational attitudes were positively and significantly related to global job satisfaction, reenlistment intent, and reenlistment behavior, the remaining analyses examined the dynamics associated with the restricted model equations based exclusively on OAI items (see Equation (B) in Table 3).

Table 5 presents the multiple correlation results for the regression of the eight criteria for both samples on the variables composed exclusively of OAI items. As indicated previously for the full model, occupational attitudes, in order of magnitude, were most highly related for both samples to global job satisfaction, followed by reenlistment intent and reenlistment behavior.

Table 5. **Multiple Correlations Between OAI Items and Global Job Satisfaction, Reenlistment Intent, and Actual Reenlistment**

Criterion	1973 Sample[a]		1975 Sample[a]	
	R	R^2	R	R^2
Attitudes				
Global Job Satisfaction				
Eligible-Ineligible	.83	.69	.77	.59
Eligible Only	.86	.74	.77	.59
Reenlistment Intent				
Eligible-Ineligible	.64	.41	.53	.28
Eligible Only	.67	.45	.55	.30
Reenlistment Behavior				
Eligible-Ineligible				
Voluntary-Involuntary	.49	.24	.36	.13
Voluntary Only	.53	.28	.37	.13
Eligible Only				
Voluntary-Involuntary	.55	.30	.40	.16
Voluntary Only	.59	.35	.40	.16

[a]All multiple correlations are significantly different from a correlation of zero at $p < .05$.

For global job satisfaction, with responses scaled from 1 = extremely dissatisfied to 8 = extremely satisfied, validation results for the 1973 sample using the model restricted to OAI items were $R^2 = .69$ for both eligible and ineligible airmen and $R^2 = .74$ for eligible airmen only. For the 1975 samples, the R^2 values were .59 for both eligibility groups. For reenlistment intent, scaled from 1 = definitely will not reenlist to 4 = definitely will reenlist, validation results from the model restricted to OAI items were highly significant. R^2 values were, in 1973, .45 for eligibles and .41 for eligibles and ineligibles combined and, in 1975, .30 for eligibles and .28 for eligibles and ineligibles combined.

Reenlistment behavior examined under categories of voluntary and involuntary losses revealed that the greatest predictive efficiency was attained when reenlistees (coded 1) were contrasted with voluntary losses among eligible personnel (coded zero). $R^2 = .35$ in 1973 and $R^2 = .16$ in 1975. The addition of involuntary losses to form a voluntary-involuntary category for eligibles had no effect on predictability in the 1975 sample ($R^2 = .16$ for both years), but the addition reduced prediction in the 1973 sample by .05, from $R^2 = .35$ to $R^2 = .30$. The third reenlistment versus loss category employed voluntary separations for both eligible and ineligible airmen. These

prediction results were $\underline{R}^2 = .28$ in 1973 and $\underline{R}^2 = .13$ in 1975. The addition of involuntary losses to form a voluntary-involuntary category for eligible-ineligible airmen had little effect on the predictions with results of $\underline{R}^2 = .24$ in 1973 and $\underline{R}^2 = .13$ in 1975. In comparing prediction results for reenlistment between eligible-ineligible and eligible only, the earlier reported pattern continued, namely that prediction appeared to be better among eligible airmen.

As would be expected, the concurrent validations of the OAI against attitudes of global job satisfaction and reenlistment intent were somewhat higher than the predictive validations against subsequent reenlistment rates for both the 1973 and 1975 samples.

Analyses of Specific Occupational Attitudes

Hypothesis 3 proposed that the magnitude of predictive relationships between specific OAI items and the tenure criteria would remain stable across years. To examine this hypothesis, the following analyses were undertaken. The 189 non-supervisory OAI items were consecutively entered into multiple regression equations using a stepwise technique. Results from the final stepwise equations were examined to determine the relative predictive efficiency of individual items. For the sake of brevity, only the first five items entering the equations are reported here. Order of entry, zero-order correlations ($\underline{r}$), final least squares raw regression weights ($\underline{b}$), and average item ratings are presented in Tables 6, 7, and 8.

Table 6. **First 5 OAI Items Entering into 1973 and 1975 Regression Equations for Global Job Satisfaction Attitudes**

	1973				1975			
Criterion[a]	Order	$\underline{r}$	$\underline{b}$	Mean	Order	$\underline{r}$	$\underline{b}$	Mean
Eligible-Ineligible		N = 1,217				N = 4,784		
Amount of interesting work you do	1	.71	.13	4.99	1	.65	.17	5.01
Way job uses abilities	2	.70	.14	4.77	2	.62	.15	4.95
Feeling of accomplishment from work	3	.68	.12	5.24	3	.60	.10	5.52
Supervisor brings out best	4	.38	.05	5.49				
Work doesn't bother conscience					4	.49	.07	5.97
Social positions in Air Force job	5	.52	.08	5.31				
Contributions to national defense					5	.43	.08	5.71
Eligible Only		N = 961				N = 3,753		
Challenge provided by your job	1	.73	.16	5.22	1	.65	.11	5.30
Way job uses abilities	2	.73	.14	4.85	2	.63	.16	5.05
Feeling of accomplishment from work	3	.71	.11	5.29	4	.63	.11	5.61
Supervisor brings out best	4	.41	.11	5.57				
Amount of interesting work you do					3	.66	.16	5.12
Pace of your work	5	.49	.08	5.82	5	.45	.04	5.71

Note. Higher mean ratings indicate greater satisfaction with particular OAI items. Ratings were scaled from 1 = extremely dissatisfied to 9 = extremely satisfied.

[a]All items were significant at $\underline{p} < .01$, in stepwise $\underline{F}$ to enter tests.

