

AU/ACSC/180/1998-04

AIR COMMAND AND STAFF COLLEGE

AIR UNIVERSITY

A PRELIMINARY INVESTIGATION INTO
THE PERSONAL VALUES OF SELECTED
MILITARY OFFICERS

by

Glen S. Marumoto, Major, USAF

A Research Report Submitted to the Faculty

In Partial Fulfillment of the Graduation Requirements

Advisor: Lieutenant Colonel Duane R. Orr

Maxwell Air Force Base, Alabama

April 1998

REPORT DOCUMENTATION PAGE

Form Approved OMB No.
0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.

1. REPORT DATE (DD-MM-YYYY) 01-04-1998	2. REPORT TYPE Thesis	3. DATES COVERED (FROM - TO) xx-xx-1998 to xx-xx-1998
---	--------------------------	--

4. TITLE AND SUBTITLE A Preliminary Investigation into the Personal Values of Selected Military Officers Unclassified	5a. CONTRACT NUMBER
	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER

6. AUTHOR(S) Marumoto, Glen S. ;	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER

7. PERFORMING ORGANIZATION NAME AND ADDRESS Air Command and Staff College Maxwell AFB, AL36112	8. PERFORMING ORGANIZATION REPORT NUMBER
--	--

9. SPONSORING/MONITORING AGENCY NAME AND ADDRESS ,	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
A PUBLIC RELEASE

13. SUPPLEMENTARY NOTES

14. ABSTRACT
The purpose of this study was to do a preliminary investigation into the differences in values between field grade officers of the Air Force, Army, and Navy. The goal was to correlate value differences to service identity and determine if the Air Force held similar or different values from the other services. The study used basic value thought from a variety of sources in the analysis of the results. A survey instrument, the Defining Issues Test (DIT), was used to gather data about each group's values. The sample was taken from the students attending the AY98 class of Air Command and Staff College. First, the small sample sizes associated with a pilot study caused large variability in the data, making a statistical analysis impossible. However, a qualitative analysis showed some indicators of value differences in the different services. First, some similarities in values indicated the services did have a common military background. However, each service had differences. Since the Navy sample was composed primarily of aviators, when combined with the Air Force sample a definite indication appeared showing airmen having a different value orientation than the Army. Further research is warranted to substantiate these findings. However, if the preliminary indications shown by this research project are correct, the Air Force might want to investigate the use of the results to enhance its recruitment, training, and retention programs.

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:	17. LIMITATION OF ABSTRACT Public Release	18. NUMBER OF PAGES 44	19. NAME OF RESPONSIBLE PERSON Fenster, Lynn lfenster@dtic.mil
---------------------------------	--	---------------------------	--

a. REPORT Unclassified	b. ABSTRACT Unclassified	c. THIS PAGE Unclassified	19b. TELEPHONE NUMBER International Area Code Area Code Telephone Number 703767-9007 DSN 427-9007
---------------------------	-----------------------------	------------------------------	--

Disclaimer

The views expressed in this academic research paper are those of the author(s) and do not reflect the official policy or position of the US government or the Department of Defense. In accordance with Air Force Instruction 51-303, it is not copyrighted, but is the property of the United States government.

Contents

	<i>Page</i>
DISCLAIMER	ii
LIST OF ILLUSTRATIONS.....	v
LIST OF TABLES	vi
PREFACE.....	vii
ABSTRACT	viii
INTRODUCTION	1
General Issue	1
Background.....	2
Specific Problem Statement	4
Guiding Objectives	4
LITERATURE REVIEW	6
Introduction	6
Values in General.....	6
Goldthwait	6
Bok	7
Kilby	8
Studies of Values in Organizations.....	10
Stevens and others.....	10
Marumoto	11
Finegan and Theriault.....	12
METHODOLOGY	15
Introduction	15
The Survey Instrument.....	15
Survey Justification.....	16
Reliability and Validity	16
Population.....	17
Analysis	17
FINDINGS AND ANALYSIS	20
Introduction	20
Survey Results	20

Data Analysis using ANOVA.....	22
Qualitative Analysis Using Stage Means	22
Concluding Remarks	26
CONCLUSIONS.....	28
Introduction	28
Guiding Objectives Answered.....	28
Recommendations for Further Research	31
Concluding Remarks	31
APPENDIX A: THE DEFINING ISSUES TEST AND DEMOGRAPHIC QUESTIONNAIRE.....	32
APPENDIX B: SURVEY RESULTS.....	34
BIBLIOGRAPHY	35

Illustrations

Page

Figure 1. Graph of Sample Means by Stages 23

Tables

	<i>Page</i>
Table 1. Demographic Data.....	21
Table 2. Career Fields in the Sample	21
Table 3. Means and Standard Deviations for each Stage by Service.....	22

Preface

I started work on personal values in the military as part of my Master's degree in 1988. I believe, then as I do now, the US Air Force is a unique military organization. We are not marines, soldiers, or sailors, but airmen. Therefore, I feel that trying to make the Air Force more like one of the other services is more than a change in education and training. I feel it would become a fundamental change in the values we have developed.

I believe if the Air Force is to develop its own identity it must create a common bond that holds all Air Force personnel together. Some have said a refocusing on the development of air doctrine would provide such a common bond. I believe the answer to be more basic. I think a common experience related to the Air Force mission of flying, would prove better glue to tie Air Force members together than something nebulous such as doctrine would.

I would like to take the time to thank my research advisor LtC Duane Orr for the help, guidance, and insight he provided during the development of this paper. To my seminar mates and classmates in ACSC, a big thanks for making my term at this institution a memorable experience. Finally, I would like to close with some advice to any potential researcher who might peruse this work in the quest of meeting a graduation requirement: "Illigitimi non Carborundum."

Abstract

The purpose of this study was to do a preliminary investigation into the differences in values between field grade officers of the Air Force, Army, and Navy. The goal was to correlate value differences to service identity and determine if the Air Force held similar or different values from the other services. The study used basic value thought from a variety of sources in the analysis of the results. A survey instrument, the Defining Issues Test (DIT), was used to gather data about each group's values. The sample was taken from the students attending the AY98 class of Air Command and Staff College.

First, the small sample sizes associated with a pilot study caused large variability in the data, making a statistical analysis impossible. However, a qualitative analysis showed some indicators of value differences in the different services. First, some similarities in values indicated the services did have a common military background. However, each service had differences. Since the Navy sample was composed primarily of aviators, when combined with the Air Force sample a definite indication appeared showing airmen having a different value orientation than the Army.

Further research is warranted to substantiate these findings. However, if the preliminary indications shown by this research project are correct, the Air Force might want to investigate the use of the results to enhance its recruitment, training, and retention programs.

