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A STUDY TO COMPARE THE HEALTH PRACTICES, ATTITUDES, AND PERCEPTIONS OF MILITARY AND CIVILIAN PERSONNEL

THESIS

Kimberly M. Allen  
Captain, USAF

AFIT/GSM/LS/87S-2

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DEPARTMENT OF THE AIR FORCE  
AIR UNIVERSITY  
**AIR FORCE INSTITUTE OF TECHNOLOGY**

Wright-Patterson Air Force Base, Ohio

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A STUDY TO COMPARE THE HEALTH PRACTICES, ATTITUDES,  
AND PERCEPTIONS OF MILITARY AND CIVILIAN PERSONNEL

THESIS

Presented to the Faculty of the School of Systems and Logistics  
of the Air Force Institute of Technology  
Air University  
In Partial Fulfillment of the  
Requirements for the Degree of  
Master of Science in Systems Management

Kimberly M. Allen, B.A.

Captain, USAF

September 1987

Approved for public release; distribution unlimited

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Abstract

The purpose of this thesis was to investigate the health practices, attitudes, and perceptions of military and civilian personnel assigned to the Ogden Air Logistics Center (ALC), Hill AFB, Utah. Additionally, the results were compared with data obtained from the Vogel study conducted at Headquarters Air Force Logistics Command (HQ AFLC) in 1986. The six health practices included body weight, eating breakfast, hours of sleep, smoking, alcohol consumption, and strenuous physical activity.

Data was collected using a survey questionnaire that duplicated the HQ AFLC 1986 survey with the exception of seven deleted questions that pertained specifically to HQ AFLC personnel.

Study results concerning the current health practices of Ogden ALC military and civilian personnel showed that more civilians than military think of themselves as overweight; generally, civilian employees eat breakfast more frequently than military members; both personnel categories reported sleeping the same number of hours each night; more military personnel currently smoke than their civilian counterparts; over twice as many civilians than military claimed to be non-drinkers; and more military than civilians engage in regular strenuous physical activity.

When Ogden ALC - HQ AFLC comparisons were made it was found that generally Ogden ALC personnel eat breakfast more frequently, smoke less, engage in strenuous physical activity more, drink less often and fewer drinks per sitting when they do than HQ AFLC personnel. Results also showed that HQ AFLC personnel are closer to their ideal body weight than are Ogden ALC individuals while both populations reported sleeping the same number of hours each night.

Questions soliciting respondents' attitudes and perceptions on health-related issues revealed that the majority of personnel believe that the Air Force is not providing them with the proper amount of health information. Both military and civilian personnel expressed considerable interest in various health promotion and health-related program offerings; in particular on, taking a CPR class, obtaining information on stress management, and having their fitness level tested.

A STUDY TO COMPARE THE HEALTH PRACTICES, ATTITUDES,  
AND PERCEPTIONS OF MILITARY AND CIVILIAN PERSONNEL

I. Introduction

General Issue

The USAF Health Promotion Program is aimed at improving the overall health practices of both military and civilian personnel. The idea behind the program is that individuals can help assure peak performance by accepting responsibility for personal health maintenance and by practicing healthy lifestyle behaviors. The mission of the program is to provide an environment whereby individuals can acquire skills and knowledge that promote and encourage healthy lifestyle practices (13).

Each military installation has a Health Promotion Coordinator (HPC) who is appointed by the director of base medical services to administer the base Health Promotion Program. The HPC, along with members of the base Health Promotion Committee, is responsible for developing programs that "encourage healthy lifestyles through awareness, risk assessment, intervention, and support environment" (9).

There are numerous methods of instituting health promotion efforts based on the needs of the local Air Force community and the technical resources available (6). The primary methods of promoting healthy lifestyle practices

include various media campaigns, sponsorship of activities such as runs and volksmarches, distribution of posters, articles, brochures and pamphlets at workplaces and medical centers, and briefings and presentations of health-related information (34:15).

#### Specific Problem Statement

A potential problem with this diverse approach to health promotion planning is that the programs offered in a community-based setting may only reach and affect a particular group who are already health-conscious. The result is that we could neglect the very individuals who need the positive influence of the health promotions effort the most. Therefore, it is vitally important that all managers take an active role in designing a health promotion program tailored to their particular organization's needs and unique make-up (21:87).

The purpose of this research project is to investigate the health practices, attitudes, and perceptions of military and civilian personnel assigned to an Air Logistics Center (ALC). The information obtained from this research should be beneficial to managers in helping them decide what unique health promotion programs need to be offered in their organizations based upon the health practices and behaviors identified.

### Scope

This research project focuses on the health practices, attitudes, and perceptions of military and civilian personnel assigned to the Ogden Air Logistics Center at Hill AFB, Utah.

The six health practices investigated in this study will be the same ones covered in the Headquarters Air Force Logistics Command (HQ AFLC) 1986 survey. The six physiological areas include eating and sleeping habits, body weight, smoking habits, use of alcoholic beverages and physical activity. The only psychological area covered will be environmental awareness with respect to use of seat belts. This study will also investigate the attitudes and perceptions of employees concerning health promotion-related topics (34:6). Additionally, it will compare the results with data obtained from the Vogel survey conducted at HQ AFLC in 1986. Ogden ALC was selected for comparison because their mission responsibilities include many more physically demanding duties than those at HQ AFLC (19). Significantly different health practices could be identified as a result which would, in turn, impact on each organization's health promotion program design.

### Hypothesis and Investigative Questions

This study attempts to support the following hypothesis: The health practices of the military and civilian population at Ogden ALC are significantly

different from those of the military and civilian personnel assigned to HQ AFLC.

Specifically, the following investigative questions are addressed in order to support or reject the hypothesis stated above.

1. What are the current health practices of Air Force military and civilian personnel in the following six areas:

- a) body weight
- b) eating breakfast
- c) hours of sleep
- d) smoking
- e) alcohol consumption
- f) strenuous physical activity

2. How do the health practices of Ogden ALC employees compare with the health practices of HQ AFLC military and civilian personnel?

3. How do Air Force employees receive health promotion/health-related information?

4. What is the perceived usefulness of Air Force health promotion efforts by military and civilian personnel?

5. What are Air Force employees' attitudes towards health as it relates to work?

6. What health promotion activities/efforts are Air Force employees interested in attending/participating in (34:7)?

### Summary

Chapter I provided an overview of the purpose for this study. Chapter II will present a review of the literature available on health practices research and on the history and current status of health promotions within the community and in the Air Force. Chapter III describes the methodology used to test the study's hypothesis and answer

its investigative questions. Chapter IV will discuss the results and Chapter V will provide a summary of the findings and recommendations for further research.

## II. Literature Review

### Introduction

This chapter will present a review of the literature available on health practices and health promotions relevant to this research effort. The first section will cover information on research that has been done on health practices. The second section will present health practices research that has been conducted within DOD followed by Air Force health practices research. The concept of health promotions will be introduced next followed by the background, incidence data, and benefits of corporate health promotion programs. Health promotion efforts in the Department of Defense (DOD) and the Air Force will be discussed next. The last section will discuss some of the factors that must be considered when designing a health promotion program for an organization.

### Health Practices Research

During the past two decades, considerable attention has been given to the importance of lifestyle behaviors as a means of maintaining positive health. The developments focusing attention on the importance of healthy behavior include:

1. the realization that many chronic diseases are associated with lifestyles;
2. the argument that health maintenance is the proper function of individuals and not the medical care system;

3. the development of various holistic health modalities; and

4. a general concern for the social and economic consequences of ill health [24:217].

However, very little attention has been given to investigating the relationship between presumed "good" health practices and physical health status (24:217).

Breslow and his associates have conducted the most extensive research on the relationship between health habits and health status (24:217). In 1972, Belloc and Breslow demonstrated the existence of an association between specific health practices and physical health status in a large population study conducted in Alameda County, California in 1965 (37:1). The health practices investigated in that study included smoking and sleeping habits, use of alcohol, exercise patterns, maintaining ideal body weight, and snacking and breakfast habits (26:571). In 1973 after tracking deaths among the Alameda County respondents for 5 and 1/2 years, Belloc found a strong relationship between the same seven health habits and longevity (5:469). Although some evidence by Wiley and Camacho has suggested that breakfast and snacking habits are less important than the other five habits, a 9 and a 1/2 year followup of the 1965 Alameda County sample by Breslow and Enstrom also found a significant association between the seven good health practices and longevity (26:571).

The National Health Interview Survey (NHIS) conducted by the National Center for Health Statistics (NCHS) collected data on the seven Alameda County health habits in 1977, 1983, and again in 1985 (26:571). The Health Promotion and Disease Prevention Survey of the 1985 NHIS was designed to monitor progress toward the attainment of broad goals established by the Department of Health and Human Services for improving the health of all Americans by the year 1990 (30:566).

The 1985 NHIS Health Promotion and Disease Prevention Survey included questions on smoking, sleep, eating breakfast, and snacking that were similar to those used in the Alameda study; however, the measures of alcohol consumption, exercise, and desirable weight differed slightly from those used in the Alameda study. The data showed that men are more likely than women to smoke, drink, and exercise. It was also found that younger people are more likely than older people to skip breakfast, snack, and drink and younger women are more likely than older women to smoke (26:571-572).

DOD Health Practices Research. In 1985, the DOD conducted the Worldwide Survey of Alcohol and Nonmedical Drug Use Among Military Personnel, the third in a series of surveys of active duty military personnel. The survey primarily covered alcohol use, nonmedical drug use, and cigarette use but contained several questions addressing

the health attitudes and behaviors of the respondents. Study results showed that overall, approximately 87 percent of personnel drink some alcohol, about 46 percent smoke cigarettes, and about 9 percent use drugs for nonmedical purposes. In general, the same trends for substance use for the total DOD were seen for the four individual Services. However, when service-specific comparisons were made, the levels of alcohol, drug, and cigarette use were found to be lower among Air Force personnel than among personnel in the other services (4:1,6,11,13).

Air Force Health Practices Research. In 1985, Wetzler and Cruess conducted a study of the health practices in United States Air Force personnel compared to United States adult civilians. They compared the results obtained from a 1977 Military Personnel Center health survey administered to USAF personnel with those from the 1977 Health Practices Supplement to the National Health Interview Survey conducted by the National Center for Health Statistics. The health practices included adequate rest, sufficient rest, eating breakfast, no snacking, maintaining a reasonable body weight, no smoking, and moderate use of alcohol. The results showed that the USAF ate breakfast less often and snacked more frequently than other U.S. adults, but the younger age distribution in the USAF may have accounted for some of the difference. Air Force members reported sleeping less, and the females and older

persons in both samples reported engaging in less physical activity. Air Force females reported drinking more than other U.S. females, but there appeared to be less heavy drinking in the USAF. Smoking in the USAF was slightly higher than for other civilian adults (35:371-372).

In a 1986 survey, Hyde attempted to establish the current physical health practices of Air Force captains in seven areas in a manner identical to that used in the 1977 Military Personnel Center (MPC) survey. Additionally, he focused on the changes in health practices, why the changes took place, and investigated whether the Air Force health promotions program was a key cause of those improvements. In general, Hyde found that Air Force captains stationed at Wright-Patterson AFB smoke less, drink less alcohol, and participate in strenuous exercise more frequently than captains who participated in the 1977 MPC survey. Captains surveyed in 1986 have generally gained more weight since coming on active duty and get less sleep than their 1977 equivalent. However, Hyde found that the frequency with which the 1986 sample eat breakfast, snack between meals and participate in non-strenuous exercise has not changed from 1977 levels (17:1,22,32).

#### Health Promotion

Health promotion as defined in this research project includes all activities directed toward sustaining or increasing the level of well-being of a given individual or

group. Health promoting behavior is always aimed at protecting or improving a person's health status (20:203).

