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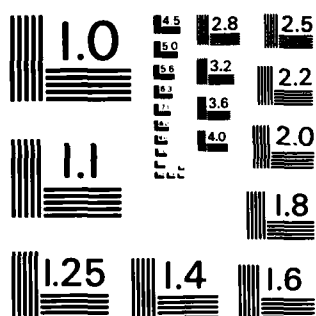
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THESIS

S-3A PILOT REDUCTION POLICY:
A MORALE AND EFFECTIVENESS STUDY

by

Mark Steven Bertsche

June 1984

Thesis Advisor: R. A. Weitzman

Approved for public release, distribution unlimited

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

Since the introduction of the S-3A Viking aircraft into the U.S. Navy in the early 1970's, the number of pilots within the S-3A community has steadily decreased. Two policies were implemented to reduce the number of S-3A pilots. The intent of these policies was to improve morale and mission effectiveness. With the decrease of the number of S-3A pilots, an increase in the utilization of the naval flight officer was effected. The focus,

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20. (continued)

of this study is to measure the perceptions of the impact of
the pilot reduction policy and calculate relevant correlations.
The data used in this study is derived from the perceptions of
forty S-3A pilots and forty S-3A naval flight officers from
Naval Air Station Cecil Field, Florida, and Naval Air Station
North Island, California. Analysis of the survey data obtained
from S-3A pilots and naval flight officers indicates a percep-
tion that the implementation of a pilot reduction policy favor-
ably impacts morale and mission effectiveness/performance. The
results also support the use of the naval flight officer in the
S-3A copilot position.

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S-3A Pilot Reduction Policy: A Morale and Effectiveness
Study

by

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Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

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ABSTRACT

Since the introduction of the S-3A Viking aircraft into
the U.S. Navy in the early 1970's, the number of pilots
within the S-3A community has steadily decreased. Two poli-
cies were implemented to reduce the number of S-3A pilots.
The intent of these policies was to improve morale and mission
effectiveness. With the decrease of the number of S-3A pilots,
an increase in the utilization of the naval flight officer
was effected. The focus of this study is to measure the
perceptions of the impact of the pilot reduction policy and
calculate relevant correlations. The data used in this study
is derived from the perceptions of forty S-3A pilots and
forty S-3A naval flight officers from Naval Air Station Cecil
Field, Florida, and Naval Air Station North Island,
California. Analysis of the survey data obtained from S-3A
pilots and naval flight officers indicates a perception that
the implementation of a pilot reduction policy favorably
impacts morale and mission effectiveness/performance. The
results also support the use of the naval flight officer in
the S-3A copilot position.

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I. INTRODUCTION

This study evaluates the impact of a policy decision.
Problems arise and certain solutions are offered to be the
correct remedy. However, following the policy implementa-
tion they are not always reviewed for effectiveness- did the
policy in fact achieve the desired results?

Evaluating policies intended to improve morale might
be avoided due to its subjective nature. It is the author's
opinion that justifying the existence of an implemented
policy is beneficial to organizational effectiveness. The
policy plan should incorporate a review following
implementation. As Peters states [Ref. 1: pg. 41]:

> "The problem is that the planning becomes an end in
> itself. It goes far beyond Byrom's sensible dictum
> to use it to enhance mental preparedness. Instead,
> the plan becomes the truth, and data that don't fit
> the preconceived plan are denigrated or blithely
> ignored. Gamesmanship replaces pragmatic action."

In the U.S. Navy the S-3A Viking carrier-based aviation
community suffered severe morale problems due to a percep-
tion that there were too many pilots in the S-3A community.
[Ref. 3] [Ref. 4]   From the period of 1974-1984 the number
of pilots per crew has incrementally diminished in an effort
to resolve the stated morale issue as well as several other
issues. The main intent was to decrease the number of pilots
in the community which has fixed number of available flight
hours. This would increase the number of hours of first

pilot time to each pilot. At the introduction of the S-3A
in the early 1970's, the copilot position was always occupied
by a designated pilot. With fewer pilots in the community,
the naval flight officer (NFO) could now occupy the copilot
position of the aircraft. The pilots desired to fly only
in the pilot position, logging first pilot time, and desired
to fly as much as possible. Thus by reducing the number of
pilots and significantly increasing the use of the NFO in
the copilot position, community morale was anticipated to
increase.

The purpose of this study is quite clear. Referring to
the aforementioned quote by Peters, does data support the
existence of this S-3A pilot reduction policy or did the
policy plan become the truth?

II. PROBLEM DEFINITION

A. BACKGROUND

The U.S. Navy's S-3A Viking is tasked with the role of protecting the Battle Group from the submarine threat. A myriad of information is available to the Viking mission commander. An antisubmarine warfare (ASW) mission requires analysis of data from numerous flight and navigational systems, acoustic sensors (several different types of sono-buoys), acoustic processor, non-acoustic systems (radar, infrared, electronic surveillance measurement equipment, magnetic anomaly detectors) and data link which are filtered through each of the four crewmembers (pilot, copilot, tactical coordinator, and enlisted acoustic sensor operator). Essential information is provided to the mission commander who makes the tactical decisions. Since the internal effectiveness of the interacting S-3A Viking crewmembers is critical to the mission's effectiveness, an optimum crew complement must be attained.

Transition of the aging S-2 Tracker propeller aircraft to the S-3A Viking jet aircraft occurred in the early 1970's. Along with the transition of the S-2 to S-3A airframe came a crew manning policy for the front cockpit. The policy to use two designated pilots in the front cockpit was carried over to the S-3A Viking community from the S-2 experience.

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Crew ratio reflects the number of pilots and the number of NFO's in a single crew. A pilot receives a much different basic and advanced flight training than a NFO. Pilot training is focused upon flight control of the aircraft whereas NFO training is focused upon navigation and radar operations. The officer crew composition of the S-3A was initially two pilots in the front cockpit and a NFO functioning as the tactical coordinator behind the copilot position. Since crew ratio is defined as the number of pilots and NFO's for a single crew, the initial S-3A crew ratio was 2:1 or two pilots and one NFO per crew. The number of crews per squadron is intended to fluctuate over time. Therefore, once the number of crews per squadron is determined, the number of pilots and NFO's per squadron can be calculated using the crew ratio. For example, if it was hypothetically determined that there would be ten crews per squadron, then a 2:1 crew ratio would yield an assignment of 20 pilots and 10 NFO's per squadron.

In August 1974, the Chief of Naval Operations (CNO) directed a revised officer distribution of one squadron per fleet currently transitioning from the S-2 aircraft to the S-3A aircraft [Ref. 4]. The author was unable to determine documented reasons for this directive. Likely reasons may have been cost savings (pilots are more expensive to train than NFO's) or improved retention. Despite a S-3A pilot being solo-qualified in a jet aircraft during his training

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prior to pilot designation, many junior pilots spent most of their airborne time in the S-3A copilot position during their first fleet squadron tour. This caused discontent since pilots train to be solo jet pilots. Instead they functioned as a copilot. The S-3A NFO receives the same copilot training as his A-6 NFO counterparts in basic and advanced flight syllabi. The A-6 Intruder has a side by side cockpit arrangement with one pilot and one NFO. Therefore using the NFO as a copilot was not a new idea in the Navy. The CNO's directive required VS-32 (east coast) and VS-33 (west coast) to evaluate a 1.5:1.5 crew ratio [Ref. 4]. An 1:5:1.5 crew ratio may appear confusing since there are fractions to consider. Assuming a hypothetical case of ten crews per squadron, an 1.5:1.5 crew ratio would result in 15 pilots per squadron and 15 NFO's per squadron. Five of the ten crews would have pilots positioned in the copilot seat, and the remaining five crews would have NFO's in the copilot position. The term 'COTAC' was contrived to designate a NFO copilot.

VS-32 reported that the 1.5:1.5 crew ratio had "no degradation of operational readiness or mission performance by virtue of the dual-NFO manning. In fact, the evidence indicates that the contrary may be true" [Ref. 3]. In an excerpt of VS-33's evaluative report it was stated that, "The S-3A crews which have NFO's in the copilot position perform the ASW mission better because of training and

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practice they receive in their dedicated positions"
[Ref. 5]. Following these favorable reports forwarded by
VS-32 and VS-33, fleetwide implementation of the 1.5:1.5
crew ratio occurred in 1977.

Following the CNO's 1974 directive, concern for S-3A
effectiveness and crew morale is documented [Ref. 2] [Ref. 3]
[Ref. 4]. Adjustment of the crew ratio was intended to have
a positive impact on the issues of effectiveness and morale.
Since 1977 the crew ratio received close scrutiny and was
further adjusted to affect the issues of effectiveness and
morale. Even though not fully implemented, the current
S-3A crew ratio is 1.33:1.67 [Ref. 6].

B. OBJECTIVES

The following is a list of objectives for this thesis
study:

1. Describe the attitudes/beliefs of S-3A pilots and
    NFO's concerning issues related to the current
    pilot reduction policy.

2. Determine whether one of the intentions of the pilot
    reduction policy, to improve S-3A pilot and NFO
    morale, has been or will be forthcoming.

3. Determine whether a correlation exists between the
    perceptions of S-3A morale and effectiveness.

C. LITERATURE REVIEW

"The function of science ... is to establish general laws
covering the behaviors of the empirical events or objects
which the science in question is concerned, and thereby
to enable us to connect together our knowledge of the
separately known events, and to make reliable predictions
of events as yet unknown." R. Braithwaite, 1955 [Ref. 7,
pg. 23]

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There are three purposes to this section: 1) Determine if an empirical relationship exists between job beliefs and job satisfaction, 2) determine whether an empirical relationship exists between job satisfaction and morale, and 3) determine whether an empirical relationship exists between job satisfaction and effectiveness.

1. Job Beliefs and Job Satisfaction

According to Fishbein [Ref. 8, pg. 394], "the sum of the strengths of beliefs about an attitude object is a predictor of the attitude object."

It is necessary to distinguish attitude and belief. Attitude refers to "learned predispositions to respond to an object or class of objects in a consistently favorable or unfavorable way [Ref. 8, pg. 389]. Therefore, "The jet is good," is an attitude statement. Belief is defined by Fishbein [Ref. 8, pg. 389], as a "hypothesis about an object concerning the nature of the object and its relations to other objects." The statement, "The jet won't get off the ground in this bad weather," is a belief statement. Since the relating of jets (object) is made to an ability to get off the ground (another object) it is considered a belief statement. Another dimension related to the definition of belief is the "measure of probability" concept. A statement is considered a belief if a probabalistic scale (probable-improbable, likely-unlikely, possible-impossible) can be correctly identified in a statement [Ref. 8, pg. 259].

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Therefore, the belief statement, "The jet won't get off the ground in this bad weather," is further substantiated as a belief since it contains a measure of probability implication.

Russell and Farrar [Ref. 9, pg. 1247] have field-tested Fishbein's theory that the sum of job related beliefs can predict job satisfaction. In three separate cases this theory was validated. Russell and Farrar surveyed three separate samples with a questionnaire and achieved a valid prediction of job satisfaction. Their hypothesis that the sum of job related beliefs predicts the level of job satisfaction is supported by the significant correlation of $r=.46$ ($p<.001$) [Ref. 9, pg. 1250].

A significant positive relationship exists between job beliefs and job satisfaction. Being able to utilize a theory that has been successfully field-tested in three separate cases provides credibility.

2. Job Satisfaction and Morale

Does job satisfaction equate to morale? According to researchers these terms were often substituted for one another in the past. In a recent psychology text by Muchinsky [Ref. 10] a distinction is made in the definitions. In [Ref. 10, pgs. 304-305], Muchinsky defines morale as:

"The possession of a feeling, in the part of an employee, of being accepted and belonging to a group of employees through adherence to common goals and confidence in the desirability of these common goals."

Muchinsky [Ref. 10, pg. 319] defines job satisfaction as:

"The extent to which a person derives pleasure from a job."

The definitions clearly point out a difference. Morale is basically a "feeling of group-spirit" whereas job satisfaction is an "individual feeling" of the single person.

The differences are distinct; however, a correlation between morale and job satisfaction does exist. In Motowildo and Borman's study [Ref. 11], they found that morale and job satisfaction are positively correlated. As job satisfaction increases/decreases, morale increases/decreases. Therefore, it can be concluded that if high job satisfaction is predicted then a high morale can be expected.

3. Job Satisfaction and Effectiveness

Job satisfaction is defined in the previous section. In this thesis, effectiveness is considered to be an equivalent term for job performance. One important question in current literature is whether performance causes satisfaction or does satisfaction cause performance. Cases for each argument exist, but there is a lack of "strong" evidence that satisfaction causes performance. Vroom [Ref. 12] reported a median correlation of .14 in 23 separate studies which were designed to show that satisfaction causes performance. According to Muchinsky [Ref. 10, pg. 344], the controversy continues in 1983, and he feels it will not be resolved totally.

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D. HYPOTHESES

The author offers three hypotheses to pursue in this thesis study. These hypotheses are personal generalizations which the author feels will be supported by the data generated through the questionnaire. Each hypothesis was made prior to the actual data gathering phase of this study and each one is related to the three study objectives listed in Chapter II (page 13).

1. The S-3A pilots and NFO's will strongly agree that the 1.33 pilot manning policy is a good change. (See Objective 1)

2. The S-3A pilots and NFO's will strongly agree that the pilot reduction policy will improve community morale. (See Objective 2)

3. A high correlation (greater than .5) exists between the perception of morale and effectiveness. (See Objective 3)

III. METHODOLOGY

The purpose of this chapter is to provide the reader with
a brief description of the methodology used in this study.

The questionnaire (TABLE I) used in this study was
developed in January 1984. The purpose of the questionnaire
was to capture the attitudes and beliefs of a representative
sample of S-3A pilots and NFO surrounding the issues related
to the current 1.33 pilot per crew manning policy and to the
policy itself. This questionnaire results satisfy the ful-
fillment of Objective 1 (page 13) and is used as a tool to
generate statistical correlations in order to fulfill Objec-
tives 2 and 3 (page 13).

A. CONDUCT OF THE STUDY

The author travelled to Naval Air Station Cecil Field,
Jacksonville, Florida, and personally administered the sur-
vey questionnaires. When possible the questionnaires were
administered on an individual basis. The author agreed
to "a not to interfere" basis. Therefore all respondents
were requested to fill out questionnaires at times when
they were available and free from any operational duties.
At times it was necessary to administer the questionnaire
to small groups following training meetings at the end of
normal working hours. Respondents from this site were
attached to Wing One, the S-3A Support Unit, and four Fleet

squadrons. Two Fleet squadrons were temporarily based ashore. Several members of sea-based Fleet squadrons were located at Cecil Field for various official reasons (e.g., CAT II training) and were available to respond to this study's questionnaire. Following the completion of forty surveys at Jacksonville, Florida, the author travelled to Naval Air Station North Island, San Diego, California where forty responses were similarly collected from officers of COMASWWINGPAC Staff, VS-41 Fleet Replacement Squadron, and two Fleet squadrons. All interviews occurred late February and early March 1984.

B. THE SAMPLE

Demographic questions are included in the questionnaire in order to define the characteristics of the sample. The author had two specific desires in selecting respondents to this questionnaire. It was intentionally desired to have 1) an equal number of respondents from the East Coast and the West Coast and 2) an equal number of pilots and NFO's as respondents. Maintaining an on-going record of the respondent's designator and location (east or west coast) resulted in the actualization of these two desires. See Appendix B.