Chapter 1

Introduction

General Issue

“Values! These days, everything is values!” stated John T. Goldthwait in his book, *Values: What they are and how we know them.*¹ The U.S. Air Force, after several incidents involving moral dilemmas, published three values it deemed core to its existence. The three values; integrity first, service before self, and excellence in all we do; were designed to produce a minimum acceptable level of behavior from all Air Force personnel.

A cursory glance at the core values leads the casual observer to notice that each value has a lofty appeal to do the right thing. Kilby, in *The Study of Human Values*, defined values as “conceptions of the desirable” and described values as beliefs denoting concepts of good, best, and right as well as the opposite concepts of bad, worst, and wrong.²

If this is true, then values become tools used in the decision making process, or at the very least values evaluate the appropriateness of a decision. Since one can reasonably argue that leadership and officership are basically a series of decisions and evaluations of decisions, values can logically be considered the basis for being a leader and an officer.

Background

A retired senior Air Force officer, speaking to the 1998 Air Command and Staff College class, compared and contrasted his experience between U.S. Marine Corps personnel and U.S. Air Force personnel. He stated if you asked a Marine what he or she did in the military the response would be, “I’m a Marine.” However, the same question asked to someone in the Air Force would yield the response, “I’m an XYZ pilot,” “I’m a personnel specialist,” or “I’m a crew chief.” This senior officer believed U.S. Air Force personnel have little or no attachment or identity to their service unlike U.S. Marine Corps personnel.³

In the book, *The Icarus Syndrome*,² Builder theorized the “heart” of the Air Force was built around its mission, which he stated was air power and was held in trusteeship by senior leadership. He also said the “soul” of the Air Force was the profession of arms, which was held in trusteeship by everyone in the Air Force. Builder believed senior leadership had lost the basic mission or “heart,” therefore the “soul” without a mission committed itself to careers and specialties.⁴ Hence, a possible explanation is given for the manifestation of Air Force personnel identifying with their jobs more than the institution of the U.S. Air Force.

However, a quick look at the writings of Air Force pioneers shows the Air Force was viewed as an entirely new organization with a new breed of warrior. In *Winged Defense*,² Brigadier General William Mitchell wrote of an “air going people” who have a “spirit, language, and customs of their own.”⁵ Further, Mitchell stated an airman viewed war as an individual effort with no one beside him, in front of him, or behind him to support, lead, or push him into battle.⁶ General of the Air Force Henry Arnold recognized the

need for the Air Force to have a variety of specialties stating it would be “undesirable that every key artisan be a pilot.”⁷ Further, Arnold believed air operations required people from every occupation, each being “square pegs in square holes and round pegs in round holes.”⁸

Based on these observations, one might conclude the U.S. Air Force is a different organization with different beliefs than the U.S. Army, U.S. Navy, and U.S. Marine Corps. Arguably, the U.S. Air Force is different because of its mission, its composition, and its heritage. However, the conflicting view points out the U.S. Air Force is a military service having those characteristics that make it a military service like uniforms, hierarchical structure, and armed forces. Therefore, one can argue the U.S. Air Force should share common values with the other services. In *Common Values*, Bok postulates that certain basic values have to be formulated in every society and that a set of these basic values can be recognized across societal boundaries.⁹

However, an opposing viewpoint, stated by Kilby, says a group will develop rules and norms governing a member’s behavior along with methods of enforcement. These rules and norms emerge as values through the communication, practicing, pressuring, and rewarding of each individual who follows the group’s rules and norms.¹⁰ Therefore, the Air Force, because it is a unique organization, impresses upon its members from the outset a set of unique values that are a part of membership in the Air Force.

So what does all this mean? If one takes the approach that the Air Force is a unique organization, one can argue the Air Force has values, which it uses to make and evaluate decisions in a manner totally unique to the Air Force. If one takes the approach the Air Force is a military service like the other military services, then one can argue the Air

Force has values similar to the other services, which it uses to make and evaluate decisions in a manner quite like the other services. Either approach could be used to describe observed behavior of Air Force personnel. However, a potential conflict source might arise from the first approach when senior leadership decides to make the Air Force become more like the Marine Corps, the Army, or the Navy.

Specific Problem Statement

Since there has not been a study of general value tendencies of mid-level U.S. military officers, the specific problem for this research is to determine the value orientations of O-4 officers in the Air Force, Army, and Navy, determine if the value orientations are significantly different between the services, and explain similarities and differences in relation to conduct in Air Force officers.

Guiding Objectives

The specific objectives guiding this research are as follows:

1. Describe the similarities or differences of values between Air Force, Army, and Navy officers.
2. Analyze and explain differences and similarities of values in terms of culture, training, and mission.
3. Apply the analysis to Air Force issues to include recruitment, training, and retention.

Notes

¹ John T. Goldthwait, *Values: What They Are and How We Know Them* (Amherst, NY: Prometheus Books, 1996), 9.

² Richard W. Kilby, *The Study of Human Values* (Lanham, MD: University Press of America, 1993), 36.

Notes

³ Commandant's Leadership Speaker Series, lecture, Air Command and Staff College, Maxwell AFB, AL, November, 1997.

⁴ Carl H. Builder, *The Icarus Syndrome: The Role of Airpower Theory in the Evolution and Fate of the US Air Force* (New Brunswick: Transaction Publishers, 1996), xvii

⁵ Billy Mitchell, *Winged Defense: The Development and Possibilities of Modern Airpower – Economic and Military* (New York: Dover Publications, 1988), 6.

⁶ *Ibid.*, 160-161.

⁷ Quoted in Carl H. Builder, *The Icarus Syndrome: The Role of Airpower Theory in the Evolution and Fate of the US Air Force* (New Brunswick: Transaction Publishers, 1996), 102.

⁸ *Ibid.*, 104.

⁹ Sissela Bok, *Common Values* (Columbia, MO: University of Missouri Press, 1995), 13.

¹⁰ Kilby, *The Study of Human Values*, 56.

Chapter 2

Literature Review

Perhaps you have allowed the thought to cross your mind, “Oh well, a value is anything you like.” It may sometimes seem that simply liking anything is enough to make it a value, that liking it is enough to constitute it as the way things ought to be. But ought is not the same thing as like. Some people like to use cocaine, but that is not the same as saying that they ought to use it...One of the main points of this book is that values are not whatever you like.

—John T. Goldthwait

Introduction

The literature review will begin with a focus on a general discussion of values. Three authors writing from a philosophical viewpoint of values will be presented in this first part. The literature review will conclude with a part devoted to studies of values conducted by various researchers.