Corporate Health Promotion Programs. The first true reported fitness program in an American company began in 1894 at the National Cash Register Company in Dayton, Ohio, when the president authorized exercise breaks for employees (23). In the 1950's, organization-sponsored health promotion programs usually consisted only of intramural sports and recreation leagues. Program costs were low and corporate goals were modest. Employers felt that a small investment in administrative time and equipment might help boost morale among the employees. The 1970's brought structured physical fitness programs and extensive corporate athletic facilities, such as gymnasiums, swimming pools, and jogging tracks. In the late 1970's, the idea of physical assessment methods and individualized fitness programming first came into being. The latter part of the decade also brought with it a much broader definition of employee health and fitness (12:25).

Incidence Data. Health promotion programs can include comprehensive efforts covering all aspects of lifestyle, or they can be limited to simple monitoring programs (25:125). For the most part, a company can claim to have a health promotion program if it offers any or all of the following benefits to its employees: health assessments, health education, health intervention,

athletic equipment and facilities, mental health programs and incentive systems (12:26).

A recent nationwide survey of 1185 large and small companies found that first aid training including cardiopulmonary resuscitation was offered by 70 percent of the firms surveyed and was being considered by another 10 percent. Alcohol and drug abuse programs were offered by 41 percent of the respondents and were being considered by another 20 percent. Thirty-six percent of the firms offered stress management and hypertension screening while 25 percent were considering offering them. Smoking cessation was offered by 31 percent and being considered by 25 percent. Exercise classes (including back injury prevention classes) were offered by 37 percent and being considered by 18 percent and on-site exercise facilities were offered by 21 percent and being considered by 14 percent. Twenty-nine percent of the firms offered weight loss or nutrition education programs while 23 percent were considering them. Of the 1185 companies, 69 percent distributed or presented information on the problems of rising medical costs to employees, and 18 percent were considering doing this also; 54 percent gave the employees tips on health promotion information of some sort and 26 percent were reportedly considering such a move (21:85).

Benefits of Health Promotion Programs. The benefits of having health promotion programs extend to both

the employer and the employee. For employees participating in an organization-sponsored health promotion program, the benefits can include lower cholesterol and blood pressure levels, increased fitness levels, reduced levels of stress and improved perception, sense of well-being, energy level and morale. Employers, on the other hand, hope to see reduced health-care costs and worker compensation claims, improved employee job performance and productivity, and decreased employee turnover and absenteeism (12:31). Charles Kittrell, vice president of Phillips Petroleum and special advisor of the President's Council on Physical Fitness and Sports, sums up the point in reference to Phillips' comprehensive fitness program:

At Phillips, our overall health insurance costs are below the national average, and have been for a number of years...Still the numbers aren't the main reason corporations should support fitness. To me, the main reason is that fitness helps people live richer, fuller, and longer lives [18:54].

In a study on the impact of a comprehensive worksite health promotion program on employee absenteeism in a large metropolitan school district, employees were found to have made improvements in their physical fitness, body composition, stress management, and overall feeling of general well-being. These results are similar to previously reported findings on health promotion for educators, from programs in private industry, and at the National Aeronautics and Space Administration.

Participants were also found to have lower absenteeism rates in the study year than employees who did not enroll in the health promotion program. The study results "suggest that a reduction in absenteeism due to the health promotion program was possibly associated with an improvement in physical fitness" (1:166,171-172).

DOD Health Promotion Efforts. On 11 March 1986, Secretary of Defense Caspar W. Weinberger ordered the military to put in place an extensive health promotion and education program focused on anti-smoking efforts, physical fitness, nutrition, alcohol and drug abuse prevention, hypertension, and stress management (22). The directive requires each branch of the service to establish a health promotion program coordinator to serve as the focal point for all health promotion program issues and to prepare a plan for the implementation of a comprehensive health promotion program. Plans and programs must address smoking prevention and cessation, physical fitness, nutrition, stress management, alcohol and drug abuse, and early identification of hypertension (8:4).

Air Force Health Promotion Program. Health education and promotion in the Air Force began in April 1977 with the establishment of the Health Education Division of the School of Health Care Sciences. The Health Education Division functioned as a repository of technical resource materials that dealt with a liaison appointed at every

medical facility known as a Health Education Coordinator (HEC). The HEC was responsible for discovering what kind of health education was being conducted in their facility, assessing the needs for future health education programs, and planning and coordinating the health education process at their installation (31).

In February 1981, the USAF Consumer Health Education program moved from the School of Health Care Sciences, Sheppard Air Force Base, Texas to become a division in the Air Force Medical Service Center, Brooks Air Force Base, Texas. This move was intended to provide the program with closer consultant availability and support from the Chief of Professional Services Office at the Center (15).

The name of the Consumer Health Education Division was officially changed to the Health Promotion Program in June 1985. Additionally, Health Education Coordinators were redesignated as Health Promotion Coordinators (HPC) (13).

The USAF Health Promotion Program initiated a healthy lifestyle awareness campaign in April 1986, designated the "Well Aware" program, to inform Air Force members and their families on the components of wellness. This two-year effort will promote eight separate wellness components on a quarterly basis. The eight components to be covered include: health care, physical fitness, nutrition, environmental safety, coping skills, social skills, self-awareness, and personal affairs (6).

The new direction and increased emphasis being placed on the health promotion program will be reflected in the updated issue of AFR 168-14, USAF Medical Service Health Promotion Program. In addition to outlining the overall conduct of the program, the regulation also discusses how the needs of the Air Force community are going to be assessed. The intent is for the HPC to conduct a needs assessment, not less than every two years, through the use of AF Form 1330, Health Promotion Needs Assessment. Information gathered from the assessment forms will enable the HPC to observe changes in the needs of the base population. The comparison is also intended to reveal whether health promotion goals, objectives, and areas of special interest have been achieved or influenced (9).

Health Promotion Program Design. There are a number of factors that should be considered when the decision is made to implement a health promotion program in the workplace (33:94). Program design must first address program objectives. Ideally, program objectives should be specific enough to allow for follow-up evaluation to determine if the objectives were reached (21:85). In fact, inspectors on recent Air Force Health Management Safety Inspections have found that health promotion programs often have unclear statements of goals, objectives, and times for completion (16).

Johnson & Johnson, for instance, has set clear-cut corporate goals related to its comprehensive health promotion program:

Within five years, the company hopes to reduce the number of smokers and employees with alcohol problems by 50 percent, to have 60 percent of employees within 10 percent of their ideal weight (as defined by Metropolitan Life Insurance weight charts), to increase the percentage of employees who follow prudent nutritional practices from 25 percent to 50 percent, and to increase the number of employees who exercise at least 30 minutes two or more times a week to 70 percent of the population [12:32].

Efforts should also be made to involve all levels of management as well as relevant employee groups in the decision-making process. Health promotion programs generally work best when they are supported from the top down (33:94). It is an added bonus if the top executive in the company is a highly visible role model. The chief executive officer of Mesa Petroleum, T. Boone Pickens, works out daily in the company gym, and stresses health and exercise during interviews with potential employees (18:56).

An organization should next determine what resources are available in-house. Employees who may have experience in offering exercise and fitness programs need to be sought out and their skills evaluated. Also, existing community resources should be explored (33:94).

Another factor to consider is that the program must be adequately funded so that the stated objectives can be

accomplished. Sources of funding must be clarified in advance so that clear monetary commitments can be made before the program is begun (33:94,96).

In coordinating the program, concern must be given to appointing someone in-house who will be the coordinator of the program. Many programs have failed because the administration of the program was divided among a number of employees, none of whom was ultimately responsible for the outcome (33:96).

Another factor in health promotion program design concerns what particular combination of programs should be offered to employees. However, the best programs are those that are designed following an assessment of specific needs and designed to meet the needs of particular employees (33:94,96).

### Summary

This chapter presented a review of the literature on health practices and health promotions applicable to this research project. The next chapter will discuss the particular methodology that will be used to test the study's hypothesis and answer its six investigative questions.

### III. Methodology

#### Introduction

This chapter describes the methodology used to collect and analyze the data required to test the study's hypothesis and answer its investigative questions. The data collection instrument used in this study will be discussed first. The target population will then be justified followed by an exposition of the sampling plan to be used. The survey questions and the specific statistical tests used to analyze the collected data will be addressed next. Finally, the assumptions and limitations of this research study will be covered.

#### Data Collection Instrument

Traditionally, face-to-face interviewing has been considered the method of choice in health surveys. Other methods such as mail or telephone were considered to have lower response rates, greater risk of nonresponse bias, lower quality response, and biased comparisons due to different quality response in different population subgroups (29:302).

Typical of the positive evidence associated with mail surveys are the following: 1) age, sex, family size, occupation, or length of questionnaire does not seem to affect response rates, and 2) concern that health surveys are subject to significant nonresponse bias and that the

quality of response is inferior seems to be unjustified (28:298-299; 30:302).

Dominowski on the other hand presents a major limitation of surveys. Because survey information about behavior relies on self-reports, there is the question of how perceptions of one's own behaviors accurately reflect the actual behavior. Self-reports might be inaccurate due to memory limitations, unwillingness to provide accurate information, biases due to the manner in which the survey is taken, and inadequate self-knowledge. Additionally, Dominowski states that the accuracy of responses is related to the person's perception of the source of the survey, its purpose, and the degree of anonymity involved (10:183-184).

The researcher has determined that the disadvantages mentioned above are outweighed by the advantages associated with using a mail survey for data collection. The advantages of using the mail survey in this research project are a single researcher can access a relatively large population, expect a better than 50 percent probability for a response, and use the base mail system for distributing the surveys.

#### Target Population

The target population includes all military and civilian personnel assigned to Ogden ALC with the exception of general officers, Senior Executive Service civilians and wage grade employees. Ogden ALC was selected for

comparison with HQ AFLC because their mission responsibilities include many more physically demanding jobs than those performed at HQ AFLC (19). HQ AFLC personnel, for the most part, have sedentary jobs and thus represent a less active portion of the population of Air Force personnel (34:29). The target population size on 11 December 1986 was placed at 10,383 based on information provided by an Atlas data base inquiry. This total includes 8376 civilians and 2007 military personnel.

#### Sampling Plan

Since this research project is substantially a continuation of the 1986 Vogel study, the target population discussed above will be divided in the manner similar to that in the Vogel study. The target population will be divided into two subgroups, civilian and military personnel, so that Ogden ALC - HQ AFLC comparisons can be made. A simple random sample will be taken from each subgroup. A 95 percent statistical confidence level will be used in this research, as this is the one normally specified and desired by all professional surveying organizations. The following formula will be used to determine the sample size necessary to be drawn from each subgroup in order to obtain the desired confidence level:

$$n = [N (z^2) * p(1-p)] / [(N - 1) * (d^2) + (z^2) * p(1-p)]$$

where:

n = sample size

N = population size from each subgroup

p = maximum sample size factor (.50)

d = desired tolerance (.05)

z = factor of assurance (1.96) for 95 percent confidence level

The sample size necessary from each subgroup to ensure 95 percent confidence level is 368 for civilians and 323 for military personnel (32). The researcher anticipated the response rate to be 50 percent so a total of 1382 surveys were mailed out (11). The individual's names and organization addresses were provided by the Atlas data base. The Atlas data base provides a probability sample based on the last digit of the individual's social security account number.

### Survey Structure

The survey used in this research project will duplicate the HQ AFLC 1986 survey (Appendix A) with the exception of seven deleted questions that pertained specifically to HQ AFLC personnel. The first nine questions are the same as in the Vogel survey and they will be used to develop a demographic profile of the target populations. Table 3.1 shows which survey questions are used to answer each of the six investigative questions. The last section in the survey is a comment sheet where

respondents can provide additional comments on any aspect of the survey (34:32,34).