Table 7. **First 5 OAI Items Entering into 1973 and 1975 Regression Equations for Reenlistment Intent Attitudes**

Criterion[a]	1973 Order	1973 r	1973 b	1973 Mean	1975 Order	1975 r	1975 b	1975 Mean
Eligible-Ineligible		N = 1,217				N = 4,784		
Consideration given you by Air Force	1	.37	.03	4.42	2	.32	.05	4.31
Fringe benefits compared with civilian job	2	.36	.04	6.05	3	.32	.04	5.84
Contribution to national defense	3	.33	.04	5.45	4	.26	.03	5.71
Air Force removes irritants	4	.36	.06	3.64	5	.30	.05	4.09
Pay compared with outside	5	.35	.05	4.25	1	.35	.08	4.35
Eligible Only		N = 961				N = 3,753		
Consideration given you by Air Force	1	.38	.03	4.43	2	.33	.05	4.38
Fringe benefits compared with civilian job	2	.38	.05	6.10	3	.33	.05	5.89
Air Force removes irritants	3	.36	.07	3.72	5	.31	.05	4.15
Contributions to national defense	4	.32	.04	5.47	4	.26	.03	5.77
Pay compared with outside	5	.35	.05	4.32	1	.35	.08	4.45

Note. Higher mean ratings indicate greater satisfaction with particular OAI items. Ratings were scaled from 1 = extremely dissatisfied to 9 = extremely satisfied.

[a]All items were significant at $p < .01$ in stepwise F to enter tests.

Table 8. First 5 OAI Items Entering into 1973 and 1975 Regression Equations for Actual Reenlisment Behavior

Criterion[a]	1973 Order	1973 r	1973 b	1973 Mean	1975 Order	1975 r	1975 b	1975 Mean
Eligible-Ineligible								
Voluntary-Involuntary		N=1,131				N=4,017		
Way job uses abilities	1	.21	.02	4.80				
Pay compared with outside	2	.18	.01	4.26	1	.21	.02	4.31
Additional duties in your job	3	.10	.02	5.23				
Promptness in handling equipment malfunction	4	.03	−.02	5.10				
Social position in Air Force job	5	.20	.02	5.32				
Consideration given you by Air Force					2	.19	.02	4.29
Economic security in Air Force					3	.20	.01	5.73
Attention to safety					4	.12	.01	6.55
BX and commissary facilities					5	.05	−.01	5.04
Voluntary Only		N=968				N=3,650		
Way job uses abilities	1	.21	.02	4.90				
Consideration given you by Air Force	2	.21	.01	4.45	2	.19	.02	4.34
Information of promotions	3	−.01	−.03	5.91				
Pay compared with outside	4	.18	.01	4.33	1	.21	.02	4.36
Educational opportunities	5	.13	.02	6.41				
Economic security in Air Force					3	.20	.01	5.78
Recreation provided by community					4	.03	−.01	5.25
The WAPS (Weighted Airman Promotion System)					5	.16	.02	4.97
Eligible Only								
Voluntary-Involuntary		N=896				N=2,993		
Social position in Air Force job	1	.23	.02	5.34				
Consideration given you by Air Force	2	.22	.01	4.43	2	.20	.02	4.37
Information on promotions	3	−.02	−.03	5.91				
Pay compared with outside	4	.19	.01	4.32	1	.22	.03	4.34
Way job uses abilities	5	.22	.01	4.85				
Fringe benefits compared with civilian job					3	.20	.01	5.87
Recreation provided by community					4	.03	−.01	5.29
The WAPS					5	.18	.02	5.00
Voluntary Only		N=835				N=2,988		
Social position in Air Force job	1	.24	.02	5.37				
Consideration given you by Air Force	2	.23	.02	4.44	2	.20	.02	4.38
Information on promotions	3	−.02	−.04	5.91				
Pay compared with outside	4	.20	.01	4.34	1	.22	.03	4.44
Educational opportunities	5	.14	.03	6.46				
Fringe benefits compared with civilian job					3	.20	.01	5.87
Recreation provided by community					4	.02	−.01	5.29
The WAPS					5	.18	.02	5.00

Note. Higher mean rating indicate greater satisfaction with particular OAI items. Ratings were scaled from 1 = extremely dissatisfied to 9 = extremely satisfied.

[a]All items were signified at $p < .01$ in stepwise F to enter tests.

In support of hypothesis 3, the OAI items associated with global job satisfaction in the combined "eligible-ineligible" and "eligible only" samples were observed to be fairly consistent for the 2 years and included airmen's views about the way their jobs used their abilities, their feelings of challenge and accomplishment, the amounts of interesting work they did, and the pace of their work. A similar strategy was employed to examine the relationship of specific OAI items to reenlistment intent. These results are shown in Table 7. Comparing these results with those shown in Table 6 suggests that the OAI items related to reenlistment intent are somewhat different from the items which are related to global job satisfaction. The OAI items related to reenlistment intent were generally the same for both years, including pay and benefits as compared to civilian jobs, the removal of irritants, the consideration airmen receive, and the opportunity to contribute to the national defense.

The evidence presented thus far suggests that attitudinal measures of both global job satisfaction and reenlistment intent were related to specific occupational attitudes in a relatively consistent fashion across years, although the same five OAI items were not neeessarily involved with both criteria.

