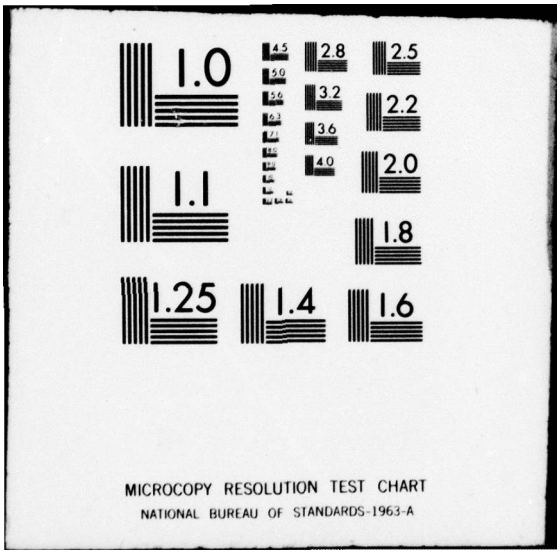
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RETENTION OF MAC STRATEGIC AIRLIFT PILOTS: AN ANALYSIS OF THE STRATEGIC AIRLIFT AIRCREW SURVEY

THESIS

GSM/SM/78S-13 Steven Knudsen
Capt USAF

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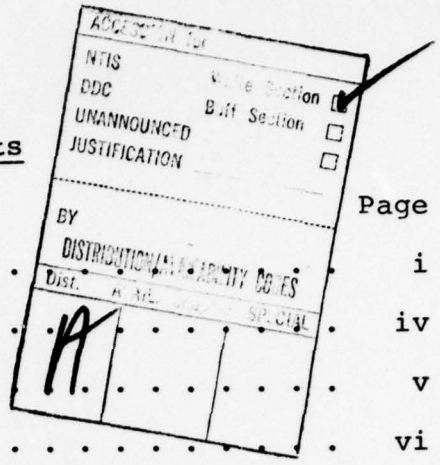
Preface

This thesis was prepared as partial fulfillment of the requirements for a master of science degree in Systems Management from the Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio. Of the several reasons for this research, the most pressing was the fact that it was required for graduation. In addition to that reason the writer was also interested in the problem of low retention of MAC pilots because of his previous experience as a pilot in MAC and his expectations of returning to that command following his assignment in the rated supplement.

The results of this research are derived, for the most part, from generally accepted statistical procedures. Where the writer has expressed his own opinions and conjectures he has tried to identify them by such key words as "may, might, or the writer believes." All responsibility for errors in this research rests entirely on the writer, since no one else has volunteered to share the blame.

Many thanks go to Dr. T. Roger Manley, my thesis advisor, for his guidance and direction throughout this effort. I also thank Dr. Charles W. McNichols, thesis reader, for his suggestions and advice regarding the statistical and computer techniques employed in this study. My wife, Teri, deserves special thanks for her patience, encouragement, and typing assistance.

Steven Knudsen



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Abstract

This study analyzes the career intent of MAC strategic airlift pilots with less than eight years service. The data were obtained from the Strategic Airlift Aircrew Survey conducted in November, 1977. The study employed factor analysis, the Automatic Interaction Detection algorithm (AID), multiple linear regression, and selected subroutines from the Statistical Package for the Social Sciences (SPSS) as a means of relating career intent to a variety of possible predictors.

The analysis results were not very conclusive in that less than half of the variance in the career intent question was explained by the predictor set. The writer believes that these unclear results are due primarily to the complexity of the causal factors. Several survey questions also had very skewed distributions, so that although a problem was clearly identified, the question was not useful as a predictor of career intent.

While acknowledging the limitations of the low explanatory power of the predictors found in this study, the most powerful predictors of career intent that were found include:

- Interest in the airlines,
- Importance of the Air Force as an institution,
- Flying pay as an incentive, and
- Lack of concern for the individual.

RETENTION OF MAC STRATEGIC AIRLIFT PILOTS: AN ANALYSIS OF THE STRATEGIC AIRLIFT AIRCREW SURVEY

I. INTRODUCTION

Background for Study

In addition to direct combat missions such as air superiority, strategic bombardment, and close air support of ground forces, the Air Force has been tasked to provide air transportation for all of the military services. This mission includes the rapid transportation of personnel, weapons, equipment, and supplies in support of military operations anywhere in the world, and has been assigned specifically to the Military Airlift Command (MAC).

MAC performs this mission by using several types of aircraft each of which is designed to perform a particular phase of the airlift mission. For instance, intratheater or tactical airlift, which involves operations into short, often unimproved, runways relies primarily on the C-130 Hercules. In contrast, MAC uses a fleet of heavy jet aircraft composed of C-141 Starlifter and C-5 Galaxy aircraft to perform its intertheater or strategic airlift mission. The ability of these aircraft to transport our military forces and supplies quickly in response to contingencies makes them a valuable means of deterrence and as such a valuable asset of our national defense.

These aircraft and this airlift capability are dependent on one of MAC's most valuable resources, its aircrew force, which is made up of pilots, navigators, flight engineers, and loadmasters. They are valuable in the sense that they have been highly trained and have the experience necessary to operate these sophisticated aircraft safely and efficiently anywhere in the world. The training and experience are not only valuable in the sense of an expressed capability, but also represent a considerable investment in training cost and time.

Currently the Air Force is experiencing significant retention problems with a part of these human resources, the MAC pilots. As noted by an official at MAC Headquarters, "the retention rate of pilots in the strategic airlift world is the lowest in the Air Force." (Jones, 1977:507) This point is substantiated by representative continuation statistics developed by the Rated Distribution and Training Management Section of the Air Force Military Personnel Center (AFMPC) at Randolph AFB, Texas:

Years	Strategic Airlift Pilots	Air Force Pilots
1975-76	45.8%	60.4%
1976-77	44.7%	62.5%

These figures show the percentage of pilots who continued beyond their initial commitment which they incurred from pilot training. Only those pilots who would have completed their initial commitments during each two-year time period

are considered in the computations. These figures do not address losses among those pilots who are beyond their initial commitments. Traditionally these losses have been fairly constant, since those people who wish to leave the Air Force generally do so at the end of their initial commitment. However, during the year ending in March, 1978, MAC experienced the loss of 77% of its pilots in the six through eleven year group. (MPCROR5, 1978). The reader is cautioned that these figures are not directly comparable to the above statistics since the shorter time period does not tend to smooth short term fluctuations as the two-year data is smoothed. However, these figures and discussions with personnel officials at both MAC and Air Force Headquarters lead the writer to conclude that the retention problem among strategic airlift pilots has become quite serious and will not correct itself in the near future.

The Air Force and MAC have already shown considerable interest in the problem of strategic airlift pilot retention. This interest is reflected in one study conducted in November, 1977 by the Leadership and Motiviation Division of the DCS-Personnel at USAF Headquarters. This study administered a survey and conducted extensive interviews to measure the feasibility of using job enrichment to improve job satisfaction among MAC pilots. This work indicated that job enrichment could be used to improve the jobs of the pilots; however, a delay in the implementation of job enrichment was recommended because a number of other changes being considered or currently

implemented made the environment unsuitable for job enrichment. This program will be reconsidered at a later date.

Another more broadly based survey was also conducted in late 1977 by the Airlift Manning Center at AFMPC. This survey, titled the "Strategic Airlift Aircrew Survey" USAF SCN 77-157, was "conducted to obtain opinions and attitudes of strategic airlift aircrew members concerning their career area." (SAAS:i)

Purpose of the Report

In this report an attempt will be made to shed more light on some of the causal factors influencing career decisions by MAC pilots. In addition to identifying these causal factors, the relative importance of each factor and some of the interrelationships among the causal factors will also be examined.

A secondary objective is to provide the writer with a learning experience through the application of several of the analytical techniques and methods presented in earlier course work.

Basis for the Study

The primary basis for this study will be the data resulting from the "Strategic Airlift Aircrew Survey" (SAAS) mentioned above. This survey was distributed to aircrew members of all C-141 and C-5 squadrons, except the two C-141 squadrons which participated in the job enrichment testing described previously. The survey resulted in 2032 completed surveys

representing crew members from each of the four crew positions. Of these, 745 responses came from pilots who ranged in rank from Second Lieutenant to Colonel. By subdividing the group further, 343 pilots were found who had completed six or less years of active military service. These pilots are herein defined as "first-term pilots" and will be one of the primary points of focus for this study, since, as discussed later, several other AFIT studies have used such a group.

Limitations

1. As mentioned above, the "Strategic Airlift Aircrew Survey" will be the primary source of information concerning attitudes and opinions of the MAC aircrew members.

2. The survey, while an efficient means of gathering large amounts of data, may not allow an expression of true feelings of the respondents. Only the answers provided in the survey are available for use.

3. The data could be affected by local bias, in that a person's responses could be influenced by his emotional or physical feelings on the day he completed the survey.

4. Since the respondents were guaranteed anonymity, no follow-up study of particular responses is possible.

Assumptions

The assumptions on which this study is based are:

1. The people who responded with usable answers to the survey are representative of the population of strategic airlift pilots.

2. The survey data are valid. This assumption is necessary since the writer had nothing to do with the preparation of the survey or the collection of the data.

3. The responses to the survey questions are honest. There was no intentional "gaming" on the part of the participants.

4. Stated career intent will be reflected in consistent actions. That is, those individuals who indciate an intention to separate from the Air Force before retirement will do so, (Shenk and Wilborne, 1971; Alley and Gould, 1975; Waters, Roach, and Waters, 1976). This assumption will be discussed further in the next chapter.

Recent Related Research

During recent years several AFIT students have addressed the topics of job satisfaction and career intent. Thompson (1975) studied many aspects and predictors of job satisfaction in the Air Force. In addition he also attempted to relate job satisfaction to career intent. He found little difference in the principle determinants of job satisfaction among the different groups of Air Force personnel in his study. He also found job satisfaction greatly affected career intent for people with less than eight years of service.

Vrooman (1976) analyzed the factors associated with job satisfaction and career intent for people with less than six years service in the Air Force. Using the same data base as Thompson, he found similar results. He went on to hypothesize that career intent was a function of job satisfaction, but not vice versa.

Finally, Patterson (1977), using a similar survey instrument that was administered two years later to another large random sample of Air Force personnel, studied job satisfaction and career intent for first-term people only. He carefully defined first-term people by selecting non-rated people with less than four years service and rated officers (pilots and navigatiors) with less than six years service.

This study uses several of the same analytical techniques and assumptions as the above cited research efforts. Care is also taken to differentiate first-term pilots from any larger analysis group. Finally, although the issue of job satisfaction is not addressed directly as a criterion variable, it is discussed and considered as a possible predictor of career intent among the sample population.

II. CONCEPTUAL BACKGROUND

Introduction

This chapter is intended to provide the reader with a brief summary of some of the diverse research, concepts, and theories related to career intent and turnover. Two of these concepts, job satisfaction and organizational climate, will be discussed first since they are often cited in relation to turnover and are themselves the sources of some confusion and disagreement.

Job Satisfaction

Job satisfaction has been a topic of considerable interest to researchers in the fields of organizational psychology and management. Some of the most important early work in this area was done by Robert Hoppock (1935). He conducted surveys and interviews with several different groups of people to find ways to measure job satisfaction and determine its underlying causes. Although his work was limited by the lack of modern data processing equipment and methods, he proposed some interesting theories about the measurement of job satisfaction which he left for future researchers to prove or disprove.

Hoppock felt that asking an employee directly if he was satisfied in his job was one of the best means of measuring overall job satisfaction. He felt that each individual could best apply his own values and priorities

to the many aspects and factors which affect job satisfaction. But the limitation of this approach was that no information was provided to indicate why the worker was satisfied or dissatisfied.

Another approach used separately or in conjunction with directly measuring job satisfaction, involves measuring several job related factors and attitudes. This technique has been used extensively in the Job Description Index (JDI) developed by Smith, Kendall, and Hulin (1969). The JDI instrument assesses five dimensions of job satisfaction: work, pay, promotion opportunities, supervision, and co-workers. These researchers state,

> "By choice we have given priority to the five areas mentioned above, and we have eliminated factors dealing with general company policies, general satisfaction or morale, and general satisfaction with the company as a place to work. While recognizing the incompleteness of our list of factors, we nevertheless feel that these five areas of satisfaction are of primary importance across the range of conditions we wish to study." (Smith, et al.: 30)

This approach to measuring job satisfaction does not evaluate an overall level of job satisfaction, but does measure satisfaction with different aspects of the job. Although this approach is quite different from the direct measuring of Hoppock both approaches have been accepted and used by researchers.

Smith et al. present no theory about the causes of job satisfaction except that it results from the interaction of

individual and situational variables. In spite of this, several theories do exist that attempt to describe the basic causes of job satisfaction. Some of the best known theories are directly related to motiviation, such as the Need Fullfillment Theory as described by Maslow's Hierarchy of Needs (1943), the Two-Factor Theory of Herzberg et al. (1959), and the Expectancy-Instrumentality Theories of Vroom (1964). Each of these theories has had its share of proponents and detractors, but no one can claim that his theory completely explains why people are motiviated or why they are satisfied. However, these theories help us better understand at least some of the causes and relationships of job satisfaction. The work of these different researchers over the years has produced a long list of causes of job satisfaction. These causes include autonomy, challenge, skill variety, significance of the work, the nature of the work itself, wages, supervision, co-worker relations, personal needs and many others. From a practical standpoint some of these variables are clearly beyond the control of managers or companies, however, some of them deserve careful consideration as possible avenues toward increased job satisfaction.

Organizational Climate

There has been some confusion in recent years about the possible overlap of job satisfaction and organizational climate. Such confusion is understandable in light of some of the different definitions of these factors and methods

employed by researchers. Schneider and Snyder (1975) explored some of the relationships between the two factors and felt that distinctions could be made if the variables were properly conceptualized. These authors offered the following distinctions:

> 1. Organizational climate is most adequately conceptualized as a summary perception which people have of (or about) an organization. It is, then, a global impression of what the organization is.
>
> 2. Job satisfaction is most adequately conceptualized as a personalistic evaluation of conditions existing on the job (work, supervision) or outcomes that arise as a result of having a job (pay, security). (Schneider and Synder:318)

These differences, perception versus evaluation, if properly utilized in the development of questionnaires should help to maintain the clarity of distinction between organizational climate and job satisfaction. Schneider and Snyder used an organizational climate questionnaire in conjunction with two job satisfaction instruments in a study of insurance agency employees. The results supported their hypotheses that people should show more agreement concerning climate perceptions than satisfaction evaluation and that there should be no necessary correlation between the climate and satisfaction measures. (Schneider and Snyder:326)

With these distinctions in mind, the discussion will now move to the topics of career intent, turnover, and the interrelations with job satisfaction and organizational climate.

Career Intent and Retention Studies

In studies of turnover or retention many researchers have the time necessary to evaluate their questionnaire data in terms of actual turnover that occurs in the years following the survey (Protor, et al., 1976; Kraut, 1975; Alley and Gould, 1975; Waters et al. 1976). Due to time constraints and the guaranteed anonymity of the respondents, the present study is denied this luxury. Fortunately, considerable research regarding the relationship between stated career intent and turnover has shown that career intent can be used as a substitute for actual turnover data.

Shenk and Wilbourn (1971) in a study of 4006 Air Force junior officers found that 89% of those officers responding with "definitely yes" to a career intent question actually remained in the Air Force byeond their initial commitment. Likewise 93% of those responding with "definitely no" to the same question separated from the Air Force. Alley and Gould (1975) in a study of first term enlisted Air Force personnel found an increasing tendency to re-enlist among those with more positive career intent. Of those surveyed in their fourth year of service, 76% of the "definitely yes" category re-enlisted versus on 4% of those who responded with "definitely no."

In the civilian world Kraut (1975) as well as Waters, Roach, and Waters (1976) found similar results. Admittedly, the sample populations in these studies were much smaller than

the above cited Air Force studies, nevertheless, these studies point out that stated career intent is quite strongly related to actual turnover.

On the basis of these results, career intent will be used as a substitute for actual turnover data in this study.

Turnover Research

Several theories have been advanced and many studies have been conducted in order to better explain the causes of turnover. Vroom (1964) cited several early studies which found relationships between turnover and autonomy, feedback on work performance, and job satisfaction. In the area of job satisfaction and turnover, these early studies showed a consistently negative relationship, although the magnitude and significance varied considerably. Vroom therefore hypothesized that better turnover predictions might result if one could measure a person's desire for a different job and his expectancy of attaining that job. (Vroom:175-178)

One explanation for the relatively weak relationship between job satisfaction and turnover has been suggested by William H. Mobley (1977). He proposed a heuristic model that included several intermediate steps between the experience of dissatisfaction with the job and the act of quitting. These steps included:

A. Evaluation of existing job,
B. Experienced job satisfaction-dissatisfaction,
C. Thinking of quitting,

D. Evaluation of expected utility of search and cost of quitting,
E. Intention to search for alternatives,
F. Search for alternatives,
G. Evaluation of alternatives,
H. Comparison of alternatives vs. present job,
I. Intention to quit/stay,
J. Quit/Stay.

Mobley recognized that these particular steps might not always apply to every worker, and he allowed for possible entries and exits from this sequence at several points. However, he believed that a model of this type might be quite useful in formulating future research efforts to include possible intermediate linkages between job satisfaction and employee turnover (Mobley:237-240).

In a study of Navy junior officers Proctor, Lassiter and Soyers (1976) found they could quite accurately predict turnover given the responses of a junior officer to an organizational climate survey and his average fitness report score. They felt that these results showed that the decision to stay was influenced not only by the perceptions of the individual about the organization, but also the organization's perceptions about the individual as reflected in the fitness reports.

In contrast, the study of Schneider and Synder (1975) comparing job satisfaction and organizational climate, found job satisfaction to be a better predictor of turnover than organizational climate. While neither the relationship of turnover to job satisfaction or organizational climate was particularly strong, in their particular study using the

Agency Climate Questionnaire (Schneider, 1972) job satisfaction proved to be the slightly better predictor.

In a comprehensive literature review Porter and Steers (1973) brought together a large number of studies for comparison. They classified into four categories or levels some of the more important variables related to turnover:

1. Organization-wide factors (pay and promotion policies)
2. Immediate work group (unit size, supervision, worker relations)
3. Job content (nature of job requirements)
4. Personal factors (age, tenure, vocational interest, family responsibilities)

They concluded on the basis of these categories of variables that "the major roots of turnover appear to be fairly widespread throughout the various facets of organizational structure, as they interact with particular types of individuals." (Porter and Steers:169).

In contrast to many studies involving turnover, Flowers and Hughes (1973) tried to determine why employees stay on a job. The found the basic factor to be "inertia", that is, an employee will stay on a job until some force or combination of forces causes him to leave. They identified two relevant factors within the company and two relevant factors outside the company that could affect the inertia of a worker. The two factors within the company were job satisfaction and the company's "environment", the values of the company, its policies, and procedures. They claimed that environment

interacts with the values of the worker to stregthen or weaken the worker's inertia. The two inertia factors outside the comapny included other perceived employment opportunities and nonwork factors such as financial responsibilities, family ties, friendships, and community relations. (Flowers and Hughes:50-51)

Flowers and Hughes also found that various employee groups stayed for different kinds of reasons. Managers generally listed work related motivational reasons, whereas laborers more often listed benefits and nonwork related reasons. As a result the authors suggested that managers would improve retention of employees by selectively reinforcing the right reasons such as providing working conditions compatible with the employees' values. These "right" reasons would support the goals of the company and keep the employee on the job. Similarly, the company should avoid reinforcing the "wrong" reasons, those which benefit neither the individual nor the company. For example, it should not support rewards such as benefits, stock options, or early retirement which cause the worker to remain because he feels he must rather than because he wants to stay. (Flowers and Hughes:51)

Finally, in the vein of managing turnover Saul Gellerman writes, "The best motiviation for any employee is to be doing work he wants to do in an organization that wants him to be doing it." However, Gellerman also warns that management

must consider the time dimension, that is, if either condition changes turnover may be the best alternative. (Gellerman: 52)

Summary

This chapter has attempted to provide a brief background in some of the important theories and factors related to career intent and turnover. Two of the factors, job satisfaction and organizational climate, were also discussed to clarify their differences. These basic differences relate to the descriptive nature of organizational climate and the evaluative nature of job satisfaction. Finally, the various factors affecting the turnover decision were discussed and shown to involve many factors both on and off the job.

III. METHODOLOGY

Introduction

Since the primary purpose of this study is to analyze the relationships between career intent and the attitudes of the strategic airlift pilots in MAC, this chapter will describe the methods and techniques used in the analysis. A basic plan will also be presented showing how the different methods were employed. At various points in the chapter short explanations will be included of the rational used in some of the necessary decisions.

The Survey Instrument

This study is based on the results of the "Strategic Airlift Aircrew Survey" (SAAS) which was prepared by the Air-Lift Manning Center of AFMPC. The survey was administered to all of the C-141 and C-5 squadrons in MAC, except for two C-141 squadrons which had participated in a different survey. Of the 3469 crewmembers surveyed, 2021 returned questionnaires for an overall response rate of 58%.