TABLE 3.1  
Survey Structure

INVESTIGATIVE QUESTION	SURVEY QUESTION USED	PURPOSE
ONE	15-17, 24, 28, 37-40	Shows current health practices of Ogden ALC respondents
TWO	15-17, 24, 28, 37-40	Used for direct comparison of Ogden ALC and HQ AFLC personnel
THREE	49	Shows respondents' main source of health-related information
FOUR	47 & 48	Shows perceived usefulness of Air Force health promotion program
FIVE	22, 23, 29, 31, 32, 51	Measures employees' attitudes towards health as it relates to work
SIX	21, 30, 52-63	Shows what health promotion activities employees are interested in

## Statistical Tests

The Statistical Package for the Social Sciences was used to analyze data where appropriate. Frequencies of numbers and percentages of each response were calculated for each survey question. The results of the frequency tabulations that correspond to investigative questions one through six are presented in chapter IV. Crosstabulations of the numbers and percentages of each possible response to each survey question were calculated for each of the two target populations.

The Kolmogorov-Smirnov Test for two samples, hereafter referred to simply as the Smirnov test, was also used. The assumptions that must be satisfied in order to use the test are that we have two independent random samples and that the data is measured on at least an ordinal scale (3:193). These two assumptions are satisfied in this research project so the Smirnov test can be used.

The basic principle behind the Smirnov test is a simple one. If the null hypothesis that independent random samples have been drawn from identical populations is correct, then the cumulative frequency distributions for the two samples would be essentially similar. The test statistic used in the test is the maximum difference between the two cumulative distributions. If the maximum difference is found to be larger than we would expect by chance under the null hypothesis, this means that the gap

between the distributions has become so large that we decide to reject the hypothesis (3:203).

The Smirnov test was used to test each of the six health practices for the Ogden ALC to determine if they differed significantly from the HQ AFLC survey data. A two-tailed test was used to detect any statistically significant differences between the two populations and their subgroups. If significant differences were detected, a one-tailed test was then performed to show which population reported the larger number of responses for a particular health practice.

#### Assumptions and Limitations

Assumptions. There are two assumptions made by the researcher in conducting this study. The first assumption is that all respondents will answer each question accurately, within the limits of their own self-knowledge. The second assumption is that the health practices, attitudes, and perceptions identified in the 1986 Vogel survey conducted at HQ AFLC are reliable and valid.

Limitations. This research project has three major limitations. The first limitation is that the research findings apply only to the target populations. No attempt will be made to generalize the results to other Air Logistic Centers or to other similar groups. A second limitation concerns the accuracy involved in measuring perceptions and attitudes. Survey questions on perceptions

and attitudes are intended to elicit general feelings and opinions of health and health-related issues (34:37). The final limitation involves the self-reporting of health practices in terms of how well one's own perceptions accurately reflect actual health status (17:21).

### Summary

This chapter described the methodology that will be used in this research project. Chapter IV will discuss the results of this study and Chapter V will summarize the findings and provide recommendations for further research in this area.

## IV. Results and Analysis

### Introduction

This chapter will discuss the results of this study using the methods described in Chapter III. The first part of the chapter will present the survey response rate data for the entire Ogden ALC. This will be followed by a demographic profile of the target population obtained from survey questions 1-9. The remainder of the chapter will discuss the survey results and answer the six investigative questions.

### Survey Response Rate Data

A total of 1382 surveys were mailed out on 6 February 1987 and 965 of those were returned by the established cut-off date of 7 March 1987. The overall response rate for Ogden ALC personnel was 69.8 percent. Of the 646 surveys mailed to military members, 376 of those were returned for a 58.2 percent response rate. Civilian personnel returned 589 of the 736 surveys mailed to them for a 80.0 percent response rate. Tables 4.1 and 4.2 show the survey response rates for individual ranks and grades.

TABLE 4.1

## Civilian Survey Response Rate by Grade

Grade	# Surveyed	# of Responses	Response Rate (%)
GM/GS-15	3	2	66.7
GM/GS-14	2	5	100.0
GM/GS-13	26	19	73.1
GS-12	112	96	85.7
GS-11	117	108	92.3
GS-10	4	4	100.0
GS-9	164	144	87.8
GS-8	11	9	81.8
GS-7	95	67	70.5
GS-6	22	14	63.6
GS-5	95	68	71.6
GS-4	68	36	52.9
GS-3	16	12	75.0
GS-2	1	2	100.0
GS-1	0	3	100.0
TOTAL	736	589	80.0

TABLE 4.2

## Military Survey Response Rate by Rank

Rank	# Surveyed	# of Responses	Response Rate (%)
O-6	10	12	100.0
O-5	15	12	80.0
O-4	18	17	94.4
O-3	41	25	61.0
O-2	13	10	76.9
O-1	22	16	72.7
E-8	12	11	91.7
E-7	24	18	75.0
E-6	59	34	57.6
E-5	125	74	59.2
E-4	150	79	52.7
E-3	106	52	49.1
E-2	43	15	34.9
E-1	8	1	12.5
TOTAL	646	376	58.2

### Demographic Characteristics

Questions 1-9 in Appendix B show the characteristics of the survey respondents. In each question information on both Ogden ALC and HQ AFLC survey respondents is presented to show the degree of similiarity between the two populations. Questions 1-4 asked for respondents' ranks/grades. The largest percentage of total respondents for Ogden ALC was comprised of civilians in the grades of GS-9, GS-11 and GS-12 while GS-12 and GM/GS-13 grades accounted for the largest percentage of total HQ AFLC respondents. Question 5 asked respondents to indicate their sex. Results indicated that Ogden ALC and HQ AFLC are almost identical in the percentages of male and female respondents. In each population approximately 1 out of every 3 individuals is female. This male/female distribution is similar also when respondents are grouped by personnel category. The mean age for Ogden ALC respondents is approximately 37 years as compared to HQ AFLC where the frequency distribution is centered on approximately age 40. Over 50 percent of the Ogden ALC respondents have 12 years or less time in service/employment with the government. On the other hand, the largest percentage of HQ AFLC respondents have between 17 and 20 years of service with over 50 percent having 17 or more years. Approximately 55 percent of respondents at Ogden ALC have 2 years or less of college while over 58

percent of HQ AFLC personnel have at least a bachelor's degree. Seven out of every 10 respondents at Ogden ALC are married and of those, 78 percent have been married only once. Married HQ AFLC personnel accounted for 8 out of every 10 responses with 84 percent having been married only once. In summary, the typical Ogden ALC respondent when compared to a HQ AFLC counterpart is likely to be younger, lower graded, and with less education and job tenure.

#### Analysis of Results and Investigative Questions

INVESTIGATIVE QUESTION ONE. What are the current health practices of Air Force military and civilian personnel in the following six areas:

- a) body weight
- b) eating breakfast
- c) hours of sleep
- d) smoking
- e) alcohol consumption
- f) strenuous physical activity

This question will be answered using survey questions 15-17, 24, 28, and 37-40. Each of the six health practices areas will be discussed separately. Tables showing the frequencies of the responses to the questions for each health practice will be presented followed by crosstabulations of each health practice by subgroup by sex, age and education level.

Body Weight. Question 28 asked respondents to answer how their present weight compares with what they would like to weigh. The question was designed to give an indication of how individuals felt about their current

weight as to whether they considered themselves underweight, within their desirable weight or overweight. As in the Vogel study, an underweight person was defined as one who's current weight is 6 or more pounds less than their desirable weight while an overweight person was defined as one who's current weight is 6 or more pounds greater than their desirable weight (34:57). Table 4.3 shows that as a group approximately one out of every four individuals (25.9%) considers themselves underweight. Respondents who considered themselves overweight accounted for 45.3 percent of the total. Table 4.4 breaks the population into military and civilian categories and performs crosstabulations by sex, age and education level. Military who considered themselves underweight accounted for 28.2 percent of the respondents while 24.4 percent of civilians reported themselves as underweight. In the overweight category, more civilians (48.4%) than military (40.3%) reported themselves as overweight. The percentages of overweight individuals remained approximately the same when the subgroups were separated by sex. For individuals in the "20-25" year age group, 45.5 percent of civilians and 35.8 percent of military are underweight. For civilians in the 26 year age group and older, almost half of them in each group consider themselves overweight. In this same age group, more military than civilians report themselves as being within 5 pounds of their ideal weight.

For all education levels, more military report themselves as being underweight while more civilians in each category are found to be overweight.

TABLE 4.3

Q28 - Current Weight vs. Ideal Weight

	# of Responses	% of Total
21 or more lbs less	51	5.3
11-20 lbs less	92	9.6
6-10 lbs less	105	11.0
Within 5 lbs	276	28.8
6-10 lbs greater	184	19.2
11-20 lbs greater	143	14.9
21 or more lbs greater	107	11.2
TOTAL	958	100.0

7 missing cases

TABLE 4.4

Crosstabulations of Current Weight vs. Ideal Weight  
by Subgroup by Sex, Age and Education Level

	No. of lbs within Ideal Weight				
	11 lbs or more less	6-10 lbs less	Within 5 lbs	6-10 lbs greater	11 lbs or more greater
<b>Target Population</b>					
Military	12.9	15.3	31.5	21.8	18.5
Civilian	16.2	8.2	27.2	17.6	30.8
<b>Sex</b>					
Male*	12.4	16.2	31.1	21.3	19.0
	13.8	8.2	29.9	19.4	28.7
Female	15.8	10.5	33.3	24.6	15.8
	19.7	8.2	23.4	15.2	33.6
<b>Age</b>					
20-25	18.6	17.2	30.3	17.2	16.6
	27.3	18.2	31.8	9.1	13.6
26-35	9.8	16.8	29.4	25.2	18.9
	11.4	7.3	26.8	27.6	26.8
36-45	9.6	9.6	35.6	24.7	20.5
	15.8	6.8	26.6	15.3	35.6
46-55	0.0	10.0	40.0	20.0	30.0
	14.8	10.6	28.6	13.8	32.3
56 & above	0.0	0.0	100.0	0.0	0.0
	25.0	3.9	23.7	18.4	28.9
<b>Education</b>					
High School	15.6	17.7	25.0	22.9	18.8
	19.5	12.4	23.0	14.2	31.0
>HS - <Bach	13.0	16.4	32.8	20.9	16.9
	16.9	8.4	28.0	15.5	31.1
Bach - PhD	10.1	11.1	35.4	22.2	21.2
	12.9	5.1	28.1	23.0	30.9

\*1st row of each category - military, 2nd row - civilian

Eating Breakfast. Question 38 asked survey participants how many times per week they eat breakfast. Table 4.5 shows that the most frequent response to this question was 7 times per week (23.8%) with the next most frequent answer being 2 times per week (18.8%). 45.5 percent of the population indicated eating breakfast 2 times or less per week while 15.1 percent reported never eating breakfast. As shown by Table 4.6, a larger percentage of civilians (36.4%) eat breakfast 6-7 times per week than do military members (23.1%). Civilian males and females eating breakfast 6-7 times per week account for a larger percentage of the total than do military males and females. 48.4 percent of military males and 53.4 percent of military females eat breakfast two times per week or less. Civilians, on the other hand, showed 43.6 percent for males in this category and 42.8 percent for females. This table also shows that military males in the 46-55 age group (50%) eat breakfast most often. As an individual's education level increases, the percentage of persons in the "2 per week or less" category decreases while the percentage increases for those in the "6-7 per week" category.