Values in General

Goldthwait

The above quote comes from Goldthwait’s book, *Values: What they are and how we know them*. He states values are expressed in terms of value judgements because it appears easier to talk about a value than to recognize and identify the value itself.¹ He uses the term “value claiming propositions” to categorize value judgements and defines

value-claiming propositions as “how states of affairs or events ought to be.”² According to Goldthwait, if one says the US Air Force is a good organization, then one is saying the US Air Force is the way an organization ought to be. He also states you can not test a value claiming proposition in any objective way because all value claiming propositions act in the future.³ Therefore, Goldwaith argues value judgements can be recognized by their orientation to the future and that they can never be proved.⁴

Bok

In *Common Values* Sissela Bok makes and defends four propositions for common values that bridge across cultures and societies. The four propositions are as follows:

1. Certain basic values necessary to collective survival have had to be formulated in every society. A minimalist set of such values can be recognized across societal and other boundaries.
2. These basic values are indispensable to human coexistence, though far from sufficient, at every level of personal and working life and of family, community, national, and international relations.
3. It is possible to affirm both common values and respect for diversity and in this way to use the basic values to critique abuses perpetrated in the name either of more general values or of ethnic, religious, political, or other diversity.
4. The need to pursue the inquiry about which basic values can be shared across cultural boundaries is urgent, if societies are to have some common ground for cross-cultural dialogue and for debate about how best to cope with military, environmental, and other hazards that, themselves, do not stop at such boundaries.⁵

Bok makes the case every society, in order to survive, must have three categories of moral values. The first category consists of positive duties or mutual support, loyalty, and reciprocity. Values such as raising children, tending to the sick, and obeying one’s parents fall into this category.⁶ The second category of values consists of negative duties to refrain from harmful action. These values include curbs on violence, deceit, and wronging other people.⁷ The last category of values consists of basic rules of fairness and procedural justice. Such values include the resolution of conflicts involving

violations of the first two categories.⁸ Bok postulates the values necessary for a society to survive can be used a basis to build negotiation and dialogue.⁹ However, she states such minimalist values alone do not make a society. Each society develops other values, which she calls maximalist, that are more richly developed and complex. Such values include themes like love, truth, equality, and justice.¹⁰ Bok further states it is possible to honor cultural diversity as long as the cultural diversity is couched in the context of the common values. For instance, the insistence of performing human sacrifices on religious grounds (a maximalist value) would conflict with the value of respect due all human beings (a minimalist value).¹¹ Finally, Bok argues the use of minimalist values provides the trust and cooperation necessary to face worldwide threats to human existence.¹²

Kilby

In *The Study of Human Values*, Kilby compiled a great amount of research on people's values. He broke his book into areas consisting of types of values, nature of values, roles of values in lives, and origins of values.

Types of Values. Kilby discussed many types of values. One type discussed was moral values and conscience. He stated moral values were experienced by an individual as personal, but were actually evident as group codes.¹³ Kilby stated group codes emerge out of necessity for people to live together and taught to succeeding generation of children as a way to voluntarily direct behavior conducive to making the group effective.¹⁴

Another value type listed by Kilby was value assigned to an occupation. He stated people assign worth to different occupations, determined by specific values such as prestige, income level, pleasantness of the work, or level of skill required.¹⁵

A third type of value listed by Kilby was limited domain values, which include institutional values. He defined this type of value as specific to a group or situation like school populations, work groups, gangs, military units, and prisoner groups.¹⁶ Kilby stated limited domain values are usually implied instead of stated with mission accomplishment being the most common type.¹⁷ He noted limited domain values such as mission accomplishment, accountability, and rules following could lead to insensitivity to individuals and to frustrating and harmful rigidity.¹⁸ Kilby also stated institutional values were held by the institution's officials and regardless of the official's personal values the official may feel bound to carry out the institution's official values.¹⁹

Nature of Values. Kilby described values as conceptions "of the desirable or the worthwhile (and their opposites)."²⁰ He stated this definition does not mean values are always clearly in the consciousness, but vary from clear representation through generalness, vagueness, and finally to non-consciousness.²¹ Kilby also stated values were relatively stable although values do evolve and change in a gradual manner.²²

Role of Values. Kilby wrote values are part of group processes. He stated the process was the communication of the group values, encouragement to practice the value, pressure to conform and reward for practicing the value, imitation of the value throughout the group, validation of the value, and finally a group-defined reality which assures the individual that the value is "true."²³ Kilby also stated shared values will emerge in a new group and be central to a group's cohesiveness while the emergence of differing values will cause discord and groups to split.²⁴ Group-wide values provide grounds for consistency and predictability with which people need to live and work together.²⁵

From an individual standpoint, Kilby wrote values could be motivators. Especially in modern warfare, Kilby reasoned an appeal to values is the only method for which to produce the sacrifice of millions that is required to wage war.²⁶ He stated governments systematically appeal to individual values to sustain involvement in wars to include appeals to patriotism, protection of liberty, and crusades against evil.²⁷

Origins of Values. Kilby noted people's values are shaped from various sources including family, school, peers, religion, and personal experience.²⁸ One source that he listed was the reference group. He wrote that when people interact they tend to influence one another.²⁹ Studies indicated the group norms were the glue that held the group together and regulated member interaction.³⁰ Kilby stated the reference group moderates the behavior of an individual who belongs to competing membership groups.³¹ Also, he cited a study by Newcomb who found that reference groups could be negative and have a repelling characteristic to an individual.³²

Studies of Values in Organizations

Stevens and others

Stevens, Rosa, and Gardner conducted a value study of cadets at the US Coast Guard Academy. They used the Survey of Personal Values (SPV) and the Survey of Interpersonal Values (SIV) to measure value changes of one class over the course of its four years at the academy. First, they found evidence of self-selection among the cadets. In other words, the men and women who enter the academy do so because it has an environment favorable to the maintenance of values and attitudes to that individual.³³

Secondly, the group found that cadet's values changed over time consistent with the explicit socialization objectives of the academy.³⁴

Marumoto

Marumoto conducted a personal value study of senior US Army and US Air Force officers. He used the Rokeach Value Survey (RVS) to detect differences in personal values of the two groups of officers. Marumoto surveyed the 1988 class of the Army War College and compared the data to studies done on the 1980 class of the Army War College, the 1982 class of the Air War College, and a 1986 survey of random Air Force field grade officers.