The survey consisted of 152 demographic and attitudinal questions. The demographis included:

1. Grade
2. Years of active military service
3. Current aircrew qualification level
4. Time in current aircrew qualification
5. Time in current squadron
6. Total flying hours
7. Years as crewmember (since UPT)
8. Current military status
9. Additional duty

10. Martial status
11. Most recent OER rating
12. Squadron
13. Base
14. Days per month spent TDY
15. Days per month in additional duty

The attitudinal questions covered a wide range of areas both common to all major commands and unique to MAC. These questions addressed the following general types of factors:

1. Job (autonomy, job satisfaction, prestige)
2. Unit (supervision, chain of command, recognition)
3. Management (scheduling, equity, enroute management)
4. Air Force (benefits, flying pay)
5. Outside influences (reserves, airlines)

A complete copy of the survey instrument is provided as Appendix A.

Sample Population

The sample population of interest, all MAC strategic airlift pilots, was extracted from the data base using the criteria of rank and aircrew qualification. This double criterion was used to help ensure that those who identified themselves as pilots actually were pilots. The study sample is shown below in relation to the total pilot force in MAC, at the time of the survey.

Group	Group Size	Number Respondents	Responding
C-141 pilots	925	575	62%
C-5 pilots	227	165	73%
Total	1152	740	64%

The 740 pilots responding to the survey included officers of all ranks from second lieutenant to colonel, with the majority (61%) captains. Each of the six bases was well represented as shown in Table I. The relatively low number of respondents from Dover AFB, Delaware can, in part, be attributed to the fact that only two squadrons (C-5) are stationed there instead of three or four squadrons assigned to the other bases.

Table I

Percent of Total Pilots
Sampled by Base Assigned

Base	Percent of Total Responses
Charleston	21.1%
Dover AFB	10.3%
McChord AFB	14.5%
McGuire AFB	16.0%
Norton AFB	18.4%
Travis AFB	19.7%

Analysis Groups

In some past AFIT studies of career intent (Vrooman, 1976: Patterson, 1977) the emphasis has been placed on studying those officers with less than six years service or on their initial commitments. This approach seems reasonable since the act of continuing beyond the initial commitment or separating from the Air Force constitutes a very real decision regarding one's career. Indeed, the retention rates cited in Chapter I indicate that the majority of MAC

strategic airlift pilots do separate at the end of their first commitment. Therefore, study of first-term pilots will be accomplished to facilitate comparisons with the above studies, and will be treated as one analysis group.

It is believed by this writer, however, that it would be a mistake to ignore those pilots already beyond their initial commitments. It is the writer's suspicion that a significant proportion may be presently considering separation from the Air Force. This belief is based on both personal experience as a MAC line pilot and the knowledge that there has been a recent upsurge in hiring of pilots by the commercial airlines. This latter consideration is further complicated by projections that these hirings will continue for the next several years (North, 1978:14). Although a point may well be reached in an officer's military career when he believes that he has invested too many years service to forego the twenty-year retirement benefits by separation from the Air Force, this "golden handcuffs" effect of the twenty years retirement may be in the process of being delayed or weakened by a combination of airline hiring policies and proposed changes to the retirement system.

In order to take this effect into account, years service was used as a predictor of career intent in an AID computer run (a technique described in the next section). The computer program divided the sample population into two groups based on years service at the eight year point. Since this

split was the most significant split possible using years service as a predictor variable, this point was used in defining the second group identified within the data base for purposes of analysis. The two analysis groups for study, then, are described as follows:

	Years Service	Group Size
Group 1	less than 6 years	343
Group 2	less than 8 years	435

Analysis Techniques

The analysis of the data from the SAAS was performed using Factor Analysis, the Automatic Interaction Detection algorithm (AID), Regression Analysis, and selected subprograms from the Statistical Package for Social Sciences (Nie, et al., 1975). Each technique is briefly described below in general terms and as specifically applied in this study.

Factor Analysis. This analytical method is generally used to "see whether some underlying patter of relationships exists such that the data may be 'rearranged' or 'reduced' to a smaller set of factors or components that may be taken as source variables accounting for observed interrelations in the data" (Nie, et al.:469).

The method may be used in a number of applications which include:

1) exploratory uses--the exploration and detection of patterning of variables with a view to the discovery of new concepts and a possible reduction of the data.

2) confirmatory uses--testing of hypotheses about the structuring of variables in terms of the expected number of significant factors or factor loadings.

3) Uses as a measuring device--the construction of indices to be used as new variables in later analysis. (Nie et al.:469)

This study used factor analysis to seek a simplification of the data and to construct indices to be used as new variables. This was accomplished through the use of the principal-component technique which produces factors that are uncorrelated with each other. That is, each factor indentifies a separate dimension of the data. This approach makes no assumptions about the underlying structure of the data and produces a set of factors that are often easy to interpret. The interpretation of the factors is based on analyzing the factor "loadings", which are correlations between a given factor and the variables used as inputs. A factor can be identified as representing and measuring some underlying concept if that concept is addressed by each variable that has a high loading on that factor. Examples of concepts addressed by factors in this survey are job satisfaction, supervision, and autonomy.

As mentioned above, another purpose of using factor analysis is to create new variables or indices that measure the underlying factor. These indices were created for use in subsequent analyses. The advantage or purpose for doing this is to combine the questions that address a common underlying factor so that the factor will utilize the explanatory

power of each variable. If factor analysis were not used, the AID and Regression analysis might select only the most powerful question addressing a particular factor and ignore other questions which are highly correlated with that powerful question. Thus, by using factor analysis the complexity of the set of predictor variables is reduced and the explanatory power of the predictors is retained.

AID. The AID algorithm was selected as the primary means of studying the predictor variables related to the career intent decision, because it is a tested "relationship explaining" technique which is very well suited for studying survey data. Perhaps the most attractive feature of AID is its ability to easily use nominal and ordinal scaled predictor variables without any assumptions about linearity or additivity. It is also capable of detecting interactive effects that cannot be easily found using only Regression analysis. This capability to detect interaction of variables can also indicate when Regression is appropriate (Sonquist, 1970:181).

AID, as developed by Sonquist and Morgan (1964), is based on the one way Analysis of Variance model. Given the initial sample group and the mean value of the criterion variable of interest for that group, AID searches through the list of predictor variables for the one variable that best explains the variance in the criterion variable. AID then divides the group into two subgroups each of which now has a new mean value for the criterion variable. The objective of each split in this iterative process is to provide

the greatest reduction in the Unexplained Sum of Squares (WSS) for the criterion variable. Since the Total Sum of Squares (TSS) about the mean of the criterion variable for the sample population is constant, each split will increase the R^2 (percent variance explained), which is equal to the Explained Sum of Squares (BSS) divided by TSS. For each split a cumulative level of significance is calculated using an "F"-test. This iterative process of splitting groups into subgroups continues until one of the stopping criteria is reached. These criteria involve preset values for the minimum number of cases in each subgroup, the maximum number of groups, or a minimum reduction in WSS to be realized by further splits. (Sonquist and Morgan, 1964: Thompson, 1975; Scoville, 1976)

Another major advantage of the AID program is that it presents the results of the splitting process in a "tree" structure comprised of information blocks. Each information block, which represents a subgroup, includes: the group number, group size, mean and standard deviation of the criterion, R^2, significance level, predictor label, and the values of the predictor variable represented in the subgroup. An example of an AID tree output is shown in Figure 1.

Regression. It is felt that regression analysis is a very common technique that requires no lengthy explanation other than how and why it was used in this study. The particular method used in this study is step-wise regression,

which means that variables are selected for inclusion in the regression equation sequentially, based on their explanatory power. Pairwise deletion of missing data was used. That is, a case with a missing value for a particular variable was excluded from calculations involving that variable, but the case was retained for use in all other calculations. The writer believed that this would not significantly distort the results and was preferable to losing a considerable amount of available data through list-wise deletion which completely deletes a case with any missing data. Further descriptions of regression analysis may be found in Chapter 20 of the SPSS manual (Nie et al., 1975).

Regression analysis was included in this study for several reasons. First, it was used for defining an exact functional relationship between the predictor variables and the criterion variable, an output not provided by AID. This functional relationship is useful in determining the relative strength and importance of the various predictors. The second purpose was to provide a second form of analysis for comparison with the AID results. Finally, regression is included to assist those readers who are less familiar with the AID method of analysis.

Other Analytical Techniques. The two other analytical techniques used in this study are CROSSTABS and FREQUENCIES from SPSS. (Nie, et al., 1975)

Subprogram Crosstabs computes and displays in table form a joint frequency distribution of cases according to

two or more variables. The program also computes a series of descriptive statistics which measure association and test statistical significance. This program was used to display career intent versus years service and other demographics in the survey.

Frequencies is a subprogram that displays the number of cases responding to each of the possible answers for each question or variable. The program was used initially to check the data for completeness and to insure all responses were within the valid range for each question.

Analysis

The basic plan for the analysis of career intent involved the use of the three major analytic methods described above: factor analysis, AID, and regression analysis.

Although the use of factor analysis in some of the AFIT career intent studies has been limited to validation of the Hoppock job satisfaction scales (Patterson, 1977) or not used at all (Thompson, 1975), this writer believed that it might be quite useful in simplifying the set of predictor variables.

After the survey results had been factor analyzed and the new predictor variables had been formed, AID and

regression analysis were used to identify those variables that best predicted career intent among the sample.

As mentioned above, the CROSSTABS and FREQUENCIES were also used to investigate other relationshps to career intent among the demographic variables. The results of these analyses are presented in Chapter IV, while discussion about these findings and their interrelationships is reserved for Chapter V.

Selection of Variables

The survey instrument contained in addition to demographic and general attitudinal questions a set of questions dealing with reasons for separation from the Air Force. Since this set of questions was not compatible with the analysis methods used on the other attitudinal questions, it was analyzed using the FREQUENCIES subroutine from SPSS to present percentages of pilots responding to each reason.

The demographics, as mentioned above, were also treated separately using CROSSTABS to relate each question to career intent.

The remaining survey questions dealt with attitudes and were factor analyzed. This analysis was conducted in three parts due to the large number of questions and differences in allowable responses. One special set of questions (Q130-144) was analyzed separately because this set had been taken from the Job Descriptive Survey by Hackman and Oldham (1974). Another set of questions with unique responses included

questions 111 to 128. This set dealt with the relative importance of many aspects of working in the Air Force and their impacts on the decision to spearate or remain to retirement. The remaining questions, most of which required agree-disagree types of responses, were factor analyzed in a third analysis to complete the new predictor set.

Elimination of Variables

Two questions, 80 and 82, were eliminated from the analysis due to the fact that in preliminary factor analyses these questions loaded onto separate factors with no other questions to support the definition of the factor. A check of the correlation between these questions career intent revealed the following:

$$r_{14,80} = .1015$$

$$r_{14,82} = -.1304$$

The writer concluded that elimination of these questions would simplify the factor analysis with negligible loss in predictive power.

IV. RESULTS

Introduction

This chapter presents the results of each part of the analysis. The first section describes the results of analyzing the demographic questions. These are intended to lend support to the assumptions about the data base and to explore any significant relationships with career intent. The second section presents the results of the questions dealing with stated reasons for separation from the Air Force. The last three sections deal with the attitudinal questions and the results of the factor analysis, AID, and regression results.

Demographic Variables

The analysis of the demographic variables was performed using the subroutines FREQUENCIES and CROSSTABS from SPSS (Nie et al., 1975) and are presented here for two basic reasons. The first reason is to lend support to the assumption that the data sample is representative of the population of strategic airlift pilots. The second reason is to describe the relationships that exist between the demographic variables and career intent.

Representativeness of the Sample. The representativeness of the sample is supported by several questions as displayed in Table II. Question 3 asks for the crew qualification level of the respondent. Analysis of the responses shows relatively large groups of copilots, first pilots and

aircraft commanders compared to much smaller groups of instructor pilots and flight examiners. The last column presents the distribution of all pilots flying C-141 aircraft in Military Airlift Command. Although separate percentages for the first pilot and copilot categories were not available to the writer, these figures still show a close correspondence with the distributions of the analysis groups.

Question 12 asks the respondent to identify the rating he received on his most recent Officer Effectiveness Report. Given that during the time preceeding the survey the rating distribution of "1's" and "2's" were specified by regulation at 22% and 28% respectively, the percentages reflected by question 12 of 22.1% and 22.8% seem to support the representativeness of the sample. That is, the sample consists of more than just the "top performers" in each squadron.

Finally an examination of question 13 reveals that each strategic airlift squadron in MAC was represented as might be expected given the following conditions. The 18th Military Airlift Squadron (MAS) and 86th MAS are not represented, because the squadrons participated in a different survey. The very low number of responses from the 3rd MAS, 9th MAS, 22nd MAS and 75th MAS (all C-5 squadrons) can be accounted for by the fact that very few pilots in these squadrons have less than eight years service. This is most likely a result of personnel policies such as the requirement that all pilots flying C-5 have at least 2000 hours flying time.

Table II

Responses to Selected Demographic Questions

	8 Years		6 Years		MAC C-141 Line Manning
Q 3 Qualification Level	No.	%	No.	%	%
1. Flight Examiner	25	5.8	11	3.2	4.9
2. Instructor	62	14.3	39	11.4	10.5
3. Aircraft Commander	120	27.7	96	28.0	27.6
4. First Pilot	103	23.8	92	26.8	57.0
5. Copilot	123	28.4	105	30.6	
	433	100.0	343	100.0	100.0
Q 12 Last OER	No.	%	No.	%	
1. N/A Enlisted	3	.7	2	.6	
2. No OER	15	3.5	15	4.4	
3. 1	95	22.0	75	21.9	
4. 2	98	22.7	80	23.4	
5. 3	116	26.9	91	26.6	
6. Abbreviated	47	10.9	37	10.8	
7. Don't Know	57	13.2	42	12.3	
	431	100.0	342	100.0	
Q 13 Squadron	No.	%	No.	%	
1. 3MAS (C-5)	3	.7	--	--	
2. 4MAS	43	10.0	37	10.8	
3. 6MAS	47	10.9	31	9.1	
4. 7MAS	37	8.6	31	9.1	
5. 8MAS	38	8.8	32	9.4	
6. 9MAS (C-5)	--	--	--	--	
7. 14MAS	27	6.3	22	6.4	
8. 15MAS	45	10.4	37	10.8	
9. 18MAS *	2	.5	2	.6	
10. 20MAS	35	8.1	29	8.5	
11. 22MAS (C-5)	3	.7	1	.3	
12. 30MAS	40	9.3	32	9.4	
13. 41MAS	36	8.3	28	8.2	
14. 53MAS	32	7.4	27	7.9	
15. 75MAS (C-5)	6	1.4	--	--	
16. 76MAS	38	8.8	33	9.6	
17. 86MAS *	--	--	--	--	
Totals	432	100.0	342	100.0	

* Participated in different survey

The foregoing, as well as the profiles of responses to other demographic questions, seem to clearly support the assumption in Chapter I about the representativeness of the sample.

Relationships of Interest. The first relationship to be addressed in this section involves years service and career intent. Table II contains a partial listing of a table output from the CROSSTABS subprogram. The response scale for question 14, career intent, has been collapsed to "yes, not sure, and no". Each cell contains the number of responses and the row-percentage.

The first trend to note involves the "not sure" column. A U-shaped relationship appears to exist in this column with a minimum occuring during the fifth year group. During the second and third years there is less sureness of the career intent decision. Likewise the table also indicates less sureness among those with six and seven years services. Although these pilots have already continued in the Air Force beyond their initial commitment, there seems to be some questioning of that decision as shown by the increased percentage of "not sure's".

A comparison of the "yes" and "no" responses in each row reveals that the difference between the percentages of both increases to a maximum in the fifth year of service group. The difference moderates across those in their sixth and seventh years of service. Finally, beginning with those

Table III

Q2-Years Service vs Q14-Career Intent
(Pilots less than 12 years service)

Q2- Years Service	Q14-Career Intent YES	NOT SURE	NO	Row Total
1-2	0	1 50%	1 50%	2
2-3	12 27.9%	9 20.9%	22 51.2%	43
3-4	21 22.1%	21 22.1%	53 55.8%	95
45	25 21.9%	18 15.8%	71 62.3%	114
5-6	20 23.0%	6 6.9%	61 70.1%	87
6-7	15 32.6%	5 10.9%	26 56.5%	46
7-8	17 38.6%	6 13.6%	21 47.7%	44
8-9	37 60.9%	5 8.2%	19 31.1%	61
9-10	31 64.6%	2 4.2%	15 31.3%	48
10-11	31 77.5%	5 12.5%	4 10.0%	40
11-12	17 77.3%	2 9.1%	3 13.6%	22
Totals	226 37.5%	80 13.3%	296 49.2%	602 100%

in their eight year of service the difference shifts in favor of those with positive career intent. This trend continues for all higher year groups and reflects what is sometimes called the effect of the "golden handcuffs". That is, these people are said to feel they have invested too many years to give up the twenty-year retirement benefit.

Question 15 reveals a relationship between days spent TDY per month and career intent, as shown in Table IV. Career intent appears to be decreased by the pressures of being away from home, particularly when the pilot is away more than 15 days per month.

Table IV

Q15, Days TDY vs Q14, Career Intent

	Q14 Career Intent			
Q15-Time TDY	YES	NOT SURE	NO	TOTALS
≤ 10 days/mo	32 32.3%	16 16.2%	51 51.5%	99
11-15 days/ mo	64 25.7%	44 17.7%	141 56.6%	249
≥ 16 days/mo	16 18.8%	6 7.1%	63 74.1%	85
Totals	112 25.9%	66 15.2%	255 58.9%	433 100%
CHI SQUARE - 12.46 with 4 degrees freedom significance = .015				

Finally among the demographics, the relationship between base assigned and career intent is presented in Table V.

Table V

Q129 Base Assigned vs Q14 Career Intent

Q129-Base Assigned	Q14 Career Intent			
<8 years service	YES	NOT SURE	NO	TOTALS
Base				
Charleston	43 39.8%	17 15.7%	48 44.4%	108
Dover	1 33.3%	2 66.7%	0	3
McChord	15 19.2%	9 11.5%	54 69.2%	78
McGuire	18 20.0%	14 15.6%	58 64.4%	90
Norton	25 24.3%	14 13.6%	64 62.1%	103
Travis	9 19.6%	9 19.6%	28 60.9%	46
Totals	111 25.9%	65 15.2%	252 58.9%	428 100%

Dover AFB is shown with only three respondents. As noted earlier, this is due to the fact that there are very few pilots under eight years service flying C-5 aircraft and only C-5 aircraft are assigned to Dover AFB. Among the bases that support C-141 operations only Charleston AFB stands out as being significantly different from the other bases in relation to career intent. The writer has no explanations for the higher career intent at Charleston AFB other than those that come from his own contact with pilots from that base. The writer perceived that Charleston aircrews enjoy a greater diversity in their mission to include flights to Europe, Africa and South America as well as combat airlift training missions. The writer believes that this diversity in missions could be one of the reasons contributing to his higher career intent.

Stated Reasons for Separation

Questions 47, 48, and 49 requested that the respondent select from a list of 18 possible reasons the most important reasons for separating from the Air Force. Question 47 applied to the most important reason, while questions 48 and 49 applied to the second and third most important reasons, respectively.

The FREQUENCIES subroutine from SPSS was used to record the absolute and relative frequencies for each possible response. Response "a" ("Not applicable, I intend to remain in the Air Force.") was treated as missing data. Response

Table VI

Stated Reasons for Separation
(Sample of 435 Pilots with Less Than 8 Years Service)

Q47 #1 REASON FOR SEPARATION Response	Absolute Frequency	Relative Frequency
b. Work Schedule Instability	79	18.2%
p. AF Management and Policies	63	14.5%
e. Security of Future Uncertain	53	12.2%
j. Family Disruptions due to Job	45	10.3
Missing Cases	(43)	(9.9%)

Q48 #2 REASON FOR SEPARATION Response	Absolute Frequency	Relative Frequency
b. Work Schedule Instability	72	16.6%
j. Family Disruptions due to Job	50	11.5%
f. Inadequate Military Pay	41	9.4%
e. Security of Future Uncertain	36	8.3%
p. AF Management and Policies	36	8.3%
Missing Cases	(38)	(8.7%)

Q49 #3 REASON FOR SEPARATION Response	Absolute Frequency	Relative Frequency
p. AF Management and Policies	46	10.6%
b. Work Schedule Instability	36	8.3%
e. Security of Future Uncertain	33	7.6%
f. Inadequate Military Pay	33	7.6%
i. Uncertain Future Retire. Syst.	33	7.6%
k. Excessive Non-flying Work Req.	33	7.6%
Missing Cases	(52)	(12.0%)

'T" ("Other (Please specify on comment sheet)") is listed, however, the comments were not available for this analysis. Table VI presents the partial results of the FREQUENCIES analysis. Only the reasons with the highest fequencies are shown.

Factor Analysis Results

As described in the preceding chapter, the factor analysis was conducted in three sections. The first section produced 26 underlying factors, while the second and third sections each produced five factors. Several computer runs were made to determine what number of factors would be most appropriate. The final selection was based on the number of factors with eigenvalues of at least 1.00. This criterion is commonly used in factor analysis, since additional factors each contribute less information (explained variance) than individual predictor variables used to construct the factors.

After using the computer to develop the factors that described the underlying structure of the data base, the analyst must interpret and assign names to the factors. This was done by analyzing the rotated factor matrix in terms of the factor loadings and the wording of the survey questions. For purposes of this study the writer used a criterion by which questions with factor loading greater than 0.5000 defined the factor. The name of the factor was then selected after comparing the wording of all such defining survey questions. In several instances some questions did not have

factor loadings high enough to meet this criterion for defining the factor. When these questions with loadings in the range of 0.30 to 0.49 were found to also have an intuitive relationship to the factor as it was defined, these questions were designated as "supporting" questions.