TABLE 4.5

## Q38 - Eating Breakfast

	# of Responses	% of Total
None	145	15.1
1/week	112	11.6
2/week	181	18.8
3/week	88	9.1
4/week	55	5.7
5/week	81	8.4
6/week	71	7.4
7/week	229	23.8
TOTAL	962	100.0

3 missing cases

TABLE 4.6

Crosstabulations of Eating Breakfast by Subgroup  
by Sex, Age and Education Level

	No. of Times Breakfast Eaten		
	2 per week or less	3-5 per week	6-7 per week
<hr/>			
<b>Target Population</b>			
Military	49.2	27.7	23.1
Civilian	43.2	20.3	36.4
<b>Sex</b>			
Male*	48.4	27.7	23.9
	43.6	17.3	39.2
Female	53.4	27.6	19.0
	42.8	24.7	32.5
<b>Age</b>			
20-25	41.5	32.7	25.9
	40.9	36.4	22.7
26-35	54.5	26.9	18.6
	44.7	27.6	27.6
36-45	57.5	19.2	23.3
	46.6	17.4	36.0
46-55	30.0	20.0	50.0
	44.1	16.0	39.9
56 & above	0.0	100.0	0.0
	30.3	22.4	47.4
<b>Education</b>			
High School	57.3	25.0	17.7
	56.6	14.2	29.2
>HS - <Bach	51.1	31.1	17.8
	41.6	24.7	33.8
Bach - PhD	38.0	24.0	38.0
	37.1	17.4	45.5

\*1st row of each category - military, 2nd row - civilian

Hours of Sleep. Question 37 asked respondents how many hours of sleep they average each night. Table 4.7 shows that 89.3 percent of the respondents sleep between 6 and 8 hours on the average each night. Only six persons (0.6%) indicated that they receive 10 hours or more of sleep per night. Table 4.8 shows that military and civilian respondents sleeping 6 hours or less each night are almost equally distributed, 35.2 percent and 35.0 percent, respectively. A larger percentage of civilian males (80.7%) than military males (76.3%) average 7 hours or less of sleep per night. Military females who sleep 8 hours or more per night (29.3%) outnumber civilian females (24.7%). Military members in the 20-45 year age group receiving only 6 hours or less of sleep account for a larger percentage of respondents than do comparable civilians. As the education level of the respondents increases, a smaller percentage of them indicate sleeping 6 hours or less per night.

TABLE 4.7

## Q37 - Hours of Sleep

	# of Responses	% of Total
Less than 4 hours	6	0.6
4 hours	13	1.4
5 hours	54	5.6
6 hours	266	27.7
7 hours	405	42.1
8 hours	188	19.5
9 hours	24	2.5
10 hours	5	0.5
11 hours or more	1	0.1
TOTAL	962	100.0

3 missing cases

TABLE 4.8

Crosstabulations of Hours of Sleep by Subgroup  
by Sex, Age and Education Level

	Average Sleep Per Night			
	6 hrs or less	7 hrs	8 hrs	9 hrs or more
<b>Target Population</b>				
Military	35.2	40.3	21.1	3.5
Civilian	35.0	43.4	18.6	2.9
<b>Sex</b>				
Male*	35.3	41.0	19.9	3.8
	34.2	46.5	16.4	2.9
Female	34.5	36.2	27.6	1.7
	36.2	39.1	21.8	2.9
<b>Age</b>				
20-25	34.7	40.8	19.0	5.4
	31.8	40.9	18.2	9.1
26-35	35.9	35.2	25.5	3.4
	29.3	48.8	18.7	3.3
36-45	37.0	43.8	19.2	0.0
	34.3	44.9	18.0	2.8
46-55	20.0	80.0	0.0	0.0
	35.1	44.7	18.1	2.1
56 & above	0.0	0.0	0.0	0.0
	48.7	27.6	21.1	2.6
<b>Education</b>				
High School	43.8	31.3	18.8	6.3
	37.2	41.6	18.6	2.7
>HS - <Bach	37.8	38.3	20.0	3.9
	37.0	39.7	20.2	3.0
Bach - PhD	22.2	52.5	25.3	0.0
	31.1	50.3	15.8	2.8

\*1st row in each category - military, 2nd row - civilian

Smoking. Question 15 asked respondents about their smoking habits. Table 4.9 shows that approximately four out of every five individuals (81.3%) do not smoke. It is interesting to note that this overall percentage of non-smokers for the Ogden ALC is higher than the national average of 69 percent. This information was obtained from the Health Promotion and Disease Prevention component of the 1985 NHIS which was conducted by the National Center for Health Statistics. In each case, the percentages of Ogden ALC military and civilians who reported themselves as current smokers, 21.3 percent and 17.1 percent, respectively, are lower than the national average of 31 percent (27:68). Table 4.10 shows that twenty-nine respondents (3.0%) reported smoking either cigars or a pipe. The majority of military members who smoke cigars or a pipe are found in the E-3 through the E-8 ranks. This percentage includes 3 females. Table 4.11 shows that of the 4 percent who indicated that they use smokeless tobacco, none of these are found in the officer ranks nor are any female. Table 4.12 shows that 82.9 percent of civilians and 78.7 percent of military members do not smoke. When separated by personnel category, more civilian males (83.9%) and females (81.5%) do not smoke than do military males (80.2%) and females (70.7%). For respondents in the 26-35 year age group, the percentage of civilians who do not smoke is greater than for military

members. However, more military members than civilians in the 36-55 year age group have either never smoked or have quit. Results indicate that for respondents who have a high school diploma and those who have at least a bachelor's degree more military are non-smokers than are civilians. Results for both categories show that the percentage of respondents who have never smoked increases with the level of education attained.

TABLE 4.9  
Q15 - Smoking

	# of Responses	% of Total
No, never	546	56.6
No, quit	238	24.7
Less than 1/2 pk/day	28	2.9
1/2 to 1 pk/day	84	8.7
1 to 2 pks/day	61	6.3
More than 2 pks/day	7	0.7
TOTAL	964	100.0

1 missing case

TABLE 4.10

## Q16 - Smoke Cigars or Pipe

	# of Responses	% of Total
Yes	29	3.0
No	928	97.0
TOTAL	957	100.0

8 missing cases

TABLE 4.11

## Q17 - Use Smokeless Tobacco

	# of Responses	% of Total
Yes	38	4.0
No	917	96.0
TOTAL	955	100.0

10 missing cases

TABLE 4.12

Crosstabulations of Smoking Status by Subgroup  
by Sex, Age and Education Level

	Smoking Status (packs per day)					
	Never	Former	<1/2	1/2-1	1-2	>2
<b>Target Population</b>						
Military	54.5	24.2	4.8	10.1	5.9	0.5
Civilian	58.0	24.9	1.7	7.8	6.7	0.9
<b>Sex</b>						
Male*	55.0	25.2	4.4	10.1	5.0	0.3
	53.9	30.0	0.6	7.9	6.7	0.9
Female	51.7	19.0	6.9	10.3	10.3	1.7
	63.8	17.7	3.3	7.8	6.6	0.8
<b>Age</b>						
20-25	56.5	19.0	5.4	11.6	7.5	0.0
	72.7	22.7	4.5	0.0	0.0	0.0
26-35	53.1	24.8	5.5	10.3	4.8	1.4
	65.9	17.1	1.6	7.3	8.1	0.0
36-45	56.2	28.8	2.7	8.2	4.1	0.0
	56.4	25.1	2.2	8.4	7.3	0.6
46-55	40.0	50.0	0.0	0.0	10.0	0.0
	50.5	30.3	1.1	9.6	6.9	1.6
56 & above	0.0	100.0	0.0	0.0	0.0	0.0
	63.2	25.0	1.3	5.3	3.9	1.3
<b>Education</b>						
High School	49.0	26.0	5.2	13.5	6.3	0.0
	48.7	24.8	4.4	7.1	13.3	1.8
>HS - <Bach	50.0	22.8	6.1	12.2	7.8	1.1
	53.9	27.3	1.7	10.4	6.1	0.7
Bach - PhD	68.0	25.0	2.0	3.0	2.0	0.0
	70.8	21.3	0.0	3.9	3.4	0.6

\*1st row in each category - military, 2nd row - civilian

Alcohol Consumption. This health practice will be further divided into the frequency of alcohol consumption and the intensity of consumption per sitting.

Frequency of Alcohol Consumption. Table 4.13 shows that 61.5 percent of the respondents drink less than once a month. Table 4.14 shows that the percentage of individuals who drink once per week or less is comprised of a larger number of civilians (86.4%) than military (74.7%). Over twice as many civilians (40.8%) report themselves as non-drinkers than military (19.7%). When grouped by sex, more civilian males (43.0%) and females (38.0%) are found to be non-drinkers than are males (21.1%) and females (12.1%) in the military. When individuals who drink 2-5 times per week are grouped by age, the percentages are higher for military members than for comparable civilians. For respondents up to 55 years of age, more military than civilians report themselves as drinking 6 or more times per week. In all education levels, almost twice as many military than civilians drink 2-5 times per week. For those who drink 6 or more times per week, a slightly larger percentage of civilians (4.5%) than military (3.2%) are found to have a high school diploma only. However, as the education level increases from the ">HS-<Bach" to "Bach-PhD" categories, more military than civilians indicated that they consume alcohol 6 or more times per week.

TABLE 4.13

## Q39 - Alcohol Consumption (Frequency)

	# of Responses	% of Total
Never	313	32.6
< once every 2-3 mo	132	13.7
Once every 2-3 mo	63	6.6
Once/mo	83	8.6
Once every 2-3 wks	85	8.8
Once/wk	110	11.4
2-3 times/wk	109	11.3
4-5 times/wk	35	3.6
Almost every day	24	2.5
Every day	7	0.7
TOTAL	961	100.0

4 missing cases

TABLE 4.14

Crosstabulations of Frequency of Alcohol Consumption  
by Subgroup by Sex, Age and Education Level

	Frequency of Alcohol Consumption			
	Never	Once per wk or less	2-5 times per wk	6 or more times/wk
<b>Target Population</b>				
Military	19.7	55.0	21.3	4.0
Civilian	40.8	45.6	10.9	2.7
<b>Sex</b>				
Male*	21.1	51.4	23.3	4.1
	43.0	38.6	15.5	2.9
Female	12.1	74.1	10.3	3.4
	38.0	55.0	4.5	2.5
<b>Age</b>				
20-25	17.0	61.9	19.7	1.4
	45.5	45.5	9.1	0.0
26-35	20.8	54.9	18.8	5.6
	36.9	54.1	8.2	0.8
36-45	21.9	47.9	27.4	2.7
	36.0	51.1	10.7	2.2
46-55	30.0	0.0	40.0	30.0
	42.9	37.6	14.8	4.8
56 & above	0.0	100.0	0.0	0.0
	52.0	38.7	6.7	2.7
<b>Education</b>				
High School	16.8	58.9	21.1	3.2
	28.6	56.3	10.7	4.5
>HS - <Bach	18.9	57.2	20.6	3.3
	37.8	49.7	10.1	2.4
Bach - PhD	24.0	47.0	23.0	6.0
	53.4	32.0	12.4	2.2

\*1st row in each category - military, 2nd row - civilian

Intensity of Alcohol Consumption. For the purposes of this question, light drinkers were defined as having 1 to 2 drinks per sitting, moderate drinkers - 3 to 4 drinks per sitting, and heavy drinkers - 5 or more drinks per sitting. Table 4.15 shows that 58.8 percent of the respondents are light drinkers. Moderate drinkers account for 30.1 percent of the total population while 11.1 percent are heavy drinkers. Table 4.16 shows that more military members are moderate-heavy drinkers than civilians. When grouped by sex, it was found that there are more civilian males and females who are light drinkers while more military males and females reported themselves as being moderate-heavy drinkers than did their civilian counterparts. For respondents in the "20-25" and "26-35" year age group more military members than civilians report themselves as heavy drinkers. However, in the "36-45" and "46-55" year age group there are more civilian than military heavy drinkers. Military respondents having more than a high school diploma but less than a bachelor's degree are heavier drinkers than are comparable civilians. For respondents having at least a bachelor's degree, there are fewer civilian than military light drinkers and more civilian than military moderate and heavy drinkers.