A third analysis was conducted to identify the five most predictive OAI items associated with actual reenlistment behavior. The results of this analysis are shown in Table 8. In terms of actual reenlistment, the results for all eight samples (four criteria in both years) revealed that reenlistment rates were positively linked with airman satisfaction with pay in the Air Force compared with the perceived level of pay in civilian jobs. For all eight samples, airmen who were not satisfied with the comparability of pay were more likely to leave the service. In addition, in seven of the eight samples, airmen who indicated that they were satisfied with consideration provided by the Air Force were also more likely to reenlist. Other items which were positively linked with reenlistment for the 1973 samples included satisfaction with how Air Force jobs use airman abilities and satisfaction with social position in the Air Force. Airmen in the 1975 samples were more concerned with benefits, including fringe benefits, BX, commissary, recreation, and economic security, than were airmen in the 1973 samples. In addition, nearly all correlations and weights for the OAI items for both year groups were positive, indicating that associations among reenlistment behavior and specific OAI items were direct rather than inverse functions with the exception of promotion information. For this particular item, the more satisfied that airmen were with information on promotions, the more likely they were to separate.

Assessment of Potential Changes Possible in Dependent Variables

Based on the results that substantial relationships were evident between attitudes and global job satisfaction, reenlistment intent, and actual reenlistment and the stabilities of the significant relationships across time, some attention was focused on the operational utility of these relationships and the possible impact that might be derived by a concerted effort to change prevalent levels of attitudes which were investigated.

To demonstrate the potential changes which might be possible for the dependent variables, a simulation was conducted in which the ratings for the five OAI attitude items which first entered the regression equations in the eligible only samples were increased one full attitude scale point from the observed average. This demonstrated the potential effect of attitude change programs focused on factors addressed by the first five specific OAI items.

For global job satisfaction in 1973 and 1975, the first five OAI items in the eligible-only analysis samples were challenge, use of abilities, feelings of accomplishment, supervisor bringing out the best in workers, and the pace of the work. The lower section of Table 6 presents the mean ratings for these items. Cross-multiplying the b weights by the mean ratings and adding the products (for 1973: (.16 x 5.22) + (.14 x 4.85) + (.11 x 5.29) + (.11 x 5.57) + (.08 x 5.82)) results in sub-scores that reflect the relative amount of influence of those items (3.17 for 1973 and 3.06 for 1975) on the calculation of the global job satisfaction averages of 4.75 in 1973 and 4.82 in 1975. The left side of Figure 3 shows the placement of these averages on the global job satisfaction scale.

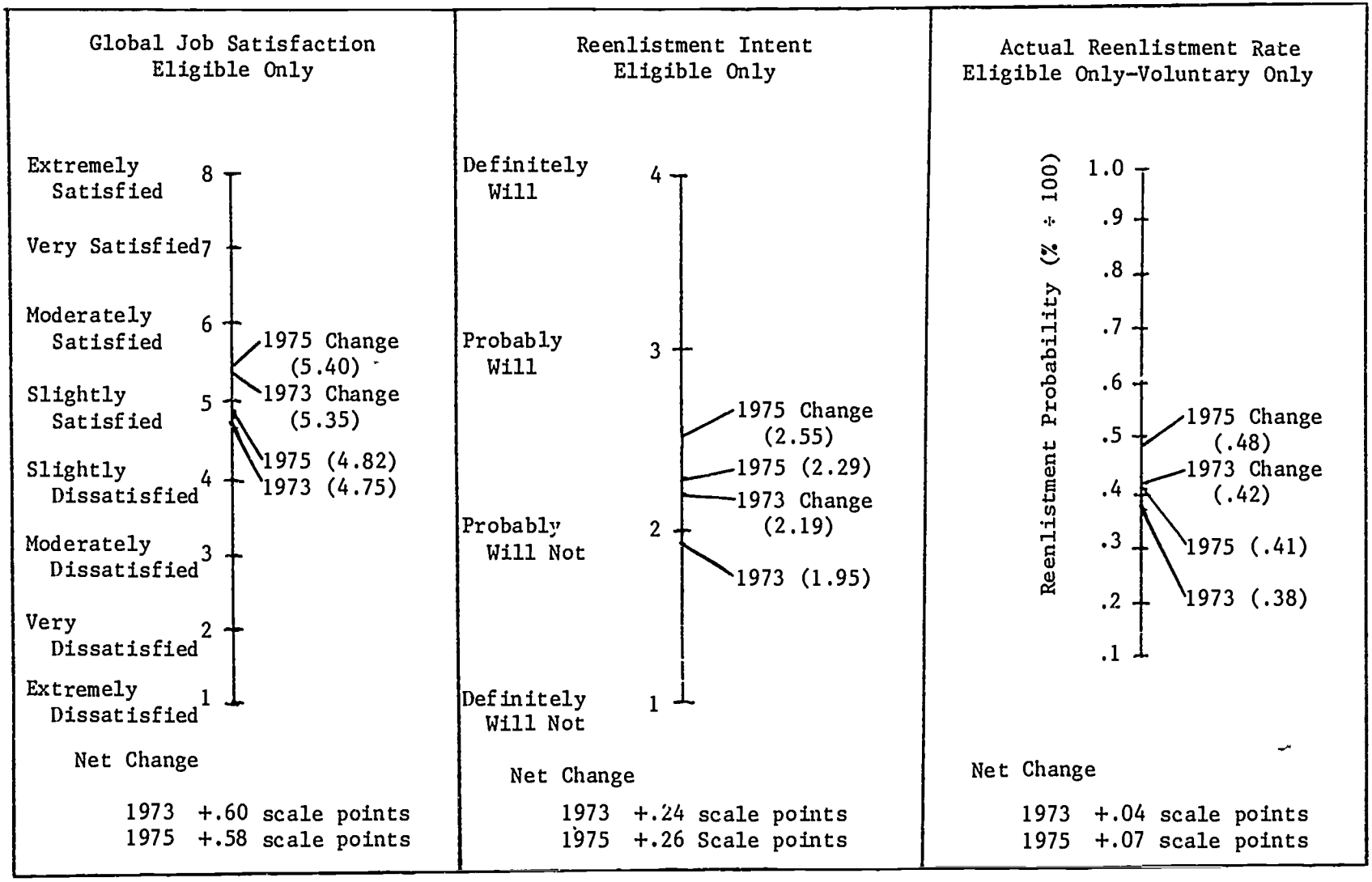

Figure 3. **Effects upon global job satisfaction, reenlistment intent, and actual reenlistment rates of increasing the top 5 OAI attitude item scores associated with the criteria by one attitude scale point.**