C. DESIGN OF DATA COLLECTION

In the initial design phase of the survey questionnaire, several S-3A aviators were interviewed. From these

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interviews, specific areas of concern were identified and
incorporated into the actual questionnaire used in this
thesis study. In addition, the author was assigned to VS-32
as a NFO while the squadron was evaluating the 1.5:1.5
crew manning policy for the fleet. Possessing familiariza-
tion with the current and historical issues assisted in
many aspects of this study.

The questionnaire includes demographic and attitude
questions. As illustrated in TABLE I, the demographic
questions are numbered 1-19 and 35. The attitude questions
are numbered 20-34. Ref. 13; pp. 289, 293 defines these
two general classifications of questions as follows:

Demographic questions: The basic classification
variables- sex, age, marital status, race, ethnic
origin, education, occupation, income, religion, and
residence that characterize an individual or a
household.

Attitude questions: The terms 'attitude', 'opinion',
and 'belief' are not well differentiated. In general
'attitude' refers to a general orientation or a way
of thinking. An attitude gives rise to many specific
'opinions', a term often used with regard to a specific
issue or object. The term 'belief' is often applied to
statements that have a strong normative component,
particularly those having to do with religion or with
moral or 'proper' behavior.

The Literature Review (Chapter II, page 13) within this
study provides a discussion which differentiates the terms
"belief" and "attitude."

D. INSTRUMENTATION

The Survey (TABLE I) is designed to capture responses of
S-3A pilots and NFO's which reflect their perceptions of
issues related to the currently implemented pilot reduction
policy. It is not a modification of any off-the-shelf
instrument. In fact, there is no known off-the-shelf
instrument which is designed to collect attitudes/beliefs
regarding the new 1.33 pilot reduction policy. The only
unveiled instrument related to S-3A pilot manning issues is
TABLE II. This survey was utilized by the S-3A junior officer
detailer on his November 1976 visit to Naval Air Station
Cecil Field, Florida.

E. ANALYSIS

1. Program

The program was written to interface with the
Statistical Package for the Social Sciences [Ref. 14].

The computer program in Appendix A was written
with the intent to satisfy the three stated objectives of
this study (page 13). The program yields frequency tables
and histograms (Appendix B) and correlations (Appendix C).

2. Likert Scaling

The Likert scale, a five point scale ranging from "strong disagreement" to "strong agreement" is used because of its compatibility to Fishbein's theory presented in the Literature Review section of this study (page 13). Fishbein presents results showing an association of the Likert scale, attitudes, and beliefs:

> "... Each response is then given a score from 1 to 5, and the sum of the values is taken as the index of the respondents' attitude. The higher the sum the more favorable the attitude. Thus, once again, it can be seen that the single score that represents the respondents attitude is obtained through a consideration of his beliefs about the object." [Ref. 8, pg. 265]

Therefore the Likert scale appears to be an effective method to calculate the sum of beliefs of S-3A pilots and NFO's concerning job related beliefs. According to the Fishbein theory presented in Chapter II, the sum of beliefs concerning job related tasks can predict job satisfaction. If the Likert scale means are greater than 4, job satisfaction is high. Since [Ref. 2 and 3] sights morale as severe in 1976, a Likert scale mean of greater than 4 would demonstrate a vast improvement in the perception of morale. An improvement in morale would justify adjustments of the pilot manning policy, since an improvement in morale was a desired result of the past two changes in manning policies. Once a prediction is made, fulfillment of Objective 2 is attained.

3. Pearson's r

As stated in [Ref. 14, pg. 276], "Bivariate correlation provides a single number which summarizes the relationship between two variables." The general rule is that a correlation with a value greater than +.3 or less than -.3 is useful for analysis. Therefore, using the Pearson r will assist in reducing the number of existing relationships to only those relationships considered to be useful for further analysis. The Pearson r is a correlation which ranges in value from -1.0 to +1.0. A negative Pearson's r reflects an inverse relationship; as one variable increases the other variable decreases or as one variable decreases the other variable increases. A positive Pearson's r reflects a positive relationship; as one variable increases the other variable increases or as one variable decreases the other variable decreases. The Pearson's r is designed to measure the correlations between one interval level value and another interval level value [Ref. 14, pg. 28]. In this study, the Pearson's r will be used to measure correlations between the two separate interval-level values. One value is derived from responses to the survey's attitude/belief questions and the other value is derived from the responses to the survey's morale question. The use of the Pearson r will enable fulfillment of Objective 3 (page 13).

4. Eta Correlations

The Eta correlation is a numerical value ranging from 0 to +1.0. Eta does not depict whether the relationship is positive or negative. It describes the strength of association between an independent variable with a nominal value and a dependent variable with an interval-level value [Ref. 14, pg. 230]. Eta is a statistic used in this study to determine whether demographic responses (independent variables) have an association with the attitude/belief responses (dependent variables). It is designed to determine which demographic questions (such as pilot or NFO) could be associated with certain attitudes/beliefs. Use of Eta will provide a description of the pilot and NFO responses which is Objective 1 (page 13) of this study.

TABLE I

S3A Crew Morale and Effectiveness Survey

INSTRUCTIONS: The following survey pertains to the upcoming
pilot per aircraft reduction in the S3A community. Although
the information requested is personal, confidentiality con-
cerning your personal identity is guaranteed. Please feel
open and honest regarding your responses.

1. Designator: Pilot_____

                     NFO _____

2. Status: USN _____

                     USNR _____

3. Commission Source: USNA _____

                        NROTC _____

                        AOCS _____

                        NESEP _____

                        OCS   _____

4. Rank: 01 _____

           02 _____

           03 _____

           04 _____

           05 _____

           06 _____

TABLE I (cont'd)

5. Years of Service: _____

6. Years receiving flight pay: _____

7. First Pilot Flight Hours _____

8. Copilot Flight Hours   _____

9. Special Crew Flight Hours _____

10. Mission Commander Hours   _____

11. Number of day traps (arrested carrier landings):_____

12. Number of night traps: _____

13. Squadron location: East Coast _____

                        West Coast _____

14. Number of S-3A squadron tours: _____

15. Other communities which you have flown in operationally:

    VA _____

    VAW _____

    VC _____

    VF _____

    VP _____

    OTHER ____

    None _____

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TABLE I (cont'd)

************************PILOT QUESTIONS***********************

16.   Have you ever been designated a NFO?   Yes _____

                                             No _____

                                             N/A _____

17.   Have you ever received any formal NFO training?

      Yes _____

      No _____

      N/A _____

************************NFO QUESTIONS***********************

18.   Have you ever been designated a pilot?   Yes _____

                                              No _____

                                              N/A _____

19.   Have you ever received any formal pilot training?

      Yes _____

      No _____

      N/A _____

INSTRUCTIONS: The following questions are attitude questions
concerning the reduction of the number of pilots in S-3A
crews.   A numerical answer from the card shown to you should
be given as a response.   Additional comments are encouraged
following your numerical response.

TABLE I (cont'd)

20. I am receptive to change in general.

```
    1      2      3      4      5

    |_____|_____|_____|_____|
```

Strongly   Strongly
Disagree   Agree

COMMENTS:

21. In an ASW mission, the NFO-designated copilot (COTAC) is

    an effective crewmember.

```
    1      2      3      4      5

    |_____|_____|_____|_____|
```

Strongly   Strongly
Disagree   Agree

COMMENTS:

22. The upcoming reduction of the number of pilots per crew

    is a good change.

```
    1      2      3      4      5

    |_____|_____|_____|_____|
```

Strongly   Strongly
Disagree   Agree

COMMENTS:

TABLE I (cont'd)

23. The upcoming reduction of the number of pilots per crew
    will improve crew morale.

```
          1      2      3      4      5

          |_____|_____|_____|_____|
     Strongly              Strongly
     Disagree              Agree
```

COMMENTS:

24. In an ASW mission, the pilot-designated copilot is an
    effective crewmember.

```
          1      2      3      4      5

          |_____|_____|_____|_____|
     Strongly              Strongly
     Disagree              Agree
```

COMMENTS:

25. The pilot-designated copilot is an effective crewmember
    in tasks associated with launches and recoveries.

```
          1      2      3      4      5

          |_____|_____|_____|_____|
     Strongly              Strongly
     Disagree              Agree
```

COMMENTS:

TABLE I (cont'd)

26. The upcoming reduction of the number of pilots per crew
    will improve overall effectiveness.

```
         1       2       3       4       5

         |_____|_____|_____|_____|

    Strongly                Strongly
    Disagree                Agree
```

COMMENTS:

27. The pilot should train in the copilot position in order
    to develop mission commander qualities.

```
         1       2       3       4       5

         |_____|_____|_____|_____|

    Strongly                Strongly
    Disagree                Agree
```

COMMENTS:

28. There are conditions when a pilot is more effective
    than a NFO in the copilot position.

```
         1       2       3       4       5

         |_____|_____|_____|_____|

    Strongly                Strongly
    Disagree                Agree
```

COMMENTS:

TABLE I (cont'd)

29. Overall the NFO is an effective copilot.

```
        1      2      3      4      5
        |_____|_____|_____|_____|
     Strongly              Strongly
     Disagree                Agree
```

COMMENTS:

30. S-3A crew effectiveness should be based 'solely' upon
    its performance during the ASW mission.

```
        1      2      3      4      5
        |_____|_____|_____|_____|
     Strongly              Strongly
     Disagree                Agree
```

COMMENTS:

31. The 1.33 Pilots per crew is an optimum quantity of
    pilots.

```
        1      2      3      4      5
        |_____|_____|_____|_____|
     Strongly              Strongly
     Disagree                Agree
```

COMMENTS:

TABLE I (cont'd)

32. The NFO-designated copilot (COTAC) is an effective crewmember in tasks associated with launches and recoveries.

```
        1      2      3      4      5
        |_____|_____|_____|_____|
```

Strongly   Strongly
Disagree   Agree
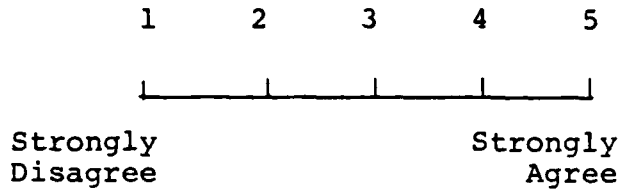
COMMENTS:

33. Job satisfaction will increase mission effectiveness.

```
        1      2      3      4      5
        |_____|_____|_____|_____|
```

Strongly   Strongly
Disagree   Agree

COMMENTS:

34. The ratio of pilots per crew effects job satisfaction.

```
        1      2      3      4      5
        |_____|_____|_____|_____|
```

Strongly   Strongly
Disagree   Agree
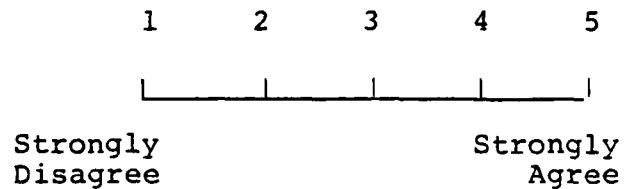
COMMENTS:

TABLE II

QUESTIONNAIRE SUMMARY

PILOTS

QUESTIONS	1st TOUR DEPLOY	1st TOUR* NO DEPLOY	2nd TOUR DEPLOY	2nd TOUR* NO DEPLOY
AVE FLT TIME/MO	27 hrs	22 hrs	32 hrs	24 hrs
AVE TOTAL S3 TIME	400 hrs	160 hrs	450 hrs	170 hrs
AVE TOTAL S3 TRAPS	2	0	80	0
TOO MANY OFFICERS?				
YES	99%	99%	96%	90%
NO	1%	1%	4%	10%
USE NFO CO-PILOT?				
YES	100%	100%	100%	99%
NO	0	0	0	1%
BEST PILOT/NFO MIX?				
30/15	0	2%	0	0
23/22	15%	26%	40%	80%
15/30	85%	72%	60%	20%
LEAVE NAVY AT OBLIG?				
YES	76%	42%	0	10%
NO	24%	58%	100%	90%

NFOs

AVE FLT TIME/MO	20 hrs	18 hrs	22 hrs	15 hrs
AVE TOTAL S3 TIME	250 hrs	60 hrs	280 hrs	85 hrs
AVE ASW FLT/MO	5	2	5	3
TOO MANY OFFICER?				
YES	79%	50%	78%	50%
NO	21%	50%	22%	50%
USE NFO CO-PILOT?				
YES	100%	94%	100%	100%
NO	0	6%	0	0

TABLE II (cont'd)

BEST PILOT/NFO
MIX?

30/15	0	6%	0	0
23/22	29%	34%	50%	85%
15/30	71%	60%	50%	15%

LEAVE NAVY AT OBLIG?

YES	18%	31%	0	0
NO	82%	69%	100%	100%

*These officers have only just transitioned to the S3A
within the past six months.

Note: This survey is from Bureau of Naval Personnel, Aviation
         Distribution Control Division.

IV. RESULTS

This chapter's objective is to provide a description of the data to be analyzed in Chapter V. Table III is intended to assist the reader by listing the attitude/belief questions with their assigned question numbers. Tables IV, V, and VI use the question numbers versus the actual questions. Tables IV, V, and VI present the statistics to be analyzed in a concise and organized format. Thus, this chapter provides a brief description of Tables IV, V, and VI.

A. PERCEPTION OF MORALE AND PERCEPTION OF EFFECTIVENESS

TABLE IV (page 39) presents the data necessary to determine the strength of correlations between the perceptions of effectiveness and the perception of morale. Eight 'effectiveness-related' questions are correlated with the 'morale-related' question from this study's survey questionnaire. Pearson's r (rounded to the nearest hundreths) is used to measure the strength of correlations. These three components, effectiveness-related questions, morale question, and Pearson's r correlations, comprise TABLE IV. Pearson's r is discussed in Chapter III.

B. ATTITUDE/BELIEFS AND DEMOGRAPHICS

TABLE V (page 40) presents the data necessary for the analysis of the strengths of correlations between all the

attitude/belief questions in the survey and selected survey
demographic questions. Several demographic questions were
omitted from TABLE V since the author felt inclusion of these
questions would not provide useful information. For example,
the correlation of each of the demographic questions and
whether a pilot has been designated a NFO (TABLE I, question
16) is not highly useful information. Very few respondents
fell into the category of currently being a designated pilot
and previously been designated a NFO. As in TABLE IV, there
are three components to TABLE V: 1) Attitude/belief ques-
tions, 2) selected demographic questions and, 3) Eta
correlations.

C. COMPARATIVE STRENGTH OF ATTITUDE/BELIEF MEANS

TABLE VI (page 39) is unlike TABLE IV or TABLE V. The
first column of TABLE VI is a list of all the attitude/
belief questions from this study's survey questionnaire.
Column two lists the Likert-scale means for each of the
attitude/belief questions. Rank orders of the Likert-scale
means are listed in column three of TABLE VI. The attitude/
belief with the highest Likert-scale mean (or the strongest
agreement) is assigned a "1". The lowest Likert-scale mean
having the relatively least agreement is ranked a "15".
Since there are fifteen attitude/belief questions, the rank
orders range from 1 to 15.

TABLE III

Question Numberings Used in Tables X, Y, & Z

Attitude/Belief Questions

Q20:   I am receptive to change in general

*Q21:   Cotac is effective in an ASW mission

*Q22:   Reduction of pilots is a good change

Q23:   Reduction of pilots will improve morale

*Q24:   Copilot is effective in an ASW mission

*Q25:   Copilot is effective in launches & recoveries

*Q26:   Pilot reduction policy will improve effectiveness

Q27:   Pilot should train in the copilot position for MC

        qualities.