TABLE 4.15

## Q40 - Alcohol Consumption (Intensity)

	# of Responses	% of Total
Don't drink	297	31.8
1 drink	180	19.3
2 drinks	195	20.9
3 drinks	130	13.9
4 drinks	62	6.6
5 drinks	23	2.5
6 drinks	21	2.2
7 drinks	8	0.9
8 drinks	6	0.6
More than 8 drinks	13	1.4
TOTAL	935	100.0

30 missing cases

TABLE 4.16

Crosstabulations of No. of Drinks Per Sitting by Subgroup  
by Sex, Age and Education Level

	No. of Drinks Per Sitting		
	1-2 drinks	3-4 drinks	5 or more drinks
<b>Target Population</b>			
Military	46.8	37.6	15.6
Civilian	69.1	23.6	7.3
<b>Sex</b>			
Male*	44.3	39.0	16.7
	61.3	28.4	10.3
Female	59.2	30.6	10.2
	78.9	17.7	3.4
<b>Age</b>			
20-25	28.7	46.7	24.6
	75.0	8.3	16.7
26-35	56.8	31.5	11.7
	68.4	26.3	5.3
36-45	63.0	31.5	5.6
	63.6	25.5	10.9
46-55	71.4	28.6	0.0
	68.8	24.8	6.4
56 & above	100.0	0.0	0.0
	86.1	13.9	0.0
<b>Education</b>			
High School	35.9	35.9	28.2
	66.3	21.3	12.5
>HS - <Bach	39.2	45.5	15.4
	69.9	23.5	6.6
Bach - PhD	73.0	24.3	2.7
	70.0	26.3	3.8

\*1st row in each category - military, 2nd row - civilian

Strenuous Physical Activity. Table 4.17 shows that 40.6 percent of the total respondents engage in strenuous physical activity more than 3 times a week. Approximately one-fourth (24.6%) of the population engages in strenuous activity either "less than once a month" or "rarely/never". According to Table 4.18, 55 percent of military members and 31.0 percent of civilians engage in strenuous exercise 3 times per week or more. When separated by sex, it was found that for both sexes, more military than civilians engage in strenuous physical activity 3 or more times per week. The same pattern of activity is seen for each of the age groups excluding the "56 & above" category. For all age groups, more civilians than military reported that they engaged in strenuous exercise either "less than once a month" or "rarely/never". For all education levels, military members also consistently outnumber the civilians as far as strenuously exercising 3 times a week or more. In all sex, age, and education categories, a larger percentage of civilians than military are found to exercise strenuously either "less than once a month" or "rarely/never".

TABLE 4.17

## Q24 - Strenuous Physical Activity

	# of Responses	% of Total
Almost every day	130	13.5
3-5 times/week	261	27.1
1-2 times/week	197	20.4
1-3 times/month	139	14.4
Less than once/month	124	12.9
Rarely/never	113	11.7
TOTAL	964	100.0

1 missing case

TABLE 4.18

Crosstabulations of Frequency of Strenuous Exercise  
by Subgroup by Sex, Age and Education Level

	Frequency of Strenuous Exercise					
	Almost every day	3-5 per week	1-2 per week	1-3 per month	<1 per month	Rarely or never
-----						
Target Population						
Military	20.2	34.8	18.1	14.1	8.0	4.8
Civilian	9.2	21.8	22.0	14.7	16.0	16.2
-----						
Sex						
Male*	21.7	32.7	18.2	14.2	7.9	5.3
	11.1	21.3	22.7	14.6	16.0	14.3
Female	12.1	46.6	17.2	13.8	8.6	1.7
	6.6	22.6	21.0	14.8	16.0	18.9
-----						
Age						
20-25	26.5	36.7	18.4	10.2	5.4	2.7
	9.1	27.3	45.5	9.1	9.1	0.0
26-35	14.5	32.4	20.0	17.2	9.7	6.2
	8.1	27.6	32.5	12.2	14.6	4.9
36-45	15.1	37.0	16.4	15.1	11.0	5.5
	11.2	21.8	20.7	17.3	14.0	15.1
46-55	50.0	30.0	0.0	10.0	0.0	10.0
	7.4	21.8	16.0	14.4	19.7	20.7
56 & above	0.0	0.0	0.0	100.0	0.0	0.0
	10.5	13.2	15.8	14.5	15.8	30.3
-----						
Education						
High School	25.0	30.2	14.6	18.8	6.3	5.2
	9.7	20.4	16.8	12.4	15.9	24.8
>HS -<Bach	17.8	35.6	19.4	11.1	10.0	6.1
	7.8	20.6	21.6	16.9	17.6	15.5
Bach - PhD	20.0	38.0	19.0	15.0	6.0	2.0
	11.2	25.7	25.7	12.3	13.4	11.7
-----						

\*1st row in each category - military, 2nd row - civilian

INVESTIGATIVE QUESTION TWO. How do the health practices of Ogden ALC employees compare with the health practices of HQ AFLC military and civilian personnel?

This question will be answered by testing each of the six health practices for statistically significant differences between Ogden ALC and HQ AFLC personnel. The Smirnov two-tailed test will first be used to determine if a difference exists. If a difference between the two populations is found, a one-tailed test will be conducted to determine which population is greater. Test symbols used in the Smirnov test are explained in Table 4.19 below.

TABLE 4.19  
Smirnov Test Symbols

Symbol	Definition
F	Cumulative probability distribution expressed as percentage of the total sample size or G/N.
G	Cumulative observed frequencies
N	Sample size
T	Maximum absolute difference between the empirical distribution functions: $T = \text{maximum }  F1 - F2 $
T+	Maximum difference between the empirical distribution functions: $T+ = \text{maximum } [F1 - F2]$
T-	Maximum difference between the empirical distribution functions: $T- = \text{maximum } [F2 - F1]$
Tc	Critical value

To demonstrate how the Smirnov test works, the steps involved in performing the test calculations will be outlined and demonstrated by a hypothesis test of Question 38 - How many times per week do you eat breakfast? Information relevant to this question is contained in Table 4.20 below:

TABLE 4.20  
Sample Two-Tailed Smirnov Test  
of Question 38

	HQ AFLC	OGDEN ALC	G1	G2	F1	F2	F1 - F2
None	68	145	68	145	.147	.151	-.004
1/wk	51	112	119	257	.256	.267	-.011
2/wk	85	181	204	438	.440	.455	-.015
3/wk	27	88	231	526	.498	.547	-.049
4/wk	15	55	246	581	.530	.604	-.074
5/wk	35	81	281	662	.606	.688	-.082
6/wk	34	71	315	733	.679	.762	-.083
7/wk	149	229	464	962	1.000	1.000	0.000
Total	464	962					

STEP 1 - ASSUMPTIONS

- a. The samples are random samples
- b. The two samples are mutually independent.
- c. The measurement scale is at least ordinal (7:309).

STEP 2 - HYPOTHESES

HQ AFLC is denoted as F1 and Ogden ALC is denoted as

F2. For the purposes of the hypothesis test for each of the six health practices, the alternate hypothesis is expressed in terms of the Ogden ALC having better health practices than HQ AFLC personnel.

a. (Two-sided test)

Ho:  $F1 = F2$   
Ha:  $F1 \neq F2$

Null Hypothesis (Ho:  $F1 = F2$ )

The number of times that Ogden ALC and HQ AFLC personnel eat breakfast per week is the same.

Alternate Hypothesis (Ha:  $F1 \neq F2$ )

The number of times that Ogden ALC and HQ AFLC personnel eat breakfast per week is different.

b. (One-sided test)

Ho:  $F1 = F2$   
Ha:  $F1 < F2$

Null Hypothesis (Ho:  $F1 = F2$ )

The number of times that Ogden ALC and HQ AFLC personnel eat breakfast per week is the same.

Alternate Hypothesis (Ha:  $F1 < F2$ )

The number of times that HQ AFLC personnel eat breakfast per week is less than it is for Ogden ALC personnel.

If we thought that HQ AFLC personnel ate breakfast more often than did Ogden ALC personnel, our alternate hypothesis would be - Ha:  $F1 > F2$ .

### STEP 3 - TEST STATISTIC

a. (Two-sided test) T is defined as the maximum absolute difference between the two empirical distributions ( $T = \max |F1 - F2|$ ).

b. (One-sided test) For the alternate hypothesis for question 38 - "The number of times that HQ AFLC personnel

eat breakfast per week is less than it is for Ogden ALC personnel", our test statistic, denoted by T-, represents the maximum difference between the two empirical distributions (T- = max [F2 - F1]).

STEP 4 - SIGNIFICANCE LEVEL AND CRITICAL VALUE

a. (Two-sided test)

Our level of significance (alpha) = .05 which is the probability of a Type I error. In order to reject the null hypothesis at the .05 level, the critical value used if both samples are larger than 40 is:

$$T_c = 1.36 \sqrt{\frac{N_1 + N_2}{(N_1)(N_2)}} \quad (3:204)$$

For Q38 - Eating Breakfast, our critical value (Tc) = .077.

b. (One-sided test)

The critical value used if a difference has been detected is as follows:

$$T_c = 1.22 \sqrt{\frac{N_1 + N_2}{(N_1)(N_2)}} \quad (3:204)$$

For Q38 - Eating Breakfast, our critical value (Tc) = .069.

STEP 5 - DECISION RULE

We will reject Ho at the level of significance .05 only if the appropriate test statistic T, T+, or T- as the case may be, is greater than or equal to our appropriate critical value, Tc (7:310).

STEP 6 - TEST STATISTIC

a. (Two-sided test)  $T = \max |F_1 - F_2| = .083$ . This

is shown in Table 4.21. Since our calculated test statistic,  $T = .083$  is greater than our critical value,  $T_c = .077$ , we reject  $H_0$  at level of significance .05.

b. (One-sided test) Since we have determined that a statistical difference does exist between the two populations in the number of times that they eat breakfast per week, a one-sided test is performed to determine which population is greater. For this particular case,  $T^- = \max [F_1 - F_2] = .083$ . Since  $T^- (.083)$  is greater than  $T_c (.069)$  we reject  $H_0$  at level of significance ( $\alpha$ ) = .05.

#### STEP 7 - CONCLUSION

By performing a two-sided test, we found that a statistically significant difference existed between the two populations. A one-sided test was then performed that showed us that Ogden ALC personnel do in fact eat breakfast a significant number of times per week more than do HQ AFSC personnel. Table 4.21 and 4.22 summarize the two-tailed and one-tailed tests, respectively, for each of the six health practices.

TABLE 4.21

## Summary of Two-Tailed Smirnov Tests

<u>Health Practice</u>	<u>max T</u>	<u>Tc</u>	<u>Decision</u>
Body Weight	.096	.065	Reject Ho
Eating Breakfast	.083	.077	Reject Ho
Hours of Sleep	.030	.077	Do not reject Ho
Smoking	.099	.077	Reject Ho
Physical Activity	.079	.077	Reject Ho
Alcohol Consumption			
Frequency	.179	.077	Reject Ho
Intensity	.133	.088	Reject Ho

TABLE 4.22

## Summary of One-Tailed Smirnov Tests

<u>Health Practice</u>	<u>Ha</u>	<u>T</u>	<u>Tc</u>	<u>Decision</u>
Body Weight	F1 > F2	.000	.069	Do not reject Ho
Eat Breakfast	F1 < F2	.083	.069	Reject Ho
Smoking	F1 > F2	.099	.069	Reject Ho
Physical Activity	F1 < F2	.079	.069	Reject Ho
Alcohol Consumption				
Frequency	F1 > F2	.179	.069	Reject Ho
Intensity	F1 > F2	.133	.079	Reject Ho

We can infer from these statistical tests that generally Ogden ALC personnel eat breakfast more frequently, smoke less, engage in strenuous physical activity more, drink less often and fewer drinks per sitting when they do than HQ AFLC personnel. HQ AFLC personnel are significantly closer to their ideal weight

than Ogden ALC personnel. There is no significant difference between the two populations in the number of hours of sleep they average per night.

INVESTIGATIVE QUESTION THREE. How do Air Force employees receive health promotion/health-related information?

Survey question 49 was used to answer this investigative question. The largest percentage of Ogden ALC respondents (35.5%) reported that most of their health information is obtained from magazines. Television/radio was the second response most often chosen (25.4%). Newspapers were chosen next with 10.5% of Ogden ALC respondents indicating this as their major source of health information. One of the responses to this question was "Other" and 59 (6.2%) persons chose this category. Persons who chose to comment on this question indicated that professional journals, classes, library research, and family members were their major sources for health information. Table 4.23 shows the responses to this question.