He found senior Army officers mirror society in terms of values, but temper those values with military duties.³⁵ He also found that within the Army War College samples values did not seem to change over time.³⁶ The data also indicated a similarity in values between the 1980 Army War College class and the 1982 Air War College class.³⁷ However, he found value differences between the 1982 Air War College class and the 1986 survey of Air Force field grade officers.³⁸ Additionally, value differences existed between the 1988 Army War College class and the 1986 Air Force field grade officers.³⁹

He attributed the differences between the Air War College class and the Air Force field grade officers to the selective nature of attendance to the Air War College.⁴⁰ However, due to statistical evidence indicating almost no correlation between groups, Marumoto concluded the difference in values between the 1988 Army War College class and the Air Force field grade officers may be caused by differences between the services.⁴¹

Finegan and Theriault

Finegan and Theriault conducted a study of a large petrochemical company. They studied the relationship between the company's code of ethics and the personal values of its employees. The employees rated 24 values against themselves, their organization, and the organization's code of ethics. Next, the respondents were asked to rate the company's code of ethics against nine adjective pair words. Finally, the respondents were given three scenarios to evaluate, two of which were clear violations of the code of ethics.⁴²

Finegan and Theriault found employees had a generally positive view of the code of ethics and that a significant proportion of those surveyed had actually used it to resolve an ethical dilemma.⁴³ They also found employees would have a more favorable opinion of the code of ethics provided their personal values matched their subjective impression of the values imbedded in the code of ethics.⁴⁴

Finally, Finegan and Theriault found the greater the perceived similarity between personal values and organizational values the more positive an evaluation of the code of ethics.⁴⁵ The two summed up their study by suggesting that in the organization they studied a discrepancy existed between the values in the code of ethics and the actual operating values of the organization. It appeared to the researchers that when an employee had values similar to those generally agreed to be operating in the organization, the employee was less likely to view code violations as immoral.⁴⁶

Notes

¹ John T. Goldthwait, *Values: What They Are and How We Know Them* (Amherst, NY: Prometheus Books, 1996), 30.

² *Ibid.*, 34.

³ *Ibid.*, 77.

Notes

- ⁴ Ibid., 74.
- ⁵ Sissela Bok, *Common Values* (Columbia, MO: University of Missouri Press, 1995), 13-25.
- ⁶ Ibid., 13-14.
- ⁷ Ibid., 15.
- ⁸ Ibid., 16.
- ⁹ Ibid., 17.
- ¹⁰ Ibid., 20.
- ¹¹ Ibid., 24.
- ¹² Ibid., 25.
- ¹³ Richard W. Kilby, *The Study of Human Values* (Lanham, MD: University Press of America, 1993), 2.
- ¹⁴ Ibid., 2.
- ¹⁵ Ibid., 13.
- ¹⁶ Ibid., 22.
- ¹⁷ Ibid., 23.
- ¹⁸ Ibid., 23.
- ¹⁹ Ibid., 23.
- ²⁰ Ibid., 36.
- ²¹ Ibid., 36.
- ²² Ibid., 36.
- ²³ Ibid., 56.
- ²⁴ Ibid., 56.
- ²⁵ Ibid., 59.
- ²⁶ Ibid., 73.
- ²⁷ Ibid., 74-75.
- ²⁸ Ibid., 109.
- ²⁹ Ibid., 144.
- ³⁰ Ibid., 144.
- ³¹ Ibid., 144.
- ³² Quoted in Kilby, 144.
- ³³ Gwendolyn Stevens, Fred M. Rosa, Jr. and Sheldon Gardner, "Military Academies as Instruments of Value Change," *Armed Forces and Society* 20, no. 3 (Spring 1994): 480-481.
- ³⁴ Ibid., 481-482.
- ³⁵ Glen S. Marumoto, *The Study of Personal Values of Selected Senior U.S. Army and U.S. Air Force Officers* (MS Thesis, AFIT/GLM/LSR/88S-44. School of Systems and Logistics, Air Force Institute of Technology, Wright-Patterson AFB OH, 1988), 47.
- ³⁶ Ibid., 41.
- ³⁷ Ibid., 42.
- ³⁸ Ibid., 42.
- ³⁹ Ibid., 43.
- ⁴⁰ Ibid., 48.
- ⁴¹ Ibid., 43, 49.

Notes

⁴² Joan Finegan and Cindy Theriault, “The Relationship Between Personal Values and the Perception of the Corporation’s Code of Ethics,” *Journal of Applied Social Psychology* 27, no. 8 (April 1997): 714.

⁴³ *Ibid.*, 720.

⁴⁴ *Ibid.*, 720.

⁴⁵ *Ibid.*, 720.

⁴⁶ *Ibid.*, 722.

Chapter 3

Methodology

Introduction

The Defining Issues Test will be used to gather the data used in this research paper. Covered in this chapter will be a general description of the survey instrument, justification for its use, and its reliability and validity. Finally, the population of interest and analysis method will conclude the chapter.

The Survey Instrument

The Defining Issues Test (DIT) is a survey instrument that measures how a person uses their moral judgement to resolve moral dilemmas. The DIT is based upon work done by James Rest in moral judgement.¹ It consists of six moral-dilemma stories each requiring an ethical decision. Twelve statements accompany each story. The twelve statements represent a stage of moral judgement. The respondent is asked to rate each statement in terms of importance. Finally, the respondent must select the four important statements out of the twelve and rank orders them in terms of importance. The four issues selected generate eight scores related to the stages of moral development.

The survey returns several scores. First, it gives six stage scores. Each stage represents a stage of moral development. A detailed explanation of the moral

development stages will be presented in the next chapter. Of the remaining two scores, one is the A score or antiestablishment attitude. The A score will not be used in this research because it focuses on a single view. The final score is the M score which stands for meaningless items. These items are written in a pretentious and lofty sounding manner, but have no meaning.² The score serves as an internal reliability check to see if the respondent is reading the questions. Responses with values of M greater than 8 should be discarded.³

Survey Justification

Prior work by the researcher in this area has indicated the need for a survey instrument that has more fidelity in determining differences in personal values between groups. The Rokeach Value Survey, although good in determining general trends of a group as a whole, does not provide enough fidelity, in the opinion of the author, for determining the existence of value differences within subgroups like service components of the military. The DIT with its six stage scores should provide the fidelity needed to accomplish the research objectives.

An additional appeal of the DIT is the use of scenarios. Since the respondent is asked to evaluate a scenario, such a procedure precludes a respondent, especially a military respondent, from selecting the “right” response.

Reliability and Validity

Reliability of the survey instrument was achieved through test-retest procedures. The interval between tests ranged from one week to five months, with the average period being in the two to three month range. The test subjects ranged in age from 16 to 56.

The reliabilities for P scores, which represent the percentage of a person's score residing in Stages 5A, 5B, and 6, ranged from the mid-70s to high-80s, indicating a highly reliable statistic. However, the individual stage scores ranged from the 50s to 60s, indicating a less reliable statistic. The survey developer cautions against using stage scores as the sole mean for analysis. The stage scores should only be used if all six stories are used and if the information is analyzed in terms of group means.⁴

Validity was tested using several different methods. One method, criterion group validity, compared Ph.D. candidates in moral philosophy and political science with ninth grade students. Common sense indicates the Ph.D. candidates would have better moral reasoning than ninth graders. The results showed a statistical significance based on group criterion.⁵

Population

This research is being conducted as a pilot study. The population under investigation for the pilot study consists of the students from the Air Force, Army, and Navy attending the 1998 class of the Air Command and Staff College. There are 387 Air Force active duty officers, 44 Army officers, and 37 Navy officers in this class. Selection to attend Air Command and Staff College is accomplished through a competitive board process. Therefore, each student represents the top officers in their year group and specialty.