Table VII is provided at this point to display the factor names, the defining and supporting survey questions, and the factor loadings. Several of the survey questions have been condensed to facilitate construction of the table. The survey questions in their entirety are presented as Appendix A. The reader is cautioned to note that questions 17 through 46 often use response sets that are ordered differently from the seven-point Strongly Disagree/Strongly Agree scales used in questions 50 through 110. Without this care some confusion could result regarding the signs of the factor loadings and the values of the factor scores.

A complete listing of the rotated factor matrices and the factor score coefficient matrices are provided as Appendix B.

Table VII

Identification of Factors

O.	Factor Name	Factor Loading
	XX. Defining Questions	>.5000
		Factor Loading
	XX. Supporting Questions	<.5000
1.	Sq. commander and Management	
	52. My sq. commander tries to strike a balance between people needs and mission accomplishment.	.82101
	59. For most situations, I have confidence and trust in my sq. management.	.65753
	68. I have confidence and trust in my sq. commander.	.85695
	91. My sq. commander is effective in handling personal problems of aircrew members.	.84940
	100. My sq. management is capable of operating effectively under stress.	.55092
	58. Management cares what happens to me.	.33875
	75. My sq. usually gives recognition for good performance.	.35634
	99. Management is not sensitive to the problems of the individual.	-.37068
	146. The AF OER system is generally being administered fairly and equitably in my sq.	.30196
2.	Job satisfaction.	
	17. How much of the time are you satisfied with your job as a crewmember.	-.72106
	18. How well do you like your job as a crewmember.	.78303
	19. How do you feel about changing your job.	.74768
	20 How do you think you compare with other people in liking your job.	-.77463
	56. In my job, I feel I am accomplishing something.	.54846

65. I feel I am doing something important by serving as a member of the AF team.	.30128
86. I am proud to serve the AF in a flying capacity.	.34710
97. In looking back, it is difficult to point to my accomplishments on the job.	-.32265

3. Enroute support(a).

(Rate enroute services by per cent of time they are satisfactory)

(Low values indicate "often satisfactory")

38. Fleet service	.74072
39. Passenger service	.70515
45. Traffic/aerial port services	.74820
46. Armory accessibility	.63775
37. Billeting	.42559
40. Maintenance	.42887
41. Crew transportation	.48317
43. Command post info	.41482
44. Mess/dining facilities	.43981

4. Local environment.

(Indicate degree of satisfaction with these aspects of your present assignment.)

(Low Scores = high satisfaction)

21. Cost of living	.69900
23. Climate	.65028
24. Educational opportunities	.54650
25. Recreational opportunities	.71271
27. Housing	.70381
22. Base facilities	.40788
26. Opportunities for civilian employment after separation.	.42772

5. Upper management.

60. My numbered AF attempts to reduce scheduling turbulence by minimizing last minnute changes.	.75380
94. Hq. MAC attempts to reduce scheduling turbulence by minimizing last minute changes.	.72130

57. Our sq. receives little official info about what is going on at higher levels of management. -.36400
87. The majority of alert requirements within the strategic airlift world are necessary. .30239

6. Family acceptance.

34. Does your flying schedule impact the support you give your wife to the extent that it strains the relationship? .79119
63. My family has learned to adjust to my flying schedule. .71974
78. Family relationships have suffered because of my flying schedule. -.77526

7. Benefits.

55. The benefits offered by the AF are just as attractive as they used to be. .76608
72. The concern over loss of AF benefits is not justified. .72725
106. Benefits available to AF personnel have not changed significantly over the last few years. .75821

30. How do you think your military pay compares with civilian pay for similar work. -.32312

8. Clear chain of command.

62. I have a clear-cut chain of command. .81175
77. I have no doubts who my boss is. .78460
103. Often, I have trouble figuring out who my supervisior really is. -.81834

148. My rating official is very familiar with my work. .36629

9. Flying pay as an incentive.

96. My flying pay is a strong incentive to keep flying. .81813
107. Flying pay is one of the most important incentives for flying. .87326

10. Reserves

50. If I were to separate from the AF, I would be interested in flying for the Associate Reserve. .79286

89. Even if I secured a good paying civilian job after leaving the AF, I would like to continue flying C-141/C-5 by joining the reserve. .76504

66. The Associate Reserve provides an excellent source of income during the job transition period after separation. .47289

150. After I leave the AF I plan to fly for the airlines. .31346

11. Non-flying performance.

145. In order to get the performance ratings needed for promotion, line crew members must pull additional duties. .71279

147. Additional duties have a stronger influence on my OER than do flight related duties. .65612

152. Performing duty in a non-rated job is essential for me to be promoted. .58745

12. Recognition.

61. When I do exceptionally well, I can expect praise from my supervisor. .69127

75. My sq. usually gives recognition for good performance. .71006

102. Rarely are personnel in my sq. recognized for outstanding performance. -.77112

13. Aircraft commander authority.

53. AC's have enough authority to get the job done. .73406

70. AC's have too much responsibility and not enough authority. -.74090

92. As long as the mission is successfully accomplished AC's are given considerable leeway in how to do it. .62596

14. Scheduling equity.

95. The management of aircrews in the sq. is equitable. .69470

109. In general, crew members are equitably scheduled for last minute mission changes. .74923

15. Additional duties.

51. Due to operational necessity, line crew members must pull additional duties within the sq. .73234

67. Most addiitonal duties are necessary. .66322
90. Additional duties provide an excellent opportunity for career broadening while continuing to perform line flying duties. .57671

16. Airline interest.

150. After I leave the AF I plan to fly for the airlines. .73542
151. If I could get a definite job offer from a commercial airline, I would separate from the AF as quickly as possible. .78746

30. How do you think your military pay compares with civilian pay for similar work. .34501

17. Work schedule.

54. Personal planning is difficult with my current work schedule -.65929
71. In general, my work schedule permits me to schedule my off-duty time. .67010
93. My work schedule is irregular and erratic. -.72605

18. Enroute support (b).

(Rate enroute services by per cent of time they are satisfactory:)

(Low Values indicate "often satisfactory")

42. U.S. Customs .67171

40. Maintenance .29919
43. Command post info .38050
44. Mess/dining facilities .29997

19. Prestige of flying

64. Flying places me in an elite profession. .68829
79. The prestige of flying is a major reason for my having a flying position. .73235

65. I feel I am doing something important by serving as a member of the AF team. .46987
86. I am proud to serve the AF in a flying capacity. .41261
104. My family is very proud of my career in the AF. .31549

20. Worker relations.

85. Persons in my sq. are friendly and easy to work with.	.68933
76. I have confidence and trust in the persons in my sq.	.49575
100. My sq. management is capable of operating effectively under stress.	.30223

21. Perception of the AF as an institution.

149. When I entered the AF I intended to receive flight training and separate at the earliest possible date.	-.74804
88. I see the AF as a way of life and not simply as a place to work.	.41028

22. Lack of concern for the individual.

99. Management is not sensitive to the problems of the individual.	.52439
108. Upper levels of management do not understand the problems I face in doing my job.	.57330
58. Management cares what happens to me.	-.44176
84. The AF usually tries to take care of its own.	-.39602

23. Personal accomplishments.

97. In looking back, it is difficult to point to my accomplishments on the job.	.54340
56. In my job, I feel I am accomplishing something.	-.30275
73. Rarely do my efforts lead to positive results.	.41244

24. Enroute operations center management.

101. Off station Ops Centers effectively manage aircrews.	.65828
105. Off station Ops Centers Provide aircrews with realistic release times commensurate with known or forecasted requirements.	.71569

43. Command post info (% time satisfactory) -.37533

25. Personal growth and development.

83. There is limited opportunity for personal growth and development in my job. -.61915

69. My present duty as a crew member offers the opportunity for future advancement. .46375

26. Unidentifiable Factor (not used in subsequent analyses).

148. My rating official is very familiar with my work. .43689
22. Base facilities (degree satisfied). -.34458
26. Opportunities for civilian employment in local area (degree satisfied). .38378
81. The number of hours I work during an average week is excessive. .39457

27. Work performance feedback.

134. To what extent does doing the job itself provide you with information about your work performance? .74935
137. Just doing the work required by the job provides many chances for me to figure out how well I am doing. .83308
142. The job itself provides very few clues about whether or not I am performing well. -.82305

28. Job significance.

133. In general, how significant or important is your job? .78419
139. This job is one where a lot of other people can be affected by how well the work gets done. .74656
144. The job itself is not very significant or important in the broader scheme of things. -.74280

29. Autonomy.

130. How much autonomy is there in your job? .79364
140. The job denies me any chance to use my personal initiative or judgement in carrying out the work. -.65481

143. The job gives me considerable opportunity for idenpendence and freedom in how i do the work. .76879

30. "Whole" of the work.

131. To what extent does your job involve doing a "whole" or identifiable piece of work? .71237
136. The job is arranged so that I do not have the chance to do an entire piece of work from beginning to end. -.75095

141. The job provides me the chance to completely finish the pieces of work I begin. .78832

31. Variety of skills.

132. How much variety is ther in your job? .65877
135. The job requires me to use a number of complex or high-skills. .71118
138. The job is quite simple and repetitive. -.79222

(how important are these aspects in influencing your career decision?)

32. Mission management importance.

111. Aircrew utilization .58203
113. Squadron Commander .68801
114. Aircraft Commander Authority .73139
116. Chain of Command .55224

112. Additional duties .46637

33. Interpersonal mix importance.

124. Communications .71328
125. Concern for the individual .70667
126. Recognition .64574
127. Group cohesion/worker relations .62809

34. Importance of AF as an institution.

115. Benefits .65532
118. Prestige .53502
128. AF as a way of life .67640

117. Family .41788

35. Promotion opportunities importance.

119.	Performance Evaluation	.58654
120.	Assignments	.54602
121.	Promotion opportunities	.82436
123.	Personal growth and development	.51985

36. Personal life importance.

112.	Additional duties	.50491
117.	Family	.57684
122.	Work schedule	.66341
120.	Assignments	.46424

Aid Results

The results from the AID analysis are presented in Figures 1 and 2. Each figure presents a tree diagram that results from the process of splitting the sample population into small homogeneous groups. Each group is represented by a block containing information regarding the predictor name and codes in parentheses that apply to the members of the particular group, as well as the group size (N), the average value of the criterion variable, the group identification number (lower right in parentheses), and the cumulative R^2 of all the splits performed to that point. The level of statistical significance has not been presented since for all splits in both analyses, it was less than .03 and usually less than .01. The criterion variable, question 14, career intent, was recoded from alphabetic to numeric by the simple algorithm: A=1, B=2 thru F=7. Therefore, career oriented pilots will have a low average score for the criterion and will be shown toward the lower section of the figure. Conversely, those intending to separate from the Air Force

before retirement are shown toward the upper section of the figure. The reader should also be aware that high or low average scores may result from different paths in the tree and the groups at the end points of the branches are not necessarily in any order.

Pilots Less Than Eight Years Service. Figure 1 presents the results of the AID analysis using question 14, career intent as the criterion and a sample population made up of 429 pilots with less than eight years service. The first split in the population occured based on interest in the commercial airlines, i.e. those pilots with plans and aspirations of flying for the airlines are generally less career oriented. Further splitting of group 3 shows the interactive effects of the following factors:

- Flying pay,
- Perceived lack of concern for the individual,
- Upper management,
- Chain of command.

These variables interact to produce groups 13, 15 and 16, the members of which are not intending to make the Air Force a career. The orientiation of these factors, such as, positive interest in the airlines, low importance attached to flying pay as an incentive, is fairly easy to accept and understand. However, the clear chain of command (factor 8) is on the surface, less understandable and will be further discussed in the next chapter. One other series of factors produces groups that are not oriented toward an Air Force career. One group, number 26, is characterized by:

- lower interest in the airlines,
- low importance attached to the idea of the Air Force as an institution,
- low evaluation of the squadron commander and squadron management,
- low evaluation of the equity in scheduling.

The other group, number 18, differs from number 26 only in that its members have:

- high evaluation of the squadron commander and squadron management,
- very low evaluation of additional duties.

Those pilots with more positive career intent are found in blocks 20, 21 and 25. These groups are described by:

- lower interest in the airlines,
- higher imporance on the Air Force as an institution,
- higher evaluation of the scheduling equity within the squadron.

The factor, job significance, is shown to discriminate in the degree of career intent, however both groups 20 and 21 indicate positive career intent.

First Term Pilots (less than six years service). Figure 2 shows the results of the AID analysis on career intent of the sample of first-term pilots. This tree results in a slightly higher R^2 (.433 vs. .400 for the previous sample) after the same number of splits. This may be due to a combination of effects, such as a more homogeneous sample and the smaller minimum group size specification (10 vs. 15), which was used to compensate for the smaller initial sample population (339 vs. 429).

Again a number of paths through the various factors result in groups which are not oriented toward Air Force

careers. The groups in the upper half of the tree that are not career oriented include groups 5, 12, 17, and 24. These groups are characterized by interaction among the following factors:

- moderate to high interest in the airlines,
- perceived lack of concern for the individual,
- flying pay as an incentive to keep flying,
- Air Force benefits,
- promotion opportunities importance,
- clear chain of command,
- very low perception of the Squadron Commander and squadron management.

In similar manner, the lower half of tree contains a group, number 18, with non-career oriented pilots. This group has:

- low interest in the airlines,
- low importance attached to the idea of the Air Force as an institution,
- very low family acceptance.

Only two groups, numbers 23 and 27, can be identified as being career oriented in this tree. Group number 23 is shown as a result of:

- low interest in the airlines,
- high importance attached to the idea of the Air Force as an institution,
- high perceptions of job significance.

Group number 27 differs in that these pilots:

- attach low importance to the Air Force as an institution,
- have moderate to high family acceptance of their jobs,
- have a high perception of the aircraft commander's authority.

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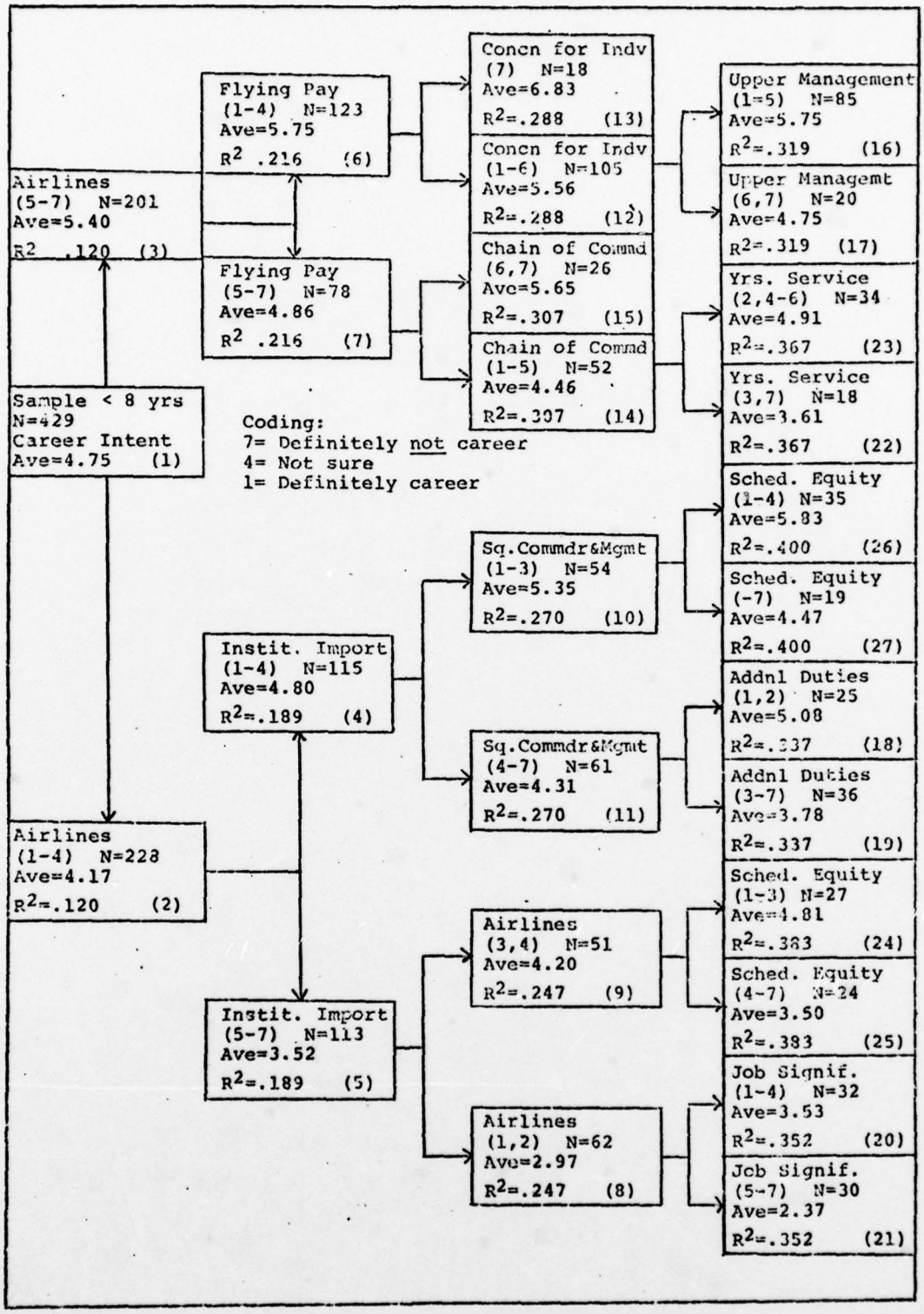


Figure 2. AID Tree for Career Intent

(Pilots Less Than 8 Years Service)

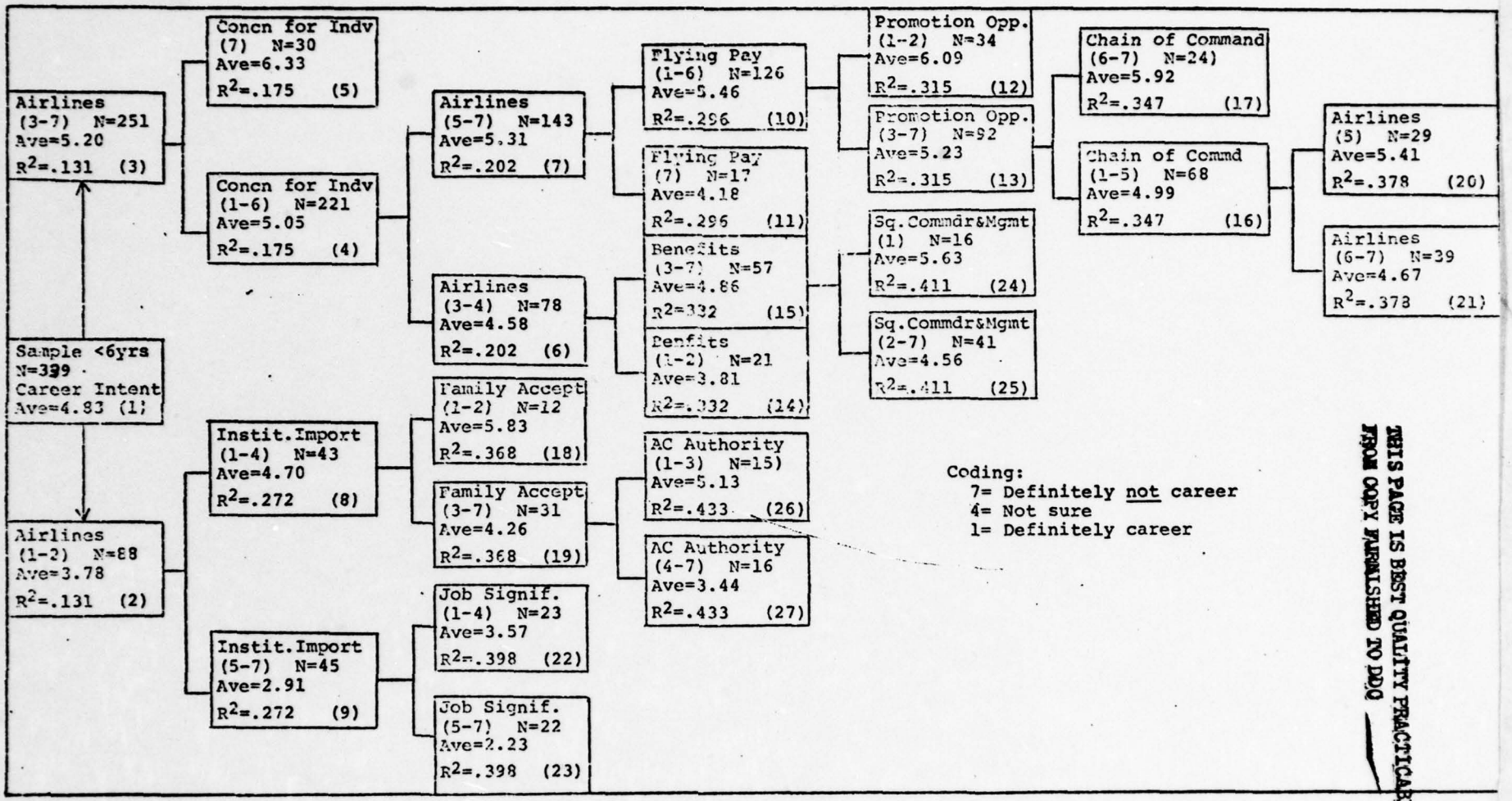


Figure 3. AID Tree for Career Intent (Sample <6 Years)

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Regression Results

The results of the multiple regression analysis are presented in Tables VIII and IX. This analysis was performed using "Step-wise" regression from SPSS (Nie et al., 1975) as described in Chapter III. Each table presents the results of using question 14, career intent, as the criterion variable and the computed factor scores of the factor analysis as the predictor variables. Each table includes the factors that entered the equation as predictors, the regression coefficients, beta weights, multiple R, R^2, change in R^2, and significance level of each predictor.