*Q28:   Conditions exist when the pilot is more effective

        than NFO as Copilot

*Q29:   NFO is an effective copilot

Q30:   Effectiveness should be 'solely' based upon ASW

        performance

Q31:   The 1.33 pilots per crew is an optimum quantity

*Q32:   Cotac (NFO copilot) is effective in launches and

        recoveries

Q33:   Job satisfaction will increase mission effectiveness

Q34:   Ratio of pilots per aircraft effects job satisfaction

Note: Questions have been shortened, refer to TABLE I

        (pg 25) for completely worded questions.

*denotes effectiveness questions used in TABLE X

TABLE IV

Pearson's r

Selected Effectiveness Questions	Morale Question Q23
Q21	.097 (significance, .19)
Q22	.476 (significance, .00)
Q24	-.18 (significance, .05)
Q25	-.16 (significance, .08)
Q26	.57 (significance, .00)
Q28	.20 (significance, .04)
Q29	.12 (significance, .14)
Q32	.-03 (significance, .40)

TABLE V

ETA CORRELATION: DEMOGRAPHIC AND ATTITUDES/BELIEFS*

	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34
Designator	.00	.13	.18	.25	.22	.01	.05	.03	.28	.16	.03	.11	.11	.17	.18
Rank	.13	.23	.16	.21	.23	.22	.10	.21	.28	.23	.18	.32	.31	.25	.19
Years of Service	.12	.24	.32	.38	.28	.25	.30	.32	.17	.19	.26	.22	.28	.35	.27
Mission Commander Hours	.29	.31	.31	.43	.28	.39	.28	.21	.32	.23	.35	.36	.28	.47	.49
Squadron Location	.14	.03	.13	.08	.16	.20	.27	.13	.14	.05	.17	.16	.04	.00	.20
S-SA Tours	.22	.22	.13	.07	.15	.11	.10	.15	.03	.09	.08	.15	.19	.26	.08
Sea or Shore Duty	.14	.02	.03	.12	.17	.26	.24	.18	.09	.01	.15	.00	.14	.33	.18

*Demographic questions are the independent variables.
Attitude/belief questions are the dependent variables.

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TABLE VI

Comparison of Means

Attitude/Belief Question	Likert-Scale Mean	Rank Order
Q20	4.275	7
Q21	4.737	1
Q22	4.675	2
Q23	4.512	4
Q24	3.225	14
Q25	4.188	9
Q26	4.175	10
Q27	3.813	11
Q28	3.325	13
Q29	4.438	5
Q30	2.662	15
Q31	3.646	12
Q32	4.225	8
Q33	4.532	3
Q34	4.38	6

V. DISCUSSION

This chapter's objective is to describe the results of
the statistical analyses (see TABLES IV, V, and VI) performed
in order to derive conclusions concerning three areas of
focus: 1) whether there is a meaningful relationship between
the perception of morale and the perception of effectiveness
in the S-3A community (pilots and NFO's), 2) the strength
of correlations between the attitude/belief questions and
the demographic questions, and 3) the relative-strength
comparison of the Likert-scale means of attitude/belief
questions.

A. PERCEPTION OF MORALE AND PERCEPTION OF EFFECTIVENESS

There are two very significant correlations (Pearson's r)
apparent on TABLE IV (page 39). The most significant is the
positive correlation of question 26, "The upcoming reduction
of the number of pilots per crew will improve overall
effectiveness." The Pearson r correlation of .57 for ques-
tion 26 is the most positive correlation in this study.
(Refer to Chapter III, Analysis subsection (page 23) for
Pearson r explanation) Since it has a significance of .00,
there is near certainty that this correlation is positive in
the population sampled from. It must be kept in mind that
these are the perceptions of the respondents rather than
actual statements of fact. This statistical outcome

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satisfies one of this study's objectives: whether there is
a meaningful relationship between the perception of morale
and the perception of effectiveness in the view of S-3A
pilots and NFO's.

The second significant Pearson's r correlation is ques-
tion 22, "The upcoming reduction of the number of pilots
per crew is a good change," and question 23, "The upcoming
reduction of the number of pilots per crew will improve crew
morale." Even though not quite so strong as the perception
of effectiveness and perception of morale, this Pearson's r
correlation of .48 with a significance level of .01 is useful.
Since the correlation is positive, it can be expected that as
the perception of the pilot reduction policy increases, the
perception of morale increases also. Favorable adjustment
of the pilot manning policy should increase morale within
the S-3A community of pilots and NFO's. The correlation of
morale and effectiveness (.57) combined with the correlation
of the pilot reduction policy and morale (.48) provides a
useful "implied" correlation. If the pilot reduction policy
is favorably adjusted, an increase in morale is expected.
And from the .57 Pearson's r correlation, this increase in
morale should increase effectiveness/performance. This
increase in morale is thus expected to yield an increase in
effectiveness/performance.

Analysis of the separate, narrow components of effective-
ness issues (questions 21, 24, 25, 28, 29, and ¬ ' provides

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correlations of -.3 to +.3. As stated earlier in Chapter III,
this particular range of correlations is not generally
accepted as being useful. It is interesting to note that
questions 24, 25, and 32 negatively correlate with the
perception of morale. Actually question 32 is not a signif-
icant negative correlation since it is so close to zero.
The strongest negative correlations are effectiveness
components related to pilot-designated copilot performance.
Again these are perceptions of performance, not actual
performance. Question 24 is the pilot's performance in the
copilot position in an ASW mission, and question 25 is the
perception of his performance in the launch and recovery
flight phase. The perception of his ASW performance (-.18)
is slightly more negative than his performance in launches
and recoveries (-.16). The author feels that the pilot
being seated in the copilot position is the key factor in
producing the negative correlation and not necessarily the
evaluation of performance itself that produces the negative
correlation. Despite the negative correlation and both
questions' having a significance level under .08, both
Pearson r's fall within the -.3 to +.3 range. Hence, they
are not strong, usable correlations. They are merely indi-
cators and their use in policy making is not recommended.

B. DEMOGRAPHICS AND ATTITUDES/BELIEFS

This section uses the Eta statistic for correlation analysis. Eta is designed to be used in analyses where one value is nominal (demographic responses) and the other value is interval (attitude/belief responses) [Ref. 14, pg. 230]. TABLE V (page 40) provides the Eta values for each of the demographic questions on the vertical axis correlated with the attitude/belief questions on the horizontal axis. The Eta values range from 0 to 1.0 and are analyzed with the previously referred to rule of thumb--'correlations over .3 are useful for analysis'. Correlation coefficients express the "strength of association between a pair of variables" [Ref. 14, pg. 276]. Squaring the Eta factor produces a number which describes the proportional variance of the dependent variable explained by the independent variable [Ref. 14, pg. 230]. The author selected the demographic questions to be independent variables and the attitude/belief questions as the dependent variables. Certain demographic questions are not included in this analysis. These demographic questions which were determined to be meaningful indicators are included. All attitude/belief questions are used in this analysis.

In order to organize the analysis, this section's format sequentially lists the demographic (independent) variables to be analyzed.

1. Designator

     None of the Eta values in the "Designator" row of
TABLE V are greater than .30. Question 28, "There are
conditions when a pilot is more effective than an NFO in
the copilot position," has an Eta value of .28. This demo-
graphic question, designator, correlated with question 28
has the strongest correlation relative to any of the other
attitude/belief questions correlated with designator. Refer-
ring to the crosstabulation table in Appendix C, 30% of
the NFO's "agreed" or "strongly agreed", whereas 60% of the
pilots "agreed" or "strongly agreed" to question 28. More
NFO's were neutral (42.5% NFO / 27.5% pilot). And 27.5% of
the NFO "disagreed" or "strongly disagreed" compared to
12.5% of the pilots. Overall, the pilots were more positive
in response towards question 28. It is reasonable to expect
that pilots feel more positive about their own performance
as a group in comparison to NFO performance in the copilot
position.

2. Rank

     Question 31 and 32 have Eta values of .32 and .31
respectively.

     Question 31, "The 1.33 pilots per crew ratio is an
optimum quantity of pilots," provides meaningful information.
The 0-5's "agreed" or "strongly agreed" less often than the
junior officers (0-4's - 85%; 0-3's - 50.6%; 0-2's - 50%).
None of the 0-4 respondents "disagreed" or "strongly

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disagreed." During the administering of the survey question-
naire, the author received many remarks from junior officers
that they desired an even lower ratio of pilots than 1.33.
Some of the O-5 respondents, current or prior S-3A Command-
ing Officers and current Executive Officers, were concerned
about any further reduction of the 1.33 pilot per crew
effort. In general, they felt that reducing the ratio fur-
ther may inhibit performance of operational requirements.
Question 32, "The NFO designated copilot (COTAC) is an effec-
tive crewmember in tasks associated with launches and recover-
ies," has an Eta value of .31. The O-1's and O-2's have a
more positive feeling towards this question since 100% of
them "agreed" or "strongly agreed." The other ranks (O-3 to
O-4) has an 80-88.9% response in the "agree" to "strongly
agree" range. See Appendix C.

3. Years of Service

Questions 22, 23, 27, and 33 have useful Eta values.

Question 22 (Eta value = .32) is, "The upcoming
reduction of the number of pilots per aircraft is a good
change." One hundred percent of all respondents with 17-24
years of service "strongly agreed" whereas the other years
of service groupings were much lower in the "strongly
agree" category. (13-16 years- 46.2%, 9-12 years- 80%,
5-8 years- 73%, and 1-4 years 72.7%.) Even though the
number of respondents with 17-24 years is small, 6.4% of
sample size, their responses appear not to vary in response
to this question.

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Question 23, "The upcoming reduction of the number
of pilots per crew will improve crew morale," has an Eta
value of .38 and is the strongest "Years of Service"
correlation. Again, 100% of the respondents with years of
service from 17-24 "strongly agreed." The greatest variation
in responses fell in the 13-16 years of service category.
With the exception of one officer out of forty-seven officers
responding in the 1-8 years of service category, all "agreed"
or "strongly agreed." The more experienced (17-24 years of
service) did not vary in response to question 23.

Appendix C contains the crosstabulation table for
question 27, "The pilot should train in the copilot position
in order to develop mission commander qualities." This
question has an Eta value of .32. The table has an interest-
ing outcome: looking at the cells in each row one can see
that moving from the least years of service towards the most
years of service there is less variance and the belief moves
from a very broad base to a very narrow base to the right
(strongly agree). Thus, the more years of service, a lesser
amount of variance exists and an apparent shift to the
positive exists. There is one exception to this observation:
none of the respondents with 17-20 years of service "strongly
agreed" to this belief question. Overall, respondents with
less than 16 years of service disagree to the statement (12
out of 75 respondents with less than 16 years of service).

Question 33 has a pattern of responses that is heavier on the right (strongly agree) with respondents from the 17-24 years of service. Question 28, "Job satisfaction will increase mission effectiveness," has an Eta value of .35. (See TABLE V) With 13-16 years of service, respondents had a greater variation of opinion. Over 17 years of service, respondents (all 5) strongly agreed to the statement. Approximately 71% of all respondents "strongly agreed" to this statement.

4. Mission Commander Hours

Questions 23, 33, and 34 have Eta values of .43, .47, and .49 respectively. It is interesting to note that 76% of the respondents have 0-500 mission commander hours. Therefore, it is difficult to conclude much about the attitude/ beliefs of those respondents with greater than 500 mission commander hours. None of the respondents have 3000-3501 mission commander hours.

Question 23 is, "The upcoming reduction of the number of pilots per crew will improve crew morale." Sixty-five percent of all respondents "strongly agreed," 8.8% were "neutral," and 2.5% "disagreed." Overall, this question received a very strong common agreement.

Question 33 also received responses tending to the positive side at 70.9%. This question, "Job satisfaction will increase mission effectiveness," received only one

"strongly disagree" response. (Refer to Appendix C.) The three cases with greater than 2500 mission commander hours "strongly agree." With the exception of four cases, the overall response appears to be varied in the 0-500 hours range and more narrowed to the "strongly agree" position with an increase in mission commander hours. "The ratio of pilots per crew effects job satisfaction," is question 34. With an Eta value of .49, it has the strongest Eta value of any correlation in TABLE V. Again the three cases with over 2500 mission commander hours "strongly agree" (Appendix C). Out of the 69 cases with 0-1000 mission commander hours, 61 either "agree" or "strongly agree" (approximately 88%). Opinions vary in the middle range of 1000-2000 mission commander hours; four "agree" or "strongly agree," one "neutral," one "disagree," and one "strongly disagree." Overall, very strong common agreement exists.

5. Squadron Location

No Eta correlations greater than .2 exists in the relationship of squadron location and any of the attitude/ belief questions. This means there is little difference between the perceptions of the east coast respondents and the west coast respondents. Without strong independent variable variance, Eta values are low.

6. S-3A Tours

"Job satisfaction will increase mission effectiveness," is question 33 and it is the only S-3A tour correlation that comes close to an Eta value of .30. The Eta value of question 33 is .26. All five cases with three S-3A fleet tours responded with agreement or strong agreement. Respondents with two tours generally "agree" or "strongly agree" (83.3%). Also, cases with one S-3A fleet tour generally "agree" or "strongly agree" (85.7%). The only conclusion that can be made is that there is more variation of opinion amongst cases with less than three S-3A tours. It is important to recognize the very small number of cases with three S-3A tours in this sample.

7. Sea or Shore Duty

Relating this demographic question with the attitude/belief questions, only one useful correlation exists. (Refer to TABLE V) Question 33 has an Eta value of .33 which is the only useful correlation to analyze. "Job satisfaction will increase mission effectiveness" (question 33) received a more favorable response by those currently on sea duty. Ninety-three percent of the cases on sea duty either "agree" or "strongly agree," whereas seventy percent of those on shore duty "agree" or "strongly" agree.

C. COMPARISON OF ATTITUDE/BELIEF MEANS

The Likert scale ranges from 1 to 5. The value 1 depicts strong disagreement and the value 5 depicts strong agreement. These numbers can be easily converted to a scale which determines whether the attitude/belief is negative or positive. Set the Likert scale value 3 equal to 0. Any value less than 0 is considered a negative attitude/belief; any value greater than 0 is considered a positive attitude/belief. Convert the 0 value back to the original value of 3 on the Likert scale. Now an interpretation of the values in TABLE VI is formulated. That is, any Likert scale mean value in the table which is less than 3 depicts a negative attitude/ belief, and any Likert scale mean value in the table which is greater than 3 depicts a positive attitude/belief. The further the Likert scale mean value is to the left the more negative the attitude/belief. The further the Likert scale mean value is to the right the more positive the attitude/belief.

All Likert scale mean values in TABLE VI are positive with the exception of question 30, "S-3A crew effectiveness should be based "solely" on its performance during the ASW mission. The vast majority of respondents that discussed this particular question with the author or wrote down remarks concerning this question stated that they did not agree with the question since they felt that total performance should be based upon additional mission taskings and flight factors. Suggested mission factors of performance

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received were mining, surface warfare, command and control, etc. Recommended flight factors of performance were boarding rates and tanking. This question derived the perception that performance should be evaluated in a much broader scope than just ASW.

Question 21, "In an ASW mission, the NFO designated co-pilot (COTAC) is an effective crewmember," received the most positive response (4.737) of all attitude/belief questions in this study. See TABLE VI, page 41. The response clearly indicates that the perception of the NFO's capability warrants placement in the copilot position in an ASW mission. It is interesting to compare the Likert scale mean value of question 21 to the Likert scale mean value of question 24. Question 24, "In an ASW mission, the pilot designated co-pilot is an effective crewmember," ranked 14 overall in strength compared with a Likert scale mean value of 3.225. There is a significant difference from the pilot/NFO mean perception of the COTAC's performance (4.737) and the co-pilots ASW performance (3.225).