Analysis

The data collected from the survey will be compared between the three different groups of officers. Through the use of statistical tests, any differences in population values will be detected.

Since the survey assigns a specific numeric number to each stage value for each respondent, it is possible to calculate means and standard deviations for a group of respondents. The means and standard deviations can then be used to make inferences or conclusions about the population from which the sample is drawn.

The research design is to compare sample means from more than two populations. To analyze such a design, an analysis of variance (ANOVA) will be used. The ANOVA, a statistical analysis that makes inferences of the population based on sample results, uses the F-statistic to determine the significance between sample means. The null hypothesis will be that all population means are equal. The alternative hypothesis states at least two population's means are different. In order to reject the null hypothesis (and in effect accept the alternative hypothesis that at least two population means are different), the calculated F-statistic from the samples must be greater than the tabulated F-statistic at the 95% confidence interval.⁶

If the ANOVA shows a difference exists, the next step would be to utilize Tukey's method for multiple comparisons. Tukey's method determines which means are significantly different. Tukey's method establishes a range around the mean of interest. If the other means are outside this range, Tukey's method suggests, for a specified confidence interval, a difference exists between the means that are being compared.⁷

Notes

¹ Guide for the Defining Issues Test, *How to use the optical scan forms and the Center's scoring service* Ver 1.3, January 1993, 18.

² *Ibid.*, 12.

³ *Ibid.*, 13.

⁴ *Ibid.*, 26.

⁵ *Ibid.*, 28.

⁶ James T. McClave, and P. George. Benson, *Statistics for Business and Economics* 3rd ed., (San Francisco, CA: Dellen Publishing Company, 1985), 672-675.

Notes

⁷ Ibid., 714-716.

Chapter 4

Findings and Analysis

Introduction

This chapter analyzes the findings of the literature review with the survey results. The findings will be analyzed by the methodology described in Chapter 3. The chapter concludes by addressing the first guiding objective from Chapter 1 using the results of the analysis.

Survey Results

The DIT was administered to 10 each Air Force, Army, and Navy officers in Divisions 1 and 2 of the 1998 ACSC class. All 30 surveys were returned. The surveys were sent to the Center for the Study of Ethical Development at the University of Minnesota for scoring. Demographic data are displayed in Table 1 and career fields in Table 2.

The demographic data indicated the survey groups were fairly equal demographically. The only notable exception appears to be the large number of aviators and the relatively low times in service, grade, and commissioned service for the Navy sample.

Table 1. Demographic Data

	Air Force Sample N=10	Army Sample N=10	Navy Sample N=10
Age	Avg=38.2, Std=1.87	Avg=37.4 Std=4.53	Avg=36.0 Std=4.17
Sex	Males – 8 Females – 2	Males – 9 Females - 1	Males – 8 Females - 2
Number Married	9	9	9
Number with Children	8	8	8
Time in Service (years)	Avg=16.2 Std=2.49	Avg=16.6 Std=4.03	Avg=13.9 Std=4.23
Time in Grade (months)	Avg=29.6 Std=4.09	Avg=30.4 Std=14.7	Avg=12.9 Std=21.07
TAFCS(years)	Avg=15.1 Std=1.52	Avg=14.3 Std=1.7	Avg=12.9 Std=1.79
Education	Masters-10	Masters-5, Some Masters-5	Some PhD-2, Masters-5, Some Masters-2, Bachelor-1
Combat Exp.	4	7	2
Commission Source	Acad-3, ROTC-4, OTS-3	Acad-1, ROTC-9	Acad-1, ROTC-3, OCS-6

Table 2. Career Fields in the Sample

	Career Fields
Air Force (n=10)	Rated-3, SpaceOps-1, Log-1, Acq-2, Comm-1, Comptllr-1, OSI-1
Army (n=10)	Inftry-1, Artlly-2, AirDef-2, Log-1, CombEng-1, Finance-1, Aviation-1, Intel-1
Navy (n=10)	Aviators-7, SpaceSys-1, FleetOps-1, FleetSup-1

The DIT analysis was conducted on 25 respondents. Two surveys were rejected due to M or meaningless scores over the value of eight. Three other surveys plus one of the surveys with a high M score were rejected because they failed the consistency check. This check compares ranks and ratings. For instance, if a person ranked item #5 as the most important item, then it would be expected that no other item would be rated higher than item #5. Also, respondents who repeatedly mark items with the same ratings will

fail the consistency check. Therefore, a total of five surveys were rejected for failing the internal checks of the DIT.

Data Analysis using ANOVA

An ANOVA was run on the data using a standard statistics package. No computed F-statistic was found to exceed the tabulated F-value at the 95% confidence level. Therefore, the null hypothesis could not be rejected. Hence, it could not be proved statistically that the samples came from populations with different means. A close look at the stage means and standard deviations in Table 3 show relatively high variability in the data. The high variability would cause a low computed F-statistic. The high variability could be explained by the small sample size. Since this research was conducted as a pilot study, it would not be feasible or make sense to increase the sample size at this time. Instead, a qualitative analysis using descriptions of the various stages and the group means for each stage was deemed appropriate for analysis of the data.

Table 3. Means and Standard Deviations for each Stage by Service

	Stage 2	Stage 3	Stage 4	Stage 5A	Stage 5B	Stage 6
Air Force (n=9)	Avg=2.70 Std=3.41	Avg=7.81 Std=4.81	Avg=23.33 Std=8.65	Avg=13.44 Std=5.41	Avg=5.52 Std=4.51	Avg=5.59 Std=4.69
Army (n=8)	Avg=4.87 Std=3.48	Avg=9.38 Std=3.20	Avg=24.88 Std=6.24	Avg=11.00 Std=5.10	Avg=3.88 Std=2.75	Avg=3.63 Std=3.07
Navy (n=8)	Avg=4.13 Std=2.12	Avg=7.13 Std=5.19	Avg=23.38 Std=8.33	Avg=13.75 Std=5.39	Avg=4.75 Std=4.10	Avg=4.75 Std=4.33

Qualitative Analysis Using Stage Means

A relative comparison of the means of each service within each moral development stage was the methodology employed to qualitatively analyze the data. A low stage score

implies less tendency in that moral development stage while a high stage score implies more tendency in that stage. The qualitative analysis attempted to discern trends within the samples that could be applied to the population. A graphical representation of the data can be found in Figure 1.