TABLE 4.23

## Major Sources of Health-Related Information

Ogden ALC		
	# of Responses	% of Total
Television/radio	242	25.4
Newspaper	100	10.5
Magazines	338	35.5
Bull bd/pamphlets	57	6.0
Friends	33	3.5
Doctor/med center	97	10.2
Other	59	6.2
Don't receive any	26	2.7
TOTAL	952	100.0

\* 13 missing cases

INVESTIGATIVE QUESTION FOUR. What is the perceived usefulness of Air Force health promotion efforts by military and civilian personnel?

Question 47 asked "How much health information do you receive compared to the amount you would like to receive?" A Likert scale from 1 - 5 was used to measure responses ranging from 1 (not enough) information to 5 (too much information) received. Overall, over two-thirds (66.6%) of Ogden ALC respondents reported that they receive little to not enough information from the Air Force on health related topics. This opinion was shared almost identically by both military and civilian personnel, the percentages being 67.8 percent and 64.7 percent, respectively. Persons feeling that they received just the right amount of information

included 28.7 percent of civilian employees and 30.7 percent of military members. Only 1.4 percent of respondents felt that they received too much information from the Air Force. Table 4.24 presents crosstabulations of responses by personnel category.

TABLE 4.24

Crosstabulations of Actual vs. Ideal Health Info from AF by Personnel Category

	Not Enough	So So-	Just Right	So So+	Too Much
Target Pop.					
Military	29.9	34.8	30.7	3.7	0.8
Civilian	40.7	27.1	28.7	1.7	1.7

Question 48 asked "How well does the Air Force do in providing positive and constructive support for people who are attempting to improve their health practices?" Responses to this question were also measured by a 5 point Likert scale with responses ranging from 1 "very poor" to 5 "very well". It seems that respondents felt that the Air Force could do a much better job in this area with 23.7 percent reporting "very poor" and 25.7 percent reporting "poor". Only 6.1 percent of persons reported that they felt that the Air Force was doing very well in providing constructive and positive support. A larger percentage of civilian (26.5%) than military (19.5%) felt that the Air Force was doing very poorly in this area. "Average" was

chosen by 35.9 percent of civilians and 32.9 percent of military personnel. An extremely small percentage of respondents, 5.7 percent of civilians and 6.7 percent of military, felt that the Air Force was doing very well in this area. One civilian employee commented that "maybe the Air Force gets involved with military members concerning health but they do not with civilians." Table 4.25 below shows the responses to this question by personnel category.

TABLE 4.25

Crosstabulations of Constructive and Positive  
Air Force Support by Personnel Category

	Very Poor	Poor	Average	Above Average	Very Well
Target Pop.					
Military	19.5	27.3	32.9	13.6	6.7
Civilian	26.5	24.7	35.0	8.1	5.7

INVESTIGATIVE QUESTION FIVE. What are Air Force employees' attitudes towards health as it relates to work?

In order to answer the above investigative question, survey questions 22, 23, 29, 31, 32, 50 and 51 will be used. Questions 23, 29, 32, and 51 were designed to record the respondents' level of agreement or disagreement with a particular aspect of health as it relates to a person's working environment. The point values assigned to each response on a seven-point Likert scale are as shown:

Strongly agree	1
Moderately agree	2
Agree	3
Don't know/uncertain	4
Disagree	5
Moderately disagree	6
Strongly disagree	7

To determine the respondents' level of agreement or disagreement with the question, the total number of responses for each category was multiplied by the point value assigned to it and then the total was divided by the number of respondents who chose to answer the question. A rating of 3.6 to 4.5 for any of the questions shows that respondents do not have definite feelings of agreement or disagreement and therefore proves to be inconclusive (34:80-81).

Question 23 asked whether the respondent felt that smoking should be prohibited in an employees' immediate area. A rating of 2.3 on this question indicates moderate agreement with this issue. Out of the 961 individuals who answered this question, 545 (56.7%) indicated strong agreement. Only 3.6 percent of the respondents answered "don't know/uncertain."

On question 29, respondents were asked to indicate their level of agreement/disagreement with the statement "Body weight is a good indicator of whether or not a person is physically fit." The rating for this question was 3.3 which means that the respondents agree with the statement. 27.8 percent of respondents indicated that they agree that

body weight is a good indicator of fitness, 25.0 percent indicated moderate agreement and 13.9 percent strongly agreed with the statement. Persons who disagreed with the statement accounted for 20.4 percent of the total while 5.3 percent strongly disagreed.

Question 32 asked persons to respond to the statement "Being in good physical shape is an important factor in performing a job." Respondents rated 2.0 on this question which indicated that they moderately agreed with it. Almost half (48.5%) strongly agreed with the statement, 18.1 percent moderately agreed, 24.4 percent agreed, 0.7 percent strongly disagreed and 2.2 percent did not have definite feelings on the statement.

In question 51, individuals were asked to respond to the statement "Being in good overall health is an important factor in performing a job." This question achieved a calculated rating of 1.8 which means that respondents moderately agree that good overall health is an important factor. 95.7 percent of the respondents indicated their agreement with the statement and of those, 57.9 percent "strongly agree", 16.1 percent "moderately agree" and 21.7 percent "agree". The three categories of disagreement totaled 3.4 percent of the respondents.

Question 22 posed the question, "Do you believe it has been proven that cigarette smoking is dangerous to health?" This question had five categories to respond to. Values

from one to five were assigned to each response and the method used to achieve a calculated rating was the same as used for the four previous questions. The point values for each category are as shown below:

Yes, it's been proven beyond reasonable doubt	1
Yes, the evidence seems to indicate it	2
Don't know/uncertain	3
No, the evidence is not convincing	4
No, this is totally unproven	5

This question rated 1.3 which indicates that respondents felt that the evidence does seem to indicate that cigarette smoking is dangerous to health. 95.9 percent of the responses were in the two "yes" categories. Only 2.5 percent of the total respondents felt that either "no, the evidence is not convincing" or "no, this is totally unproven."

Question 31 asked "In how many jobs in the Air Force (military and civilian) is being in good physical condition an important factor in job performance?" The largest percentage (40.2%) of respondents felt that being in good physical condition is important in 100 percent of the jobs. Only 0.9 percent answered "none" and 8.1 percent were uncertain or did not know.

Question 50 was similar to question 31 in that it asked the percentage of jobs in the Air Force where good health is an important factor in job performance. Again, the largest percentage of responses (47.9%) were in the 100

percent category. 8.8 percent answered in the "at least 50%" group while only 0.3 percent felt that good health was not an important factor in performing any Air Force job.

INVESTIGATIVE QUESTION SIX. What health promotion activities/efforts are Air Force employees interested in attending/participating in?

This question was answered by using survey questions 21, 30, and 52-63. Question 21 was directed towards smokers and asked them whether they would be interested in attending a program to help them stop smoking. Seventy-nine respondents who now smoke expressed interest in attending a smoking cessation class with 30.2 percent wanting it to be Air Force-sponsored and only 10.9 percent wanting the community to sponsor it. Persons who believed that they can stop on their own accounted for 33.3 percent of the responses. Ten respondents (5.2%) felt that they can not quit and 20.3 percent reported that they are not interested in attending a class to help them quit.

Question 30 asked respondents who are overweight to indicate whether they would be interested in a program that would help them lose weight. A large percentage of respondents (63.3%) expressed a desire to participate in a program of this nature. Persons saying that they would not attend included 32.0 percent saying that they can lose weight on their own, 2.7 percent indicating that they have tried many times to lose weight unsuccessfully, and 2.0 percent answering that they were just not interested.

Questions 52 and 53 asked respondents whether they were currently certified in cardiopulmonary resuscitation (CPR) and if they would be interested in attending a CPR class. A total of 748 persons (79.9%) reported that they were not currently certified and 70.4 percent of those expressed their interest in attending a CPR class. A small percentage of respondents (12.5%) indicated that they did not know whether they would attend a CPR class if it was offered.

Questions 54-63 were designed to get an idea of what types of programs persons would be interested in joining and whether or not they would be interested in receiving information on a variety of topics. The low percentage (10.3%) of respondents interested in attending a smoking cessation class is probably because of the large percentage of persons who do not smoke. Table 4.26 shows the percentages of responses to the questions.

TABLE 4.26

## Personnel Interest in Health-Related Topics

	Yes	No
Q54 - Join weight management support group	28.9	71.1
Q55 - Enroll in smoking cessation class	10.3	89.7
Q56 - Take part in health risk assessment program	47.7	52.3
Q57 - Have fitness level tested	68.6	31.4
Q58 - Join exercise program	53.4	46.6
Q59 - Information on low salt, low fat, low cholesterol cooking	59.4	40.6
Q60 - Information on Acquired Immune Deficiency Syndrome (AIDS)	44.4	55.6
Q61 - Information on stress management	69.0	31.0
Q62 - Information on the prevention of lower back pain	60.2	39.8
Q63 - Information on how to get active	60.5	39.5

Summary

Chapter IV presented the results from the survey administered to the Ogden ALC population and answered in detail the six investigative questions. Chapter V will discuss the significance of the findings and will address recommended areas for further research.

## V. Findings and Recommendations

### Significance of Findings

The purpose of this research project was to investigate the health practices, attitudes, and perceptions of military and civilian personnel assigned to the Ogden ALC. Additionally, it compared the results with data obtained from the Vogel study conducted at HQ AFLC in 1986.

Chapter IV discussed the results of the survey conducted at Ogden ALC in the context of the posed investigative questions. The remainder of this section will discuss the significance of the investigative questions in order to address the research hypothesis outlined in Chapter I.

Investigative Question One. What are the current health practices of Air Force military and civilian personnel in the following six areas:

- a) body weight
- b) eating breakfast
- c) hours of sleep
- d) smoking
- e) alcohol consumption
- f) strenuous physical activity

Body Weight. Overall, 45.3 percent of the personnel thought that they were overweight while 25.9 percent considered themselves underweight. When grouped by personnel category, more civilians than military thought of themselves as being overweight.

Eating Breakfast. More civilian employees eat breakfast 6-7 times per week than do military members. A slightly larger percentage of military males and females compared to their civilian counterparts reported eating breakfast 2 times or less per week.

Hours of Sleep. The majority of personnel indicated sleeping between 6 and 8 hours each night. Both military members and civilians reported sleeping roughly the same number of hours each night.

Smoking. Approximately four out of every five individuals (81.3%) do not smoke. Of those who currently smoke, a slightly higher percentage of military males and females do than their civilian counterparts. On the other hand, the percentages of persons having never smoked increased with a rise in their education level.

A small percentage (3.0%) of individuals indicated smoking either cigars or a pipe. The use of smokeless tobacco is also not widespread at the Ogden ALC, with only 4.0 percent reporting its use.

Alcohol Consumption. A large percentage (61.5%) of personnel reported drinking less than once a month. Of this percentage, more civilians than military reported themselves in this category. Over twice as many civilians than military members claimed to be non-drinkers.

However, when personnel do drink, 58.8 percent of them reported consuming only 1 or 2 drinks. At the other

extreme, only a small percentage of individuals (11.1%) indicated drinking 5 or more drinks per sitting. More military members than civilians reported consuming 4 or more drinks per sitting.

The results for alcohol consumption must be interpreted cautiously for two reasons. First, even though some persons reported drinking every day, this not not take into account the number of drinks consumed, the time of consumption (i.e., possibly before, during, or after dinner) or the type of alcoholic beverage consumed. Secondly, there is evidence that self-reports of alcohol use tend to under-report consumption levels (35:174; 36:1329). However, there is no reason to suspect significant differences in reporting between Ogden ALC military and civilian personnel.

Strenuous Physical Activity. Overall, 49.6 percent of the target population engages in strenuous physical activity more than 3 times a week with military members reporting more strenuous exercise than civilians. One possible explanation for the greater percentages of military members over civilians who exercise regularly is the requirement that military members have to maintain weight standards and to pass an annual aerobics test. Presently, no comparable standards exist for civilian employees.