Although the number of predictors used in each regression may appear high, the reader should note that each predictor is statistically significant ($\alpha < .01$) and each predictor provides for at least a one-percent increase in R^2.

A convenient division of the predictors into those of primary importance and secondary importance may be made by using $\Delta R^2 > .03$ as a criterion. For the pilots with less than eight years service this will result in the following primary predictors:

1. Airlines
2. Importance of the idea of the Air Force as an institution
3. Flying pay as an incentive
4. Job satisfaction
5. Perception of the Air Force as an institution.

The primary predictors for first term pilots include the above list and the "perception of the squadron commander and squadron management". The remaining secondary factors which

are included in the regressions are also important in that they tend to be more specific than such general factors as "Institution Importance". The importance of these factors is also shown in that most of these factors are correlated with the factor Institution Importance and as each enters the regression equation the contribution of that general factor is reduced. The correlation matrices for the criterion variable (question 14 - career intent) and the set of predictor variables are presented as Appendix C.

Table VIII

Career Intent Regression Results
(Pilots < 8 Year Service)

Factor Number	Regression Coefficient	Beta Weight	Multiple R	R^2	ΔR^2	Signif.
16	.655	.369	.382	.146	.146	.000
34	-.217	-.121	.468	.219	.073	.000
9	-.435	-.243	.514	.264	.045	.000
2	-.369	-.205	.553	.306	.042	.000
21	-.363	-.199	.580	.336	.030	.000
1	-.275	-.153	.597	.356	.020	.000
15	-.266	-.148	.613	.376	.020	.000
6	-.274	-.133	.626	.392	.016	.001
12	-.207	-.115	.637	.405	.013	.002
22	.195	.108	.646	.417	.012	.004
14	-.182	-.101	.654	.427	.010	.007
Constant	4.732					

Factor Number	Factor Name
16	Airline interest
34	Importance of the Air Force as an institution
9	Flying pay as an incentive
2	Job Satisfaction
21	Perception of the Air Force as an Institution
1	Squadron Commander and squadron management
15	Additional duties
6	Family acceptance
12	Recognition
22	Lack of concern for the individual
14	Scheduling Equity

Table IX

Career Intent Regression Results
(Pilots < 6 Years Service)

Factor Number	Regression Coefficient	Beta Weight	Multiple R	R^2	ΔR^2	Signif.
16	.666	.383	.407	.165	.165	.000
34	-.238	-.142	.488	.238	.073	.000
2	-.412	-.235	.542	.293	.055	.000
21	-.370	-.208	.574	.330	.037	.000
1	-.353	-.204	.605	.366	.036	.000
9	-.357	-.198	.633	.402	.036	.000
6	-.315	-.154	.652	.426	.024	.000
22	.224	.130	.665	.442	.016	.002
15	-.227	-.131	.667	.459	.017	.002
Constant	4.79					

Factor Number	Factor Name
16	Airline interest
34	Importance of the Air Force as an Institution
2	Job Satisfaction
21	Perception of the Air Force as an Institution
1	Squadron Commander and squadron management
9	Flying pay as an incentive
6	Family Acceptance
22	Lack of concern for the individual
15	Additional duties

V. DISCUSSION AND CONCLUSIONS

Background for the Study

As stated in Chapter I, the primary objective of this study was to identify and examine the relative importance of some of the factors related to the low retention rates among strategic airlift pilots in the Military Airlift Command (MAC). This objective was pursued by analyzing the data resulting from the "Strategic Airlift Aircrew Survey" which was administered in November, 1977. The writer believed that this survey, which included a question about career intent, would be a suitable vehicle for this study, since the range of topics and issues addressed by the survey was quite broad.

Analysis

The analysis of the survey data was carried out using several computer-based statistical techniques. The goal was to discover any significant relationships between the attitudes of the pilots and their expressed career intent. After preliminary examination of the data the sample population was reduced to focus attention on two subgroups. These analysis groups consisted of respondents with less than eight years service and those with less than six years service, sometimes referred to as first-term pilots. The first group was selected because a marked increase in career intent occurred among the pilots beyond the eight year point, indicating that years service was becoming an important predictor. To eliminate this effect of years service the study focused on the

pilots with less than eight years service. The subgroup of first-term pilots was analyzed separately to provide a basis for comparison with several previous AFIT theses.

Although an examination of significant demographic questions was made, the main emphasis of the study was on the attitudinal questions. Due to the large number of questions involved, the first step in the analysis involved factor analysis to search the data for an underlying structure and to reduce the number of predictor variables to a more manageable number while retaining as much information as possible. The factor analysis reduced the number of predictor variables from 123 questions to 36 underlying factors. Indices for these new variables were computed for each respondent and the factors were each identified by examining the questions that defined each factor. These factors are presented in Table VII of Chapter IV.

The next step of the analysis of the attitudes of the pilots in each analysis group involved the use of the Automatic Interaction Detection (AID) algorithm and multiple regression analysis. Using question 14, career intent, as the criterion variable these analyses identified those variables that best explained the variance in the criterion variable. While the complete results are shown in Chapter IV, a summary of the important variable is present in Table X showing the name of the prediciton factors, the analysis group and type analysis in which the factor was selected.

Table X

Strongest Predictors of Career Intent

FACTOR	Pilots 8 Yrs.		Pilots 6 Yrs.	
	AID	Regression	AID	Regression
Airlines	X	P	X	P
Lack of Concern for Individual	X	S	X	S
Flying Pay	X	P	X	P
Promotion Opportunities			X	
Importance of AF as Institution	X	P	X	P
Job Significance	X		X	
Job Satisfaction		P		P
Perception of AF as Institution		P		P
Sq. Commander & Management		S		P

For Regression Columns "P" indicates Primary Predictor

$\Delta R^2 > .03$

"S" indicates Secondary Predictor

$.01 < \Delta R^2 < .03$

Discussion of Important Predictors

As is evident from an inspection of Table X and the more detailed results in Chapter IV, there are a large number and wide range of predictor variables associated with the career intent question. The writer believes, however, that some of these variables are important and worth discussing because they were selected by both AID and regression analyses for both analysis groups. These variables include:

Interest in the airlines,
Importance of the Air Force as an institution,
Flying pay as an incentive,
Lack of concern for the individual.

One additional variable, job satisfaction, will also be discussed since it appeared as a primary predictor in the regression analyses and is so often discussed in relation to career intent and employee turnover.

The most powerful predictor in all analyses was the expressed interest in the airlines. This expressed interest in available alternative employment is consistent with the hypotheses of Vroom (1964) and Flowers and Hughes (1973) which hold that turnover is associated with available job opportunities. In this case, the airlines are projecting the hiring of several thousand pilots over the next few years to compensate for the retirement of a large number of pilots who began flying during World War II. Additionally, there has been a general expansion of commercial aviation that is also expected to continue for several years.

The airlines have by recent hirings also expressed considerable interest in the MAC pilots, who as a group have experience and skills that are directly transferrable to airline operations. Another important aspect of the alternative of airline employment is the prospect of salaries which are considerably higher than those of any military officers. Apparently many MAC pilots, as shown by their interest in the airlines, are willing to endure a few years of lower pay in

order to have a chance at significantly higher salaries. Also, since seniority plays such a large part in airline upgrade and layoff policies, many MAC pilots may be interested in obtaining an airline job during the initial wave of hirings in order to secure some advantage in seniority, however slight, to protect themselves from layoff. Perhaps the flow of pilots from MAC to the airlines may slow somewhat in the next few years as the MAC pilots see significant numbers of newly hired airline pilots gaining an advantage in seniority over them. However, nothing indicates that this will happen soon.

Another important factor is the importance of the idea of the Air Force as an institution. In general those pilots who attached high importance to the idea of the Air Force as an institution also indicated more positive career intent. As shown in Table VI of Chapter IV, this factor is defined by the following survey items:

Q128 Importance of the Air Force as a way of life
Q115 Importance of traditional benefits
Q118 Importance of prestige.

Although this factor is constructed quite differently than the model developed by Stahl, Manley and McNichols (1978), it does address most of the distinctions about institutions made by Moskos (1977) in an article describing his perception of a change in the U.S. military from an institutional to an occupational model. He writes:

> An institution is legitmated in terms of values and norms, i.e., a purpose transcending individual self-interest in favor of a presumed higher good. Members of an institution are

> often viewed as following a calling; they generally regard themselves as being different or apart from the broader society and so regared by others. To the degree one's institutional membership is congruent with notions of self-sacrifice and dedication, it usually enjoys esteem from the larger community. Although renumeration may not be comparable to what one might expect in the economy of the marketplace, this is often compensated for by an array of social benefits associated with an institutional format as well as psychic income. When grievances are felt, members of an institution do not organize themselves into interest groups. Rather, if redress is sought it takes the form of 'one-on-one' recourse to superiors, with its implications of trust in the paternalism of the institution to take care of its own. (Moskos, 1977:42)

To the extent that the "Air Force as a way of life" can be equated with a "calling","prestige" can be equated with "esteem", and "traditional benefits" can be equated with "an array of social benefits...as well as psychic income", the factor found in the structure of this data base quite closely resembles the Moskos concept of an institution. That this factor is one of the best predictors of career intent in this study also indicates that some attention to reinforcing this concept may be of value in influencing career intent among MAC pilots.

A third important predictor of career intent is the perception of flying pay as an incentive to fly in the Air Force. Generally those pilots who feel that flying pay is a strong or important incentive for flying are most positive toward an Air Force career. The writer believes that several explanations are available to describe those pilots who do not view flying pay as a strong incentive. A few may dislike flying to the

extent of rejecting almost any monetary incentives. A second, and perhaps more relevant explanation involves the comparison of expected airline salary with the Air Force flying pay. Such a comparison obviously places flying pay in a very poor position. As a final possiblity, the writer believes that some pilots may perceive that flying pay has "depreciated" and will continue to depreciate in the face of future inflation. Unlike basic pay and other allowances, flying pay has not been increased with annual adjustments for the cost of living. Thus the value and perhaps the importance of flying pay as an incentive has decreased.

A fourth important predictor is the "lack of concern for the individual." Those pilots who perceive the existence of this lack of concern generally were less inclined to make the Air Force a career. From the experience of the writer as a MAC pilot, this lack of concern is not so applicable to important instances such as assisting families of crewmembers who are flying or scheduling around important family events such as the birth of a child. Rather this lack of concern was more evident in such things as daily dealings with enroute operations centers. Given that the pilot's contact with the operations center controller is generally limited to a few minutes after arrival and before departure, there is little opportunity for interpersonal relationships and personal concern to develop. The same is true of many other support facilities. As the MAC pilots and crews travel from one base

to the next, it sometimes appears that bureaucratic rules and schedules are more important than the needs of the individual. This conflict is quite apparent, for example, in the case of work schedules of base offices and dining facilities that do not serve the needs of the pilots who depart or arrive at other than "normal" duty hours. Again, these are only some perceptions of the writer from his experience, however, they may serve to illustrate some of the aspects of this factor.

The final factor to be discussed in this section is job satisfaction. Although this variable did not appear in the AID analyses, it was a primary predictor in both regression models and is often mentioned in other studies in relation to employee turnover.

The relatively weak predictive power of the job satisfaction factor could result from a variety of effects. This weak relationship between job satisfaction and turnover is often referred to in the literature (Vroom, 1964; Porter and Steers, 1973) and various explanations are presented to explain these results. In this study the writer believes some of the following explanations may apply.

The factor, job satisfaction, in this study specifically addresses satisfaction with the job of a "crewmember". In the case of an Air Force pilot, this may be only one aspect of his larger job as an Air Force officer. Given the constraints of present Officer Effectiveness Reports, Professional Military Education requirements, promotion boards, and the policy of "up or out", a person can be a success as a pilot but a failure as an officer. Job satisfaction in the context

of "crewmember" or pilot may not reflect overall satisfaction in being an Air Force officer. The reverse may also be true, where a person may be less satisfied with his job as a crewmember, but in his additional duty experience high satisfaction as an officer. This possible ambiguity could detract considerably from the predictive power of the factor, since each pilot in MAC is also an Air Force officer. As suggested by Vroom (1964) and Mobley (1977) the relationship between job satisfaction and turnover may be moderated by the availability of alternative job opportunities, such as the airlines in this case. It is therefore possible to imagine a pilot, who is quite satisfied with his job as a crewmember but not necessarily satisfied as an officer, being strongly attracted by the prospect of a higher salary from an airlines and the absence of an "up or out" policy. Effects such as these may weaken the relationship between job satisfaction and career intent to the extent that job satisfaction is not a particularly effective predictor variable.

Whereas these variables may have been identified as the most important variable revealed by this study, the reader is cautioned against concentrating attention on these only. The following section contains several limitations of this study.

Limitations of the Analysis

The writer has throughout this analysis attempted to carefully employ accepted statistical techniques in order

to obtain results that are accurate and repeatable. The analysis however did not provide a definitive "truth" in which career intent was completely explained. Therefore, the reader must be cognizant of the following limitations.

The first limitation applies to the level of the coefficient of multiple determination, R^2. This measure of the variance in the criterion variable that is explained by the predictor variables is not particularly high for any of the analyses performed. As shown below, less than half of the variance in career intent was explained by the factors that were selected.

	<8 Years Service Group	<6 Years Service Group
AID Analysis	R^2 = .400	R^2 = .433
Regression	R^2 = .427	R^2 = .459

In addition to the relatively low R^2 value of these statistical models, the relatively large number of predictors in each model point to the complexity of the issues related to career intent. Using a statistical criterion in which only those predictors which increase R^2 by at least one percent are retained, the regression model for pilots with less than eight years service retained 11 variables, and the regression model for first-term pilots retained 9 variables, These relatively large numbers of variables also show that the relative importance of each predictor is difficult to quantify in terms that indicate a clear ordering of priorities for implementing solutions.

A third limitation addresses some of the factors that were not identified as predictors in the statistical models. The reader is reminded that only predictors with some variance of their own are useful in explaining variance in a criterion variable. Thus the absence of a variable in the list of significant predictors does not necessarily indicate that the variable is not a cause for low career intent. Rather, the exclusion of a variable only indicates that it does not predict or explain the variance in the criterion. Thus, other factors addressed by this survey may well exist that cause an individual to leave the Air Force. If, however, both career oriented and non-career oriented pilots recognize these factors as irritants or problems, these factors will be ignored by the statistical analyses of the data.

This effect seemed apparent to the writer regarding such variables as "work schedule" and "family acceptance". Although these issues ranked very high among the explicit reasons for separation (questions 47, 48, 49), these factors were not strong predictors of career intent. The writer therefore is led to conclude that problems resulting from an erratic work schedule and from low family acceptance are experienced by those pilots in MAC intending to stay in the Air Force as well as those intending to leave.

These limitations are not intended to prohibit the reader from using the results of this analysis. They are intended to make the reader aware that the issues related

to career intent among these pilots are complex and that no simple solution is apparent from this study.

Implications and Recommendations

Due to the large number of variables that were identified as being statistically significant in this analysis and the wide range of issues addressed by those variables, the writer believes that a unified effort by all levels of command and management will be necessary to significantly alter the current trend of low career intent among MAC strategic airlift pilots.

Several of the variables identified by this analysis as being related to career intent involve issues controlled at the Air Force level and above. These issues include, but are not limited to, pay, benefits and many other aspects associated with the concept of the Air Force as an institution. Whereas the Air Force apparently cannot compete directly with the very high salaries offered by some airlines, some effort to avoid a substantial loss of buying power by Air Force personnel due to inflation should be made. Perhaps action aimed at maintenance of traditional benefits would be more productive on a cost basis than competitive salaries, since benefits play an important role in supporting the concept of the Air Force as an institution. This writer believes that opposition to cuts in benefits should perhaps focus attention on secondary costs (such as decreased retention of personnel and resulting higher training costs) which may eventually

offset more obvious savings. The prestige of pilots might also be enhanced by public relations efforts and possibly higher flying pay.

This writer also believes that efforts by Military Airlift Command to imporve career intent should focus primarily on management of the mission and management of the pilot and crew forces as resources. By managing the mission, the writer refers to balancing mission accomplishment against some not so obvious costs incurred by operating units and individuals. This applies particularly to the practice of filling airlift requiests in less than the normal lead time. While it is often possible to fill such requests on short notice, a cost is incurred by the operational unit and the aircrew. This cost may be thought of in units of "dedication to the mission." This dedication is perceived by the writer as a resource that can be depleted. In the case of an individual aircrew member, this dedication to the mission may be depleted when he requests a date of separation. This is not to say that this resource of dedication should not be used, but it is a resource to be used wisely and consciously.

Present efforts by the Commander in Chief of Military Airlift Command to identify factors affecting pilot retention and to alleviate several of the irritants of the past are very commendable. In particular, the effort to establish open communciation between the headquarters and the line pilots as evidenced by the MAC Pilot Retention Working Group in

June, 1978 is definitely a step toward better understanding of the problems and pressures perceived by both parties. Such communication and any resulting actions by the command should definitely contribute to a better working environment and perhaps also to improve retention of pilots.

At the unit level the squadron commander and his staff are key interfaces for efforts to improve pilot retention. The squadron commander can set an example, and perhaps inspire his people, through sound leadership and management. He can also demonstrate a sincere concern for the individuals in the squadron. In particular, the squadron commander can, if equipped with accurate information, provide at a personal level an alternative point of view to the commercial airlines option. The squadron commander is an important link in the chain of command and should work to maintain open communication between the unit and higher levels by seeking pertinent information regarding the airlift mission and providing feedback from the crews to higher levels of command.

While these recommendations do not exhaust the list of possible actions that may be used to improve career intent among strategic airlift pilots, it is hoped that the reader better appreciates the scope of the problem and understands the need for comprehensive and coordinated action.

Summary

This chapter has presented a brief review of the methods and results of this analysis of strategic airlift pilot retention. The problem of low career intent among MAC pilots is

very complex as indicated by the large number of significant predictor variables and relatively low explanatory power of the statistical models. Although interest in the airlines is the factor that explains the largest percentage of variance in the career intent variable, there are many other variables that also make significant contributions to the models. These other variables provide opportunity for the Air Force, Military Airlift Command, and individual units to improve the jobs and lives of the strategic airlift pilots with the result that perhaps more pilots will choose to stay in the Air Force.

BIBLIOGRAPHY

1. Alley, W. E. and R. B. Gould. Feasibility of Estimating Personnel Turnover From Survey Data: A Longitudinal Study. Brooks Air Force Base, Texas: Air Force Human Resources Laboratory, October, 1975.

2. Flowers, V. S. and C. L. Hughes. "Why Employees Stay," Harvard Business Review, 51:49-60 (1973).

3. Gellerman, S. W. "The Positive Side of Turnover," Management Review, 63:50-52 (1974).

4. Hackman, J. R. and G. R. Oldham. The Job Diagnostic Survey: An Instrument for the Diagnosis of Jobs and the Evaluation of Job Redesign Projects. Department of Administrative Sciences, Yale University, 1974.

5. Hoppock, R. Job Satisfaction. New York: Harper and Brothers, 1935.

6. Jones, H. A. (Lt Col). "Pilot Retention," Air University Compendium of Research Topics, Academic Year 1977-1978. Volume I, Part 1. Maxwell Air Force Base, Alabama: Directorate of Evaluation and Research, Headquarters Air University (1977).

7. Kraut, A. I. "Predicting Turnover of Employees from Measured Job Attitudes," Organizational Behavior and Human Performance, 13:233-243 (1975).

8. Mobley, W. H. "Intermediate Linkages in the Relationship Between Job Satisfaction and Employee Turnover," Journal Applied Psychology, 62:237-240 (1977).

9. Moskos, C. C. "From Institution to Occupation, Trends in Military Organization," Armed Forces and Society, 4:41-50 (1977).

10. MPCROR5. Retention statistics from Rated Distribution and Training Management Section (received per correspondence). Air Force Manpower and Personnel Center, Randolph Air Force Base, Texas, 16 August 1978.

11. Nie. N. H., et al. Statistical Package for the Social Sciences (SPSS) (Second Edition). New York: McGraw-Hill Book Company, 1975.

12. North, D. M. "Pilot Drain to Airlines Worries Services," Aviation Week and Space Technology, April 10, 1978.

13. Porter, L. W. and R. M. Steers. "Organizational, Work, and Personal Factors in Employee Turnover and Absenteeism," Psychological Bulletin, 180:156-176 (1973).

14. Proctor, J. H., W. E. Lassiter, and W. B. Soyars III. "Prediction of Young U.S. Naval Officer Retention," Personnel Psychology, 29:567-581 (1976).

15. Schneider, B. "Organizational Climate: Individual Preferences and Organizational Realities," Journal of Applied Psychology, 56:211-217 (1972).

16. Schneider, B. and R. A. Snyder. "Some Relationships Between Job Satisfaction and Organizational Climate," Journal of Applied Psychology, 60:318-328 (1975).

17. Shenk, F. and J. M. Wilbourn. Officer Attitudes Related to Career Decisions. Lackland Air Force Base, Texas: Personnel Research Division, Air Force Human Resources Laboratory, December, 1971.