Question 23 substantiates the change in policy in order to improve morale if the determination to change the policy could be based upon perceptions alone. Question 23, "The upcoming reduction of the number of pilots per crew will improve crew morale," was rated second overall with a Likert scale mean value of 4.512.

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Question 33 states that, "Job satisfaction will increase mission effectiveness," and received a ranking of three out of fifteen, with a Likert scale mean value of 4.532. This question ties in with the discussion presented in the Literature Review chapter. A strong response is evident which may suggest a strong correlation. However, this response does not at all imply causality which was discussed in Chapter II. Likert scale means do not imply relationships.

One interesting comparison is noteworthy. Question 32, which is directed towards the performance of the NFO copilot in launches and recoveries, ranked number eight overall. Question 25, which is directed towards the performance of the pilot designated copilot in launches and recoveries, ranked number nine overall. The NFO-related question has a Likert scale mean value of 4.225 and the pilot-related question has a Likert scale mean value of 4.188. The mean values are extremely close which suggests the perception that an insignificant difference in performance exists between the NFO copilot and the pilot designated copilot.

Overall, it can be stated that the sum of all the beliefs, except question 30, are very positive. The average of all Likert scale mean values on TABLE VI is 4.05. Therefore, according to Fishbein's theory, the effect on job satisfaction should be positive. This in turn ought to have a favorable impact upon morale.

VI. CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSIONS

This conclusion section will sequentially address each of the three hypotheses (page 17) introduced earlier in the thesis. The three hypotheses are directly related to each of the three objectives listed for this study.

1. The data in TABLE VI verifies the hypothesis that the S-3A pilots and NFO's strongly endorse the 1.33 pilot manning. Question 22 and 31 are the primary questions designed to measure the belief that the 1.33 pilot manning ratio is an optimum quantity of pilots. With a Likert scale mean value response of 4.675 to question 22, "The upcoming reduction of the number of pilots is a good change," it is apparent that the crewmembers are in strong agreement to the reduction of the number of pilots. This question had the second highest Likert scale mean value (TABLE VI). On the other hand, the degree of agreement to question 31, "The 1.33 pilot per crew ratio is an optimum quantity of pilots," did not receive as favorable of a response as question 22. Question 31 ranked number 12 of 15 with a Likert scale mean value of 3.646. Since the value is greater than 3.5, it can be postulated that overall the pilots and NFO's agreed with question 31, but it was not strong agreement. Therefore the crewmembers do not agree as strongly to the 1.33 quantity as to the reduction of the number of pilots in general.

2. Referring to TABLE VI, question 23, "The upcoming reduction of the number of pilots per crew will improve crew morale," supports hypothesis 2. This hypothesis states that the S-3A pilots and NFO's will strongly agree that the pilot reduction policy will improve morale. Since question 23 has a Likert scale mean value of 4.512 and ranked number 4 out of the 15 attitude/belief questions, hypothesis 2 appears to receive support based upon perceptions elicited in this study.

3. The third hypothesis, that a high correlation (over .5) exists between the intention of morale and effectiveness, receives strong support. The Pearson's r correlation (TABLE IV) which relates the perceptions of effectiveness (question 26) to morale (question 23) is .57. This Pearson's r correlation is considered useful since it is clearly greater than .3. In fact this correlation is the highest in this study and has a .01 significance level.

B. RECOMMENDATIONS

This study relies totally upon the perceptions of the S-3A pilot and NFO respondents in the sample surveyed in February and March 1984. It is recommended that the pilot reduction policy be evaluated based upon verified copilot performance rather than perceptions of performance. Actual behaviors are more reliable than perceived behaviors. Time must pass following the policy change prior to collection of

data. Therefore analyzing the policy change based upon actual performance possesses the disadvantage of a required long time duration. The benefit of using perceptions of forthcoming performance is that opinions can be quickly collected and analyzed but the detriment is that the perceptions are not as reliable as actual performance. In the case of effects of the S-3A pilot reduction policy, it is not currently feasible to use verified copilot performance in the evaluation of the pilot reduction policy. Current copilot documentation logs do not differentiate between pilot and NFO copilot performance. Since the policy is not fully implemented data is not currently available. Therefore all documents that require the logging of copilot flight ·hours and performance must be updated to reflect whether the copilot was a pilot or a NFO in the mission evaluated. This procedure will enable a comparison of pilot and NFO performance which can be utilized in future S-3A crew manning policy decisions. An update of the Individual Flight Activity Reporting System (IFARS) is required to reflect whether the copilot is a designated pilot or a designated NFO.

Reference 15 indicates that future changes are under consideration. Some commands, for example, are recommending greater usage of the enlisted sensor operator. A second recommendation is to utilize this study's survey questionnaire as a baseline gauge if future S-3A crew manning decisions are to be made. Prior to promulgation of a new

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policy, this baseline gauge can be used to prognosticate possible effects. If policy implementation is finally determined, then a follow-up evaluation can be initiated based upon actual performance.

APPENDIX A
PROGRAM FOR ANALYSES

```
FILE NAME        VIKING3
VARIABLE LIST    DESIGNTR,STATUS,COMMSRCE,MAN,YRSSERV,YRSFLTPY,
                 PILHRS,COPHRS,SPECRHRS,MCHRS,DTRAPS,NTRAPS,
                 MTRAPS,LOCATION,S3ATOURS,OTHCOMM,DESIGNFO,NFOTRAIN
                 DESIGPIL,PILTRAIN,RECCHNG,COTAC,REDGOOD,REDIMPRO,
                 PILCOEFF,PICOEFLR,REDIMEFF,PILTRMC,PIMOREF,MFOEFFCO,
                 CBEFFSW,Q1.33DPF,CRICEFLR,JSIMCHE,PACEFJS,SEASHR

INPUT MEDIUM     CARD
N OF CASES       80
INPUT FORMAT     FIXED (F1.0,1X,F1.0,1X,F1.0,1X,F1.0,1X,F2.0,1X,
                 F4.0,1X,F4.0,1X,F4.0,1X,F4.0,1X,F3.0,1X,F3.0,1X,F2.0,1X,
                 16(F1.0,1X))

VAR LABELS       DESIGNTR DESIGNATOR/
                 STATUS STATUS/
                 COMMSRCE COMMISSION SOURCE/
                 MAN RANK/
                 YRSSERV YEARS OF SERVICE/
                 YRSFLTP YEARS OF FLIGHT PAY/
                 PILHRS FIRST PILOT HOURS/
                 COPHRS COPILOT HOURS/
                 SPECRHRS SPECIAL CREW HOURS/
                 MCHRS MISSION COMMANDER HOURS/
                 DTRAPS NUMBER OF DAY TRAPS/
                 NTRAPS NUMBER OF NIGHT TRAPS/
                 LOCATI5 CURRENT LOCATION/
                 S3ATOURS NUMBER OF S3A SQUADRON TOURS/
                 OTHCOMM OTHER OPERATIONAL COMMUNITIES/
                 DESIGNFO DESIGNATED AN NFO/
                 NFOTRAI PILOTS-HAVE YOU EVER BEEN DESIG AN NFO?/
                 DESIGPIL NFO-HAVE YOU EVER BEEN DESIG A PILOT?/
                 PILTRAI NFO-HAVE YOU EVER RECEIVED PILOT TRAINING?/
                 RECCHNG I AM RECEPTIVE TO CHANGE IN GENERAL/
                 COTAC COTAC IS EFFECTIVE IN AN ASW MISSION/
                 REDGOOD REDUCTION OF PILOTS IS A GOOD CHANGE/
                 REDIMPRO REDUCTION OF PILOTS WILL IMPROVE MORALE/
                 PILCOEFF COPILOT IS EFFECTIVE IN AN ASW MISSION/
                 PICOEFLR COPILOT IS EFF IN LAUNCHES & RECOVERIES/
                 REDIMEFF REDUCTION WILL IMPROVE EFFECTIVENESS/
                 PILTRMC PIL TRAIN IN CP POS FOR NFO QUALITIES/
                 PIMOREF CONDITIONS WHEN PILOT MORE EFF THAN NFO/
                 MFOEFFCO OVERALL THE NFO IS AN EFFECTIVE COPILOT/
                 CBEFFSW S3A CREW EFF - ASW MISSION PERFORMANCE/
                 Q1.33PF PILOTS PER ASW MISSION OPTIMUM QUANTITY/
                 CRICEFLR COTAC IS EFF IN LAUNCHES & RECOVERIES/
                 JSIMCHE JOB SATISFACTION WILL INC MISSION EFF/
                 PACEFJS RATIO OF PILOTS PER AC EFFECTS JOB SATIS/
                 SEASHR CURRENTLY ON SEA OR SHORE DUTY?/

RECODE           YRSSERV(1 THRU 4=1,(5 THRU 8=2),(9 THRU 12=3)
                 (13 THRU 16=4,(17 THRU 20=5),(21 THRU 24=6)/YRSFLTPX,(1 THRU 3=1),
                 (4 THRU 6=2),(7 THRU 9=3),(10 THRU 12=4),(13 THRU 15=5)
                 PILHRS (0 THRU 500=1),(501 THRU 1000=2),(1001 THRU 1500=3)
                 (1501 THRU 2000=4),(2001 THRU 2500=5),(2501 THRU 3000=6)/COPHRS,(0 THRU 500=1),
                 (501 THRU 1000=2),(1001 THRU 1500=3),(1501 THRU 2000=4),
                 (2001 THRU 2500=5)/SPECRHRS,(0 THRU 500=1),(501 THRU 1000=2),
                 (1001 THRU 1500=3),(1501 THRU 2000=4),(2001 THRU 2500=5),
                 (2501 THRU 3000=6)/MCHRS,(0 THRU 500=1),(501 THRU 1000=2),
                 (1001 THRU 1500=3),(1501 THRU 2000=4),(2001 THRU 2500=5)
                 (2501 THRU 3000=6),(3001 THRU 3500=7)/
```

59

FREQUENCY DISTRIBUTIONS & HISTOGRAMS

DESIGNTR   DESIGNATOR

CODE
```
       I
    1. I********************** (       40)
       I PILOT
       I
    2. I********************** (       40)
       I NFO
       I....I....I....I....I....I....I
       0   10   20   30   40   50
       FREQUENCY
```

MEAN	1.500	STD ERR	0.056	MEDIAN	.	1.500
MODE	1.000	STD DEV	0.503	VARIANCE		0.253
RANGE	1.000	MINIMUM	1.000	MAXIMUM		2.000

VALID CASES   80   MISSING CASES   0

DESIGNTR DESIGNATOR

CATEGORY LABEL

	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
PILOT	1.	40	50.0	50.0	50.0
NFO	2.	40	50.0	50.0	100.0
TOTAL		80	100.0	100.0	

62

STATUS   STATUS

CODE
I
1. I ******************** (57)
    I USN
    I
2. I ********** (23)
    I USNR
    I
    I........I........I........I........I........I
    0   20   40   60   80   100
    FREQUENCY

MEAN   1.287   STD ERR   0.051   MEDIAN   1.202
MODE   1.000   STD DEV   0.455   VARIANCE   0.207
RANGE   1.000   MINIMUM   1.000   MAXIMUM   2.000

VALID CASES   80   MISSING CASES   0

63

STATUS   STATUS

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
USN	1.	57	71.2	71.2	71.2
USNR	2.	23	28.7	28.7	100.0
TOTAL		80	100.0	100.0	

64

COMMSRCE   COMMISSION SOURCE

```
CODE

1.  I **********  (   7)
    I  USNA
    I
2.  I ***************** (  17)
    I  NROTC
    I
3.  I ********************************* (  44)
    I  AOCS
    I
4.  I ***** (  4)
    I  NESEP
    I
5.  I ***** (  4)
    I  OCS
    I
6.  I ***  (  3)
    I  AVROC
    I
7.  I ** (  1)
    I  OTHER SOURCE
    I
    I.........I.........I.........I.........I.........I
    0        10        20        30        40        50
      FREQUENCY
```

MEAN   2.925   STD ERR   0.130   MEDIAN   2.864
MODE   3.000   STD DEV   1.167   VARIANCE 1.361
RANGE   6.000   MINIMUM   1.000   MAXIMUM   7.000

VALID CASES   80   MISSING CASES   0

COMMSRCE COMMISSION SOURCE

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
USNA	1.	7	8.7	8.7	8.7
NROTC	2.	17	21.2	21.2	30.0
AOCS	3.	44	55.0	55.0	85.0
NESEP	4.	4	5.0	5.0	90.0
OCS	5.	4	5.0	5.0	95.0
AVROC	6.	3	3.7	3.7	98.7
OTHER SOURCE	7.	1	1.2	1.2	100.0
	TOTAL	80	100.0	100.0	

66

RANK   RANK

CODE

```
1.  I **      ( 1)
    I
    I
2.  I ********** ( 12)
    I 02
3.  I *********************** ( 38)
    I 03
4.  I *************** ( 20)
    I 04
5.  I ******** ( 9)
    I 05
    I....I....I....I....I....I
    0   10   20   30   40   50
    FREQUENCY
```

MEAN	3.300	STD ERR	0.101	MEDIAN	3.211
MODE	3.000	STD DEV	0.906	VARIANCE	0.820
RANGE	4.000	MINIMUM	1.000	MAXIMUM	5.000

VALID CASES 80   MISSING CASES 0

67

RANK   RANK

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
01	1.	1	1.2	1.2	1.2
02	2.	12	15.0	15.0	16.2
03	3.	38	47.5	47.5	63.7
04	4.	20	25.0	25.0	88.7
05	5.	9	11.2	11.2	100.0
	TOTAL	80	100.0	100.0	

68

YRSSERV   YEARS OF SERVICE

```
CODE
  1.  I
      I********************  ( 22)
      I 1-4
  2.  I***********************  ( 25)
      I 5-8
  3.  I**************  ( 15)
      I 9-12
  4.  I************  ( 13)
      I 13-16
  5.  I****  ( 4)
      I 17-20
  6.  I** ( 1)
      I 21-24
      I.....I.....I.....I.....I.....I
      0    10    20    30    40    50
      FREQUENCY
```

MEAN	2.438	STD ERR	0.141	MEDIAN	2.220
MODE	2.000	STD DEV	1.261	VARIANCE	1.591
RANGE	5.000	MINIMUM	1.000	MAXIMUM	6.000

VALID CASES   80   MISSING CASES   0

YRSSERV   YEARS OF SERVICE

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
1-4	1.	22	27.5	27.5	27.5
5-8	2.	25	31.3	31.3	58.7
9-12	3.	15	18.8	18.8	77.5
13-16	4.	13	16.2	16.2	93.8
17-20	5.	4	5.0	5.0	98.7
21-24	6.	1	1.2	1.2	100.0
	TOTAL	80	100.0	100.0	

70

YRSFLTPY YEARS OF FLIGHT PAY

```
CODE
  1.  I ***************** (  19)
      I 1-3
      I
  2.  I ******************** (  24)
      I 4-6
      I
  3.  I ********* (  12)
      I 7-9
      I
  4.  I ******** (  11)
      I 10-12
      I
  5.  I ******** (  11)
      I 13-15
      I
  6.  I *** (   3)
      I 16-18
      I
      I......I......I......I......I......I......I
      0     10     20     30     40     50
      FREQUENCY
```

MEAN   2.750   STD ERR   0.167   MEDIAN   2.375
MODE   2.000   STD DEV   1.497   VARIANCE 2.241
RANGE   5.000   MINIMUM   1.000   MAXIMUM   6.000