Stage 2 Analysis. Stage 2 of moral development represents a focus on direct advantages to the person and the fairness of favor-for-a-favor exchanges.¹ The Air Force sample produced the lowest mean while the Army and Navy means were relatively similar in magnitude. Based on the definition of Stage 2 moral development, one can imply the Air Force respondents viewed less favorably concepts of direct advantages to oneself and simple exchanges of favors. Although not implied, this finding raises the question of whether the Air Force core value, service before self, is manifested in this moral development stage.

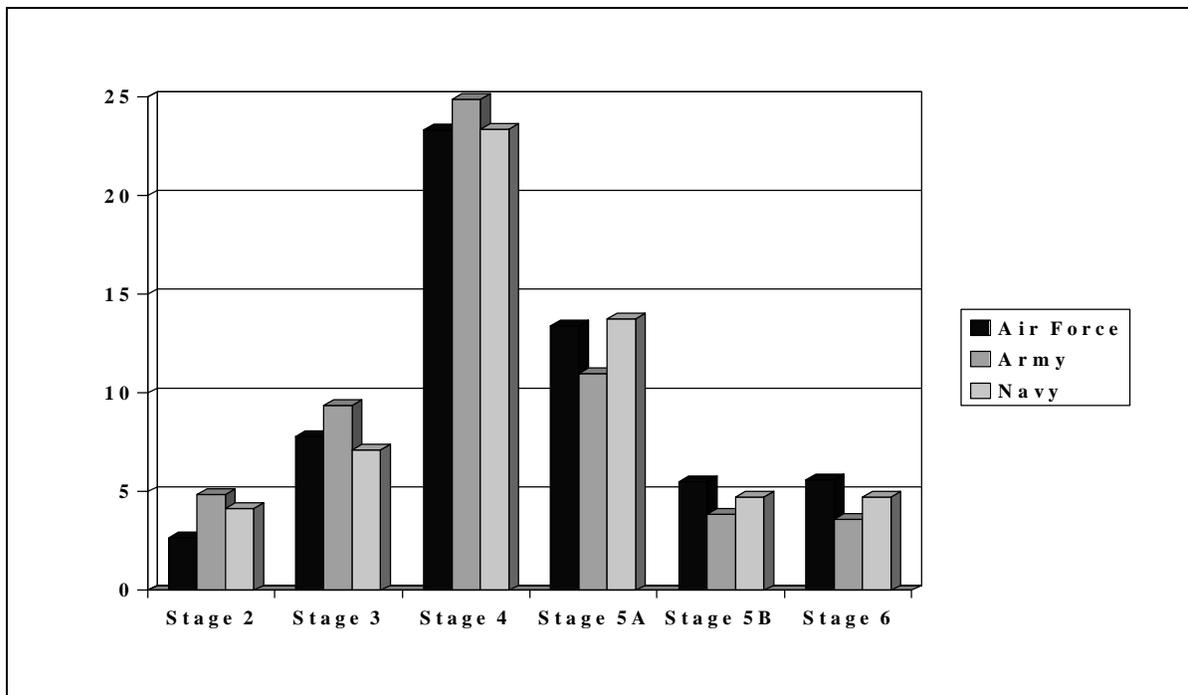


Figure 1. Graph of Sample Means by Stages

Stage 3 Analysis. Stage 3 represents a focus on good or evil intentions of the party, their concern for maintaining friendships and good relations, and maintaining approval.² In looking at Stage 3 means, the Army sample was higher than the Air Force and Navy samples which were relatively close in magnitude. One can infer the Army respondents focused on interpersonal considerations such as intentions, friendships, and approval more than the other two groups. It can be postulated that Army personnel need to be more attuned to people and personnel issues due to the manpower intensive nature of the Army. Hence, such a difference should come as no surprise when compared to a sample comprised of mostly airmen (remember the Navy sample was composed of mostly aviators).

Stage 4 Analysis. Stage 4 focuses on maintaining the existing legal systems, roles, and formal organizational structure.³ All three samples had similar values with the Army sample being slightly higher than the other two samples. Such a result should be expected of the military services since all US military members are sworn to protect and defend the Constitution of the United States. Since this implies upholding existing legal systems and structures, the similarity in scores makes logical sense. Additionally, this observation lends credence to the argument that all military services share some sort of common ground.

Stage 5A Analysis. Stage 5A focuses on organizing society through consensus procedures, due process, and safeguarding of minimal basic rights. The Army mean was lower than the Air Force and Navy samples. Once again, the Air Force and Navy samples were remarkably close in magnitude. One can infer the Air Force and Navy respondents tended to be more inclined to ideas of consensus building and due process.

An explanation for this finding might be traced to the operational environment in which aviation must operate. Airmen need to juggle the allocation of a scarce and valuable resource (airpower) among many competing demands. The resolution of such demands requires consensus procedures and use of guidelines. One can argue that if such a process is ingrained into the very basis of daily operations then that process or a similar one will most likely be used in other facets of life.

Stage 5B Analysis. Stage 5B focuses on organizing societal arrangements and relationships through intuitively appealing ideals. Such ideals may lack rationale for gaining general support.⁴ The Air Force respondents produced the highest mean followed by the Navy mean with the Army respondents producing the lowest mean. From this observation, it can be inferred the Air Force respondents tended to focus on higher, appealing ideals when compared to the other two services' samples. A possible explanation may be found in the Air Force core value, integrity first. From the standpoint of a military officer, integrity should be one of the most if not the highest ideal to be attained. Since the Air Force has chosen to state this as a core value, observing Air Force officers focusing on such a high ideal should not come as a surprise.

Stage 6 Analysis. Stage 6 of moral development represents a focus on organizing society along ideals that eliminate arbitrary factors and optimize mutual human welfare.⁵ As in Stage 5B, the Air Force sample had the highest mean followed by the Navy mean with the Army mean having the lowest relative mean. One can infer the Air Force sample tended to focus more strongly on perfecting society and optimizing welfare than the other two services' samples. As in the Stage 5B analysis, a possible explanation might be found in the Air Force core value, excellence in all we do. Achieving the best

results in all facets of Air Force operations means improving processes, finding optimal solutions, and getting the most from every dollar spent. Such a mind set parallels ideals of perfecting society and optimizing human welfare. Since this is a stated core value for the organization, measuring such a trait in Air Force officers should not be surprising.

Overall Analysis of all Sample Means. The final analysis deals with an overall “big picture” look at the sample means. Kilby noted the majority of adults will be at Stages 3 and 4 in their moral development.⁶ A cursory examination of the sample means shows the largest means for all the services at Stages 4 and 5B. From this observation, one can infer that, for at least the sampled officers, differences exist between military officers and the general populace. It would appear military officers are at a higher stage of moral development than the normal adult population. Such a finding should not come as a surprise since the military in general and military officers in particular are normally held to higher standards than the civilian sector.