If an attitude change program could bring about an increased average rating of one full scale point in each of the OAI items for each criterion, it could result in attitude changes for the five items from about neutral to between slightly and moderately satisfied on the 9-point OAI satisfaction rating scale. The corresponding increase in sub-scores for these changes would be to 3.77 from 3.17 for 1973 and to 3.64 from 3.06 for 1975. Subtracting the original sub-scores from the increased sub-scores (3.77 - 3.17 and 3.64 - 3.06) results in net changes of +.60 and +.58 criterion scale points for the respective years. The expected increases in global job satisfaction resulting from the one unit increases in the OAI mean ratings are shown in the left side of Figure 3. Similar procedures were used in the eligible-only sample for reenlistment intent and in the eligible-only/voluntary-only sample for actual reenlistment. Increases of +.24 and +.26 scale points resulted for the 1973 and 1975 predictions of reenlistment intent. For actual reenlistment rates, increases of 4% and 7% resulted for the 1973 and 1975 samples.

More favorable attitudes toward specific OAI items could be effected in a number of ways, such as to modify the characteristics of the object toward which the attitude is directed. For instance, in regard to OAI items related to actual reenlistment rates, increasing pay and educational and fringe benefits would be expected to result in greater satisfaction for those items. Since those items were positively and directly related to reenlistment behavior, it might be expected that an increase in positive attitudes toward these factors would result in a higher inclination to reenlist. A second way in which attitudes could be made more positive is by changing the perceptions that airmen have about the particular item. For instance, consideration and national defense attitudes might be difficult to change directly, but might be enhanced if commanders and senior airmen could meet with first-term airmen in career advisory sessions to discuss the importance of first-term enlistee contributions to mission requirements. These sessions could also be used to identify irritants and to suggest ways in which the Air Force could be more responsive to first-term airman concerns. Specific opportunities for accomplishing attitude change interventions are presented in the discussion and conclusions section of this report.

Summary of Results

In summary, the overall results of the analyses indicate that certain OAI items were directly associated with each of the separate criteria across time, though the same types of items did not necessarily emerge for global job satisfaction as compared to the reenlistment intent and actual reenlistment measures. Considering the results for the eligible only categories, which displayed the strongest functional relationships, three major inferences may be drawn from an inspection of the results displayed in Tables 6, 7, and 8. First, global job satisfaction appears to be more closely aligned with a different domain of specific occupational attitudes than are reenlistment intent and behavior. Challenge, use of abilities, accomplishment feelings, and the pace of the work are common to global job satisfaction in both 1973 and 1975. Second, reenlistment intent and actual reenlistment behavior appear to be consistently aligned on two items across both years, viz., pay compared to civilian jobs and the consideration given airmen by the Air Force. Other items that are common to reenlistment intent across both years are fringe benefits, removal of irritants, and contributions to the national defense. Airmen indicating low attitude scores on these types of items are more likely to express intentions to separate, and then actually to separate, than are airmen indicating they are satisfied with these issues. Finally, actual reenlistment behavior exclusively appears to be aligned on social position, educational opportunities, and promotion information items in 1973, shifting toward recreation and promotion (Weighted Airman Promotion System) concerns in 1975.

Cross-Validation of OAI Equations

To assess the OAI equations across time, the raw least squares regression weights developed on the 1975 samples were cross-applied to the 1973 samples and vice versa. Table 9 presents the cross-validation results for the 1975 development sample regression weights applied to the 1973 samples. As shown, cross-validated coefficients were tested for significance, and all resulted in substantial levels of predictive efficiency.

Table 9. Cross-Validation Results
1975 Weights Applied to 1973 Samples

Criterion	N	Original 1973 Sample R^2x100	Cross Validation R^2x100	df_1	df_2	F[a]
Attitudes						
Global Job Satisfaction						
Eligible-Ineligible	1,217	68.79	61.08	1	1,215	1,907.06
Eligible Only	961	74.18	64.54	1	959	1,745.29
Reenlistment Intent						
Eligible-Ineligible	1,217	40.84	25.84	1	1,215	423.26
Eligible Only	961	45.24	24.63	1	959	313.36
Reenlistment Rates						
Eligible-Ineligible						
Voluntary-Involuntary	1,131	23.70	6.59	1	1,129	29.31
Voluntary Only	968	27.96	2.93	1	966	29.18
Eligible Only						
Voluntary-Involuntary	896	30.38	3.52	1	894	32.62
Voluntary Only	835	34.65	4.00	1	833	34.72

[a]All F tests significant at $p < .01$.

These results indicate that the same overall patterns of the OAI item and criterion relations existing in the 1975 samples were also present in the 1973 samples. Again, the resulting coefficients were ordered in magnitude for the criteria, global job satisfaction, reenlistment intent, and reenlistment behavior.

Table 10 shows the results from applying the regression weights from the equations developed on 1973 samples to the 1975 samples. Results were again significant in terms of the amount of predictive efficiency remaining after regression effects specific to the development samples were no longer present.