VALID CASES   80   MISSING CASES   0

71

YRSFLTPY YEARS OF FLIGHT PAY

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
1-3	1.	19	23.7	23.7	23.7
4-6	2.	24	30.0	30.0	53.7
7-9	3.	12	15.0	15.0	68.8
10-12	4.	11	13.7	13.7	82.5
13-15	5.	11	13.7	13.7	96.2
16-18	6.	3	3.7	3.7	100.0
	TOTAL	80	100.0	100.0	

72

PILHRS   FIRST PILOT HOURS

CODE

```
     I
 1.  I******************************* (     51)
     I 0 THRU 500
     I
 2.  I********
     I 501 THRU 1000   ( 13)
     I
 3.  I***
     I 1001 THRU 1500  ( 4)
     I
 4.  I***
     I 1501 THRU 2000  ( 4)
     I
 5.  I**
     I 2001 THRU 2500  ( 2)
     I
 6.  I**
     I 2501 THRU 3000  ( 2)
     I
 7.  I***
     I 3001 THRU 3500  ( 3)
     I
 9.  I**
     I MISSING VALUE   ( 1)
     I
     I
     I.........I.........I.........I.........I.........I
     0        20        40        60        80       100
     FREQUENCY
```

MEAN	1.962	STD ERR	0.197	MEDIAN	1.284	
MODE	1.000	STD DEV	1.761	VARIANCE	3.100	
RANGE	8.000	MINIMUM	1.000	MAXIMUM	9.000	

VALID CASES   80   MISSING CASES   0

73

PILHRS   FIRST PILOT HOURS

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
0 THRU 500	1.	51	63.7	63.7	63.7
501 THRU 1000	2.	13	16.2	16.2	80.0
1001 THRU 1500	3.	4	5.0	5.0	85.0
1501 THRU 2000	4.	4	5.0	5.0	90.0
2001 THRU 2500	5.	2	2.5	2.5	92.5
2501 THRU 3000	6.	2	2.5	2.5	95.0
3001 THRU 3500	7.	3	3.7	3.7	98.7
MISSING VALUE	9.	1	1.2	1.2	100.0
TOTAL		80	100.0	100.0	

74

COPHRS   COPILOT HOURS

```
CODE
1.  I********************* (        60)
    I 0 THRU 500
    I
2.  I******  12)
    I 501 THRU 1000
    I
3.  I**   2)
    I 1001 THRU 1500
    I
4.  I**   2)
    I 1501 THRU 2000
    I
5.  I**   1)
    I 2001 THRU 2500
    I
9.  I***   3)
    I MISSING VALUE
    I
    I....I....I....I....I....I....I....I....I....I....I
    0    20        40        60        80        100
    FREQUENCY
```

MEAN	1.625	STD ERR	0.184	MEDIAN	1.167
MODE	1.000	STD DEV	1.649	VARIANCE	2.718
RANGE	8.000	MINIMUM	1.000	MAXIMUM	9.000

VALID CASES   80   MISSING CASES   0

COPHRS   COPILOT HOURS

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
0 THRU 500	1.	60	75.0	75.0	75.0
501 THRU 1000	2.	12	15.0	15.0	90.0
1001 THRU 1500	3.	2	2.5	2.5	92.5
1501 THRU 2000	4.	2	2.5	2.5	95.0
2001 THRU 2500	5.	1	1.2	1.2	96.2
MISSING VALUE	9.	3	3.7	3.7	100.0
TOTAL		80	100.0	100.0	

SPECRHRS   SPECIAL CREW HOURS

CODE

1. *** (46)
   I 0 THRU 500
   I
2. *********** 12)
   I 501 THRU 1000
   I
3. ********* 9)
   I 1001 THRU 1500
   I
4. **** 4)
   I 1501 THRU 2000
   I
5. ******* 6)
   I 2001 THRU 2500
   I
7. ** 1)
   I 3001 THRU 3500
   I
9. *** 2)
   I MISSING VALUE
   I
   I
   I........I........I........I........I........I
   0   10   20   30   40   50
   FREQUENCY

MEAN   2.100   STD ERR   0.198   MEDIAN   1.370
MODE   1.000   STD DEV   1.769   VARIANCE 3.129
RANGE   8.000   MINIMUM   1.000   MAXIMUM   9.000

VALID CASES   80   MISSING CASES   0

77

SPECRHRS   SPECIAL CREW HOURS

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
0 THRU 500	1.	46	57.5	57.5	57.5
501 THRU 1000	2.	12	15.0	15.0	72.5
1001 THRU 1500	3.	9	11.2	11.2	83.7
1501 THRU 2000	4.	4	5.0	5.0	88.7
2001 THRU 2500	5.	6	7.5	7.5	96.2
3001 THRU 3500	7.	1	1.2	1.2	97.5
MISSING VALUE	9.	2	2.5	2.5	100.0
	TOTAL	80	100.0	100.0	

78

MCHRS   MISSION COMMANDER HOURS

```
CODE
      I
 1.   I************************************ (     61)
      I 0 THRU 500
      I
 2.   I*****  ( 9)
      I 501 THRU 1000
      I
 3.   I***  ( 4)
      I 1001 THRU 1500
      I
 4.   I**  ( 2)
      I 1501 THRU 2000
      I
 5.   I*  ( 1)
      I 2001 THRU 2500
      I
 6.   I**  ( 2)
      I 2501 THRU 3000
      I
 7.   I  
      I
 8.   I*  ( 1)
      I 3501 THRU 4000
      I
      I....I....I....I....I....I
      0   20   40   60   80  100
      FREQUENCY
```

MEAN	1.550	STD ERR	0.146	MEDIAN	1.156
MODE	1.000	STD DEV	1.301	VARIANCE	1.694
RANGE	7.000	MINIMUM	1.000	MAXIMUM	8.000

VALID CASES   80   MISSING CASES   0

MCHRS   MISSION COMMANDER HOURS

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
0 THRU 500	1.	61	76.2	76.2	76.2
501 THRU 1000	2.	9	11.2	11.2	87.5
1001 THRU 1500	3.	4	5.0	5.0	92.5
1501 THRU 2000	4.	2	2.5	2.5	95.0
2001 THRU 2500	5.	1	1.2	1.2	96.2
2501 THRU 3000	6.	2	2.5	2.5	98.7
3501 THRU 4000	8.	1	1.2	1.2	100.0
TOTAL		80	100.0	100.0	

DTRAPS   NUMBER OF DAY TRAPS

CODE

1. I ********************************** (39)
    I 0-75
    I
2. I *************************** (30)
    I 76-150
    I
3. I ** 151-225 2)
    I
4. I *** 226-300 4)
    I
5. I ** 301-375 1)
    I
6. I ** 376-400 1)
    I
9. I *** MISSING VALUE 3)
    I
    I
    I........I........I........I........I........I
    0   10   20   30   40   50
    FREQUENCY

MEAN   1.987   STD ERR   0.190   MEDIAN   1.533
MODE   1.000   STD DEV   1.703   VARIANCE   2.899
RANGE   8.000   MINIMUM   1.000   MAXIMUM   9.000

VALID CASES   80   MISSING CASES   0

31

DTRAPS   NUMBER OF DAY TRAPS

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
0-75	1.	39	48.7	48.7	48.7
76-150	2.	30	37.5	37.5	86.2
151-225	3.	2	2.5	2.5	88.7
226-300	4.	4	5.0	5.0	93.8
301-375	5.	1	1.2	1.2	95.0
376-400	6.	1	1.2	1.2	96.2
MISSING VALUE	9.	3	3.7	3.7	100.0
TOTAL		80	100.0	100.0	

82

NTRAPS   NUMBER OF NIGHT TRAPS

```
CODE
   I
1. I********************************* (      49)
   I
2. I******************** (      22)
   I
3. I*** 101-150  2)
   I
4. I**** 151-200  3)
   I
7. I** 301-350  1)
   I
9. I*** MISSING VALUE  3)
   I
   I....I.........I.........I.........I.........I....I
   0   10        20        30        40        50
        FREQUENCY
```

0-50
51-100

MEAN	1.813	STD ERR	0.192	MEDIAN	1.316
MODE	1.000	STD DEV	1.714	VARIANCE	2.939
RANGE	8.000	MINIMUM	1.000	MAXIMUM	9.000

MISSING CASES   0

VALID CASES   80

83

NTRAPS   NUMBER OF NIGHT TRAPS

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
0-50	1.	49	61.2	61.2	61.2
51-100	2.	22	27.5	27.5	88.7
101-150	3.	2	2.5	2.5	91.2
151-200	4.	3	3.7	3.7	95.0
301-350	7.	1	1.2	1.2	96.2
MISSING VALUE	9.	3	3.7	3.7	100.0
TOTAL		80	100.0	100.0	

84

LOCATION   CURRENT LOCATION

```
CODE
   I
1. I ************************  (    40)
   I
   I
2. I ************************  (    40)
   I
   I....I....I....I....I....I
   0   10   20   30   40   50
       FREQUENCY
```

MEAN	1.500	STD ERR	0.056	MEDIAN	1.500
MODE	1.000	STD DEV	0.503	VARIANCE	0.253
RANGE	1.000	MINIMUM	1.000	MAXIMUM	2.000

VALID CASES   80   MISSING CASES   0

85

LOCATION CURRENT LOCATION

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
EAST COAST	1.	40	50.0	50.0	50.0
WEST COAST	2.	40	50.0	50.0	100.0
TOTAL		80	100.0	100.0	

S3ATOURS   NUMBER OF S3A SQUADRON TOURS

```
CODE
      I
   1. *********************** (     57)
      I
      I
   2. ********** (   18)
      I
      I
   3. **** (   5)
      I
      I....I....I....I....I....I
      0   20   40   60   80   100
      FREQUENCY
```

MEAN	1.350	STD ERR	0.067	MEDIAN	1.202
MODE	1.000	STD DEV	0.597	VARIANCE	0.357
RANGE	2.000	MINIMUM	1.000	MAXIMUM	3.000

VALID CASES   80   MISSING CASES   0

S3ATOURS   NUMBER OF S3A SQUADRON TOURS

CATEGORY LABEL

CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
1.	57	71.2	71.2	71.2
2.	18	22.5	22.5	93.8
3.	5	6.3	6.3	100.0
TOTAL	80	100.0	100.0	

OTHCOMM   OTHER OPERATIONAL COMMUNITIES

CODE

```
1.  I **
    I    (RVAH      1)
    I
2.  I **
    I    (A         2)
    I
3.  I ***
    I    v(Q        3)
    I
4.  I **
    I    (AW        1)
    I
5.  I **
    I    (C         1)
    I
6.  I **
    I    (P         1)
    I
7.  I ***
    I    v(         4)
    I
8.  I **
    I    (THER      2)
    I
9.  I *********************************    (  65)
    I NONE
    I
    I----:----I----:----I----:----I----:----I----:----I
    0        20        40        60        80       100
  FREQUENCY
```

MEAN	8.225	STD ERR	0.214	MEDIAN	8.885
MODE	9.000	STD DEV	1.916	VARIANCE	3.670
RANGE	8.000	MINIMUM	1.000	MAXIMUM	9.000

VALID CASES   80   MISSING CASES   0

89

OTHCOMM   OTHER OPERATIONAL COMMUNITIES

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
RVAH	1.	1	1.2	1.2	1.2
VA	2.	2	2.5	2.5	3.7
VAQ	3.	3	3.7	3.7	7.5
VAW	4.	1	1.2	1.2	8.7
VC	5.	1	1.2	1.2	10.0
VP	6.	1	1.2	1.2	11.2
VQ	7.	4	5.0	5.0	16.2
OTHER	8.	2	2.5	2.5	18.8
NONE	9.	65	81.3	81.3	100.0
	TOTAL	80	100.0	100.0	

90

DESIGNFO   PILOTS-HAVE YOU EVER BEEN DESIG AN NFO?

```
CODE
  1.  I
      I***  YES
      I        2)
  2.  I
      I****************************** (   39)
      I  NO
  3.  I****************************** (   39)
      I  NOT APPLICABLE
      I
      I........I.........I.........I.........I.........I
      0       10        20        30        40        50
      FREQUENCY
```

MEAN	2.462	STD ERR	0.061	MEDIAN	2.474
MODE	2.000	STD DEV	0.550	VARIANCE	0.302
RANGE	2.000	MINIMUM	1.000	MAXIMUM	3.000

VALID CASES   80   MISSING CASES   0

91

DESIGNFO PILOTS-HAVE YOU EVER BEEN DESIG AN NFO?

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
YES	1.	2	2.5	2.5	2.5
NO	2.	39	48.7	48.7	51.2
NOT APPLICABLE	3.	39	48.7	48.7	100.0
	TOTAL	80	100.0	100.0	

92

NFOTRAIN PILOTS-EVER RECEIVED NFO TRAINING?

CODE

```
     I
1. I ***** (     4)
     I YES
     I
2. I ************************************** (    37)
     I NO
     I
3. I *************************** (    39)
     I NOT APPLICABLE
     I
     I.....I.....I.....I.....I.....I
     0    10    20    30    40    50
        FREQUENCY
```

MEAN	2.438	STD ERR	0.066	MEDIAN	2.473
MODE	3.000	STD DEV	0.592	VARIANCE	0.350
RANGE	2.000	MINIMUM	1.000	MAXIMUM	3.000

VALID CASES   80   MISSING CASES   0

NFOTRAIN PILOTS-EVER RECEIVED NFO TRAINING?

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
YES	1.	4	5.0	5.0	5.0
NO	2.	37	46.2	46.2	51.2
NOT APPLICABLE	3.	39	48.7	48.7	100.0
	TOTAL	80	100.0	100.0	

94

DESIGPIL NPO-HAVE YOU EVER BEEN DESIG A PILOT?

```
CODE
       I
  1.   I*** YES    ( 2)
       I
       I
  2.   I*********************** ( 38)
       I  NO
       I
  3.   I************************** ( 40)
       I  NOT APPLICABLE
       I
       I....I....I....I....I....I
       0   10   20   30   40   50
       FREQUENCY
```

MEAN	2.475	STD ERR	0.062	MEDIAN	2.500
MODE	3.000	STD DEV	0.551	VARIANCE	0.303
RANGE	2.000	MINIMUM	1.000	MAXIMUM	3.000

VALID CASES   80   MISSING CASES   0

95

DESIGPIL NFO-HAVE YOU EVER BEEN DESIG A PILOT?

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
YES	1.	2	2.5	2.5	2.5
NO	2.	38	47.5	47.5	50.0
NOT APPLICABLE	3.	40	50.0	50.0	100.0
	TOTAL	80	100.0	100.0	

END

FILMED

DTIC

MICROCOPY RESOLUTION TEST CHART

NATIONAL BUREAU OF STANDARDS-1963-A

PILTRAIN   NFO-EVER RECEIVED PILOT TRAINING?

CODE

1. ****** (6)
   YES

2. ************************* (34)
   NO

3. ****************************** (40)
   NOT APPLICABLE

   I.......I.......I.......I.......I.......I
   0   10   20   30   40   50
   FREQUENCY

MEAN   2.425   STD ERR   0.071   MEDIAN   2.500
MODE   3.000   STD DEV   0.632   VARIANCE   0.399
RANGE   2.000   MINIMUM   1.000   MAXIMUM   3.000

VALID CASES   80   MISSING CASES   0

97
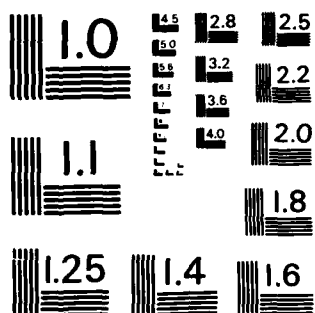
PILTRAIN NFO—EVER RECEIVED PILOT TRAINING?