Concluding Remarks

The first guiding objective from Chapter 1 was to answer the question of whether similarities or differences in values existed between Air Force, Army, and Navy officers. Because of the high variability in the data, a statistically significant inference could not be made about values in Air Force, Army, and Navy officers. However, a qualitative analysis of the sample means provided some insight to the existence of possible differences and similarities in values.

For example, the Stage 4 values indicated military services might share some common values. As postulated by Bok, common values are used to form a basis for

understanding and dialogue. Common values also provide a shared set of experiences from which to draw perspective.

However, evidence also exists airmen have different values from at least the Army. The similarity of the means between Air Force respondents and Navy respondents appeared to be more than coincidental. Although one would not think the Navy would have similar values, the fact 70% of the Navy respondents were aviators appears to be a factor. The reader might argue only 40% of the Air Force respondents were aviators or space operators. However, the entire Air Force is organized and trained to support the flying mission, whether air or space based. Therefore, it can be argued the orientation process focuses every Air Force person's value to a certain "air mindedness."

Finally, a word needs to be said about the Air Force's core values. It appeared from the data the Air Force respondents reacted in a manner consistent with Air Force core values. Although not originally part of the study, it is interesting to note those stages of moral development which had parallels to the Air Force's core values were the same stages where the Air Force respondents scored differently from the other two services.

Notes

¹ Guide for the Defining Issues Test, *How to use the optical scan forms and the Center's scoring service* Ver 1.3, January 1993, 12.

² *Ibid.*, 13.

³ *Ibid.*, 13.

⁴ *Ibid.*, 13.

⁵ *Ibid.*, 13.

⁶ Richard W. Kilby, *The Study of Human Values* (Lanham, MD: University Press of America, 1993), 129.

Chapter 5

Conclusions

Here is a toast to the host of those who love the vastness of the sky; To a friend we send the message of his brother men who fly; We drink to those who gave their all of old; Then down we roar to score the rainbow's pot of gold; A toast to the host of the men we boast the US Air Force.

—Third Verse of the Air Force Song

Introduction

This chapter applies the results of Chapter IV to the two remaining guiding objectives. The Chapter also includes recommendations for further research into this area of study.

Guiding Objectives Answered

The second guiding objective was to analyze and explain value differences and similarities found in the research in terms of culture, training, and mission. Although, it was not statistically proven that a difference in values existed between the services surveyed, some observations can be made using the stage means.

The strong similarities in Stage 4 means indicated the services shared some commonality. In terms of mission, one logical explanation would be the common mission of defense of the United States. Since all military officers take the same oath of office, one could assume a limited domain value, as described by Kilby, was a factor in

the three services having similar Stage 4 means. Also, all officers go through a basic training program where general military values are taught and instilled.

In analyzing differences, it would appear airmen have a different value orientation when compared to ground based personnel. Even though the means in Stage 5B and 6 were different between the Air Force and Navy samples, these two services were closer together than either were to the Army mean. Since the Navy sample was comprised mostly of aviators, one could logically conclude from the survey results “air going people” have different values as suggested by General Mitchell.

If one accepts Mitchell’s view that airmen wage war as individuals, then culture, training, and mission shape the values of airmen. Culturally, the focus would tend toward an individual orientation instead of toward large groups. From a training perspective, the use of small fighting units (one to four airplanes) would be the norm instead of large maneuver units. When examined in terms of mission, an individual focus would preclude extended use or dependence of resources not under direct control of an airmen, while ground based forces strive for an integration of effort.

Although not all Air Force officers are aviators, the Air Force is focused solely on the flying mission. Such a focus permeates the service through leadership, training, and mission orientation. If airmen have different values, then the Air Force, which has a solely airborne focus, would arguably have a different value orientation. The survey results appear to support such a conclusion.

The third guiding objective was to apply the analysis to Air Force issues of recruitment, training, and retention. The survey results appeared to be in line with previous studies in this area. As evidenced by the high Stage 4 and 5A means, military

officers have values different for their civilian counterparts. Therefore, in terms of recruitment, the obvious objective would be to find individuals with a predisposition to military values. For the Air Force, the objective would be to find individuals predisposed to airmen military values. Since the Air Force appears to have value tendencies of both a military service and an “air going” service, recruitment should focus on individuals who are comfortable with both value regimes.

In terms of training, one can argue the Air Force training system has produced a type of “air going” people. The survey results point to differences in values to support this conclusion. If the goal is to change the “air going” or individual perspective of Air Force personnel, then the logical starting place would be to change the training focus from the current “air going” perspective. However, if the goal is to strengthen the “air going” perspective, then the logical step would be to focus and enhance training to encourage the “air going” perspective. For instance, the Marine Corps requires all its officers to attend the Marine basic course. If indeed Air Force values are different and that difference needs to be strengthened, a common, air oriented training experience would be a method to accomplish this objective.

In terms of retention, the Air Force would do well to recognize the effect of values in its retention efforts. As noted by Kilby, values play a large role in assimilating individuals into a group. Values also cause groups to form or to split-up. Further, the Finegan and Theriault study indicated similar personal and organizational values affected the application of the organization’s ethics and the individual’s acceptance of those ethics. Finally, the concept of the reference group needs closer examination. Since the majority of the Air Force is not composed of aviators, other reference groups compete

with the primary reference group, the Air Force, causing the potential for conflict and dissatisfaction. If the Air Force has “air going” values and its people have similar values, the Air Force should enact policies or programs that strengthen those values.

Recommendations for Further Research

Since the research was conducted as a pilot study, one of the goals was to determine grounds for further research. Enough evidence exists to support further investigation into the area of value differences between services. The Navy sample should contain a more varied cross section of the Navy to determine if Navy values are more or less like the ones encountered in this study. Additionally, surveying Marine personnel might provide further insight into value differences because the Marines have elements of air, ground, and sea embedded in their forces. Further studies should attempt to survey larger sample sizes to lessen the impact of variability in the data. Samples taken outside Air Command and Staff College might also yield different results. For instance, a large sample from each of the intermediate service schools would fulfill several size and variety objectives yet compare across a similar environment, namely the select nature of intermediate service school attendance.

Concluding Remarks

This research indicates a difference in values exists between the services. The size and nature of that difference is left for further research. However, the data indicates airmen may have unique values. If that is the case, the Air Force should acknowledge its uniqueness among the services. Instead of comparing itself to the other services, the Air Force should attempt to strengthen those values that make it unique.

Appendix A

The Defining Issues Test and Demographic Questionnaire

The Defining Issues Test (DIT) is a commercial, copyrighted survey. Information on the DIT as well as the user's guide may be received from The Center for the Study of Ethical Development, University of Minnesota, c/o James Rest, 206-A Burton Hall, 178 Pillsbury Drive S.E., Minneapolis MN, 55455, 612-624-0876.