Table 10. Cross-Validation Results
1973 Weights Applied to 1975 Samples

Criterion	N	Original 1975 Sample R^2x100	Cross Validation R^2x100	df_1	df_2	F[a]
Attitudes						
Global Job Satisfaction						
Eligible-Ineligible	4,784	58.50	48.53	1	4,782	4,508.85
Eligible Only	3,753	58.89	47.70	1	3,751	3,421.44
Reenlistment Intent						
Eligible-Ineligible	4,784	28.44	16.47	1	4,782	942.68
Eligible Only	3,753	30.19	14.11	1	3,751	671.82
Reenlistment Rates						
Eligible-Ineligible						
Voluntary-Involuntary	4,017	12.91	.89	1	4,015	36.07
Voluntary Only	3,650	13.32	2.28	1	3,648	85.20
Eligible Only						
Voluntary-Involuntary	2,993	15.86	1.62	1	2,991	48.01
Voluntary Only	2,988	15.89	1.51	1	2,986	45.82

[a]All F tests significant at $p < .01$.

The F test results of the cross-validation procedures provide direct support for hypothesis 4 concerning consistent relationships across time between the OAI and the attitudinal and behavioral criteria. These findings were interpreted as providing evidence that the multiple relationships observed in the development samples were not entirely attributable to the capitalization upon specific sample variance, but rather were indicative of consistent patterns which could be replicated in other samples at other times.

Differential Predictability by Analysis Samples

Validation of the OAI against global job satisfaction, reenlistment intent, and reenlistment behavior was conducted in sub-samples defined on the basis of reenlistment eligibility and whether losses were voluntary or involuntary. The expectation that prediction would be better among airmen who were eligible to reenlist and who were lost for voluntary reasons was largely realized, as shown by comparisons of the squared multiple correlation coefficients in Table 5. The magnitude of the regression analyses results (R^2) with respect to eligibility and voluntary/involuntary sample sub-groupings appeared to be more pronounced for the smaller 1973 sample and less pronounced for the larger 1975 sample. Whether these effects were attributable to sample year, sample size, or a combination of both or other factors remains unknown. These results do, nevertheless, suggest that the specification of formal eligibility and voluntary/involuntary categorization does represent a viable and reasonable means of differentially assessing reenlistment issues.

IV. SUMMARY AND SUGGESTIONS FOR OPERATIONAL UTILITY

In the Introduction section, the importance of increasing reenlistment rates among qualified airmen was addressed. The Introduction and subsequent sections also described how this research project approached and solved the problem of correctly identifying occupational attitude variables which significantly improve the prediction of global job satisfaction, reenlistment intent, and actual reenlistment decisions beyond the level of prediction possible with biographical and job-related variables. This final section offers suggestions on how the results of the study can be used to increase the retention of Air Force personnel.

While the OAI was successfully validated among first-term airmen against job satisfaction, reenlistment intent, and actual reenlistment, the most highly related OAI items were found to be largely different for global job satisfaction as compared with reenlistment intent and actual reenlistment. Therefore, improvements to enhance global job satisfaction may not necessarily bring about improvements in reenlistment intent and reenlistment. Likewise, successful efforts to increase reenlistment may not necessarily impact global job satisfaction.

Attitudinal areas identified in this study associated with global job satisfaction were challenge provided by the job, job use of abilities, amount of interesting work done, feelings of accomplishment from the work, and pace of the work. Career motivation and morale efforts, both locally and Air Force wide, could focus on these areas when dealing with first-term enlistee groups. In addition, supervisors might wish to use an instrument such as the OAI within their organization to identify attitudes that are unique to job satisfaction in their particular jobs or environments.

Considering the implications for other findings and results, Air Force policies and programs to enhance first-term reenlistment could focus on those specific areas that are identified as being related to reenlistment intent. This study identified five such areas: pay compared with the outside, consideration given by the Air Force, fringe benefits, contributions to the national defense, and Air Force efforts to remove irritants. In each case, efforts, both locally and Air Force wide, could be made to influence attitudes in these areas.

Air Force leaders could use the information on the pay-reenlistment intent relationship to support justification for increased pay. In addition, an information program comparing the pay of various Air Force jobs with similar civilian jobs might be another approach which could be undertaken to influence reenlistment intent. Cumulative comparisons of pay and benefits might also be made across the course of a 20-year Air Force career compared to a similar career in the civilian sector, emphasizing retirement pay and second career opportunities available to Air Force members.

A second area which holds a potential for enhancing reenlistment intentions is that of consideration for the individual. Such concerns could be included in the development of curriculum materials for first-line supervisors

who participate in Air Force courses, such as the career advisor, Non-Commisioned Officer Academy, and enlisted supervisor and management training programs.

A third area for potential enhancement of reenlistment intent is fringe benefits. Furthur surveying of Air Force personnel may establish the hierarchy of importance for specific benefits. Better communication of the numerous and exclusive Air Force benefits that exist in contrast to those available in the civilian world might furthur influence reenlistment intentions.

Influencing attitudes about national defense is yet another potential means of enhancing reenlistment intent. If the importance of individual jobs to the national defense was emphasized to a greater extent by supervisors, more first-terners may come to learn how every link in the national defense process is important. This message should reach individuals early enough in their careers to motivate performance on initial job assignments and to influence reenlistment intent. Emphasis might be placed on the special importance of military jobs in wartime situations.

Finally, managers at all levels could publicize Air Force efforts to remove irritants. Many small irritants, such as decreasing waiting times in Consolidated Base Personnel Offices and reducing the number of extra duties individuals have to perform, are continuously removed by organizations in the normal course of their business. Air Force managers should continue to be sensitive to irritants and should strive to publicize progress toward removing them. For instance, specific efforts to remove irritants could regularly be reported in the base newspaper.