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
YES	1.	6	7.5	7.5	7.5
NO	2.	34	42.5	42.5	50.0
NOT APPLICABLE	3.	40	50.0	50.0	100.0
TOTAL		80	100.0	100.0	

98

RECCHNGE   I AM RECEPTIVE TO CHANGE IN GENERAL

CODE
```
        I
   3.   I********** (      13)
        I NEUTRAL
        I
   4.   I************************** (      32)
        I AGREE
        I
   5.   I****************************** (      35)
        I STRONGLY AGREE
        I
        I.......I.......I.......I.......I.......I
        0      10      20      30      40      50
        FREQUENCY
```

MEAN   4.275   STD ERR   0.081   MEDIAN   4.344
MODE   5.000   STD DEV   0.729   VARIANCE   0.531
RANGE   2.000   MINIMUM   3.000   MAXIMUM   5.000

VALID CASES   80   MISSING CASES   0

99

RECCHNGE   I AM RECEPTIVE TO CHANGE IN GENERAL

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
NEUTRAL	3.	13	16.2	16.2	16.2
AGREE	4.	32	40.0	40.0	56.3
STRONGLY AGREE	5.	35	43.8	43.8	100.0
	TOTAL	80	100.0	100.0	

COTACEFF COTAC IS EFFECTIVE IN AN ASW MISSION

```
CODE

3.   I
     I ** (NEUTRAL 1)
     I
4.   I ********* ( 19)
     I AGREE
     I
5.   I ******************** ( 60)
     I STRONGLY AGREE
     I
     I
     0....I....I....I....I....I....I
         20   40   60   80   100
         FREQUENCY
```

MEAN	4.737	STD ERR	0.053	MEDIAN	4.833
MODE	5.000	STD DEV	0.470	VARIANCE	0.221
RANGE	2.000	MINIMUM	3.000	MAXIMUM	5.000

VALID CASES   80   MISSING CASES   0

101

COTACEFF   COTAC IS EFFECTIVE IN AN ASW MISSION

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
NEUTRAL	3.	1	1.2	1.2	1.2
AGREE	4.	19	23.7	23.7	25.0
STRONGLY AGREE	5.	60	75.0	75.0	100.0
TOTAL		80	100.0	100.0	

REDGOOD   REDUCTION OF PILOTS IS A GOOD CHANGE

CODE

3. I
    I*** (NEUTRAL 4)
    I
4. I******** (18)
    I AGREE
    I
5. I********************* (58)
    I STRONGLY AGREE
    I
    I....I....I....I....I....I....I....I....I....I....I
    0   20   40   60   80   100
    FREQUENCY

MEAN   4.675   STD ERR   0.064   MEDIAN   4.810
MODE   5.000   STD DEV   0.569   VARIANCE   0.323
RANGE   2.000   MINIMUM   3.000   MAXIMUM   5.000

VALID CASES   80   MISSING CASES   0

103

REDGOOD   REDUCTION OF PILOTS IS A GOOD CHANGE

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
NEUTRAL	3.	4	5.0	5.0	5.0
AGREE	4.	18	22.5	22.5	27.5
STRONGLY AGREE	5.	58	72.5	72.5	100.0
TOTAL		80	100.0	100.0	

104

REDIMPMO   REDUCTION OF PILOTS WILL IMPROVE MORALE

```
CODE

   2.  I ** (DISAGREE  2)
       I
   3.  I ***** (NEUTRAL  7)
       I
   4.  I ********* ( 19)
       I  AGREE
   5.  I ******************** (  52)
       I  STRONGLY AGREE
       I
       I....:....I....:....I....:....I....:....I....:....I
       0        20        40        60        80       100
       FREQUENCY
```

MEAN	4.512	STD ERR	0.085	MEDIAN	4.731
MODE	5.000	STD DEV	0.763	VARIANCE	0.582
RANGE	3.000	MINIMUM	2.000	MAXIMUM	5.000

VALID CASES   80   MISSING CASES   0

105

REDIMPMO   REDUCTION OF PILOTS WILL IMPROVE MORALE

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
DISAGREE	2.	2	2.5	2.5	2.5
NEUTRAL	3.	7	8.7	8.7	11.2
AGREE	4.	19	23.7	23.7	35.0
STRONGLY AGREE	5.	52	65.0	65.0	100.0
TOTAL		80	100.0	100.0	

PILCOEFF COPILOT IS EFFECTIVE IN AN ASW MISSION

```
CODE
        I
  1.    I**** ( 3)
        I STRONGLY DISAGREE
        I
  2.    I********** ( 11)
        I DISAGREE
        I
  3.    I************************** ( 38)
        I NEUTRAL
        I
  4.    I******************** ( 21)
        I AGREE
        I
  5.    I******* ( 7)
        I STRONGLY AGREE
        I
        I....I....I....I....I....I
        0   10   20   30   40   50
          FREQUENCY
```

MEAN	3.225	STD ERR	0.104	MEDIAN	3.184
MODE	3.000	STD DEV	0.927	VARIANCE	0.860
RANGE	4.000	MINIMUM	1.000	MAXIMUM	5.000

VALID CASES   80   MISSING CASES   0

107

PILCOEFF COPILOT IS EFFECTIVE IN AN ASW MISSION

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
STRONGLY DISAGREE	1.	3	3.7	3.7	3.7
DISAGREE	2.	11	13.7	13.7	17.5
NEUTRAL	3.	38	47.5	47.5	65.0
AGREE	4.	21	26.2	26.2	91.2
STRONGLY AGREE	5.	7	8.7	8.7	100.0
TOTAL		80	100.0	100.0	

PICOEFLR   COPILOT IS EFF IN LAUNCHES & RECOVERIES

CODE

1. I
   I ** (STRONGLY DISAGREE 1)
   I
2. I ***** (DISAGREE 4)
   I
3. I ********* (NEUTRAL 10)
   I
4. I *********************** (29)
   I AGREE
   I
5. I ****************************** (36)
   I STRONGLY AGREE
   I
   I....:....I....:....I....:....I....:....I....:....I
   0   10   20   30   40   50
   FREQUENCY

MEAN	4.188	STD ERR	0.104	MEDIAN	4.362
MODE	5.000	STD DEV	0.929	VARIANCE	0.863
RANGE	4.000	MINIMUM	1.000	MAXIMUM	5.000

VALID CASES   80   MISSING CASES   0

PICOEFLR COPILOT IS EFF IN LAUNCHES & RECOVERIES

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
STRONGLY DISAGREE	1.	1	1.2	1.2	1.2
DISAGREE	2.	4	5.0	5.0	6.3
NEUTRAL	3.	10	12.5	12.5	18.8
AGREE	4.	29	36.2	36.2	55.0
STRONGLY AGREE	5.	36	45.0	45.0	100.0
TOTAL		80	100.0	100.0	

BEDIMEFF   REDUCTION WILL IMPROVE EFFECTIVENESS

```
CODE
     I
1.   I**           ( 1)
     I  STRONGLY DISAGREE
     I
2.   I*****        ( 4)
     I  DISAGREE
     I
3.   I**********        ( 10)
     I  NEUTRAL
     I
4.   I********************        ( 30)
     I  AGREE
     I
5.   I**********************        ( 35)
     I  STRONGLY AGREE
     I
     I....I....I....I....I....I
     0   10   20   30   40   50
      FREQUENCY
```

MEAN   4.175   STD ERR   0.103   MEDIAN   4.333
MODE   5.000   STD DEV   0.925   VARIANCE 0.855
RANGE   4.000   MINIMUM   1.000   MAXIMUM   5.000

VALID CASES   80   MISSING CASES   0

111

REDIMEFF REDUCTION WILL IMPROVE EFFECTIVENESS

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
STRONGLY DISAGREE	1.	1	1.2	1.2	1.2
DISAGREE	2.	4	5.0	5.0	6.3
NEUTRAL	3.	10	12.5	12.5	18.8
AGREE	4.	30	37.5	37.5	56.3
STRONGLY AGREE	5.	35	43.8	43.8	100.0
	TOTAL	80	100.0	100.0	

112

PILTRMCQ PIL TRAIN IN CP POS FOR MC QUALITIES

```
CODE
      I
   1. I*** ( 2)
      I   STRONGLY DISAGREE
      I
   2. I********* ( 10)
      I   DISAGREE
      I
   3. I************* ( 15)
      I   NEUTRAL
      I
   4. I********************** ( 26)
      I   AGREE
      I
   5. I*********************** ( 27)
      I   STRONGLY AGREE
      I
      I....I....I....I....I....I
      0   10   20   30   40   50
          FREQUENCY
```

MEAN   3.825   STD ERR   0.124   MEDIAN   4.000
MODE   5.000   STD DEV   1.111   VARIANCE 1.235
RANGE   4.000   MINIMUM   1.000   MAXIMUM   5.000

VALID CASES   80   MISSING CASES   0

113

PILTMCQ   PIL TRAIN IN CP POS FOR MC QUALITIES

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
STRONGLY DISAGREE	1.	2	2.5	2.5	2.5
DISAGREE	2.	10	12.5	12.5	15.0
NEUTRAL	3.	15	18.8	18.8	33.7
AGREE	4.	26	32.5	32.5	66.2
STRONGLY AGREE	5.	27	33.7	33.7	100.0
TOTAL		80	100.0	100.0	

114

PILMOREF CONDITIONS WHEN PILOT MORE EFF THAN NFO

```
CODE
        I
  1.    ****** ( 5)
        I STRONGLY DISAGREE
        I
  2.    ********* ( 11)
        I DISAGREE
        I
  3.    *********************** ( 28)
        I NEUTRAL
        I
  4.    ******************** ( 25)
        I AGREE
        I
  5.    ********** ( 11)
        I STRONGLY AGREE
        I
        I....:....I....:....I....:....I....:....I....:....I
        0        10       20       30       40       50
        FREQUENCY
```

MEAN	3.325	STD ERR	0.120	MEDIAN	3.357
MODE	3.000	STD DEV	1.077	VARIANCE	1.159
RANGE	4.000	MINIMUM	1.000	MAXIMUM	5.000

VALID CASES   80   MISSING CASES   0

115

PILMOREF CONDITIONS WHEN PILOT MORE EFF THAN NFO

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
STRONGLY DISAGREE	1.	5	6.3	6.3	6.3
DISAGREE	2.	11	13.7	13.7	20.0
NEUTRAL	3.	28	35.0	35.0	55.0
AGREE	4.	25	31.3	31.3	86.2
STRONGLY AGREE	5.	11	13.7	13.7	100.0
TOTAL		80	100.0	100.0	

116

NFOEFFCO   OVERALL THE NFO IS AN EFFECTIVE COPILOT

```
CODE
       I
  2.  **  {DISAGREE  1}
       I
       I
  3.  ****** (                        6)
       I  NEUTRAL
       I
  4.  ****************** (            30)
       I  AGREE
       I
  5.  ************************** (     43)
       I  STRONGLY AGREE
       I
       I.....I.....I.....I.....I.....I
       0    10    20    30    40    50
       FREQUENCY


MEAN      4.438        STD ERR     0.077        MEDIAN       4.570
MODE      5.000        STD DEV     0.691        VARIANCE     0.477
RANGE     3.000        MINIMUM     2.000        MAXIMUM      5.000

VALID CASES    80      MISSING CASES    0
```

117

NFOEFFCO OVERALL THE NFO IS AN EFFECTIVE COPILOT

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
DISAGREE	2.	1	1.2	1.2	1.2
NEUTRAL	3.	6	7.5	7.5	8.7
AGREE	4.	30	37.5	37.5	46.2
STRONGLY AGREE	5.	43	53.7	53.7	100.0
TOTAL		80	100.0	100.0	

118

CREPPASW   S3A CREW EFF = ASW MISSION PERFORMANCE

CODE
           I
   1.   ********** (12)
           I STRONGLY DISAGREE
           I
   2.   ************************** (29)
           I DISAGREE
           I
   3.   *************** (17)
           I NEUTRAL
           I
   4.   ********** (11)
           I AGREE
           I
   5.   ******** (8)
           I STRONGLY AGREE
           I
           I......I......I......I......I......I
           0   10   20   30   40   50
           FREQUENCY

MEAN   2.662   STD ERR   0.138   MEDIAN   2.414
MODE   2.000   STD DEV   1.210   VARIANCE   1.463
RANGE   4.000   MINIMUM   1.000   MAXIMUM   5.000

VALID CASES   77   MISSING CASES   3

119

CREFFASW S3A CREW EFF = ASW MISSION PERFORMANCE

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
STRONGLY DISAGREE	1.	12	15.0	15.6	15.6
DISAGREE	2.	29	36.2	37.7	53.2
NEUTRAL	3.	17	21.2	22.1	75.3
AGREE	4.	11	13.7	14.3	89.6
STRONGLY AGREE	5.	8	10.0	10.4	100.0
MISSING VALUE	9.	3	3.7	MISSING	100.0
TOTAL		80	100.0	100.0	

Q1.33OPT 1.33 PILOTS PER AC IS OPTIMUM QUANTITY

```
CODE
      I
   1. I***** ( 4)
      I STRONGLY DISAGREE
      I
   2. I********* ( 9)
      I DISAGREE
      I
   3. I***************** ( 17)
      I NEUTRAL
      I
   4. I****************************** ( 30)
      I AGREE
      I
   5. I******************* ( 19)
      I STRONGLY AGREE
      I
      I....I....I....I....I....I....I
      0   10   20   30   40   50
         FREQUENCY
```

MEAN   3.646   STD ERR   0.126   MEDIAN   3.817
MODE   4.000   STD DEV   1.121   VARIANCE 1.257
RANGE   4.000   MINIMUM   1.000   MAXIMUM   5.000

VALID CASES   79   MISSING CASES   1

Q1.33OPT   1.33 PILOTS PER AC IS OPTIMUM QUANTITY

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
STRONGLY DISAGREE	1.	4	5.0	5.1	5.1
DISAGREE	2.	9	11.2	11.4	16.5
NEUTRAL	3.	17	21.2	21.5	38.0
AGREE	4.	30	37.5	38.0	75.9
STRONGLY AGREE	5.	19	23.7	24.1	100.0
MISSING VALUE	9.	1	1.2	MISSING	100.0
TOTAL		80	100.0	100.0	

122

CTACEFLR   COTAC IS EFF IN LAUNCHES & RECOVERIES

```
CODE
    I
2.  I**   (DISAGREE  1)
    I
    I
3.  I********            ( 10)
    I NEUTRAL
    I
4.  I*************************************  ( 39)
    I AGREE
    I
5.  I****************************  ( 30)
    I STRONGLY AGREE
    I
    I.....I.....I.....I.....I.....I
    0    10    20    30    40    50
         FREQUENCY
```

MEAN   4.225   STD ERR   0.080   MEDIAN   4.244
MODE   4.000   STD DEV   0.711   VARIANCE 0.506
RANGE   3.000   MINIMUM   2.000   MAXIMUM   5.000

VALID CASES   80   MISSING CASES   0

CTACEFLR COTAC IS EFF IN LAUNCHES & RECOVERIES

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
DISAGREE	2.	1	1.2	1.2	1.2
NEUTRAL	3.	10	12.5	12.5	13.7
AGREE	4.	39	48.7	48.7	62.5
STRONGLY AGREE	5.	30	37.5	37.5	100.0
	TOTAL	80	100.0	100.0	