18. Smith, P. C., L. M. Kendall, and C. L. Hulin. The Measurement of Satisfaction of Work and Retirement. Chicago: Rand-McNalley and Co., 1969.

19. Sonquist, J. A. and J. N. Morgan. "The Detection of Ineractive Effects," Monograph No. 35, Institute for Social Research, The University of Michigan, 1964.

20. Stahl, M. J., T. R. Manley, and C. W. McNichols. "Operationalizing the Moskos Institution-Occupation Model: An Application of Gouldner's Cosmopolitan-Local Research," Applied Psychology, 1978 (in press).

21. Thompson, T. N. A Study of Job Satisfaction in the United States Air Force. Unpublished Thesis. Wright-Patterson Air Force Base, Ohio: Air Force Institute of Technology, October, 1975.

22. Vroom, V. Work and Motivation. New York: Wiley, 1964.

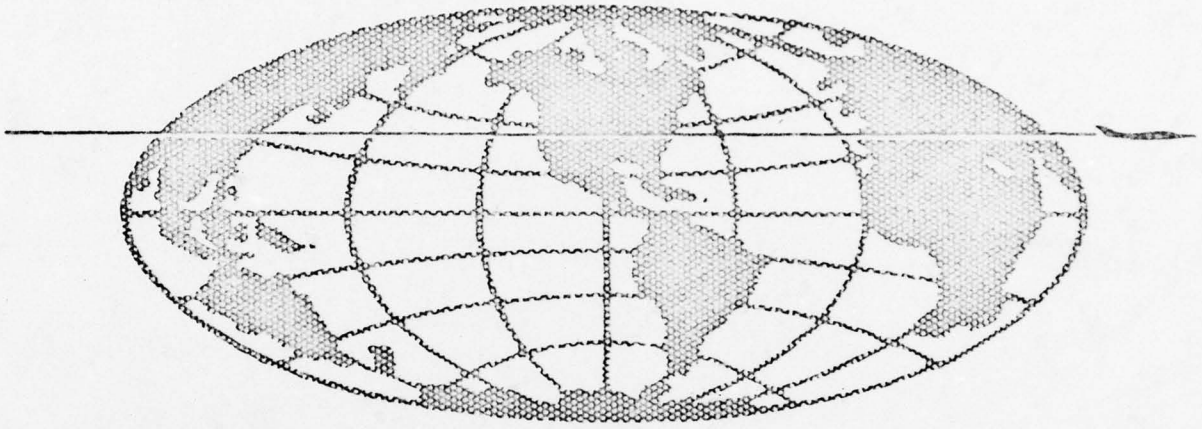
23. Vrooman, R. M. An Analysis of Factors Associated with the Job Satisfaction and Career Intent of Air Force Personnel with Less Than Six Years of Service. Unpublished Thesis. Wright-Patterson Air Force Base, Ohio: Air Force Institute of Technology, December, 1976.

24. Waters, L. K., D. Roach, and C. W. Waters. "Estimates of Future Tenure, Satisfaction, and Biographical Variables as Predictors of Termination," Personnel Psychology, 29:57-60 (1976).

APPENDIX A

Strategic Airlift Aircrew Survey

United States Air Force



STRATEGIC AIRLIFT AIRCREW SURVEY

AFMPC/DPMYP
RANDOLPH AFB, TEXAS

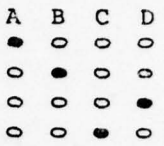
USAF SCN 77-157

INSTRUCTIONS FOR COMPLETING SURVEY

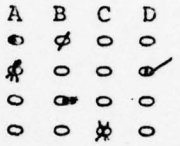
Mark your answers on the separate answer sheet. Do not write in the survey booklet itself. Please use a No. 2 pencil.

Be sure that you mark your answers in the response area corresponding to the item number from the survey booklet. Your marks should completely darken the oval-shaped space on the answer sheet. Erase all changes completely and select only one answer to each question.

Right Way to Mark Answer Sheet



Wrong Way to Mark Answer Sheet



Please do not fold, staple or otherwise damage the answer sheet.

PRIVACY ACT STATEMENT

In accordance with paragraph 30, AFR 12-35, Air Force Privacy Act Program, the following information about this survey is provided as required by the Privacy Act of 1974:

a. Authority. This survey information is authorized for solicitation by Federal Statute Title 10, United States Code, Section 8012, Executive Order 9397, 22 Nov 1943, DODI 1100.13, 17 Apr 1968, and AFR 30-23, 22 Sep 1976.

b. Principle Purpose. This survey is being conducted to obtain opinions and attitudes of strategic airlift aircrew members concerning their career area.

c. Routine Use. Your responses to this survey will be converted to statistical format for evaluation. The data will be used to determine the relative strengths and weaknesses of strategic airlift duty as perceived by crew members.

d. Participation in this survey is entirely voluntary.

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

1. What is your grade?

a. Colonel
b. Lieutenant Colonel
c. Major
d. Captain
e. First Lieutenant
f. Second Lieutenant
g. Chief Master Sergeant
h. Senior Master Sergeant
i. Master Sergeant
j. Technical Sergeant
k. Staff Sergeant
l. Sergeant
m. Senior Airman
n. Airman First Class
o. Airman
p. Airman Basic

2. How much active military service have you completed?

a. Less than 1 year
b. 1 year but less than 2 years
c. 2 years but less than 3 years
d. 3 years but less than 4 years
e. 4 years but less than 5 years
f. 5 years but less than 6 years
g. 6 years but less than 7 years
h. 7 years but less than 8 years
i. 8 years but less than 9 years
j. 9 years but less than 10 years
k. 10 years but less than 11 years
l. 11 years but less than 12 years
m. 12 years but less than 13 years
n. 13 years but less than 14 years
o. 14 years but less than 15 years
p. 15 years but less than 16 years
q. 16 years but less than 17 years
r. 17 years but less than 18 years
s. 18 years but less than 19 years
t. 19 years but less than 20 years
u. 20 years but less than 21 years
v. 21 years but less than 22 years
w. 22 years but less than 23 years
x. 23 years but less than 24 years
y. 24 years but less than 25 years
z. 25 years but less than 26 years
1. 26 years but less than 27 years
2. 27 years or more

3. What is your current aircrew qualification?

a. Flight Examiner Aircraft Commander
b. Instructor Pilot
c. Aircraft Commander
d. First Pilot
e. Copilot
f. Flight Examiner Navigator
g. Instructor Navigator
h. Navigator
i. Navigator Unqualified
j. Flight Examiner Flight Engineer
k. Instructor Flight Engineer
l. First Flight Engineer
m. Second Flight Engineer
n. Flight Engineer Unqualified
o. Flight Examiner Loadmaster
p. Instructor Loadmaster
q. First Loadmaster
r. Loadmaster Unqualified

4. How long have you served in your current aircrew qualification?

a. 0-6 months
b. 7-12 months
c. 13-18 months
d. 19-24 months
e. More than 24 months

5. How long have you been assigned to your current squadron (round to nearest month)?

a. 0-6 months
b. 7-12 months
c. 13-18 months
d. 19-24 months
e. 25-36 months
f. 37-48 months
g. 49-60 months
h. More than 60 months

6. As of your last flight, how many total flying hours do you have?

a. Less than 250
b. 250-500
c. 501-750
d. 751-1000
e. 1001-1250
f. 1251-1500
g. 1501-1750
h. 1751-2000
i. 2001-2250
j. 2251-2500
k. 2501-2750
l. 2751-3000
m. 3001-3250
n. 3251-3500
o. 3501-3750
p. 3751-4000
q. 4001 or more

7. How many years have you been a rated officer (number of years since UPT/UNT graduation) or enlisted crew member?

a. Less than 1 year
b. 1 year but less than 2 years
c. 2 years but less than 3 years
d. 3 years but less than 4 years
e. 4 years but less than 5 years
f. 5 years but less than 7 years
g. 7 years but less than 10 years
h. 10 years but less than 14 years
i. 14 years but less than 18 years
j. 18 years or more

8. What is your current military status? Choose the most appropriate response.

a. I am enlisted
b. Reserve officer on initial active duty term with an established date of separation (DOS)
c. Career reserve officer on initial active duty term
d. Career reserve officer beyond initial active duty term
e. Career reserve officer beyond initial active duty term with an established DOS
f. Regular officer
g. Regular officer with an established DOS

9. If you are now an officer, would you accept a Regular Commission if it were offered?

a. Not applicable, I am enlisted
b. Not applicable, I already have a Regular Commission
c. Yes, definitely
d. Yes, probably
e. No, probably not
f. No, definitely not
g. I'm not sure what I would do

10. In addition to your flight duties, do you perform any of the following? Read the list in order from A to N and select the first response which is applicable to you. Select only one response.

a. Commander
b. Operations officer or assistant
c. Flight commander
d. Resource manager
e. Scheduling
f. Training
g. Stan/Eval
h. Simulator instructor
i. Additional duty in Wing requiring more than 25% of my time on an annual basis
j. Additional duty in Squadron requiring more than 25% of my time on an annual basis
k. Additional duty in Wing requiring less than 25% of my time on an annual basis
l. Additional duty in Squadron requiring less than 25% of my time on an annual basis
m. I perform additional duties other than those listed above
n. I do not perform additional duties

11. What is your marital status?

a. Married
b. Never been married
c. Divorced and not remarried
d. Legally separated
e. Widower/Widow

12. What rating did you receive from your reviewer on your most recent OER?

a. Not applicable, I am enlisted
b. I have not received an OER
c. 1
d. 2
e. 3
f. 4, 5 or 6
g. My most recent was an abbreviated OER
h. Don't know/can't remember

13. To which of the following squadrons are you presently assigned?

a. 3 MAS
b. 4 MAS
c. 6 MAS
d. 7 MAS
e. 8 MAS
f. 9 MAS
g. 14 MAS
h. 15 MAS
i. 18 MAS
j. 20 MAS
k. 22 MAS
l. 30 MAS
m. 41 MAS
n. 53 MAS
o. 75 MAS
p. 76 MAS
q. 86 MAS

14. At this time, what is your attitude toward making the Air Force a career?

a. Definitely intend to make the Air Force a career
b. Probably will make the Air Force a career
c. Leaning toward making the Air Force a career
d. Not sure/undecided
e. Leaning toward not making the Air Force a career
f. Probably will not make the Air Force a career
g. Definitely will not make the Air Force a career

15. During an average month, how many days do you spend TDY?

a. 0-5
b. 6-10
c. 11-15
d. 16-20
e. More than 20

16. During an average month, how many days do you spend performing additional duties?

a. 0-3
b. 4-6
c. 7-9
d. 10-12
e. 13-15
f. More than 15
g. I do not perform additional duties

17. Which one of the following shows how much of the time you feel satisfied with your job as a crew member?

a. All the time
b. Most of the time
c. A good deal of the time
d. About half of the time
e. Occasionally
f. Seldom
g. Never

18. Choose the one of the following statements which best tells how well you like your job as a crewmember.

a. I hate it
b. I dislike it
c. I don't like it
d. I am indifferent to it
e. I like it
f. I am enthusiastic about it
g. I love it

19. Which one of the following best tells how you feel about changing your job as a crew member?

a. I would quit this job at once if I could
b. I would take almost any other job in which I could earn as much as I am now earning
c. I would like to change both my job and my occupation
d. I would like to exchange my present job for another one
e. I am not eager to change my job, but I would do so if I could get a better job
f. I cannot think of any job for which I would exchange
g. I would not exchange my job for any other

20. Which one of the following shows how you think you compare with other people?

a. No one likes his job better than I like mine
b. I like my job much better than most people like theirs
c. I like my job better than most people like theirs
d. I like my job about as well as most people like theirs
e. I dislike my job more than most people dislike theirs
f. I dislike my job much more than most people dislike theirs
g. No one dislikes his job more than I dislike mine

Using the responses below, indicate your degree of satisfaction or dissatisfaction with the aspects of your current assignment listed in questions 21 through 27.

a. Very satisfied
b. Satisfied
c. Slightly satisfied
d. Neither satisfied nor dissatisfied
e. Slightly dissatisfied
f. Dissatisfied
g. Very dissatisfied

21. Cost of living in local area

22. Base facilities

23. Climate of local area

24. Educational opportunities in local area

25. Recreational opportunities in local area

26. Opportunities for civilian employment (after retirement or separation)

27. Availability/quality of housing in local area (on-base or off-base)

28. If you could personally select your next assignment, which one of the following would most influence your decision?

a. Job
b. Supervision
c. Cost of living in local area
d. Base facilities
e. Climate of local area
f. Recreational facilities in local area
g. Educational opportunities in local area
h. Opportunities for civilian employment (after separation or retirement)
i. Availability/quality of housing you would receive on-base or off-base

29. Using the same list of factors from question 28, which of the factors would have the second most influence in selecting your next assignment?

30. How do you think your military pay (including all allowances and fringe benefits) compares with pay in civilian employment for similar work?

a. Military pay is far higher than civilian
b. Military pay is somewhat higher than civilian
c. Both about equal
d. Military pay is somewhat less than civilian
e. Military pay is far less than civilian
f. Not applicable, similar work is not available

31. In a nonflying environment, who do you consider your immediate supervisor to be?

a. Chief pilot, Chief Navigator, Chief Flight Engineer, Chief Loadmaster
b. Flight Commander
c. Operations Officer
d. Squadron commander
e. Aircraft commander
f. Other
g. Not sure

32. What is the maximum number of continuous days off you are now able to schedule in advance each month (do not include normal crew rest or leave)?

a. 0 days
b. 1 day
c. 2 days
d. 3 days
e. 4 days
f. 5 days
g. 6 days
h. 7 days
i. 8 days

33. What minimum number of continuous days off should crew members be guaranteed each month (in addition to normal crew rest or leave)?

a. 0 days
b. 1 day
c. 2 days
d. 3 days
e. 4 days
f. 5 days
g. 6 days
h. 7 days
i. 8 days

34. Does your flying schedule impact the support you give your wife to the extent it strains the relationship?

a. Not applicable, not married
b. Yes, very badly
c. Yes, but not bad
d. Slightly
e. Not at all

35. I feel that the technical training MAC has provided me is:

a. Excellent
b. Good
c. Fair
d. Poor
e. Very poor

36. The amount of ground training I presently receive is:

a. Too little
b. About right
c. Too much

The following questions deal with the quality of support that you receive at enroute bases. Please answer based only upon your own experiences at those bases where you have frequent enroute stops. Use the responses listed below to rate each of the enroute services listed in questions 37 through 46

a. Satisfactory almost all the time
b. Satisfactory at least 75 percent of the time
c. Satisfactory at least 50 percent of the time
d. Satisfactory at least 25 percent of the time
e. Satisfactory less than 25 percent of the time
f. No opinion/Don't know

37. Billeting

38. Fleet service

39. Passenger service

40. Maintenance

41. Crew transportation

42. U. S. Customs

43. Command Post information

44. Mess/dining facilities

45. Traffic/aerial port services

46. Armory accessibility

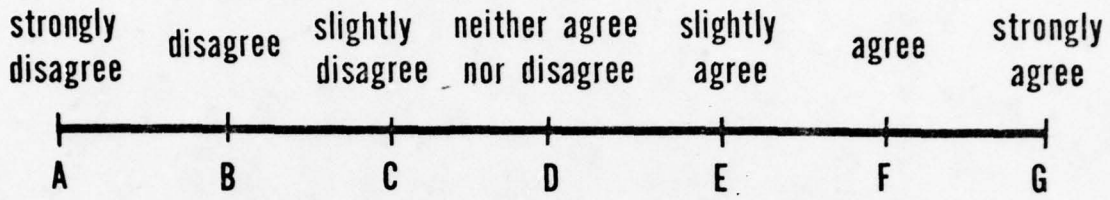
47. If you plan to separate from the Air Force prior to retirement, which of the reasons listed below do you consider most important in your decision to separate?

a. Not applicable, I intend to remain in the Air Force
b. Work schedule instability
c. TDY expenses
d. Performance evaluation system (OER/APR)
e. Security of future uncertain
f. Inadequate military pay and allowances (including incentive pay)
g. Lack of career progression/development opportunities
h. Lack of opportunity to exercise independent judgment
i. Uncertain future of retirement system
j. Family life disruptions caused by job
k. Excessive non-flying work requirements
l. Threat to or apparent loss of benefits (except retirement system)
m. Limited promotion opportunities
n. General dislike of the Air Force as a way of life
o. Assignment instability
p. Air Force management and policies
q. Received an undesirable assignment
r. I entered the Air Force for training and never really considered making it a career
s. I received a civilian job offer
t. Other (please specify on comment sheet)

48. Using the same list of reasons from question 47, what is the second most important reason in your decision to separate? (If there is no second reason, select response U.)

49. Once again using the reasons from question 47, what is the third most important reason in your decision to separate? (If there is no third reason, select response U.)

Please read each of the statements below carefully. Using the following scale, we want to know how much you agree or disagree with each statement.



Mark A on the answer sheet if you STRONGLY DISAGREE
Mark B on the answer sheet if you DISAGREE
Mark C on the answer sheet if you SLIGHTLY DISAGREE
Mark D on the answer sheet if you NEITHER AGREE NOR DISAGREE
Mark E on the answer sheet if you SLIGHTLY AGREE
Mark F on the answer sheet if you AGREE
Mark G on the answer sheet if you STRONGLY AGREE

The scale above will be at the top of each page in this section to assist you in selecting your response. Please respond to every question. While some of the statements may appear similar to each other, no two statements are identical. Please do not go back to previous statements. Try to give a true picture of your feelings and opinions about all aspects of your squadron.

50. If I were to separate from the Air Force, I would be interested in flying for the Associate Reserve.

51. Due to operational necessity, line crew members must pull additional duties within the squadron.

52. My squadron commander tries to strike a balance between people needs and mission accomplishment.

53. Aircraft commanders have enough authority to get the job done.

54. Personal planning is difficult with my current work schedule.

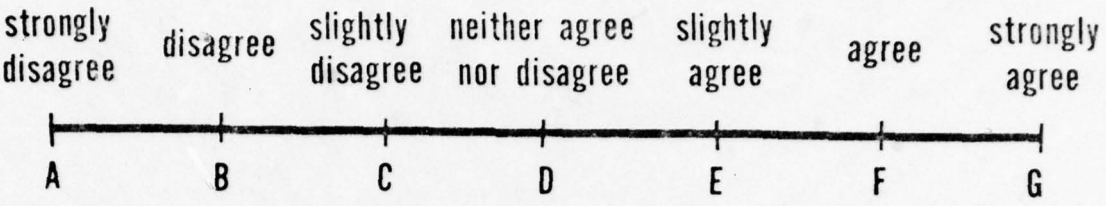
55. The benefits offered by the Air Force are just as attractive as they used to be.

56. In my job, I feel I am accomplishing something.

57. Our squadron receives little official information about what is going on at higher levels of management.

58. Management cares what happens to me.

59. For most situations, I have confidence and trust in my squadron management.



60. My numbered Air Force attempts to reduce scheduling turbulence by minimizing last minute changes.

61. When I do exceptionally well, I can expect praise from my supervisor.

62. I have a clear-cut chain of command.

63. My family has learned to adjust to my flying schedule. (If you have no dependents select response H.)

64. Flying places me in an elite profession.

65. I feel I am doing something important by serving as a member of the Air Force team.

66. The Associate Reserve provides an excellent source of income during the job transition period after separation.

67. Most additional duties are usually necessary.

68. I have confidence and trust in my squadron commander.

69. My present duty as a crew member offers the opportunity for future advancement.

70. Aircraft commanders have too much responsibility and not enough authority.

71. In general, my work schedule permits me to schedule my off-duty time.

72. The concern over loss of Air Force benefits is not justified.

73. Rarely do my efforts lead to positive results.

74. Our squadron is usually aware of important events and situations.

75. My squadron usually gives recognition for good performance.

76. I have confidence and trust in the persons in my squadron.

77. I have no doubts who my boss is.

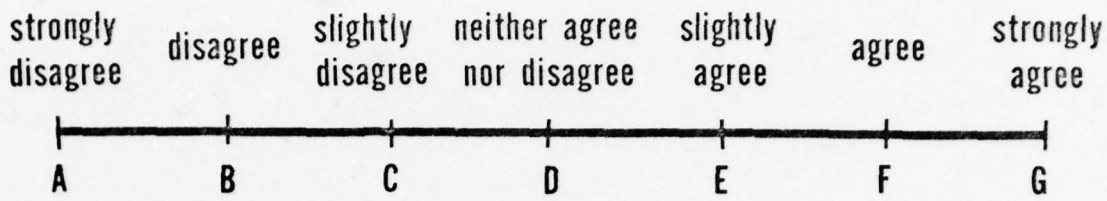
78. Family relationships have suffered because of my flying schedule. (If you have no dependents select response H.)

79. The prestige of flying is a major reason for my having a flying position.

80. Some crew positions get preferential treatment in the assignment of additional duties.

81. The number of hours I work during an average week is excessive.

82. My post mission crew rest time (one for three) provides sufficient time for me to accomplish day to day necessities.



83. There is limited opportunity for personal growth and development in my job.

84. The Air Force usually tries to take care of its own.

85. Persons in my squadron are friendly and easy to work with.

86. I am proud to serve the Air Force in a flying capacity.

87. The majority of alert (alpha or bravo) requirements within the strategic airlift world are necessary.

88. I see the Air Force as a way of life and not simply a place to work.

89. Even if I secured a good paying civilian job after leaving the Air Force, I would like to continue flying C-141/C-5 by joining the Associate Reserve.

90. Additional duties provide an excellent opportunity for career broadening while continuing to perform line flying duties.