This research found that attitudes toward pay, consideration given by the Air Force, and fringe benefits were associated with reenlistment intent and with actual reenlistment decisions. Therefore, suggestions for enhancing reenlistment intent, such as those provided in previous paragraphs, should also favorably affect actual reenlistment.

In addition to the local and Air Force-wide policy and program suggestions just discussed, finding from this reserach could be used by the Leadership and Management Development Center (LMDC). The effect of specific occupational attitudes on first-term global job satisfaction, reenlistment intent, and reenlistment could be combined with results that are obtained from use of the Occupational Assessment Package (Hendrix & Halverson, 1979). The results could be integrated into LMDC professional development courses to inform persons who make decisions that affect life in the Air Force about how the results of their decisions can effect the job satisfaction, reenlistment intent, and actual reenlistment of first-term airmen.

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APPENDIX A: NON-SUPERVISORY ITEMS FROM SECTION II, OCCUPATIONAL ATTITUDE INFORMATION, OF THE OCCUPATIONAL ATTITUDE INVENTORY

Respondents indicate their job satisfaction attitude for each item by using the 9-point scale shown below.

1 Extremely dissatisfied
2 Very dissatisfied
3 Moderately dissatisfied
4 Slightly dissatisfied
5 Neither satisfied nor dissatisfied
6 Slightly satisfied
7 Moderately satisfied
8 Very satisfied
9 Extremely satisfied

1. The Air Force's efforts to remove irritants and sources of dissatisfaction.
2. The geographical area to which you are assigned.
3. The moral standards of your co-workers.
4. The contribution your work makes to the national defense.
5. The opportunity to choose your close associates on the job.
6. Personal conveniences provided in the work area.
7. The amount of social contact required by the job.
8. The attention given to safety in your work area.
9. The respect that results from your rank and job.
10. The extent to which your supervisor brings out the best in his subordinates.
11. Your supervisor's knowledge of the way your job is done.
12. The need for frequent retraining within your specialty.
13. Chance to vary your work schedule when required to conduct personal business.
14. The chance to complete work that you start.
15. The adequacy of the information provided you on the Air Force promotion system.
16. The attitudes of civilians around your base toward the Air Force.
17. The opportunity to make and implement new suggestions.
18. The chance to know for yourself when you do a good job.
19. The efficiency with which your work time is allocated.
20. The opportunity to meet new people.
21. The noise level of your work environment.
22. The chance to be responsible for your own work.