124

JSINCME   JOB SATISFACTION WILL INC MISSION EPF

```
CODE
       I
1.  ** I  (STRONGLY DISAGREE
       I   1)
       I
2.  ** I  (DISAGREE
       I   2)
       I
3.  *****I  (
       I   NEUTRAL  7)
       I
4.  *******I  (
       I   AGREE    13)
       I
5.  *********************I  (    56)
       I  STRONGLY AGREE
       I
       I.......I.......I.......I.......I.......I
       0      20      40      60      80     100
       FREQUENCY
```

MEAN   4.532   STD ERR   0.097   MEDIAN   4.795
MODE   5.000   STD DEV   0.860   VARIANCE 0.739
RANGE   4.000   MINIMUM   1.000   MAXIMUM   5.000

VALID CASES   79   MISSING CASES   1

125

JSINCHE   JOB SATISFACTION WILL INC MISSION EFF

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
STRONGLY DISAGREE	1.	1	1.2	1.3	1.3
DISAGREE	2.	2	2.5	2.5	3.8
NEUTRAL	3.	7	8.7	8.9	12.7
AGREE	4.	13	16.2	16.5	29.1
STRONGLY AGREE	5.	56	70.0	70.9	100.0
MISSING VALUE	9.	1	1.2	MISSING	100.0
TOTAL		80	100.0	100.0	

126

PACEPJS   RATIO OF PILOTS PER AC EFFECTS JOB SATIS

```
CODE
       I
  1.   ** ( 1)
       I  STRONGLY DISAGREE
       I
       I
  2.   **** ( 3)
       I  DISAGREE
       I
  3.   ******* ( 7)
       I  NEUTRAL
       I
       I
  4.   *************** ( 22)
       I  AGREE
       I
       I
  5.   ************************** ( 16)
       I  STRONGLY AGREE
       I
       I....I....I....I....I....I....I
       0   10   20   30   40   50
       FREQUENCY
```

MEAN	4.380	STD ERR	0.101	MEDIAN	4.641
MODE	5.000	STD DEV	0.896	VARIANCE	0.803
RANGE	4.000	MINIMUM	1.000	MAXIMUM	5.000

VALID CASES   79   MISSING CASES   1

127

PACEFJS   RATIO OF PILOTS PER AC EFFECTS JOB SATIS

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
STRCNGLY DISAGREE	1.	1	1.2	1.3	1.3
DISAGREE	2.	3	3.7	3.8	5.1
NEUTRAL	3.	7	8.7	8.9	13.9
AGREE	4.	22	27.5	27.8	41.8
STRONGLY AGREE	5.	46	57.5	58.2	100.0
MISSING VALUE	9.	1	1.2	MISSING	100.0
TOTAL		80	100.0	100.0	

128

SEASHR   CURRENTLY ON SEA OR SHORE DUTY?

CODE

```
     I
  1. I********************************* (     60)
     I SEA DUTY
     I
  2. I********* (     20)
     I SHORE DUTY
     I
     I.......I.......I.......I.......I.......I
     0      20      40      60      80     100
     FREQUENCY
```

MEAN   1.250   STD ERR   0.049   MEDIAN   1.167
MODE   1.000   STD DEV   0.436   VARIANCE 0.190
RANGE   1.000   MINIMUM   1.000   MAXIMUM   2.000

VALID CASES   80   MISSING CASES   0

129

SEASHR   CURRENTLY ON SEA OR SHORE DUTY?

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
SEA DUTY	1.	60	75.0	75.0	75.0
SHORE DUTY	2.	20	25.0	25.0	100.0
TOTAL		80	100.0	100.0	

130

APPENDIX C

CROSSTABULATIONS

COTAC IS EFFECTIVE IN AN ASW MISSION BY
REDUCTION OF PILOTS WILL IMPROVE MORALE

BEDIMPMO

COTACEFF	COUNT ROW PCT COL PCT TOT PCT	DISAGREE 2	NEUTRAL 3	AGREE 4	STRONGLY AGREE 5	ROW TOTAL
NEUTRAL	3	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	1 100.0 1.9 1.2	1 1.3
AGREE	4	1 5.3 50.0 1.2	2 10.5 28.6 2.5	6 31.6 31.6 7.5	10 52.6 19.2 12.5	19 23.8
STRONGLY AGREE	5	1 1.7 50.0 1.2	5 8.3 71.4 6.3	13 21.7 68.4 16.2	41 68.3 78.8 51.2	60 75.0
COLUMN TOTAL		2 2.5	7 8.8	19 23.8	52 65.0	80 100.0

PEARSON'S R = 0.09742   SIGNIFICANCE = 0.1950

REDUCTION OF PILOTS IS A GOOD CHANGE BY

REDUCTION OF PILOTS WILL IMPROVE MORALE

REDIMPMO

		DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE	ROW TOTAL
COUNT ROW PCT COL PCT TOT PCT		2	3	4	5	
REDGOOD NEUTRAL	3	0 0.0 0.0 0.0	2 50.0 28.6 2.5	1 25.0 5.3 1.2	1 25.0 1.9 1.2	4 5.0
AGREE	4	1 5.6 50.0 1.2	4 22.2 57.1 5.0	8 44.4 42.1 10.0	5 27.8 9.6 6.3	18 22.5
STRONGLY AGREE	5	1 1.7 50.0 1.2	1 1.7 14.3 1.2	10 17.2 52.6 12.5	46 79.3 88.5 57.5	58 72.5
COLUMN TOTAL		2 2.5	7 8.8	19 23.8	52 65.0	80 100.0

PEARSON'S R = 0.47626   SIGNIFICANCE = 0.0000

COPILOT IS EFFECTIVE IN AN ASW MISSION BY

REDUCTION OF PILOTS WILL IMPROVE MORALE

REDIMPMO

COUNT ROW PCT COL PCT TOT PCT	DISAGREE 2	NEUTRAL 3	AGREE 4	STRONGLY AGREE 5	ROW TOTAL
PILCOEFF					
1 STRONGLY DISAGREE	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	3 100.0 5.8 3.7	3 3.8
2 DISAGREE	0 0.0 0.0	2 18.2 28.6 2.5	2 18.2 10.5 2.5	7 63.6 13.5 8.7	11 13.8
3 NEUTRAL	1 2.6 50.0 1.2	2 5.3 28.6 2.5	7 18.4 36.8 8.7	28 73.7 53.8 35.0	38 47.5
4 AGREE	0 0.0 0.0	3 14.3 42.9 3.7	7 33.3 36.8 8.7	11 52.4 21.2 13.7	21 26.3
5 STRONGLY AGREE	1 14.3 50.0 1.2	0 0.0 0.0	3 42.9 15.8 3.7	3 42.9 5.8 3.7	7 8.8
COLUMN TOTAL	2 2.5	7 8.8	19 23.8	52 65.0	80 100.0

PEARSON'S R = -0.18291 SIGNIFICANCE = 0.0522

133

COPILOT IS EFF IN LAUNCHES & RECOVERIES BY
REDUCTION OF PILOTS WILL IMPROVE MORALE

REDIMPMO

PICOEFLR	COUNT / ROW PCT / COL PCT / TOT PCT	DISAGREE 2	NEUTRAL 3	AGREE 4	STRONGLY AGREE 5	ROW TOTAL
STRONGLY DISAGREE 1		0.0 / 0.0	0.0 / 0.0	0.0 / 0.0	1 / 100.0 / 1.9 / 1.2	1 / 1.3
DISAGREE 2		0.0 / 0.0	0.0 / 0.0	0.0 / 0.0	4 / 100.0 / 7.7 / 5.0	4 / 5.0
NEUTRAL 3		0.0 / 0.0	0.0 / 0.0	1 / 10.0 / 5.3 / 1.2	9 / 90.0 / 17.3 / 11.2	10 / 12.5
AGREE 4		2 / 6.9 / 100.0 / 2.5	3 / 10.3 / 42.9 / 3.7	9 / 31.0 / 47.4 / 11.2	15 / 51.7 / 28.8 / 18.8	29 / 36.3
STRONGLY AGREE 5		0.0 / 0.0	4 / 11.1 / 57.1 / 5.0	9 / 25.0 / 47.4 / 11.2	23 / 63.9 / 44.2 / 28.7	36 / 45.0
COLUMN TOTAL		2 / 2.5	7 / 8.8	19 / 23.8	52 / 65.0	80 / 100.0

PEARSON'S R = -0.15514   SIGNIFICANCE = 0.0847

134

REDUCTION WILL IMPROVE EFFECTIVENESS BY
REDUCTION OF PILOTS WILL IMPROVE MORALE

REDIMPMO

COUNT ROW PCT COL PCT TOT PCT	DISAGREE 2	NEUTRAL 3	AGREE 4	STRONGLY AGREE 5	ROW TOTAL
REDIMEFF					
STRONGLY DISAGRE 1	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	1 100.0 1.9 1.2	1 1.3
DISAGREE 2	0 0.0 0.0	2 50.0 28.6 2.5	1 25.0 5.3 1.2	1 25.0 1.9 1.2	4 5.0
NEUTRAL 3	2 20.0 100.0 2.5	2 20.0 28.6 2.5	6 60.0 31.6 7.5	0 0.0 0.0	10 12.5
AGREE 4	0 0.0 0.0	3 10.0 42.9 3.7	11 36.7 57.9 13.7	16 53.3 30.8 20.0	30 37.5
STRONGLY AGREE 5	0 0.0 0.0	0 0.0 0.0	1 2.9 5.3 1.2	34 97.1 65.4 42.5	35 43.8
COLUMN TOTAL	2 2.5	7 8.8	19 23.8	52 65.0	80 100.0

PEARSON'S R = 0.57100   SIGNIFICANCE = 0.0000

135

CONDITIONS WHEN PILOT MORE EFF THAN NFO BY
REDUCTION OF PILOTS WILL IMPROVE MORALE

REDIMPMO

COUNT ROW PCT COL PCT TOT PCT	DISAGREE 2	NEUTRAL 3	AGREE 4	STRONGLY AGREE 5	ROW TOTAL
PILMOREF					
STRONGLY DISAGRE 1	1 20.0 50.0 1.2	2 40.0 28.6 2.5	0 0.0 0.0	2 40.0 3.8 2.5	5 6.3
DISAGREE 2	0 0.0 0.0	0 0.0 0.0	2 18.2 10.5 2.5	9 81.8 17.3 11.2	11 13.8
NEUTRAL 3	1 3.6 50.0 1.2	4 14.3 57.1 5.0	8 28.6 42.1 10.0	15 53.6 28.8 18.8	28 35.0
AGREE 4	0 0.0 0.0	0 0.0 0.0	6 24.0 31.6 7.5	19 76.0 36.5 23.7	25 31.3
STRONGLY AGREE 5	0 0.0 0.0	1 9.1 14.3 1.2	3 27.3 15.8 3.7	7 63.6 13.5 8.7	11 13.8
COLUMN TOTAL	2 2.5	7 8.8	19 23.8	52 65.0	80 100.0

PEARSON'S R = 0.19534   SIGNIFICANCE = 0.0412

136

OVERALL THE NFO IS AN EFFECTIVE COPILOT BY
REDUCTION OF PILOTS WILL IMPROVE MORALE

REDIMPMO

COUNT ROW PCT COL PCT TOT PCT	DISAGREE 2	NEUTRAL 3	AGREE 4	STRONGLY AGREE 5	ROW TOTAL
NFOEFFCO					
DISAGREE 2	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	1 100.0 1.9 1.2	1 1.3
NEUTRAL 3	0 0.0 0.0	1 16.7 14.3 1.2	3 50.0 15.8 3.7	2 33.3 3.8 2.5	6 7.5
AGREE 4	1 3.3 50.0 1.2	3 10.0 42.9 3.7	8 26.7 42.1 10.0	18 60.0 34.6 22.5	30 37.5
STRONGLY AGREE 5	1 2.3 50.0 1.2	3 7.0 42.9 3.7	8 18.6 42.1 10.0	31 72.1 59.6 38.7	43 53.8
COLUMN TOTAL	2 2.5	7 8.8	19 23.8	52 65.0	80 100.0

PEARSON'S R = 0.12160   SIGNIFICANCE = 0.1413

137

COTAC IS EFF IN LAUNCHES & RECOVERIES BY
REDUCTION OF PILOTS WILL IMPROVE MORALE

REDIMPMO

COUNT ROW PCT COL PCT TOT PCT	DISAGREE 2	NEUTRAL 3	AGREE 4	STRONGLY AGREE 5	ROW TOTAL
CTACEPLR					
DISAGREE 2	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	1 100.0 1.9 1.2	1 1.3
NEUTRAL 3	0 0.0 0.0	1 10.0 14.3 1.2	2 20.0 10.5 2.5	7 70.0 13.5 8.7	10 12.5
AGREE 4	1 2.6 50.0 1.2	4 10.3 57.1 5.0	10 25.6 52.6 12.5	24 61.5 46.2 30.0	39 48.8
STRONGLY AGREE 5	1 3.3 50.0 1.2	2 6.7 28.6 2.5	7 23.3 36.8 8.7	20 66.7 38.5 25.0	30 37.5
COLUMN TOTAL	2 2.5	7 8.8	19 23.8	52 65.0	80 100.0

PEARSON'S R = -0.02858 SIGNIFICANCE = 0.4007

138

DESIGNATOR BY

CONDITIONS WHEN PILOT MORE EFF THAN NFO

COUNT ROW PCT COL PCT TOT PCT	PILMOREF STRONGLY DISAGRE 1	DISAGREE 2	NEUTRAL 3	AGREE 4	STRONGLY AGREE 5	ROW TOTAL
DESIGNTR						
PILOT 1	1 2.5 20.0 1.2	4 10.0 36.4 5.0	11 27.5 39.3 13.7	17 42.5 68.0 21.2	7 17.5 63.6 8.7	40 50.0
NFO 2	4 10.0 80.0 5.0	7 17.5 63.6 8.7	17 42.5 60.7 21.2	8 20.0 32.0 10.0	4 10.0 36.4 5.0	40 50.0
COLUMN TOTAL	5 6.3	11 13.8	28 35.0	25 31.3	11 13.8	80 100.0

ETA = 0.31548 WITH DESIGNTR DEPENDENT. = 0.28044 WITH PILMOREF DEPENDENT.

139

RANK BY
COTAC IS EFF IN LAUNCHES & RECOVERIES

CTACEFLR

COUNT ROW PCT COL PCT TOT PCT	DISAGREE 2	NEUTRAL 3	AGREE 4	STRONGLY AGREE 5	ROW TOTAL
RANK 01	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	1 100.0 3.3 1.2	1 1.3
02	0 0.0 0.0	0 0.0 0.0	4 33.3 10.3 5.0	8 66.7 26.7 10.0	12 15.0
03	1 2.6 100.0 1.2	5 13.2 50.0 6.3	19 50.0 48.7 23.7	13 34.2 43.3 16.2	38 47.5
04	0 0.0 0.0	4 20.0 40.0 5.0	11 55.0 28.2 13.7	5 25.0 16.7 6.3	20 25.0
05	0 0.0 0.0	1 11.1 10.0 1.2	5 55.6 12.8 6.3	3 33.3 10.0 3.7	9 11.3
COLUMN TOTAL	1 1.3	10 12.5	39 48.8	30 37.5	80 100.0

ETA = 0.24354 WITH RANK DEPENDENT. = 0.30535 WITH CTACEFLR DEPENDENT.