PERSONAL INFORMATION SHEET

Prior to filling out the Defining Issues Test, please answer the following questions about yourself. Then, detach this sheet and turn it in separately from the survey.

1. Age: _____
2. Sex:
 - a. Male
 - b. Female
3. Are you or have you ever been married:
 - a. Yes
 - b. No
4. Do you have children:
 - a. Yes
 - b. No
5. Service Component a. Air Force b. Army c. Navy
6. Time in Service _____ (round to nearest year)
7. Time in Grade (yrs/mos)
8. Total Active Federal Commissioned Time _____ (round to nearest year)
9. Write in your career field or branch (Do not use AFSC/MOS designators) _____
10. Highest Education Level Obtained:
 - a. Some College
 - b. Bachelors Degree
 - c. Some Graduate Study
 - d. Master's Degree
 - e. Some Doctoral Study
 - f. Doctoral Degree
11. Combat Experience:
 - a. Yes
 - b. No
12. Commissioning Source:
 - a. OTS/OCS
 - b. Service Academy
 - c. ROTC
 - d. Direct Commission
 - e. Other: Please Specify: _____

Appendix B

Survey Results

SUBJECT ID	STAGE SCORES							M	P SCORE	D SCORE	U SCORE
	2	3	4	5A	5B	6	A				
10001	3.0	5.0	24.0	12.0	9.0	7.0	0.0	0.0	46.7	27.629	0.321
10002	0.0	13.0	23.0	17.0	2.0	0.0	2.0	3.0	31.7	26.786	0.160
10003	1.0	6.0	24.0	17.0	6.0	3.0	3.0	0.0	43.3	27.248	0.255
10004	4.0	5.0	38.0	8.0	0.0	3.0	2.0	0.0	18.3	22.213	0.239
10005	0.0	14.0	27.0	5.0	4.0	10.0	0.0	0.0	31.7	27.403	0.087
10006	11.0	0.0	30.0	11.0	4.0	1.0	0.0	3.0	26.7	21.754	0.221
10007	4.0	11.0	15.0	20.0	3.0	6.0	0.0	1.0	48.3	24.913	0.136
10008	1.3	13.3	8.0	16.0	14.7	5.3	0.0	1.3	60.0	30.173	0.205
10009	3.0	9.0	22.0	12.0	8.0	6.0	0.0	0.0	43.3	29.351	0.263
10000	1.0	5.0	14.0	23.0	2.0	15.0	0.0	0.0	66.7	33.079	-0.101
20001	4.0	10.0	28.0	11.0	4.0	3.0	0.0	0.0	30.0	23.620	0.032
20002	0.0	3.0	14.0	12.0	10.0	10.0	2.0	9.0	53.3	37.979	0.101
20003	0.0	6.0	26.0	8.0	10.0	8.0	0.0	2.0	43.3	35.673	0.434
20004	0.0	8.0	17.0	19.0	5.0	7.0	0.0	4.0	51.7	21.491	0.019
20005	0.0	6.0	21.0	17.0	8.0	6.0	2.0	0.0	51.7	28.405	0.262
20006	9.0	8.0	25.0	9.0	2.0	3.0	3.0	1.0	23.3	15.618	0.116
20007	6.0	9.0	18.0	17.0	3.0	6.0	0.0	1.0	43.3	34.976	0.085
20008	9.0	6.0	35.0	7.0	3.0	0.0	0.0	0.0	16.7	9.081	-0.046
20009	5.0	15.0	20.0	13.0	1.0	2.0	2.0	2.0	26.7	22.258	0.017
20000	6.0	13.0	30.0	4.0	3.0	0.0	3.0	1.0	11.7	15.879	-0.034
30001	5.0	4.0	30.0	9.0	6.0	4.0	2.0	0.0	31.7	25.004	0.210
30002	3.0	6.0	29.0	13.0	4.0	4.0	0.0	1.0	35.0	25.611	0.319
30003	4.0	16.0	18.0	16.0	2.0	1.0	3.0	0.0	31.7	33.703	0.461
30004	3.0	5.0	25.0	18.0	4.0	5.0	0.0	0.0	45.0	26.433	-0.068
30005	9.0	7.0	27.0	5.0	12.0	0.0	0.0	0.0	28.3	13.078	-0.126
30006	3.0	14.0	6.0	22.0	9.0	3.0	0.0	3.0	56.7	19.572	0.394
30007	2.0	13.0	19.0	11.0	0.0	5.0	0.0	10.0	26.7	28.927	-0.004
30008	3.0	1.0	21.0	16.0	0.0	14.0	2.0	3.0	50.0	29.311	0.201
30009	3.0	4.0	31.0	11.0	1.0	7.0	0.0	3.0	31.7	31.000	0.350
30000	2.0	2.0	27.0	13.0	4.0	5.0	4.0	3.0	36.7	24.441	0.409

Note: ID numbers beginning with 1 equals Air Force, 2 equals Army, and 3 equals Navy respondents.

Bibliography

- Bok, Sissela. *Common Values*. Columbia, MO: University of Missouri Press, 1995.
- Builder, Carl H. *The Icarus Syndrome: The Role of Airpower Theory in the Evolution and Fate of the US Air Force*. New Brunswick: Transaction Publishers, 1996.
- Commandant's Leadership Speaker Series. Lecture. Air Command and Staff College, Maxwell AFB, AL. November, 1997.
- Finegan, Joan and Theriault, Cindy. "The Relationship Between Personal Values and the Perception of the Corporation's Code of Ethics." *Journal of Applied Social Psychology* 27, no. 8 (April 1997): 708-724.
- Guide for the Defining Issues Test. *How to use the optical scan forms and the Center's scoring service* Ver 1.3, January 1993.
- Goldthwait, John T. *Values: What They Are and How We Know Them*. Amherst, NY: Prometheus Books, 1996.
- Kilby, Richard W. *The Study of Human Values*. Lanham, MD: University Press of America, 1993.
- Marumoto, Glen S. *The Study of Personal Values of Selected Senior U.S. Army and U.S. Air Force Officers*. MS Thesis, AFIT/GLM/LSR/88S-44. School of Systems and Logistics, Air Force Institute of Technology, Wright-Patterson AFB OH, 1988.
- McClave, James T. and Benson, P. George. *Statistics for Business and Economics*. 3rd ed. San Francisco, CA: Dellen Publishing Company, 1985.
- Mitchell, Billy. *Winged Defense: The Development and Possibilities of Modern Airpower – Economic and Military*. New York: Dover Publications, 1988.
- Stevens, Gwendolyn, Rosa, Fred M., Jr. and Gardner, Sheldon. "Military Academies as Instruments of Value Change." *Armed Forces and Society* 20, no. 3, (Spring 1994): 473-484.

DISTRIBUTION A:

Approved for public release; distribution is unlimited.

Air Command and Staff College
Maxwell AFB, Al 36112