Investigative Question Two. How do the health practices of Ogden ALC employees compare with

the health practices of HQ AFLC military and civilian personnel?

The Smirnov two-tailed and one-tailed tests were used to test each of the six health practices for statistically significant differences between Ogden ALC and HQ AFLC personnel. The tests showed that generally Ogden ALC personnel eat breakfast more frequently, smoke less, engage in strenuous physical activity more, drink less often and fewer drinks per sitting when they do than HQ AFLC personnel. HQ AFLC personnel are significantly closer to their ideal weight than are Ogden ALC personnel. There was no significant difference found between the two populations in the number of hours of sleep they average each night.

Investigative Question Three. How do Air Force employees receive health promotion/health-related information?

Magazines were listed as being the major source of health information for 35.5 percent of the population. Second to this media form was television/radio. The remainder of the categories chosen, in order of selection, were newspapers, doctors or the medical center, bulletin boards/pamphlets, and friends. A small percentage (2.7%) of individuals indicated not receiving any health promotion or health-related information.

Investigative Question Four. What is the perceived usefulness of Air Force health promotion efforts by military and civilian personnel?

Approximately two-thirds of all personnel reported that the amount of health-related information they receive

is either too little or not enough. Most of the comments provided centered around the belief that the Air Force pays only lip service to physical fitness. Persons felt that if the Air Force is serious about fitness then there should be a willingness to devote more time to allow employees to exercise during work.

The annual aerobics test was cited by many persons as not being a good indicator of an individual's fitness level. Several persons suggested adding additional aerobic testing options such as bicycling and swimming. Persons also felt that the Air Force lacked having a plan such as regularly scheduled exercise to meet its fitness objectives.

Several civilian employees commented that the Air Force shows no real interest in the health or activity level of its civilian employees. They also expressed a desire to see a more flexible work schedule allowed that would permit time at lunch to work out. There is also a perceived inequity in that civilians have to take annual leave to attend health-related classes scheduled during the day while military members are able to receive time off from duty.

Most persons who commented on the recreational facilities at Hill AFB felt that they were overcrowded and underequipped. Comments by shift workers suggested keeping the gym open 24 hours a day.

Investigative Question Five. What are Air Force employees' attitudes towards health as it relates to work?

An overwhelming majority of persons agree that smoking should be prohibited in an employees' immediate work area, with 56.7 percent of these indicating strong agreement with the issue. The issue of smoking in the work area received the most additional comments of any question asked. The overwhelming consensus was that if the Air Force was truly interested in improving the health of its employees then smoking should be banned in all work areas. The single most common complaint made by non-smokers was that they were forced to breathe air polluted by cigarette smoke.

Approximately two-thirds of all persons generally felt that body weight is a good indicator of whether or not a person is physically fit. An overwhelming 91.0 percent of persons felt that being in good physical shape was important in performing a job. Being in good overall health was also considered to be important with 95.7 percent of all personnel indicating their general agreement with the statement.

When persons were asked in how many jobs in the Air Force was being in good physical condition an important factor in job performance, the largest percentage of them (40.2%) felt that it was important in all jobs. A similar question asked for the percentage of jobs where good health was an important factor in job performance and again a

large percentage (47.9%) indicated that it was important in 100 percent of jobs.

Investigative Question Six. What health promotion activities/efforts are Air Force employees interested in attending/participating in?

A large number of persons who perceive themselves as being overweight expressed a desire to participate in a program that would help them lose weight. However, almost one-third of overweight persons felt that they could lose weight on their own and did not need a program to help them do so. Only a small percentage of all persons expressed their desire to join a weight management support group.

If a smoking cessation class was offered, only 41.2 percent of current smokers indicated an interest in attending. Overall, a very small percentage of persons expressed a desire to enroll in a smoking cessation class.

Ogden ALC persons enthusiastically support having a CPR class offered, obtaining information on stress management, and having their fitness level tested. Over half of military and civilians expressed an interest in obtaining information on, in order of selection, how to get active, the prevention of lower back pain, and low salt, low fat, and low cholesterol cooking. Persons also indicated their interest in joining an exercise program.

#### Research Hypothesis

The support of this hypothesis is found in the survey results used to answer investigative question two. The

hypothesis is as follows:

The health practices of the military and civilian population at Ogden ALC are significantly different from those of the military and civilian personnel assigned to HQ AFLC.

Investigative Question Two, "How do the health practices of Ogden ALC employees compare with the health practices of HQ AFLC military and civilian personnel?" was answered by testing each of the six health practices for statistically significant differences between Ogden ALC and HQ AFLC personnel. The six health practices covered body weight, frequency of eating breakfast, hours of sleep, smoking status, alcohol consumption, and the amount of strenuous physical activity. Table 5.1 shows the results of the Smirnov two-tailed and one-tailed tests for determining significant differences in the health practices of the two populations. This table shows that generally HQ AFLC personnel are closer to their ideal weight than Ogden ALC personnel. In general, Ogden ALC personnel eat breakfast more frequently per week, smoke less, engage in strenuous physical activity more, drink less often and fewer drinks per sitting when they do than HQ AFLC personnel. The number of hours of sleep both populations reported averaging each night is roughly the same.

TABLE 5.1

## Summary of Two-Tailed and One-Tailed Smirnov Tests

<u>Health Practice</u>	<u>Population Reporting Better Health Practice</u>
Body Weight	HQ AFLC
Eating Breakfast	Ogden ALC
Hours of Sleep	No difference
Smoking	Ogden ALC
Physical Activity	Ogden ALC
Alcohol Consumption Frequency	Ogden ALC
Intensity	Ogden ALC

The results of these tests lend considerable support to the research hypothesis stated previously. Statistically significant differences are evident in five out of the six health practices studied, and for four out of those five Ogden ALC had reported practicing significantly better health habits.

The findings of this study are important to the development of successful health promotion strategies for both organizations. For instance, the fact that Ogden ALC reported less smoking, more strenuous physical activity, and less alcohol consumption than HQ AFLC might suggest that the degree of health promotion program emphasis in those areas could be less than for programs at HQ AFLC. On the other hand, HQ AFLC personnel reported being closer to their ideal weight than Ogden ALC personnel. This may

indicate the need for more health promotion programs at Ogden ALC to be directed towards nutrition education, and weight control than might be necessary for HQ AFLC. Overall, the study results suggest the need for programs to be designed to fit the specific identified needs and expressed interest levels of the employees making up the organization, and not vice versa.

#### Recommendations for Further Research

Recommendations for additional research in the health practices area are as follows:

1. Compare the health practices of the Ogden ALC and HQ AFLC military personnel to the current health practices of the U.S. adult population. These practices were identified in the 1985 Health Promotion and Disease Prevention Questionnaire included as part of the 1985 National Health Interview Survey (NHIS). This would provide data to identify the progress that the military community is making towards the 1990 national health objectives since active-duty Air Force members are excluded from the NHIS.
2. Investigate Air Force employees attitudes and perceptions on how well the Air Force reached its targeted audience with their "Well Aware" program. This is a healthy lifestyle awareness campaign begun in April 1986 to inform Air Force members on the components of wellness. This could possibly identify particular health promotion areas that need to receive additional emphasis throughout the base community.
3. Expand this study to include all Air Logistics Centers. This might identify programs that HQ AFLC should make available command-wide as well as offerings that should be directed towards a specific ALC.
4. Considerable interest currently exists in how physical activity indirectly influences health by its effects on other behaviors. Investigate the relationship between exercise or physical activity and other health behaviors, such as smoking, alcohol consumption, and body weight. If these relationships could be documented, they

could be of importance to future health promotion program offerings in the Air Force (2:172).

5. Investigate the determinates that are positively related to persons adopting a regular program of physical activity. This is important because of the large percentage of both military and civilian personnel who expressed a desire in getting more active and also because of the national effort to find ways to increase the percentage of persons engaging in regular physical activity by the year 1990.

### Conclusions

The goal of the Air Force Health Promotion Program is to increase the overall numbers of military and civilian personnel who practice healthy lifestyle behaviors. The program mission is to provide a positive, supportive environment where individuals can acquire the knowledge that encourages healthy lifestyle practices. Each Air Force installation has a Health Promotion Coordinator (HPC) who is responsible for administering the local health promotion program based on the community needs and the resources available. The most popular means of promoting healthy lifestyle behaviors are through various media campaigns and sponsorship of health-related activities. However, this broad community-based approach to health promotion planning might only reach persons who are already health-conscious and neglect the very individuals who need the positive influence of the health promotion programs the most.

As evidenced by this study, significant differences exist in the health practices of Ogden ALC and HQ AFLC

personnel in five out of the six areas investigated. Both populations also indicated different levels of interest to a list of potential program and information offerings.

This information should suggest to health promotion planners that unique programs must be instituted in each of these organizations based on the identified needs and expressed interests of the organization's employees. The Air Force evidently recognizes that varying strategies need to be applied in different settings and the current regulation on health promotion programs, AFR 168-14, is being revised to reflect the increased emphasis DOD has placed on the program. The primary intent of the AF Form 1330, Health Promotion Needs Assessment Form, as outlined in the proposed revision to AFR 168-14, is for the HPC to use it to assess the needs and interests of the base population. The information obtained from the form can also be used to indicate where program changes need to be made. This is the first step in designing a comprehensive health promotion program that has as its goal that of sustaining or improving the overall health practices of the entire Air Force community.

Appendix A: HQ AFLC Health Survey

USAF SCN 87-4  
Expires 30 Apr 87

Use Standard Answer Sheet, AFIT Form 11C, to record your responses. Do not complete any sections at top of answer sheet such as name, social security number, date, etc. Use a #2 pencil for your answers. Pick only one response per question. Answer each question unless directed to do otherwise. Feel free to write on the questionnaire and provide comments/suggestions on the last page. Return answer sheet and questionnaire in preaddressed envelope.

1. What is your grade?

- |             |          |
|-------------|----------|
| 1. GM/GS-15 | 6. GS-10 |
| 2. GM/GS-14 | 7. GS-9  |
| 3. GM/GS-13 | 8. GS-8  |
| 4. GS-12    | 9. GS-7  |
| 5. GS-11    | 10. GS-6 |

2. What is your grade? (continued)

- |         |         |
|---------|---------|
| 1. GS-5 | 4. GS-2 |
| 2. GS-4 | 5. GS-1 |
| 3. GS-3 |         |

3. What is your rank?

- |               |          |
|---------------|----------|
| 1. Colonel    | 6. 2Lt   |
| 2. Lt Colonel | 7. CMSgt |
| 3. Major      | 8. SMSgt |
| 4. Captain    | 9. MSgt  |
| 5. 1Lt        | 10. TSgt |

4. What is your rank? (continued)

- |           |        |
|-----------|--------|
| 1. SSgt   | 4. AlC |
| 2. Sgt    | 5. Amn |
| 3. Sr Amn | 6. AB  |

5. What is your sex?

- |         |           |
|---------|-----------|
| 1. Male | 2. Female |
|---------|-----------|

6. What age group are you in?

- |             |                 |
|-------------|-----------------|
| 1. Under 20 | 6. 41-45        |
| 2. 20-25    | 7. 46-50        |
| 3. 26-30    | 8. 51-55        |
| 4. 31-35    | 9. 56-60        |
| 5. 36-40    | 10. 61 or older |

7. What is your total length of service time in military government?

- |                |                     |
|----------------|---------------------|
| 1. 0-3 years   | 6. 21-24 years      |
| 2. 4-8 years   | 7. 25-29 years      |
| 3. 9-12 years  | 8. 30 years or more |
| 4. 13-16 years |                     |
| 5. 17-20 years |                     |

8. What is the highest level of education you have completed?

1. Less than high school graduate
2. High school
3. Less than two years of education after high school (technical school, college)
4. Associate degree or two years of college
5. More than two years of college but no bachelor's degree
6. Bachelor's degree
7. Master's degree
8. Doctoral degree

9. What is your marital status?

1. Single
2. Married (only once)
3. Separated or divorced and not remarried
4. Divorced and remarried
5. Other

10. Have you been hospitalized in an Air Force civilian medical treatment facility within the past 5 years?

- |        |       |
|--------|-------|
| 1. Yes | 2. No |
|--------|-------|

11. Within the past year, how many times did you see or talk to a healthcare provider (doctor, dentist, physicians assistant, nurse, etc.)? Do not include social visits; if you were hospitalized, include each hospitalization as only one consultation.