140

RANK BY

1.33 PILOTS PER AC IS OPT QUANTITY

Q1.330PT

COUNT ROW PCT COL PCT TOT PCT	STRONGLY DISAGRE 1	DISAGREE 2	NEUTRAL 3	AGREE 4	STRONGLY AGREE 5	ROW TOTAL
RANK 02	0 0.0 0.0 0.0	1 8.3 11.1 1.3	5 41.7 29.4 6.3	3 25.0 10.0 3.8	3 25.0 15.8 3.8	12 15.2
03	3 7.9 75.0 3.8	7 18.4 77.8 8.9	5 13.2 29.4 6.3	15 39.5 50.0 19.0	8 21.1 42.1 10.1	38 48.1
04	0 0.0 0.0 0.0	0 0.0 0.0 0.0	3 15.0 17.6 3.8	10 50.0 33.3 12.7	7 35.0 36.8 8.9	20 25.3
05	1 11.1 25.0 1.3	1 11.1 11.1 1.3	4 44.4 23.5 5.1	2 22.2 6.7 2.5	1 11.1 5.3 1.3	9 11.4
COLUMN TOTAL	4 5.1	9 11.4	17 21.5	30 38.0	19 24.1	79 100.0

ETA = 0.10045 WITH RANK DEPENDENT. = 0.31686 WITH Q1.330PT DEPENDENT.

NUMBER OF MISSING OBSERVATIONS = 1

141

YEARS OF SERVICE BY

REDUCTION OF PILOTS IS A GOOD CHANGE

REDGOOD

COUNT ROW PCT COL PCT TOT PCT	NEUTRAL 3	AGREE 4	STRONGLY AGREE 5	ROW TOTAL
YRSSERV				
1 1-4	1 4.5 25.0 1.2	5 22.7 27.8 6.3	16 72.7 27.6 20.0	22 27.5
2 5-8	1 4.0 25.0 1.2	5 20.0 27.8 6.3	19 76.0 32.8 23.7	25 31.3
3 9-12	0 0.0 0.0	3 20.0 16.7 3.7	12 80.0 20.7 15.0	15 18.8
4 13-16	2 15.4 50.0 2.5	5 38.5 27.8 6.3	6 46.2 10.3 7.5	13 16.3
5 17-20	0 0.0 0.0	0 0.0 0.0	4 100.0 6.9 5.0	4 5.0
6 21-24	0 0.0 0.0	0 0.0 0.0	1 100.0 1.7 1.2	1 1.3
COLUMN TOTAL	4 5.0	18 22.5	58 72.5	80 100.0

ETA = 0.05809 WITH YRSSERV DEPENDENT.   = 0.31701 WITH REDGOOD DEPENDENT.

142

YEARS OF SERVICE BY
REDUCTION OF PILOTS WILL IMPROVE MORALE

REDIMPRO

COUNT ROW PCT COL PCT TOT PCT	DISAGREE 2	NEUTRAL 3	AGREE 4	STRONGLY AGREE 5	ROW TOTAL
YRSSERV					
1-4	0 0.0 0.0 0.0	0 0.0 0.0 0.0	8 36.4 42.1 10.0	14 63.6 26.9 17.5	22 27.5
5-8	1 4.0 50.0 1.2	0 0.0 0.0 0.0	6 24.0 31.6 7.5	18 72.0 34.6 22.5	25 31.3
9-12	0 0.0 0.0 0.0	3 20.0 42.9 3.7	2 13.3 10.5 2.5	10 66.7 19.2 12.5	15 18.8
13-16	1 7.7 50.0 1.2	4 30.8 57.1 5.0	3 23.1 15.8 3.7	5 38.5 9.6 6.3	13 16.3
17-20	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	4 100.0 7.7 5.0	4 5.0
21-24	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	1 100.0 1.9 1.2	1 1.3
COLUMN TOTAL	2 2.5	7 8.8	19 23.8	52 65.0	80 100.0

ETA = 0.32506 WITH YRSSERV DEPENDENT.
    = 0.37538 WITH REDIMPRO DEPENDENT.

143

YEARS OF SERVICE BY

PIL TRAIN IN CP PJS FOR MC QUALITIES

PILTRMCQ

COUNT ROW PCT COL PCT TOT PCT	STRONGLY DISAGREE 1	DISAGREE 2	NEUTRAL 3	AGREE 4	STRONGLY AGREE 5	ROW TOTAL
YRSSERV						
1-4	2 / 9.1 / 100.0 / 2.5	3 / 13.6 / 30.0 / 3.7	4 / 18.2 / 26.7 / 5.0	7 / 31.8 / 26.9 / 8.7	6 / 27.3 / 22.2 / 7.5	22 / 27.5
5-8	0 / 0.0 / 0.0	2 / 8.0 / 20.0 / 2.5	2 / 8.0 / 13.3 / 2.5	12 / 48.0 / 46.2 / 15.0	9 / 36.0 / 33.3 / 11.2	25 / 31.3
9-12	0 / 0.0 / 0.0	3 / 20.0 / 30.0 / 3.7	6 / 40.0 / 40.0 / 7.5	3 / 20.0 / 11.5 / 3.7	3 / 20.0 / 11.1 / 3.7	15 / 18.8
13-16	0 / 0.0 / 0.0	2 / 15.4 / 20.0 / 2.5	1 / 7.7 / 6.7 / 1.2	2 / 15.4 / 7.7 / 2.5	8 / 61.5 / 29.6 / 10.0	13 / 16.3
17-20	0 / 0.0 / 0.0	0 / 0.0 / 0.0	2 / 50.0 / 13.3 / 2.5	2 / 50.0 / 7.7 / 2.5	0 / 0.0 / 0.0	4 / 5.0
21-24	0 / 0.0 / 0.0	0 / 0.0 / 0.0	0 / 0.0 / 0.0	0 / 0.0 / 0.0	1 / 100.0 / 3.7 / 1.2	1 / 1.3
COLUMN TOTAL	2 / 2.5	10 / 12.5	15 / 18.8	26 / 32.5	27 / 33.8	80 / 100.0

ETA = 0.23671 WITH YRSSERV DEPENDENT. = 0.32883 WITH PILTRMCQ DEPENDENT.

144

YEARS OF SERVICE BY
JOB SATISFACTION WILL INC MISSION EFF

JSINCME

COUNT ROW PCT COL PCT TOT PCT	STRONGLY DISAGREE 1	DISAGREE 2	NEUTRAL 3	AGREE 4	STRONGLY AGREE 5	ROW TOTAL
YRSSERV 1 1-4	0 0.0 0.0	0 0.0 0.0	1 4.5 14.3 1.3	4 18.2 30.8 5.1	17 77.3 30.4 21.5	22 27.8
2 5-8	0 0.0 0.0	0 0.0 0.0	3 12.5 42.9 3.8	6 25.0 46.2 7.6	15 62.5 26.8 19.0	24 30.4
3 9-12	0 0.0 0.0	0 0.0 0.0	2 13.3 28.6 2.5	1 6.7 7.7 1.3	12 80.0 21.4 15.2	15 19.0
4 13-16	1 7.7 100.0 1.3	2 15.4 100.0 2.5	1 7.7 14.3 1.3	2 15.4 15.4 2.5	7 53.8 12.5 8.9	13 16.5
5 17-20	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	4 100.0 7.1 5.1	4 5.1
6 21-24	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	1 100.0 1.8 1.3	1 1.3
COLUMN TOTAL	1 1.3	2 2.5	7 8.9	13 16.5	56 70.9	79 100.0

ETA = 0.26806 WITH YRSSERV DEPENDENT.
ETA = 0.34965 WITH JSINCME DEPENDENT.
NUMBER OF MISSING OBSERVATIONS = 1

145

MISSION COMMANDER HOURS BY
REDUCTION OF PILOTS WILL IMPROVE MORALE

REDIMPHO

COUNT / ROW PCT / COL PCT / TOT PCT	DISAGREE 2	NEUTRAL 3	AGREE 4	STRONGLY AGREE 5	ROW TOTAL
MCHRS					
0 THRU 500 1	1 / 1.6 / 50.0 / 1.2	4 / 6.6 / 57.1 / 5.0	15 / 24.6 / 78.9 / 18.8	41 / 67.2 / 78.8 / 51.2	61 / 76.3
501 THRU 1000 2	0 / 0.0 / 0.0 / 0.0	1 / 11.1 / 14.3 / 1.2	3 / 33.3 / 15.8 / 3.7	5 / 55.6 / 9.6 / 6.3	9 / 11.3
1001 THRU 1500 3	0 / 0.0 / 0.0	2 / 50.0 / 28.6 / 2.5	0 / 0.0 / 0.0 / 0.0	2 / 50.0 / 3.8 / 2.5	4 / 5.0
1501 THRU 2000 4	0 / 0.0 / 0.0	0 / 0.0 / 0.0	1 / 50.0 / 5.3 / 1.2	1 / 50.0 / 1.9 / 1.2	2 / 2.5
2001 THRU 2500 5	1 / 100.0 / 50.0 / 1.2	0 / 0.0 / 0.0	0 / 0.0 / 0.0	0 / 0.0 / 0.0	1 / 1.3
2501 THRU 3000 6	0 / 0.0 / 0.0	0 / 0.0 / 0.0	0 / 0.0 / 0.0	2 / 100.0 / 3.8 / 2.5	2 / 2.5
3501 THRU 4000 8	0 / 0.0 / 0.0	0 / 0.0 / 0.0	0 / 0.0 / 0.0	1 / 100.0 / 1.9 / 1.2	1 / 1.3
COLUMN TOTAL	2 / 2.5	7 / 8.8	19 / 23.8	52 / 65.0	80 / 100.0

ETA = 0.20162 WITH MCHRS DEPENDENT. = 0.42604 WITH REDIMPHO DEPENDENT.

146

MISSION COMMANDER HOURS BY

JOB SATISFACTION WILL INC MISSION EFF

JSINCHE

COUNT ROW PCT COL PCT TOT PCT	STRONGLY DISAGREE 1	DISAGREE 2	NEUTRAL 3	AGREE 4	STRONGLY AGREE 5	ROW TOTAL
MCHRS						
0 THRU 500 1	0.0 0.0	1 1.7 50.0 1.3	5 8.3 71.4 6.3	10 16.7 76.9 12.7	44 73.3 78.6 55.7	60 75.9
501 THRU 1000 2	0.0 0.0	0.0 0.0	0.0 0.0	3 33.3 23.1 3.8	6 66.7 10.7 7.6	9 11.4
1001 THRU 1500 3	1 25.0 100.0 1.3	0.0 0.0	1 25.0 14.3 1.3	0.0 0.0	2 50.0 3.6 2.5	4 5.1
1501 THRU 2000 4	0.0 0.0	0.0 0.0	1 50.0 14.3 1.3	0.0 0.0	1 50.0 1.8 1.3	2 2.5
2001 THRU 2500 5	0.0 0.0	1 100.0 50.0 1.3	0.0 0.0	0.0 0.0	0.0 0.0	1 1.3
2501 THRU 3000 6	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	2 100.0 3.6 2.5	2 2.5
3501 THRU 4000 8	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	1 100.0 1.8 1.3	1 1.3
COLUMN TOTAL	1 1.3	2 2.5	7 8.9	13 16.5	56 70.9	79 100.0

ETA = 0.24217 WITH MCHRS   DEPENDENT.   = 0.46533 WITH JSINCHE   DEPENDENT.

NUMBER OF MISSING OBSERVATIONS = 1

MISSION COMMANDER HOURS BY
RATIO OF PILOTS PER AC EFFECTS JOB SATIS

PACEFJS

COUNT ROW PCT COL PCT TOT PCT	STRONGLY DISAGRE 1	DISAGREE 2	NEUTRAL 3	AGREE 4	STRONGLY AGREE 5	ROW TOTAL
MCHRS						
0 THRU 500 1	0 0.0 0.0 0.0	2 3.3 66.7 2.5	6 10.0 85.7 7.6	15 25.0 68.2 19.0	37 61.7 80.4 46.8	60 75.9
501 THRU 1000 2	0 0.0 0.0 0.0	0 0.0 0.0 0.0	0 0.0 0.0 0.0	5 55.7 22.7 6.3	4 44.4 8.7 5.1	9 11.4
1001 THRU 1500 3	0 0.0 0.0 0.0	1 25.0 33.3 1.3	1 25.0 14.3 1.3	0 0.0 0.0 0.0	2 50.0 4.3 2.5	4 5.1
1501 THRU 2000 4	0 0.0 0.0 0.0	0 0.0 0.0 0.0	0 0.0 0.0 0.0	2 100.0 9.1 2.5	0 0.0 0.0 0.0	2 2.5
2001 THRU 2500 5	1 100.0 100.0 1.3	0 0.0 0.0 0.0	0 0.0 0.0 0.0	0 0.0 0.0 0.0	0 0.0 0.0 0.0	1 1.3
2501 THRU 3000 6	0 0.0 0.0 0.0	0 0.0 0.0 0.0	0 0.0 0.0 0.0	0 0.0 0.0 0.0	2 100.0 4.3 2.5	2 2.5
3501 THRU 4000 8	0 0.0 0.0 0.0	0 0.0 0.0 0.0	0 0.0 0.0 0.0	0 0.0 0.0 0.0	1 100.0 2.2 1.3	1 1.3
COLUMN TOTAL	1 1.3	3 3.8	7 8.9	22 27.8	46 58.2	79 100.0

ETA = 0.30582 WITH MCHRS DEPENDENT. = 0.48596 WITH PACEFJS DEPENDENT.

NUMBER OF MISSING OBSERVATIONS = 1

148

NUMBER OF S-3A SQUADRON TOURS BY
JOB SATISFACTION WILL INC MISSION EFF

JSINCME

COUNT ROW PCT COL PCT TOT PCT	STRONGLY DISAGREE 1	DISAGREE 2	NEUTRAL 3	AGREE 4	STRONGLY AGREE 5	ROW TOTAL
S3ATOURS 1	0 0.0 0.0	0 0.0 0.0	6 10.7 85.7 7.6	10 17.9 76.9 12.7	40 71.4 71.4 50.6	56 70.9
2	1 5.6 100.0 1.3	2 11.1 100.0 2.5	1 5.6 14.3 1.3	3 16.7 23.1 3.8	11 61.1 19.6 13.9	18 22.8
3	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	5 100.0 8.9 6.3	5 6.3
COLUMN TOTAL	1 1.3	2 2.5	7 8.9	13 16.5	56 70.9	79 100.0

ETA = 0.25223 WITH S3ATOURS DEPENDENT.   = 0.25716 WITH JSINCME DEPENDENT.

NUMBER OF MISSING OBSERVATIONS = 1

149

CURRENTLY ON SEA OR SHORE DUTY? BY

JOB SATISFACTION WILL INC MISSION EFF

JSINCME

COUNT ROW PCT COL PCT TOT PCT	STRONGLY DISAGRE 1	DISAGREE 2	NEUTRAL 3	AGREE 4	STRONGLY AGREE 5	ROW TOTAL
SEASHR						
SEA DUTY 1	1 1.7 100.0 1.3	0 0.0 0.0 0.0	3 5.1 42.9 3.8	8 13.6 61.5 10.1	47 79.7 83.9 59.5	59 74.7
SHORE DUTY 2	0 0.0 0.0 0.0	2 10.0 100.0 2.5	4 20.0 57.1 5.1	5 25.0 38.5 6.3	9 45.0 16.1 11.4	20 25.3
COLUMN TOTAL	1 1.3	2 2.5	7 8.9	13 16.5	56 70.9	79 100.0

ETA = 0.41657 WITH SEASHR DEPENDENT. = 0.32820 WITH JSINCME DEPENDENT.

NUMBER OF MISSING OBSERVATIONS = 1

150

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