91. My squadron commander is effective in handling personal problems of aircrew members.

92. As long as the mission is successfully accomplished aircraft commanders are given considerable leeway in how to do it.

93. My work schedule is irregular and erratic.

94. Headquarters MAC attempts to reduce scheduling turbulence by minimizing last minute changes.

95. The management of aircrews in the squadron i.e., trip distribution and flying time, is equitable.

96. My flying pay is a strong incentive to keep flying.

97. In looking back, it is difficult to point to my accomplishments on the job.

98. Information is usually widely shared in my squadron so that those who make the decisions will base their decisions on the best available know-how.

99. Management is not sensitive to the problems of the individual.

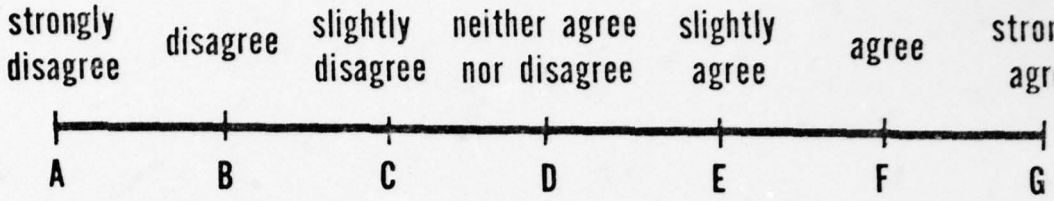
100. My squadron management is capable of operating effectively under stress.

101. Off station Operations Centers effectively manage aircrews.

102. Rarely are personnel in my squadron recognized for outstanding performance.

103. Often, I have trouble figuring out who my supervisor really is.

104. My family is very proud of my career in the Air Force. (If you have no dependents select response H.)



105. Off station Operations Centers provide aircrews with realistic release time commensurate with known or forecasted requirements.

106. Benefits available to Air Force personnel have not changed significantly over the last few years.

107. Flying pay is one of the most important incentives for flying.

108. Upper levels of management (above squadron level) do not understand the problems I face in doing my job.

109. In general, crew members are equitably scheduled for last minute mission changes.

110. TDY and per diem allowances are adequate to cover my expenses on most TDY trips.

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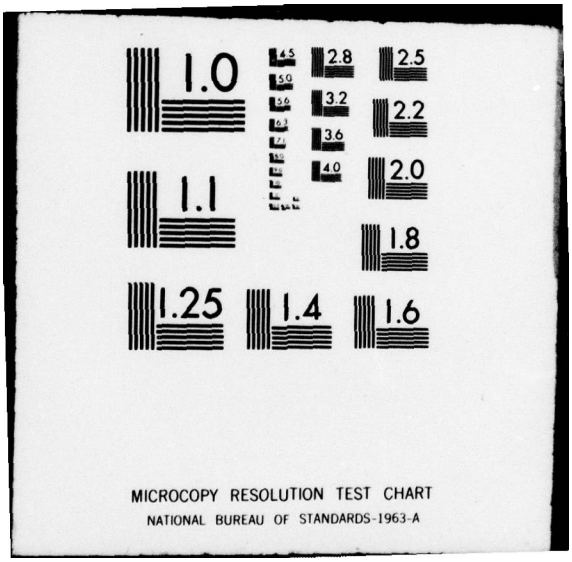
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RETENTION OF MAC STRATEGIC AIRLIFT PILOTS. AN ANALYSIS OF THE S--ETC(U)
SEP 78 S KNUDSEN

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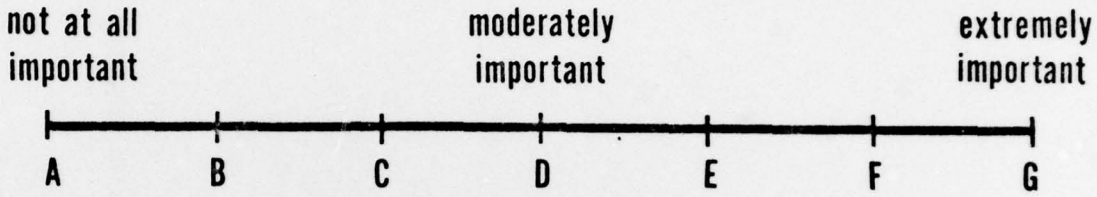


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In items 111 through 128 below, a number of factors are listed which can have an impact on an individual's career intent. Read the definition carefully and consider the importance of each factor to your own career intent. In other words, how important are each of these factors in influencing your decision to either separate from the Air Force or remain until retirement.

If you consider a factor EXTREMELY IMPORTANT to career intent, select response G. If you think it is NOT AT ALL IMPORTANT, select response A. If you rate the importance as somewhere between these points, select the appropriate space on the scale below.



111. Aircrew Utilization - Efficient and equitable assignment of crew members to missions. Missions constituting valid and necessary requirements and being accomplished with a minimum of wasted time and effort.

112. Additional Duties - Having the flying mission as the primary focus in the organization and additional duties assigned only when absolutely necessary. Additional duties not assigned just to "give the crews something to do."

113. Squadron Commander - Having a squadron commander who can effectively manage people and deal with their problems.

114. Aircraft Commander Authority - Aircraft Commanders having the authority to take necessary actions when they are assigned responsibility.

115. Benefits - Having the benefits which have traditionally been available to military personnel such as the commissary, BX, medical care for dependents, retirement at 20 years service, etc.

116. Chain of Command - Having a definite, clear-cut chain of command, particularly at the level closest to where you work.

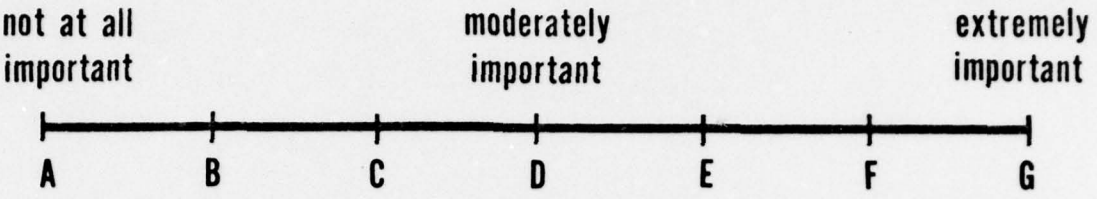
117. Family - Having a job that does not unduly disrupt family life. Being able to spend enough time with your family. Having your family be proud of the work you do.

118. Prestige - Feeling that your job places you in a prestigious position. Being looked up to and respected because of the kind of work you do.

119. Performance Evaluation - Having a system which allows accurate and fair performance evaluations. Evaluations being earned by how well the job is performed.

120. Assignments - The impact of the Air Force assignment system.

121. Promotion opportunity - Having a promotion system which is fair and equitable where promotions are earned by performance.



122. Work Schedule - Having a work schedule which allows advance scheduling of off-duty time as well as providing enough time off.

123. Personal Growth and Development - Having the opportunity for self-fulfillment in your job. Having the chance to "grow" in your job.

124. Communications - Having adequate communication with your wing/squadron. Having a free flow of accurate information up and down the organization structure.

125. Concern for Individual - Having management (flight commander, ops officer, sq/cc) care about the welfare and career of each individual. Individuals not being treated as just another crew member but as an identity, a person.

126. Recognition - Receiving adequate recognition for exceptional or sustained high quality work. Knowing that you will receive appropriate credit for the work you do.

127. Group Cohesion/Worker Relations - Having crew members with whom you are compatible. Your crewmembers are friendly, cooperative, competent, sociable, etc.

128. Air Force Way of Life - Living in the Air Force community is a way of life, not just a job.

129. To what base are you currently assigned?

a. Charleston
b. Dover
c. McChord
d. McGuire
e. Norton
f. Travis

The next part of the questionnaire asks you to describe your job, as objectively as you can. Please do not use this part of the questionnaire to show how much you like or dislike your job.

A sample question is given below.

To what extent does your job require you to work with mechanical equipment?

A--------B--------C--------D--------E--------F--------G

Very little; the job requires almost no contact with mechanical equipment of any kind.

Moderately

Very much; the job requires almost constant work with mechanical equipment.

You are to select the letter which is the most accurate description of your job.

If, for example, your job requires you to work with mechanical equipment a good deal of the time--but also requires some paperwork--you might select the letter "F".

130. How much autonomy is there in your job? That is, to what extent does your job permit you to decide on your own how to go about doing the work?

A----------B----------C----------D----------E----------F----------G

Very little; the job gives me almost no personal "say" about how and when the work is done.	Moderate autonomy; many things are standardized and not under my control, but I can make some decisions about the work.	Very much; the job gives me almost complete responsibility for deciding how and when the work is done.

131. To what extent does your job involve doing a "whole" and identifiable piece of work? That is, is the job a complete piece of work that has an obvious beginning and end? Or is it a small part of the overall piece of work, which is finished by other people or by automatic machines?

A----------B----------C----------D----------E----------F----------G

My job is only a tiny part of the overall piece of work; the results of my activities cannot be seen in the final product or service.	My job is a moderate-sized "chunk" of the overall piece of work; my own contribution can be seen in the final outcome.	My job involves doing the whole piece of work, from start to finish; the results of my activities are easily seen in the final product or service.

132. How much variety is there in your job? That is, to what extent does the job require you to do many different things at work, using a variety of your skills and talents?

A----------B----------C----------D----------E----------F----------G

Very little; the job requires me to do the same routine things over and over again.	Moderate variety.	Very much; the job requires me to do many different things, using a number of different skills and talents.

133. In general, how significant or important is your job? That is, are the results of your work likely to significantly affect the lives or well-being of other people?

A----------B----------C----------D----------E----------F----------G

Not very significant; the outcomes of my work are not likely to have important effects on other people.	Moderately significant.	Highly significant; the outcomes of my work can affect other people in very important ways.

134. To what extent does doing the job itself provide you with information about your work performance? That is, does the actual work itself provide clues about how well you are doing--aside from any "feedback" co-workers or supervisors may provide?

A----------B----------C----------D----------E----------F----------G

Very little; the job itself is set up so I could work forever without finding out how well I am doing.	Moderately; sometimes doing the job provides "feedback" to me; sometimes it does not.	Very much; the job is set up so that I get almost constant "feedback" as I work about how well I am doing.

Use the following responses to indicate how accurately each statement in questions 135 through 144 describes your job.

A	B	C	D	E	F	G
Very Inaccurate	Mostly Inaccurate	Slightly Inaccurate	Uncertain	Slightly Accurate	Mostly Accurate	Very Accurate

135. The job requires me to use a number of complex or high-level skills.

136. The job is arranged so that I do not have the chance to do an entire piece of work from beginning to end.

137. Just doing the work required by the job provides many chances for me to figure out how well I am doing.

138. The job is quite simple and repetitive.

139. This job is one where a lot of other people can be affected by how well the work gets done.

140. The job denies me any chance to use my personal initiative or judgement in carrying out the work.

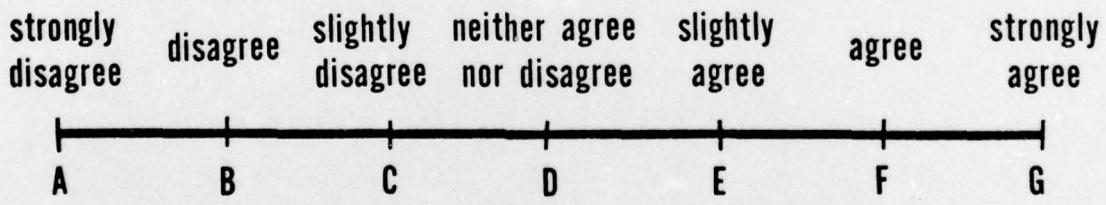
141. The job provides me the chance to completely finish the pieces of work I begin.

142. The job itself provides very few clues about whether or not I am performing well.

143. The job gives me considerable opportunity for independence and freedom in how I do the work.

144. The job itself is not very significant or important in the broader scheme of things.

The remaining questions do not apply to enlisted personnel. Therefore, enlisted personnel should make any additional comments on the comment sheet and return completed answer sheets to AFMPC/DPMYPS in the envelope provide. Questions 145 through 148 are to be answered by all officers.



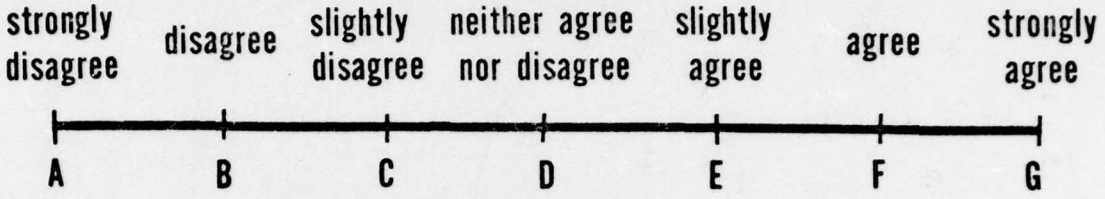
145. In order to get the performance ratings needed for promotion, line crew members must pull additional duties within the squadron.

146. The Air Force OER system is generally being administered fairly and equitably in my organization.

147. Additional duties have a stronger influence on my OER than do flight related duties.

148. My rating official (the first person in the OER rating chain) is very familiar with my work.

Questions 146 through 149 are to be answered by PILOTS ONLY. All other personnel should make any additional comments on the comment sheet and return completed answer sheets to AFMPC/DPMYPS in the envelope provided.



149. When I entered the Air Force I intended to receive flight training and separate at the earliest possible date.

150. After I leave the Air Force I plan to fly for the airlines.

151. If I could get a definite job offer from a commercial airline, I would separate from the Air Force as quickly as possible.

152. Performing duty in a non-rated job is essential for me to be promoted.

THANK YOU

APPENDIX B

Rotated Factor Matrices

FILE NONAME (CREATION DATE = 08/07/78)

VARIMAX ROTATED FACTOR MATRIX
AFTER ROTATION WITH KAISER NORMALIZATION

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5	FACTOR 6	FACTOR 7	FACTOR 8	FACTOR 9	FACTOR 10
Q17	-.11598	-.72106	.07155	.01663	.0413	-.09596	.01121	-.1247	-.09364	-.02784
Q18	.17506	.78303	-.03096	.05961	.02209	.11492	-.09660	.16528	-.03478	.09130
Q19	.07153	.74768	.03370	.02937	.12198	.07423	.14026	.02580	.05350	.08586
Q20	-.01821	-.77463	.05247	-.00553	-.04695	-.07360	.08919	-.05591	.08157	-.10758
Q21	.08709	.07473	.04247	.69900	.07731	-.03611	-.10297	.01345	-.07183	-.01737
Q22	-.02272	.04957	.15750	.40788	-.02077	-.25742	-.13528	-.02631	-.12938	-.04811
Q23	-.03956	-.08033	-.02089	.65029	-.05702	-.00799	.03370	.10328	-.08308	.04026
Q24	-.02198	-.10465	.15186	.54650	-.05657	.08298	.01765	-.08015	-.05309	-.01803
Q25	.00982	.05015	.11093	.71271	.05311	-.07078	-.04849	-.09283	-.01518	-.04804
Q26	-.01131	-.04705	.18202	.42772	.06682	.10382	.09885	-.03360	.02086	-.12629
Q27	.07239	-.02439	.07184	.70381	-.08285	-.05915	-.05127	-.02243	-.01172	.05947
Q30	.06701	.06652	-.12349	-.07399	-.12156	-.09870	-.32312	.12608	-.08836	-.13784
Q34	.11317	.09279	.04204	-.02301	.04998	.79119	.08618	.06317	-.03771	-.14579
Q37	.12049	-.07647	.42559	.15078	.07468	-.26692	-.13426	-.07788	-.07647	.13158
Q38	-.05977	-.08705	.74072	.02456	-.11947	.03327	-.14959	.01330	.03402	.06981
Q39	-.06984	-.06031	.70515	.07267	-.21338	.04417	-.02561	-.00523	.00982	.00177
Q40	-.13307	-.09801	.42887	.19107	-.07318	.11323	.01707	-.17412	-.03630	-.09930
Q41	.05098	-.07087	.48317	.21002	-.02352	.00310	-.02189	-.04798	.07825	-.09684
Q42	.06577	-.02433	.19666	-.13067	.05151	.02943	-.06634	-.07617	.05893	-.05847
Q43	-.18179	-.08710	.41482	.05242	-.09831	.01948	.04731	-.08622	-.07087	-.05301
Q44	.08577	-.11401	.43991	-.00872	.04303	-.11853	.04355	-.03710	-.14755	.10467
Q45	-.14782	.14733	.74820	.06155	.00441	.01139	-.03599	-.03191	.02429	.04618
Q46	-.04114	.09394	.63775	.00400	.02483	-.13412	.05385	-.07414	-.01863	-.04353
Q50	.00413	.13591	.03570	-.00475	-.11571	-.02203	-.04807	.02793	.00159	.79286
Q51	.15364	-.00985	.00252	-.07506	.03013	.09441	-.01910	.01019	.02874	-.03733
Q52	.82101	.10539	-.01465	-.00623	-.04416	.11542	-.02637	.08836	.08391	.04221
Q53	.13525	-.01789	-.15905	-.01802	.10318	.10900	.03477	.08356	.01445	.03575
Q54	.11816	.03222	-.01454	-.02274	.05124	-.18861	-.10230	-.04402	-.06543	.00840
Q55	-.05122	.02779	-.08994	-.08168	.11134	.00423	.76608	.01486	.04170	.03803
Q56	.12231	.54846	-.00639	-.00025	.00402	.04477	.04161	.01380	.02371	.01031
Q57	.13621	.06960	.03839	.07213	-.35470	-.14279	.03992	-.06517	.14796	-.01400
Q58	.33875	.07390	-.01350	-.12685	.08273	.03688	.06537	.03160	.15920	-.02893
Q59	.65753	.14962	-.09036	-.04822	.05694	-.01015	.00231	.12609	.11953	.02365
Q60	.15635	.10065	-.14657	-.00997	.07538	.02842	.06163	.08681	.08584	-.04016
Q61	.20566	.05335	-.04142	-.00045	-.00679	.01714	.03580	.16579	.18346	.04856
Q62	.08023	.04097	-.08427	-.00479	.15768	.09200	.02941	.81175	.03943	-.01178
Q63	.05490	.18013	-.07222	-.03633	-.03156	.71974	-.00145	.04812	.11436	.07443
Q64	-.01512	.29979	-.01224	-.00919	.02132	.12581	.05281	.02114	-.01229	.11411
Q65	.11204	.30128	-.05259	-.04955	.15664	.05666	.01005	-.03394	.05766	.13860
Q66	.12638	-.07730	-.08172	.01939	-.04073	.06068	.01558	.16178	-.05157	.47289
Q67	.17795	.07900	-.07508	-.02459	.13277	-.02612	-.02290	.04740	.07085	-.03862
Q68	.85697	.08218	-.04005	.04127	.00577	.09478	-.05493	.11924	-.01986	.04379
Q69	.17525	.20004	-.04516	-.12229	.25572	.14618	.00381	-.05243	-.01978	.01258
Q70	.06464	-.02536	.04403	-.01571	-.02251	-.04711	-.15713	.03396	-.19970	.03903

Table XI. Varimax Rotated Factor Matrix A.