23. The chance to improve the welfare of others.

24. Your training in where and how to get needed technical information.

25. Your personal relationship with your supervisor.

26. The priority given to your requests for supplies.

27. The demand for your skills in the civilian job market.

28. The regularity of your work schedule.

29. The pace of your work.

30. The amount of "red-tape" connected with your work.

31. The chance for meaningful social contact in your work.

32. The chance to try different methods on your own.

33. The chance to tell others what to do.

34. The opportunity for promotions in your career field.

35. The amount of time you spend in job-required communication.

36. The control your job gives you over material.

37. The availability of useful self-help training materials.

38. The way your job uses your abilities.

39. The way your unit handles required General Military Training and Physical Fitness testing.

40. The educational opportunities provided by the surrounding community.

41. The amount of pride your co-workers have in their work.

42. The opportunity to have some control over the time spent with others.

43. Amount of work space available.

44. The recognition you receive from your family for the work you do.

45. The chance to feel responsible for a total unit of work.

46. The security of your job.

47. The promptness with which equipment malfunctions are handled.

48. Your work schedule compared to the schedule of a typical civilian job.

49. Chance to engage in physical activity on the job.

50. Travel (PCS) opportunities for personnel in your specialty.

51. The BX and Commissary facilities at your base.

52. Your pay compared to what you could make on the outside.

34

53. The amount of exposure to unpleasant chemicals or gases.

54. The recognition your unit gives for good performance.

55. Your chance of getting additional training compared to others in your field.

56. The fairness with which your supervisor assigns work.

57. Chance to work in different types of situations.

58. The number of times your work schedule has interfered with personal plans.

59. Your unit's policy for assigning additional duties.

60. The cost of living in the area to which you are assigned.

61. The friendliness of your co-workers.

62. Amount of interesting work you get to do.

63. The challenge provided by your job.

64. The chance to do work that does not bother your conscience.

65. The protection provided by the Air Force Life Insurance program.

66. Your chance for promotion compared to others doing similar work.

67. The closeness with which you have to work with others.

68. Your physical safety on the job.

69. Your social position in the Air Force as a result of your job.

70. The instructional methods used in your training.

71. The pace of new developments in your field.

72. The similarity between your assignment and your assignment preference.

73. Your amount of effort compared to the effort of your co-workers.

74. The importance attached to your job by your co-workers.

75. The chance to work with different people if you want to.

76. Adequacy of lighting in the immediate work area.

77. The amount of cooperation required.

78. The feeling of economic security you have in the Air Force.

79. The status you have in the civilian community because of your job.

80. The ability of your supervisor to make decisions.

81. The flexibility of your work schedule.

82. Opportunity to always have something to do.

83. The frequency of reassignment for airmen in your specialty.

84. The facilities provided by the base.

85. The physical demands of your job.

86. Your fringe benefits compared to fringe benefits offered by a civilian job.

87. The cleanliness of your work environment.

88. The chance to help people.

89. The opportunity to use up-to-date equipment.

90. The chance to receive civilian educational credit for your military job training.

91. The chance to schedule your time-off.

92. The amount of work you have to do.

93. The frequency of overseas or remote assignments for your specialty.

94. The "know-how" of the people you work with.

95. The opportunity to perform activities which are morally acceptable.

96. The chance to be promoted on the basis of ability.

97. The level of danger in your job.

98. The competence of the instructors you have encountered.

99. The amount of work time spent learning about new procedures or equipment.

100. The chance to utilize your civilian education and training.

101. The opportunity to "wear several hats."

102. The adequacy of information you receive about unit policies.

103. The distance to your home of record.

104. The chance to work by yourself whenever you feel like it.

105. Normal temperature of your work environment.

106. The recognition co-workers give to your work.

107. Your chances of remaining on active duty until retirement if you want to.

108. The status given a military member by the civilian community.

109. The time of day that you go to work.

110. The amount of leave time you are allowed.

111. The way your supervisor handles subordinates.

112. The opportunity to decide for yourself how to accomplish your job.

113. The opportunity for you or your family to travel at military rates.

114. Convenience of the location of the work area to mess facilities and living quarters.

115. The extent to which you take the blame for others mistakes.

116. The importance of your job performance to the welfare of others.

117. The chance to make your grievances known.

118. The amount of non-scheduled work you have to do.

119. The leave policy of your unit.

120. The size of your base.

121. The importance of your work.

122. The chance to do things which do not violate your sense of right and wrong.

123. The amount of dependence on others to get the job done.

124. The pride your family has in your work.

125. The similarity between your training and the requirements of the job.

126. Chance to use your military training.

127. The feeling of accomplishment you get from your work.

128. The availability of information on Air Force policies and practices.

129. The size of the surrounding community.

130. The chance to work with other people.

131. The time pressures of your job.

132. The opportunity to associate with people you like.

133. The chance to receive community recognition for your work.

134. The on-base housing.

135. The way you supervisor trains subordinates.

136. The condition of the tools or equipment you use.

137. The chance to acquire valuable skills.

138. The number of hours you work per week.

139. The assignment possibilitites associated with your career field.

140. The weather at your base.

141. The chance to work at your own pace.

142. The additional duties associated with your job.

143. The quality of medical care provided by the Air Force.

144. The physical appearance of the work area.

145. The praise you get from your supervisor.

146. The chance to feel that you perform a service to others.

147. The training you have received to perform your current job.

148. The availabilty of necessary materials or supplies.

149. Chance to regularly perform a variety of tasks.

150. The frequency of slack periods on the job.

151. Travel (TDY) opportunities for personnel in your specialty.

152. The "spirit of teamwork" which exists between your co-workers.

153. The chance to avoid situations which violate your religious beliefs.

154. The retirement income you would receive from an Air Force career.

155. The Weighted Airman Promotion System (WAPS)

156. The adequacy of your training for meeting emergency situations.

157. The technical competence of your supervisor.

158. The opportunity provided by the Air Force for self-improvement education.

159. The chance to socialize with people whose work is different from yours.

160. The amount of responsibility for equipment or supplies.

161. The feelings you get from wearing the Air Force uniform.[2]

162. The chance to know where you stand with your supervisor.

163. The extent to which tools and equipment are shared by co-workers.

164. The chance to prepare for your eventual return to civilian life.

165. The opportunity to move around in your job.

166. The amount of paperwork required to do your job.

167. The extent to which those you work with "share the load."

168. The amount of "dirty-hand" work you do.

169. The amount of required telephone communication

170. The control your job gives you over people.

171. The way your supervisor evaluates your work.

172. Opportunity to vary your work methods or procedures.

[2]Item 161 was not included in the analysis.

173. The consideration given you as a person by the Air Force.

174. The recreational opportunitites provided by the surrounding community.

175. The amount of competition among your co-workers.

176. The cost of TDY versus the payment received.

177. Amount of time you must work in extreme temperatures.

178. Your knowledge of the operation of the Air Force promotion system.

179. The safety program in your unit.

180. Your organization's OJT training program.

181. The concern your supervisor shows for the welfare of subordinates.

182. The extent to which your military pay covers your living expenses.

183. The living and working conditions faced on TDY.

184. The amount of authorized time off for meals.

185. On-base and off-base transportation facilities.

186. The opportunity to get enough sleep during an average 24-hour day.

187. The quality of base quarters, barracks, or civilian housing in which you live.

188. The quality of food and availability of eating facilities at your base of location.

189. The opportunity for an off duty job.

190. Your work schedule.

APPENDIX B: BIBLIOGRAPHY OF OCCUPATIONAL ATTITUDE INVENTORY RELATED RESEARCH REPORTS

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APPENDIX C: IDENTIFICATION OF VOLUNTARY AND INVOLUNTARY SEPARATIONS: SPECIAL PROGRAM DESIGNATOR (SPD) CODES UNIQUE TO THE 1973 AND 1975 FIRST-TERM ENLISTED SAMPLES

SPD Classifications for Voluntary Separations from the Air Force

203: Separation or release on expiration of term of service (ETS).

221: Attrition, discharge-pregnancy.

318: Separation or release prior to ETS, for convenience of Government, conscientious objector.

411: Separation of release prior to ETS for convenience of Government when directed by HQ USAF, insufficient service retainablility for permanent change of station (PCS) (overseas returnees only).

413: Separation or release prior to ETS for convenience of Government when directed by HQ USAF, early release to attend school.

421: Separation or release, prior to ETS for convenience of Government when directed by HQ USAF, early release for Christmas.

710: Separation or release, prior to ETS for convenience of Government when directed by HQ USAF, early release of first-term airmen with selected skills and ETS dates.

715: Vol early release to serve with Air Force Reserve

716: Vol early release to serve with Air National Guard.