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FILE NONAME (CREATION DATE = 08/07/78)

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5	FACTOR 6	FACTOR 7	FACTOR 8	FACTOR 9	FACTOR 10
Q71	.08353	-.01615	.02799	.01588	.08362	.23411	.12257	.04689	.02029	.02646
Q72	-.07323	-.01811	-.05897	-.06095	.05317	.02763	.72725	-.05624	-.03074	-.14209
Q73	-.10105	-.25014	.17313	.00350	.01118	-.09406	.19802	-.06324	.09896	.12931
Q74	.22814	.13230	-.06300	.05051	.10495	-.02795	.06493	.21355	-.08215	-.01338
Q75	.35634	.01530	-.04057	.04059	.00474	.05182	.11821	.16274	.03598	-.05897
Q76	.28996	.13937	-.10823	-.00026	-.08257	-.05907	.00079	.27693	-.03645	.03758
Q77	.22006	.05566	.05381	-.01101	.00914	.01109	-.01445	.78460	.00685	.05399
Q78	-.10082	-.15758	.01756	.05023	-.08659	-.77526	-.03245	-.01151	-.02867	-.03789
Q79	.04679	.15113	-.00135	.02624	-.00834	-.13353	.09847	-.01743	.27952	-.00579
Q81	-.00052	.01364	.03277	.16538	-.15981	-.24330	-.01969	-.03461	.00370	-.03596
Q83	-.12608	-.26358	.08680	.11054	.06912	-.00156	-.00810	-.12227	-.03230	-.03062
Q84	.08123	.01224	-.07916	-.17976	.17372	.02956	.06147	.10880	.04298	-.03186
Q85	.23741	.15931	-.03149	-.05985	-.09374	.06739	-.11116	.06766	.02489	-.00567
Q86	.05474	.34710	-.07334	-.07549	.16312	.15318	-.07334	-.02196	.01246	.26637
Q87	-.04055	.09117	-.14563	-.04539	.30239	-.09247	.11512	-.15540	-.03533	.21173
Q88	.12889	.02692	-.07577	.03222	.10551	.05831	.04159	-.18909	.19341	.20668
Q89	.05611	.24287	.00710	.00023	.03884	-.02026	-.10013	.00332	-.04193	.76514
Q90	.11212	.02183	-.12598	-.05965	.13731	-.02592	.02656	.07602	.03100	.02111
Q91	.34940	-.00542	.01735	.06789	-.01740	.04979	-.04685	.12315	-.04239	.00173
Q92	.11659	-.07279	-.02149	.02854	.09421	-.00525	.02443	.02472	.02616	-.01496
Q93	-.01211	-.05599	.01962	.05672	-.23425	-.13264	-.00103	-.03355	-.08042	.01578
Q94	.00219	.08057	-.11263	-.00333	.72130	.05775	.11997	.10625	.04217	-.07490
Q95	.19764	.06323	-.01945	.02429	-.06878	.00132	.10905	.13126	.10132	-.00372
Q96	-.01260	.02218	.01370	-.05709	.04451	.09936	.00740	.07410	.81813	.00371
Q97	-.14362	-.32265	.04795	.12412	.01567	-.09672	-.00979	-.26517	-.07516	-.10875
Q98	.31079	.00119	-.05150	.01997	.08671	-.07847	.12982	.14519	.08997	-.04308
Q99	-.37068	-.10283	.01123	-.00501	-.10090	-.07661	-.10262	-.05610	-.10028	-.04242
Q100	.55092	.08253	-.10863	.10396	.13584	-.00203	.03129	.13941	-.04616	-.00345
Q101	.08954	.03328	-.10779	-.13349	.25146	.04277	.00919	.01122	.06685	-.01923
Q102	-.20681	-.03599	.05378	-.02953	-.03374	-.02848	-.05500	-.15381	-.00210	-.01265
Q103	-.19312	-.05209	.12752	.01408	-.00249	-.01789	.08273	-.81834	.00169	-.00320
Q104	.05778	.29047	.02739	-.08592	.11126	.25257	.01041	-.05038	.01666	.09642
Q105	.04881	.11569	-.11006	-.08502	.12917	.07555	.11751	.04713	.02331	-.04593
Q106	.07171	-.06355	-.01250	-.02137	-.01916	.09517	.75821	-.01729	-.06981	-.07863
Q107	.08513	-.01352	.01615	-.05111	.04867	.00695	-.04167	.01431	.87326	-.05621
Q108	-.05073	-.03274	.15878	-.01953	-.20772	-.10093	-.04071	-.03417	-.08643	-.04781
Q109	.17208	.04984	-.09572	.03537	.18045	.09276	.06056	.02935	.12304	-.01518
Q110	-.17597	-.08232	-.13225	-.07631	-.14653	.21791	.16281	.04413	-.02592	.05213
Q145	.11298	-.01114	.07643	-.07801	-.03099	-.02276	-.06711	.12693	.00621	.01972
Q146	.30196	.20422	-.12937	-.00143	-.22160	-.00268	.07210	.08681	-.04882	.08286
Q147	.03214	.04008	.10139	.04149	-.00267	-.06073	-.11568	-.01420	-.08326	-.05633
Q148	.05946	.05797	.09124	-.17825	.04974	.01486	-.02350	.36629	-.08709	.09295
Q149	-.05032	-.02475	.13632	-.05321	.09092	-.08847	.04437	-.02594	.03120	.02976
Q150	-.05999	.09437	.07774	-.05180	.03688	.02067	.03478	-.01129	-.16172	.31346
Q151	-.04299	-.04065	.05931	.05071	-.07121	-.08730	-.12662	-.10369	.01039	.13274
Q152	.01040	-.02808	-.03937	.13621	-.20739	.00155	.05075	.02646	.13688	-.02254

Table XI. Varimax Rotated Factor Matrix A. (Continued)

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FILE NONAME (CREATION DATE = 08/07/78)

	FACTOR 11	FACTOR 12	FACTOR 13	FACTOR 14	FACTOR 15	FACTOR 16	FACTOR 17	FACTOR 18	FACTOR 19	FACTOR 20
Q17	.00184	-.13441	.01746	-.03705	-.04309	.05074	-.07301	.07989	-.12233	.13101
Q18	.05659	-.00665	-.02570	.00944	-.00565	.05603	-.03949	.03629	.18095	.07413
Q19	-.06404	-.10827	-.12222	-.00419	.01226	.06211	-.02998	.01228	-.01748	.05918
Q20	-.01550	.01065	.03042	.00706	.03144	.05443	-.01653	-.02709	-.07816	-.11203
Q21	.02945	-.03303	-.16408	.00678	-.09768	.05739	.12464	.12165	-.02136	-.03279
Q22	-.01158	.09478	-.01303	.03667	-.07434	.24840	.13084	.08181	-.08525	-.24099
Q23	-.04318	.01612	.25811	-.10065	-.02881	.00879	-.00010	-.01293	-.13663	.15442
Q24	-.14156	.00577	.03580	.00138	.05755	-.05632	-.08999	-.39119	-.05502	.03996
Q25	-.00216	.02063	.05352	-.00879	-.00432	.02311	-.05512	-.23368	-.00947	.06113
Q26	.00106	-.11042	-.04721	-.00365	.06523	-.08144	-.19624	-.31915	-.06329	-.11495
Q27	.17558	.02991	-.07747	.05977	-.15252	-.04673	.05050	.05892	.06416	-.06840
Q30	.04657	-.11874	-.10184	.09100	-.07773	.34501	.06491	-.19408	-.00965	.05977
Q34	-.06776	.02651	.04129	.07596	.09441	-.10143	.16139	-.05197	.03988	-.13265
Q37	-.00056	-.18769	-.04946	-.07930	-.09958	.14753	.08763	.17305	.12364	-.02577
Q38	-.01196	-.09858	-.10784	.04075	.04305	.00345	-.05736	-.09464	.04562	-.05280
Q39	-.00456	-.05227	-.02154	-.05173	-.06898	.08064	-.01687	.13626	-.05320	-.02152
Q40	-.13700	-.10549	-.17824	-.05383	-.05205	.08358	-.05188	.29919	.02823	.22841
Q41	-.01537	.02399	-.12821	-.13375	-.15384	.12854	-.02534	-.00531	.08845	-.04408
Q42	.02310	.03903	.11108	-.00271	-.04813	.05633	-.09816	.67171	.02671	-.06291
Q43	-.11912	-.12352	-.01535	-.04845	-.12581	.00086	-.06648	.38350	-.01503	.07081
Q44	.02539	-.17235	-.09027	-.03533	-.15639	-.03681	-.01178	.29997	.16827	-.03246
Q45	.09447	.01883	-.03134	-.03563	-.00594	.02481	.02540	-.02901	-.07632	.02008
Q46	.17810	.09253	-.01070	.02307	.00141	-.05808	.07997	.03310	-.11111	-.06084
Q50	.00485	-.01064	.07892	.07175	-.08393	.14117	.05929	.00461	.01907	-.06197
Q51	-.36708	.01838	.11395	.03691	.73234	-.00952	-.00602	-.09997	-.03985	.03468
Q52	.84961	.10347	.06552	.06942	.09561	-.00093	-.01531	.02888	-.02187	-.01771
Q53	.00138	.02010	.73406	.03859	.16568	.01973	.10397	.02805	.06345	-.02622
Q54	.05437	.06380	-.08118	.06532	.05072	-.07525	-.65929	.01858	.01704	-.02349
Q55	-.15725	.07780	.04292	.09496	.00647	-.12364	.08964	-.01905	.07200	.12139
Q56	-.08187	.19764	.11495	.16232	.10912	-.00421	.04112	-.11801	.14434	.10263
Q57	-.04379	-.35232	-.04714	-.05364	-.05729	-.09494	-.07516	.01041	.02576	-.02476
Q58	-.02478	.18744	.21647	.11407	.19487	-.06331	.13677	-.02172	.09569	.08684
Q59	.06124	.12152	.10060	.13093	.03861	-.10218	.00771	.03131	.03134	.19537
Q60	-.04348	.04096	.02377	.01294	.04732	-.05725	.08979	.02170	.01181	-.00864
Q61	-.16671	.69127	-.01332	.02051	.08908	-.05224	-.05851	.01443	.09205	.07351
Q62	.00172	.10178	-.03646	-.00059	.02157	-.00217	-.01128	-.00188	-.03228	.08011
Q63	-.00417	.06413	.00353	.05919	-.03500	.02840	.10374	.05729	.06115	.00932
Q64	.19126	.07289	.03310	.04425	.00859	.07638	.09451	.08372	.68828	.01044
Q65	.14313	.22945	.03974	.03275	.12573	-.24711	-.02149	-.08596	.46987	.15309
Q66	.02705	-.09623	-.08279	-.19537	.12318	.21715	-.02263	-.01447	.31761	.11397
Q67	-.11857	.08990	.08414	-.06096	.66322	-.02032	.14334	.04521	.09446	.11135
Q68	-.03512	.13308	-.00996	.01166	.05029	.00605	-.04422	.04853	-.00266	.03460
Q69	-.27101	.32633	.04671	.11611	.06994	.07847	-.02870	-.08125	.14971	-.05927
Q70	-.03982	.03058	-.74090	-.02325	.02794	.09550	-.05093	-.04283	.12912	-.02129
Q71	-.10235	.05756	.11685	.08625	.12942	-.14121	.67010	.01394	-.00707	-.01117
Q72	-.03924	.09490	.16011	.03370	.12242	.04849	.06341	.05964	.01974	-.08243
Q73	-.03945	-.18191	-.15577	-.17851	-.09933	.05267	-.07411	-.02111	-.25021	.02540
Q74	.03393	.23514	-.11484	.13191	.15466	.11317	.16970	.00377	-.02547	.29890
Q75	-.02978	.71006	.03285	.09649	.07213	-.02927	.04591	.00135	.12016	.14416
Q76	.06961	.14098	.00665	.07534	.03944	-.09637	-.00422	-.01647	.09118	.49575

Table XI. Varimax Rotated Factor Matrix A. (Continued)

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FILE NONAME (CREATION DATE = 08/07/78)

	FACTOR 11	FACTOR 12	FACTOR 13	FACTOR 14	FACTOR 15	FACTOR 16	FACTOR 17	FACTOR 18	FACTOR 19	FACTOR 20
Q77	.03881	.1343.	. 8416	.05815	.02996	-.04459	.05470	-.06529	.04391	.04971
Q78	.01515	-.00035	-.09681	.03345	-.02660	.00736	-.22494	-.01491	.03986	-. 4843
Q79	-.08936	-. 116	-. 2413	-.12212	-. 2297	.02483	.03156	.05035	.73235	-.00532
Q81	.12732	-.14522	-.11846	-.07015	.02590	.12050	-.14129	-.01068	-.08451	-.04801
Q83	-.08991	-.17580	-.12103	-.04228	-.07432	.06238	-.06438	.07847	-.01620	.00369
Q84	-.01894	.15093	.22261	.21900	-.01148	-.20610	.04255	-.16538	.37404	.08445
Q85	.14328	.15855	.01290	.15727	.02747	.03050	-.03820	-.04058	.07112	.58933
Q86	.18781	.17673	-.02120	.07163	-.05613	-.18680	-.06358	-.09231	.41261	.19615
Q87	-.17335	.05122	.10438	.20285	.14897	-.17829	.07775	.14793	-.07176	.06707
Q88	.12981	.22252	.00942	.00429	.16658	-.26878	-.01487	.08916	.21029	.15720
Q89	-.16568	.05661	-.07254	-.05854	.00207	.08900	-.05542	-.06116	.07144	.02874
Q90	-.05028	.11776	-.13900	.08105	.57671	-.29028	.10871	.08241	.08587	-.05755
Q91	.04958	.12808	.00410	.01204	.06210	-.03507	.04216	-.04345	.07771	.06798
Q92	-.15477	-.02500	.62596	.01010	-.02733	-.11752	.11354	.14866	.17778	.01523
Q93	-.02591	-.04358	-.06193	-.04188	-.10302	.10906	-.72605	.07312	-.03575	.03253
Q94	-.11236	-.01913	.16367	.10322	.12956	-.02080	.14202	.31670	.12643	-.12029
Q95	-.19288	.05265	.07043	.69470	.09267	.04669	.02933	.02897	.01459	.23327
Q96	.04779	.19765	. 7279	.13285	.07568	-.09887	.04995	.07006	.08327	-.02588
Q97	.02517	-.21195	-.06938	.06560	-.09385	.06467	.06930	-.02559	-.08773	.07270
Q98	.15169	.34709	.18498	.13446	.13694	.02869	.09283	-.01358	-.00693	.26426
Q99	-.00008	-.16352	.13520	-.14584	-.14490	.08062	-.06672	-.04401	-.11138	.11984
Q10	.13279	.13491	. 3225	.23460	.11570	.05641	.10522	-.04185	.02723	.30223
Q101	.01185	.11563	.28373	.10631	.11682	-.07373	.17519	-.08615	.01566	.06177
Q102	.01409	-.77112	.05160	.01677	.00043	.12415	-.00646	-.00845	-.09401	-.05400
Q103	.00507	-.12774	-.00792	-.05923	-.02694	.04653	-.05661	.02058	.01809	-.05020
Q104	.11500	.18062	.17243	.24603	-.08198	-.17149	.05210	-.10857	.31549	.20987
Q105	-.01348	.10902	.16427	.07403	.10681	-.03228	.14457	-.03203	.00644	-.00058
Q106	-.03936	-.01722	-.00136	.15312	-.15140	.06949	.04745	-.12420	.04240	-.12791
Q107	-.01699	.04591	.05234	.05091	.01743	-.02565	.08624	-.03333	.04445	. 2624
Q108	.03172	-.13476	-.13818	.08933	-.08979	.04193	-.12415	.07236	.06306	-.09683
Q109	.00423	.03960	.00184	.74923	-.02799	-.06271	.01545	-.03753	-.03754	.02624
Q110	.13548	.06174	. 2544	.28583	.34183	-.15785	-.17465	.12724	.03223	-.15452
Q145	.71279	-.00658	.00679	.01006	-.13634	.02711	-.00219	-.13847	.11709	.02706
Q146	-.03499	.22243	-.10950	.19036	.05755	-.17131	.09928	.25773	.00667	-.07414
Q147	.65612	-.03979	.02246	-.10613	-.11908	.17064	-.17648	.03444	-.04480	-.02280
Q148	-.03603	.27158	.12090	.15667	.08315	.11000	.12323	.06000	.11085	-.05070
Q149	.06515	.04869	-.00431	.00054	-.12469	.14657	.11106	-.00212	-.07126	-.01558
Q150	.05004	-.06135	-.08005	-.00609	-.12671	.73542	-.01883	.07676	.00475	.03495
Q151	.16153	-.06038	-.07336	-.03934	-.04779	.78746	-.12991	.04322	-.01129	-.02873
Q152	.58745	-.16451	-.10321	-.05389	.11346	.04111	.05581	.18940	-.01752	.10120

Table XI. Varimax Rotated Factor Matrix A. (Continued)

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FILE NONAME (CREATION DATE = 08/07/78)

	FACTOR 21	FACTOR 22	FACTOR 23	FACTOR 24	FACTOR 25	FACTOR 26
Q17	.00325	.14868	.17898	-.05962	-.05671	.01631
Q18	.03611	-.07484	.1948	.00991	.0514	-.01716
Q19	-.01999	.02375	.08108	.09272	.04708	.00990
Q20	.01381	-.05737	-.03140	.01401	.01495	.01453
Q21	.16944	-.06968	.05397	-.08852	-.01511	.01280
Q22	.18366	.14574	-.3383	-.21285	-.11315	-.34458
Q23	-.07249	.06793	.1228	-.15298	.10988	-.15047
Q24	-.09578	.02381	-.27116	.01265	-.18559	-.05180
Q25	-.18253	.16128	-.05016	.00431	-.05839	.10125
Q26	.03169	-.10384	-.02464	-.06798	-.06787	.38378
Q27	.14200	-.03429	.13773	.07222	-.03205	.04119
Q30	.22 26	.10526	-.1971	-.23954	-.00238	.04630
Q34	-.05170	-.09934	-.02255	-.02859	-.04786	-.01034
Q37	.09374	.27398	-.17142	-.09416	.04963	.00253
Q38	-.07788	-.10872	-.15491	.06185	.15181	-.00657
Q39	-.13633	.02338	.10777	.00744	.10711	.10804
Q40	-.12192	.18422	-.11586	-.10014	.08929	.20563
Q41	-.06515	.22595	-.12553	-.22771	-.04405	-.09142
Q42	.02152	.03123	-.00425	-.07192	-.11790	-.03024
Q43	-.15018	.10985	-.07488	-.35733	.01929	.07477
Q44	.12337	.19633	-.21410	.11847	-.16726	-.00268
Q45	.13423	-.03805	.16364	-.06414	-.14586	-.06973
Q46	-.18197	-.00794	.16917	-.09491	-.25436	.01352
Q50	.04196	-.01678	.07396	.00975	-.03980	.05678
Q51	.08176	-.09675	-.05282	-.00272	-.04408	.03361
Q52	.04520	-.00517	.03303	.10848	-.05210	-.04440
Q53	.00436	-.12067	.12641	.07423	.01153	-.05772
Q54	-.02903	.12918	-.02833	-.17549	-.07439	.10559
Q55	-.00420	-.07234	.00436	-.01910	.07749	.01786
Q56	.05715	-.04857	-.30275	.02773	.09426	.10488
Q57	.01237	.31879	.27967	-.04777	-.05511	-.15856
Q58	.05069	-.44176	.01935	.07155	.05134	.03722
Q59	-.01156	-.23269	-.11994	-.02085	.08674	.05044
Q60	-.05471	-.18801	.10885	.16798	-.02968	-.00220
Q61	.10134	-.06729	-.01090	.08051	.07184	.04982
Q62	-.00092	-.04336	.00204	.06921	.13573	.03869
Q63	.13113	-.11060	-.07692	.13079	.05984	.08929
Q64	.06585	-.10326	-.05312	-.02164	.07790	-.09012
Q65	.15953	.02860	-.19738	-.01379	.14817	.12616
Q66	-.20158	.11245	-.07499	.19696	.04259	-.09525
Q67	.17113	-.14798	.05665	.13093	.05129	.00756
Q68	.02964	-.02491	-.18018	-.00662	.00789	.03399
Q69	.06348	-.13422	.00421	-.06750	.46375	-.06940
Q70	-.07816	.03213	.16767	-.09855	.08190	.06261
Q71	-.11571	-.00015	.03902	.21228	.02554	.03881
Q72	-.10734	.07985	.19181	.00691	-.11571	-.02777
Q73	-.00923	.30887	.01244	.04533	-.02391	-.02150
Q74	.14689	-.19576	-.23361	.22354	.17527	.00414
Q75	-.03384	-.13105	.06730	.09934	.10195	-.03743
Q76	.03 99	-.24193	-.15353	-.04298	-.04176	.05188

Table XI. Varimax Rotated Factor Matrix A. (Continued)

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FILE NONAME (CREATION DATE = 08/07/78)

	FACTOR 21	FACTOR 22	FACTOR 23	FACTOR 24	FACTOR 25	FACTOR 26
Q77	-.02111	-.02800	.01149	.02680	.01367	-.00373
Q78	-.02535	.03923	-.[illegible]572	.01227	-.03077	.06562
Q79	-.02266	-.05404	.[illegible]0076	.02510	-.09531	.08440
Q81	.26421	.31185	.05014	-.14820	.28907	.39457
Q83	.00338	.14906	.14307	.03005	-.61915	-.01382
Q84	.08312	-.39602	.11538	.12169	.04250	-.03929
Q85	.02275	.03653	.07595	.03977	-.03452	-.06886
Q86	.15913	-.[illegible]3502	-.[illegible]9911	-.10162	.08[illegible]27	-.00540
Q87	.11468	-.23227	-.05119	.13965	.05998	-.09912
Q88	.41028	.01139	-.11483	.05684	.02533	.13662
Q89	-.00027	-.05872	-.06838	-.09145	.05238	-.03107
Q90	-.07261	.00577	-.13529	.18581	.11713	.03853
Q91	.01741	.05159	.02642	.03953	.05625	.01483
Q92	-.14953	-.08919	.10811	.22195	.14440	.24449
Q93	.06044	-.00342	.05502	.06936	.06984	-.05089
Q94	-.04022	-.13622	.[illegible]2755	.10525	-.00081	-.00712
Q95	.04646	-.02149	.06770	.08685	-.00025	.08906
Q96	.01521	-.10258	-.[illegible]0310	.05750	.07133	-.05881
Q97	-.05275	-.03142	.54340	-.00069	-.21880	.03437
Q98	.12434	-.21935	-.17825	.10032	-.00976	.18937
Q99	.04234	.52439	.08923	-.20689	-.06351	.01489
Q100	.04698	-.08015	.00324	-.06709	.12250	-.03654
Q101	.16629	-.09222	-.03031	.65825	.06751	-.06434
Q102	.[illegible]2 49	.10767	.14003	-.04509	-.04623	.04221
Q103	-.00643	.04317	.10941	.02014	.05187	.00867
Q104	.15056	.19529	.13686	.06590	.23446	-.04045
Q105	-.01001	-.15278	-.[illegible]1500	.71559	-.10982	.02291
Q106	.07085	-.10049	-.08916	.11637	.03808	.04585
Q107	-.01292	-.[illegible]1874	.[illegible]0421	.00848	-.04[illegible]13	.04355
Q108	.07191	.57330	.01705	-.10918	-.11187	.04291
Q109	-.04403	-.07662	-.09013	.06501	.04186	-.02730
Q11[illegible]	-.29511	.[illegible]6188	.08045	.02230	.22757	-.18775
Q145	-.05415	.[illegible]2090	-.[illegible]4753	-.01478	-.02895	-.03448
Q146	-.08047	-.22571	.14588	.02376	-.03730	.29239
Q147	-.01214	.0732[illegible]	.15871	.00385	.05463	.10369
Q148	.03433	.17114	-.[illegible]9325	-.05610	-.21091	.43689
Q149	-.74804	-.04340	.00606	-.03659	-.02446	.01658
Q15[illegible]	-.19959	.06097	.00808	-.04865	.06171	.02955
Q151	-.[illegible]6593	.[illegible]6684	.[illegible]3005	-.00884	-.05202	-.01176
Q152	.04515	-.08488	-.09906	.02645	.01331	-.06286

Table XI. Varimax Rotated Factor Matrix A. (Continued)

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VARIMAX ROTATED FACTOR MATRIX
AFTER ROTATION WITH KAISER NORMALIZATION

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
Q130	-.07726	-.01948	.79364	-.01404	.08028
Q131	.10174	.16766	.16949	.71237	.13938
Q132	.03985	.03237	.32251	.29925	.65877
Q133	.10468	.78419	.08974	.14550	.22383
Q134	.74935	.16586	.11189	.14332	.21014
Q135	.26477	.17751	-.15551	.07430	.71118
Q136	-.20387	-.03531	-.10259	-.75095	-.05555
Q137	.83308	.04780	.01874	.20565	.10637
Q138	-.07961	-.11593	-.03165	-.00401	-.79222
Q139	.11049	.74656	-.01801	.12238	-.08119
Q140	-.26468	-.10016	-.65481	-.06547	-.15753
Q141	.22110	.21235	-.04236	.78832	.06448
Q142	-.82305	-.10496	-.05004	-.17858	-.04626
Q143	.03708	.03950	.75879	.18064	-.14086
Q144	-.07248	-.74280	-.04844	-.10036	-.21096

Table XII. Varimax Rotated Factor Matrix B.

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VARIMAX ROTATED FACTOR MATRIX
AFTER ROTATION WITH KAISER NORMALIZATION

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
Q111	.58203	.26192	-.10597	.10034	.19823
Q112	.46637	.12096	-.12691	-.08427	.50491
Q113	.68801	.25674	.17739	.07739	.08490
Q114	.73139	.05537	.11958	.21873	.13639
Q115	.26347	.02896	.65532	.28685	.03597
Q116	.55224	.33936	.39332	.17269	-.10644
Q117	.21903	-.08820	.41788	.17528	.57684
Q118	-.12042	.38315	.53502	.03894	.31998
Q119	.31655	.18505	.35849	.58654	-.05184
Q120	-.15606	.22975	-.07160	.54602	.46424
Q121	.20336	.11512	.16694	.82435	.09687
Q122	.16711	.32084	-.04928	.04025	.66341
Q123	.15487	.49103	.04231	.51985	-.04207
Q124	.30531	.71328	.01269	.31246	-.00847
Q125	.29069	.70667	.11049	.03929	.10248
Q126	.09294	.64574	.28855	.20567	.18189
Q127	.12649	.62809	.13102	.07609	.23360
Q128	.00199	.15322	.67640	.00916	-.09197

Table XII. Varimax Rotated Factor Matrix C.

APPENDIX C

Correlation Matrix of Q14 (Career Intent)

and Factors

REGRESSION ON MAC FACTORS 08/07/78 23.52.00. PAGE 38

FILE NONAME (CREATION DATE = 08/07/78)

* M U L T I P L E R E G R E S S I O N *

CORRELATION COEFFICIENTS.

A VALUE OF 99.00000 IS PRINTED
IF A COEFFICIENT CANNOT BE COMPUTED.

F1	-.21181											
F2	-.22725	.00179										
F3	-.03766	.02967	-.02895									
F4	-.04561	-.01130	-.00004	.02305								
F5	-.08375	.00978	-.04971	-.04045	-.02644							
F6	-.15943	.01750	-.07501	-.00056	.01646	-.06268						
F7	.08397	-.00244	-.01905	-.03238	-.03343	-.00257	-.02494					
F8	.00255	.00652	.03187	-.00191	-.01330	.00577	-.03992	-.01342				
F9	-.22575	-.00663	.02379	-.00501	.01913	.01925	.00936	.07433	.04429			
F10	-.09359	.00408	.05801	.01568	-.02697	-.01267	.01805	-.02137	-.08144	.03516		
F11	-.01406	-.00046	-.01102	.00348	-.02839	.01488	.01416	.04285	-.03426	-.00596	-.02385	
F12	-.11749	-.00651	-.04415	-.00809	-.03445	.01160	-.01369	.01596	-.01772	-.02691	.02532	-.05806
F13	-.01466	-.00628	.00047	-.02978	-.04242	.01781	.03240	-.05744	.02268	-.03381	.00317	.00393
F14	-.07165	-.01967	-.01648	-.04130	.05355	-.00878	.00020	-.01209	.01626	-.06531	-.00983	.00212
F15	-.15062	-.02265	-.02560	.02524	-.02306	.03806	.03217	-.04714	.02358	-.02597	.02314	.00058
F16	.40666	-.00067	.00159	.01115	-.00664	.01527	-.02484	.01088	-.01143	-.00737	-.02360	-.04115
F17	-.11477	.00098	.06541	.01487	-.00271	.01976	-.09322	.02104	-.01214	.04039	.00637	-.05157
F18	.08802	-.03404	.01373	-.02940	-.00245	.01034	-.03769	.00403	-.02191	-.01211	-.00085	.02136
F19	-.06077	.01675	-.02106	.00504	.04185	-.00259	.01622	.02356	.03604	.02480	-.00344	.04378
F20	-.09104	-.00326	.00745	-.03226	.03992	.02625	-.03752	-.04985	.00690	-.01823	.02302	-.02115
F21	-.23951	-.02523	-.00072	.02180	.03861	.00968	.02381	.02956	-.00683	-.00659	.00720	.01792
F22	.16440	.01639	-.05533	-.00771	.01611	-.04001	.02511	-.04424	-.01935	-.00505	-.03507	-.01662
F23	-.03904	-.01525	.01939	-.00840	.02092	-.00508	.01207	.04597	.02875	-.02321	-.01054	-.05101
F24	.00130	.02320	-.00059	-.01383	.03063	-.04465	-.04982	.03454	.01984	-.03433	-.01713	-.05463
F25	.00974	.04641	-.03901	-.01865	-.01273	.00763	.03798	-.02966	.00615	.00709	-.03261	.04997
F27	.07669	-.04974	.08549	-.07310	.04487	.05426	-.03416	.05008	.09906	.00254	.03836	-.09242
F28	-.08238	.03188	.08240	.00879	-.05115	.11421	-.01513	-.05530	.06844	.06730	.02056	.08179
F29	-.21246	.16954	.08034	-.08395	-.06957	-.05062	.02211	-.02649	.00761	.00597	.04296	.00714
F30	.00760	.10199	.17061	-.07515	-.00645	.06444	-.08809	.06814	.01036	-.00430	-.01375	.01990
F31	.03811	.01057	.16231	-.02119	-.00242	-.07488	-.05053	-.00279	.07850	-.00953	.04419	.07035
F32	.00314	-.05761	.02102	.02224	.04599	.04370	-.04670	-.02769	.03120	.01943	-.01468	-.04699
F33	.03652	.02218	.08836	.02691	.06663	.04481	-.07570	.01483	.03129	.00312	.01006	-.07196
F34	-.32288	.11415	-.03036	.02845	.07757	.08774	.01436	-.18765	-.07524	.18445	.09469	.08598
F35	-.13605	.05487	.11487	.03666	.03637	-.06472	-.02175	-.07134	.09522	-.00070	.02380	.14425
F36	.12453	-.07909	.01300	-.05032	.03073	-.07670	-.24177	-.07542	.03191	-.04835	.03897	.01291
	Q14	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11
F13	-.01317											
F14	-.01996	-.00658										
F15	-.00607	-.05438	.00245									
	F12	F13	F14									

XIV. Correlation Matrix of Q14 (Career Intent) and Factors

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FILE NONAME (CREATION DATE = 08/07/78)

F16	-.07567	.00771	.02136	-.00785								
F17	.02164	.01882	.01250	.02837	-.02451							
F18	.00132	.03552	-.04669	-.02493	-.03076	-.03145						
F19	-.02706	.01362	.02158	.01545	.03050	.03699	.03580					
F20	-.01761	.00717	-.00203	.00004	.00199	.00780	-.00851	-.00828				
F21	.06185	.00025	-.01521	.01576	.02130	.04481	.00235	.02295	-.02477			
F22	-.04733	-.06936	-.05432	-.00225	.02258	-.02377	-.02512	.01330	-.03616	-.06356		
F23	.02548	-.02982	-.02382	.01786	-.05468	-.07941	.02128	-.00129	.01130	-.01931	.01699	
F24	-.05673	.04514	-.00782	.03224	.00293	-.01082	-.01831	-.01949	-.00054	-.01911	-.03793	-.02212
F25	.00104	-.04387	-.03534	.00160	-.01757	-.04788	-.00896	-.00691	-.03380	-.01020	-.06489	-.00672
F27	.19016	.05819	.09172	-.01842	.09777	.11114	-.09200	.03674	-.03829	-.02929	-.01186	-.04041
F28	.02795	-.12649	.00205	.02576	-.02541	-.04291	-.01611	.23278	.00700	.15426	.07759	-.12231
F29	.07517	.26451	.01417	.01810	-.18123	.10998	-.07459	.01184	.07604	-.06079	-.08276	-.06466
F30	-.00887	.02307	.02474	-.03975	.02528	.11247	-.03602	.04016	.04633	-.05063	-.00118	-.15131
F31	-.01666	-.00887	.04489	-.18124	.11798	-.08513	-.10700	.06936	-.02156	.07964	.06883	-.02911
F32	-.05237	-.14036	-.03488	-.12263	-.00898	-.06857	-.04233	-.09533	.11680	.07229	.09796	.02851
F33	-.12468	-.06760	-.07863	-.06767	.04120	.00897	.03612	.06723	.03306	.05208	.12709	-.10309
F34	.04779	.01953	.08725	.16499	-.13727	.07654	-.11861	.15726	.16036	.22447	-.03887	-.05336
F35	-.05617	-.13181	-.00503	.08373	-.00392	.02848	-.02097	-.06426	.07191	.15783	.04138	.05113
F36	-.00196	-.05692	-.05875	-.13483	-.03081	-.32216	.00797	-.01790	-.01940	-.04649	.07030	-.07081
	F12	F13	F14	F15	F16	F17	F18	F19	F20	F21	F22	F23
F25	.06305											
F27	.05835	-.00086										
F28	-.08781	.00893	-.03484									
F29	.10175	.09232	.00931	.03642								
F30	.07969	.00762	.01681	-.01516	-.00789							
F31	-.07669	.19790	.00196	.03216	-.02732	-.01038						
F32	.00362	-.01977	-.04411	.09812	-.03169	.02241	.07280					
F33	.03991	-.10728	-.01944	.18322	-.06226	.06527	.00369	.02637				
F34	.01011	.01277	-.03396	.14953	.16933	-.02733	.02401	.00927	.00120			
F35	.00194	.06775	-.05385	.01002	-.08849	.08759	.10110	.00912	.01856	.00832		
F36	-.17328	-.01346	.03257	.02507	-.05849	-.02201	.12062	.05995	-.02482	.03316	-.00574	
	F24	F25	F27	F28	F29	F30	F31	F32	F33	F34	F35	

XIV. Correlation Matrix of Q14 (Career Intent) and Factors (Continued)

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REGRESSION ON MAC FACTORS 08/07/78 23.52.00. PAGE 3

FILE NONAME (CREATION DATE = 08/07/78)

* MULTIPLE REGRESSION *

CORRELATION COEFFICIENTS.

A VALUE OF 99.00000 IS PRINTED
IF A COEFFICIENT CANNOT BE COMPUTED.

F1	-.16527											
F2	-.19713	.00396										
F3	-.05223	.00951	-.00531									
F4	-.03754	-.00103	-.00959	.00311								
F5	-.08020	.00000	-.00629	-.00787	.00339							
F6	-.10271	-.03279	-.04837	.00171	.00750	-.01968						
F7	.08234	-.00056	.00496	.00205	.00264	.00107	-.01954					
F8	.04857	.00182	.00278	-.00314	-.00115	-.00012	-.01512	.00283				
F9	-.26748	.00103	.00485	.00448	-.00357	.00564	-.01219	.00586	.00362			
F10	.00191	.00399	.00202	-.00360	.00238	-.00479	.00655	.00009	-.00072	.00005		
F11	-.00952	.00228	-.01134	-.00518	-.00416	-.00231	.01145	.00438	.00108	-.00314	-.00285	
F12	-.10815	-.00103	-.01188	-.00261	.00138	-.00324	-.01393	.00135	.00270	-.00189	-.00457	-.00557
F13	-.05823	.00386	-.00510	-.00641	-.00236	-.00841	-.01078	.00311	.00058	-.00021	-.00336	-.00267
F14	-.10599	-.00080	-.00439	-.00315	.00468	-.00456	-.01684	.00246	.00423	.00285	-.00545	-.00547
F15	-.16996	-.00035	.00835	-.00161	-.00641	.00124	-.00727	.00154	.00077	.00397	.00842	.00285
F16	.38190	-.00181	.00545	.01157	-.00306	.00819	.01019	-.00009	-.00886	-.00166	-.00463	.00137
F17	-.07155	-.00361	.00659	.00550	.00169	-.00181	-.04693	-.00140	-.00074	.00333	-.00144	.00088
F18	.05941	-.00499	.00794	.00845	.00324	.00380	-.00714	-.00246	-.00346	-.00630	-.00324	.00129
F19	-.03614	.00200	-.00292	-.00195	-.00157	-.00252	-.00558	.00009	.00403	.00309	-.00193	-.00526
F20	-.10316	-.00262	-.00193	-.00454	.00216	-.00274	-.00788	.00269	.00345	-.00100	-.01077	-.00747
F21	-.21742	-.00925	-.00464	.01957	.01616	.00686	-.01870	-.00034	.00025	-.01155	-.00164	.00060
F22	.11997	.00141	-.01966	.00173	.00788	-.00565	.02291	-.00160	.00236	-.00302	-.00754	-.01111
F23	-.00251	.00007	-.02072	-.01091	.00757	-.00557	.00966	.00036	.00002	.00152	-.00238	-.00611
F24	-.05064	.00434	-.00406	.00388	-.00598	.00343	-.01521	.00649	.00454	-.00280	-.00409	-.00301
F25	.02250	.00701	-.00895	-.00181	.00292	-.00454	-.00038	.00282	.00907	-.00269	-.00799	-.00891
F27	.06845	-.04582	.09871	-.05594	.01452	.05617	.05848	.04774	.08985	-.00739	.00921	-.05419
F28	-.03634	.00381	.12741	.02808	-.06752	.12411	-.04038	-.05892	.06396	.04521	.05141	.03714
F29	-.21122	.19281	.08212	-.07904	-.07934	-.06751	.00092	-.03760	.03218	.06516	.05960	.00861
F30	.03777	.09627	.19985	-.10991	-.00895	.08164	-.06858	.11251	.04562	-.04215	.01368	-.03105
F31	.04816	.03447	.14180	-.03139	-.01386	-.01046	-.06647	.03777	.05244	-.02137	.03310	.01679
F32	-.02033	-.07696	-.00184	.04948	.00535	.02031	-.01590	-.04487	-.00123	.00854	.00664	-.05445
F33	.08537	-.00426	.08257	.00189	.06868	.07186	-.03843	.02067	.03499	-.05959	.01719	-.08927
F34	-.31472	.14428	-.02311	.01779	.05134	.09723	.01659	-.17537	-.09365	.21374	.06755	.07293
F35	-.11108	.07596	.04039	.02705	.04130	-.05889	-.04553	-.06930	.10444	.02355	.01505	.14984
F36	.14896	-.08674	-.00731	-.03761	.00272	-.11606	-.20821	-.09827	.03737	-.03405	.03798	.01582
	Q14	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11
F13	-.00489											
F14	-.00893	-.00046										
F15	.00728	.00191	.01603									
	F12	F13	F14									

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XIV. Correlation Matrix of Q14 (Career Intent) and Factors (Continued)

FILE NONAME (CREATION DATE = 08/07/78)

F16	.01095	.00661	.00653	-.00307								
F17	.00353	.00887	.00159	-.00275	-.00458							
F18	.00773	.00363	.00420	.00125	-.00585	-.00405						
F19	-.00372	.00101	-.01539	.00776	.00891	.00071	.00567					
F20	-.00504	-.00382	-.00967	.00648	.00424	-.00194	.00284	-.00996				
F21	-.00146	.00546	-.01183	.00208	-.00222	-.01192	-.01246	-.00795	-.00999			
F22	-.01237	-.00896	-.01562	.00577	.01204	-.00283	.00586	-.02064	-.01258	-.00182		
F23	-.00767	-.01182	-.01031	.00243	.01217	.00014	.00908	-.01228	-.00751	.01056	-.00570	
F24	-.00469	-.00065	-.00337	.00891	.00256	.01749	-.00141	-.00793	.00073	-.00816	-.01047	-.00222
F25	-.00831	-.00154	-.00907	.01596	.00741	.00845	.00325	-.01209	-.01634	-.01158	-.01953	-.01162
F27	.19115	.02039	.07243	-.01131	.07543	.03649	-.04808	.01907	.00196	-.04656	-.12600	-.07203
F28	.03135	-.15563	-.00131	-.10217	-.00248	-.03079	.01254	.21052	.01010	.13475	.09080	-.09767
F29	.13614	.25465	.04491	.07083	-.12893	.07663	-.06500	-.01310	.05678	-.06701	-.03122	-.09139
F30	-.00375	.02718	.02140	-.02914	.04508	.09030	-.02262	.05119	.00127	-.05149	.01463	-.16072
F31	-.12455	.03405	.06103	-.11736	.07892	-.07549	-.10596	.09203	-.01195	.03005	.04794	-.04366
F32	-.03709	-.14908	.00837	-.10587	.01569	-.01121	-.00125	-.09262	.10536	.07070	.12601	.06079
F33	-.13359	-.08230	-.10144	-.08449	.02634	-.00623	.00902	.08557	.00140	.03575	.09737	-.11461
F34	.00693	.04354	.08915	.15051	-.12237	.06284	-.08684	.15331	.15887	.21124	-.02932	-.02316
F35	-.04392	-.11087	.02194	.02209	-.03377	.01425	-.05328	-.06757	.04388	.12804	-.00391	.06743
F36	-.00939	-.06729	-.05264	-.15766	-.03752	-.30986	-.01483	-.01626	-.01958	-.03639	.00951	-.07797
	F12	F13	F14	F15	F16	F17	F18	F19	F20	F21	F22	F23

F25	-.00469										
F27	.05317	-.02510									
F28	-.07574	.06086	-.00330								
F29	.08770	.06825	.00701	.00265							
F30	.04032	.04584	-.00313	-.00234	.00658						
F31	-.12324	.17186	-.00325	.00166	-.00333	.00228					
F32	.01373	.01359	-.07296	.14431	-.03154	-.01583	.00534				
F33	-.01527	-.08096	-.01346	.15597	-.06866	.08500	-.00447	.00033			
F34	.03044	.00454	-.05354	.12121	.16427	-.01216	.01518	-.00047	-.00014		
F35	.00204	.03024	-.06643	-.00800	-.10621	.01819	.09110	.00126	.00190	-.00025	
F36	-.15868	-.01477	.01831	-.00822	-.06300	-.01162	.10665	-.00139	-.00042	-.00204	-.00037
	F24	F25	F27	F28	F29	F30	F31	F32	F33	F34	F35

XIV. Correlation Matrix of Q14 (Career Intent) and Factors (Continued)

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Vita

Steven Knudsen was born 9 March 1949 in Chicago, Illinois and lived in that general area until 1962 when his family moved to Scottsdale, Arizona. There he attended high school, earned a B.S. in Electrical Engineering from Arizona State University, and received his commission through the R.O.T.C. program. He began his Air Force career in October, 1971 with his entrance to pilot training at Williams AFB, Arizona. His first operational assignment was to Westover AFB, Massachusetts where he flew the EB-57 as the "friendly enemy" in Aerospace Defense Command. When that squadron closed in the spring of 1974, he was transferred to Travis AFB, California and flew the C-141 to many places he had never heard of. In June 1977 Captain Knudsen entered the Air Force Institute of Technology as a graduate student in Systems Management.

He is married to the former Teri Dawn Thayer of Mesa, Arizona. They are the proud parents of one daughter, Hannah.

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Retention
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Pilots
Turnover

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This study analyzes the career intent of MAC strategic airlift pilots with less than eight years service. The data were obtained from the Strategic Airlift Aircrew Survey conducted in November, 1977. The study employed factor analysis, the Automatic Interaction Detection (AID) algorithm, multiple linear regression, and selected subroutines from the Statistical Package for the Social Sciences (SPSS) as means of relating career intent to a variety of possible predictors.

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The analysis results were not very conclusive in that less than half of the variance in the career intent question was explained by the predictor set. The writer believes that these unclear results are due primarily to the complexity of the causal factors. Several survey questions also had very skewed distributions, so that although a problem was clearly identified, the question was not useful as a prdictor of career intent.

While acknowledging the limitations of the low explanatory power of the predictors found in this study, the most powerful predictors of career intent that were found include:

--Interest in the airlines,
--Importance of the Air Force as an institution,
--Flying pay as an incentive,
--Lack of concern for the individual.