730: Separation or release prior to ETS for convenience of Government when directed by HQ USAF, insufficient service retainability for PCS (other than overseas returnees).

41E: Separation or release prior to ETS for convenience of government when directed by HQ USAF, obesity.

JBM: Discharge, overseas returnee having insufficient retainability for PCS.

JED: Separation, CONUS based airman having insufficient retainability for PCS.

KBK: Discharge at ETS.

KCF: Vol discharge: attend educational facility.

KCG: Separation, CONUS based airman insufficient retainability for PCS, voluntary discharge to accept employment in civilian law enforcement.

KCM: Vol discharge, conscientious objector.

KDB: Vol discharge, hardship

KDF: Vol discharge: pregnancy or childbirth.

KDM: Vol early discharge for Christmas authorized by HQ USAF.

KDQ: Vol discharge, Air Force nonfulfillment of enlistment agreement of promises.

KDR: Vol discharge, first-term airman strength reduction authorized by HQ USAF.

KND: Vol discharge, requested by member for miscellaneous reasons.

LBM: Release and transfer to Air Force Reserve, overseas and returnee having insufficient retainability for PCS.

LED. Release and transfer to Air Force Reserve, CONUS based airman having insufficient retainability for PCS.

MBK: Release and transfer to Air Force Reserve at obligated ETS.

MCF: Vol release and transfer to Air Force Reserve: attend educational facility.

MDM: Vol early release and transfer to Air Force Reserve for Christmas authorized by USAF.

MDR: Vol early release and transfer to Air Force Reserve, first-term airmen, strength reduction directed by HQ USAF.

MEA: Vol release and transfer to Air Force Reserve, from extended enlistment at original ETS.

MND: Vol release and transfer, to Air Force Reserve requested by member for miscellaneous reasons.

227: Attrition, discharge – hardship/dependency.

246: Attrition, request for discharge for the good of the service.

260: Attrition, unsuitability – inaptitude.

261: Attrition, unsuitability – inaptitude.

264: Attrition, unsuitability – character and behavior disorders.

265: Attrition, unsuitability – character and behavior disorders.

270: Retirement, physical disability retirement – placed on temporary disability retired list.

284: Attrition, misconduct – convicted by civil court during current term of military service.

292: Attrition, discharge – convicted by court martial – other than desertion.

386: Attrition, unfitness – and established pattern for shirking.

46A. Attrition, unsuitability – apathy, defective attitudes, and inability to expand effort constructively.

46C. Attrition, unsuitability – apathy, defective attitudes, and inability to expand effort constructively.

46D: Attrition, unsuitability – sexual deviate (aberrant tendencies).

474: Attrition, deaths – all causes.

490: Dropped from unit rolls, absent without leave, and desertion.

491: Dropped from unit rolls, as a prisoner, court martial (in custody of USAF authorities).

496: Dropped from unit rolls – prisoner, court martial (in US disciplinary barracks).

703. Separation or release prior to ETS for convenience of Government when directed by HQ USAF, marginal producer.

DFS: Resignation for the good of the service.

GKA. Invol discharge. misconduct, frequent involvement of a discreditable nature with civil or military authorities.

GKB: Invol discharge: misconduct, civil court disposition.

GKK. Invol discharge: misconduct, drug abuse.

GMB: Invol discharge, unsuitability, personality disorder.

GMG: Invol discharge, unsuitability, failure in alcohol abuse treatment and rehabilitation program.

GMH: Invol discharge, unsuitability, financial irresponsibility.

HFT: Invol discharge for exceeding Air Force weight standards.

HKA: Invol discharge: misconduct, frequent involvement of a discreditable nature with civil or military authorities.

HKB: Invol discharge, unfitness, frequent involvment of a discreditable nature with civil or military authorities.

HKC: Invol discharge: misconduct, homosexual acts.

HKG: Invol discharge: misconduct, fraudulent enlistment.

HKK: Invol discharge: misconduct, drug abuse.

HKL: Invol discharge: misconduct, sexual perversion.

HLB: Invol discharge, unfitness, frequent involvment of a discreditable nature with civil or military authorities.

HLC: Invol discharge, unfitness, homosexual acts.

HLF: Invol discharge, unfitness, drug abuse.

HMB: Invol discharge, unsuitability, personality disorder.

HMF: Invol discharge, unsuitability, aberrant tendencies.

HMH: Invol discharge, unsuitability, financial irresponsibility.

HMJ: Invol discharge, unsuitability, apathy, defective attitude, or inability to expend effort constructively.

HML: Invol discharge, unsuitability, (pre-service homosexual act) (homosexual tendencies).

HMM: Invol discharge, unsuitability, personal abuse of drugs (other than alcoholic beverages).

JEM: Invol discharge, marginal or nonproductive performer while assigned to an organizational unit.

JFL: Discharge by reason of physical disability with entitlement to severance pay.

JFM: Discharge by reason of physical disability which existed prior to service, not entitled to severance pay.

JGH: Invol discharge, minimally productive/limited potential airman.

JJD: Conviction by court martial: other than desertion.

JMB: Invol discharge: unsuitability, personality disorder.

JMH: Invol discharge, unsuitability, financial irresponsibility.

JMJ: Invol discharge, unsuitability, apathy, defective attitude, inability to expend effort constructively.

JMM: Invol discharge, unsuitability, personal abuse of drugs (other than alcoholic beverages).

JPB: Invol discharge, unsuitability, personal abuse of drugs (other than alcoholic beverages).

JI0: Invol discharge: withdrawal of AFSC, non-retainable for required retraining.

KFS: Discharge: request for discharge in lieu of trial by court martial.

SFJ: Retirement, permanent physical disability.

SFK: Placement on the temporary disability retired list.