- |    |     |    |            |
|----|-----|----|------------|
| 1. | 1   | 5. | 7-9        |
| 2. | 2   | 6. | 10-12      |
| 3. | 2-3 | 7. | 13 or more |
| 4. | 4-6 |    |            |

12. Do you consult any medical self-care literature/books when you are sick?

- |    |                         |    |                        |
|----|-------------------------|----|------------------------|
| 1. | Yes (go to question 13) | 2. | No (go to question 14) |
|----|-------------------------|----|------------------------|

13. If yes, what is the major reason you consult the literature/books? (check only one answer)

1. Curious about peculiar illness
2. To learn more about different symptoms/ramifications of illness
3. To see if I need to visit a doctor
4. Other (please specify on comment sheet at end of survey)

14. If no, what is the major reason you don't consult medical self-care literature books?

1. Have never been sick enough to need one
2. Not enough time
3. Whenever I'm sick, I see a doctor
4. Feel I wouldn't understand literature
5. Just not interested in reading medical literature
6. Other (please specify on comment sheet)

15. Do you smoke cigarettes?

1. No, I have never smoked cigarettes
2. No, I used to smoke but I quit
3. Yes, less than 1/2 pack per day
4. Yes, between 1/2 to 1 pack per day
5. Yes, between 1 to 2 packs per day
6. Yes, more than two packs per day





MICROCOPY RESOLUTION TEST CHART  
NBS 1963-A



21. If you now smoke, would you be interested in attending a program that would help you quit smoking?

1. Not applicable; I do not smoke or I have quit
2. No, I'm not interested in trying to stop
3. No, I've tried several times to stop but have always been unsuccessful
4. No, I can stop on my own
5. Yes, and I'd like an Air Force sponsored program
6. Yes, but I'd prefer a civilian sponsored program off-base

22. Do you believe it has been proven that cigarette smoking is dangerous to health?

1. Yes, it's been proven beyond reasonable doubt
2. Yes, the evidence seems to indicate it
3. No, the evidence is not convincing
4. No, this is totally unproven
5. Don't know/uncertain

23. Smoking should be prohibited in an employees' immediate area.

1. Strongly agree
2. Moderately agree
3. Agree
4. Disagree
5. Moderately disagree
6. Strongly disagree
7. Don't know/uncertain

24. How often do you participate in forms of exercise that require strenuous physical activity for at least 20 minutes per session? (e.g., swimming, running, aerobics, weight lifting, etc)

1. Almost every day
2. About 3-5 times per week
3. About 1-2 times per week
4. About 1-3 times per month
5. Less than once a month
6. Never or very rarely

25. How often do you participate in forms of exercise that do not require strenuous physical activity? (e.g., golf, bowling, walking, etc.)

1. Almost every day
2. About 3-5 times per week
3. About 1-2 times per week
4. About 1-3 times per month
5. Less than once a month
6. Never or very rarely

26. From the list below, what is the main reason you exercise?

1. Not applicable; I do not exercise
2. I enjoy it
3. To meet Air Force requirements
4. I was told to do so by a physician
5. To control my weight
6. It is necessary for good health
7. Other (please specify on comment sheet)

27. What is the main reason you do not exercise regularly?

1. Not applicable; I do exercise regularly
2. I don't have the time
3. I don't have a place to do it
4. I just don't like it
5. I don't think I need it
6. I have a medical problem which restricts me
7. The facilities I need are not readily available
8. I'm not convinced it helps
9. Other (please specify on comment sheet)

28. How does your present weight compare with what you would like to weigh?

1. 21 or more pounds less
2. 11-20 pounds less
3. 6-10 pounds less
4. Within 5 pounds of what I would like to weigh
5. 6-10 pounds greater
6. 11-20 pounds greater
7. 21 or more pounds greater

29. Body weight is a good indicator of whether or not a person is physically fit.

1. Strongly agree
2. Moderately agree
3. Agree
4. Disagree
5. Moderately disagree
6. Strongly disagree
7. Don't know/uncertain

30. If you are now overweight, would you be interested in a program that would help you lose weight?

1. Not applicable; I am not overweight
2. No, I am not interested in losing weight
3. No, I have tried several times to lose weight but have always been unsuccessful
4. No, I can lose weight on my own
5. Yes, and I'd like an Air Force sponsored program
6. Yes, but I'd prefer a civilian sponsored program off-base

31. In how many jobs in the Air Force (military and civilian) is being in good physical condition an important factor in job performance?

1. 100%
2. At least 90%
3. At least 75%
4. At least 50%
5. At least 33%
6. Less than 33%
7. None or almost none
8. Don't know/uncertain

32. Being in good physical shape is an important factor in performing a job.

1. Strongly agree
2. Moderately agree
3. Agree
4. Disagree
5. Moderately disagree
6. Strongly disagree
7. Don't know/uncertain

33. How frequently do you use off-base health facilities, such as health clubs, gyms, racquetball courts, etc.?

1. Never
2. Less than once every 2-3 months
3. Once every 2-3 months
4. About once a month
5. About once every 2-3 weeks
6. Once a week
7. 2-3 times a week
8. 4-5 times a week
9. Almost every day

34. How frequently do you use on-base health facilities, such as base gyms, health clubs, pools, etc.?

1. Never
2. Less than once every 2-3 months
3. Once every 2-3 months
4. About once a month
5. About once every 2-3 weeks
6. Once a week
7. 2-3 times a week
8. 4-5 times a week
9. Almost every day

35. Based on the following scale, indicate your average health during the last six months.

1	2	3	4	5
+-----+-----+-----+-----+				
Poor	Fair	Average	Good	Excellent

36. When driving or riding in automobiles off-base, how often do you use seat belts?

1. All the time
2. 75%-99% of the time
3. 25%-74% of the time
4. 10%-24% of the time
5. Less than 10% of the time

37. On the average, how many hours do you usually sleep each night?

- |                      |                        |
|----------------------|------------------------|
| 1. Less than 4 hours | 6. 8 hours             |
| 2. 4 hours           | 7. 9 hours             |
| 3. 5 hours           | 8. 10 hours            |
| 4. 6 hours           | 9. 11 hours            |
| 5. 7 hours           | 10. More than 11 hours |

38. How many times per week do you eat breakfast?

- |                     |                     |
|---------------------|---------------------|
| 1. 0                | 5. 4 times per week |
| 2. 1 time per week  | 6. 5 times per week |
| 3. 2 times per week | 7. 6 times per week |
| 4. 3 times per week | 8. 7 times per week |

39. How often do you drink alcoholic beverages?

1. Never
2. Less than once every 2-3 months
3. Once every 2 or 3 months
4. About once a month
5. About once every 2 or 3 weeks
6. Once a week
7. 2 or 3 times a week
8. 4 or 5 times a week
9. Almost every day
10. Every day

40. If you drink, how many drinks do you usually consume at one time (drinks include beers, glasses of wine, or mixed drinks)

1. Not applicable; I do not drink
2. 1 drink
3. 2 drinks
4. 3 drinks
5. 4 drinks
6. 5 drinks
7. 6 drinks
8. 7 drinks
9. 8 drinks
10. More than 8 drinks

41. How calorie conscious are you?
1. I pay little or no attention to how many calories I eat
  2. I sometimes avoid foods which have too many calories
  3. I try to keep a rough count of calories in the food I eat
  4. I closely watch and control the number of calories I eat
42. Do you drink lowfat/skim milk or whole milk?
1. I drink lowfat/skim milk only
  2. I drink whole milk only
  3. I drink both
  4. I drink neither
43. Do you eat butter or margarine?
1. I eat butter only
  2. I eat margarine only
  3. I eat both
  4. I eat neither
44. Have you had your blood tested for cholesterol?
1. No
  2. Yes, and the results indicated no problem
  3. Yes, and the results indicated a problem
  4. Yes, but don't know what results were
  5. Don't remember/not sure
45. Do you try to control the amount of saturated fats (animal fats) you eat?
1. Yes, I control my intake closely
  2. I control my intake somewhat
  3. I do not try to control my intake but would know how if I wanted to.
  4. I would not be sure how to control my intake of saturated fats

46. On the whole, how would you rate your knowledge of nutrition?

1. Much better than average
2. Somewhat better than average
3. About average
4. Somewhat worse than average
5. Much worse than average

47. How much health information do you receive from the Air Force compared to the amount you would like to receive?

1                      2                      3                      4                      5  
+-----+-----+-----+-----+  
Not Enough                      Just Right                      Too Much

48. How well does the Air Force do in providing positive and constructive support for people who are attempting to improve their health practices?

1                      2                      3                      4                      5  
+-----+-----+-----+-----+  
Very Poor                      Average                      Very Well

49. Which of the following is the main source of the health-related information you receive?

1. Television/radio
2. Newspaper
3. Magazines
4. Bulletin board/pamphlets I pick up or read
5. My friends
6. My doctor/Air Force or civilian medical facility
7. Other (please specify on comment sheet)
8. Do not receive any

50. In how many jobs in the Air Force (military and civilian) is being in good overall health an important factor in job performance?

1. 100%
2. At least 90%
3. At least 75%
4. At least 50%
5. At least 33%
6. Less than 33%
7. None or almost none
8. Don't know/uncertain

51. Being in good overall health is an important factor in performing a job.

1. Strongly agree
2. Moderately agree
3. Agree
4. Disagree
5. Moderately disagree
6. Strongly disagree
7. Don't know/uncertain

52. Are you currently certified in cardiopulmonary resuscitation?

1. Yes (Go to question 54)
2. No

53. Would you be interested in attending a CPR training class?

1. Yes
2. No
3. Uncertain/don't know

Would you like to:

- |  |        |       |
|--|--------|-------|
| 54. Join a weight management support group?        | 1. Yes | 2. No |
| 55. Enroll in a smoking cessation class?           | 1. Yes | 2. No |
| 56. Take part in a health risk assessment program? | 1. Yes | 2. No |
| 57. Have your fitness level tested?                | 1. Yes | 2. No |
| 58. Join an exercise program?                      | 1. Yes | 2. No |

Would you like information on:

- |  |        |       |
|--|--------|-------|
| 59. Low salt, low fat, low cholesterol cooking?                | 1. Yes | 2. No |
| 60. Acquired Immune Deficiency Syndrome (AIDS) current events? | 1. Yes | 2. No |
| 61. Stress management?   | 1. Yes | 2. No |
| 62. The prevention of lower back pain?                         | 1. Yes | 2. No |
| 63. Tips for getting active?                                   | 1. Yes | 2. No |

COMMENTS

Please provide any comments from previous questions in the space below. Also, feel free to provide any comments or suggestions concerning the Air Force Health Promotion Program. Continue on reverse side if more space is needed.

-----  
-----  
-----  
-----  
-----  
-----  
-----

THANK YOU FOR COMPLETING THIS SURVEY

APPENDIX B: Selected Survey Frequency Counts

	<u>OGDEN ALC</u>		<u>HQ AFLC</u>	
	<u>COUNT</u>	<u>PCT OF TOTAL</u>	<u>COUNT</u>	<u>PCT OF TOTAL</u>
Q01-Q04 - WHAT IS YOUR GRADE/RANK?				
GM/GS-15	2	0.2	12	2.6
GM/GS-14	5	0.5	17	3.7
GM/GS-13	19	2.0	57	12.3
GS-12	96	9.9	91	19.6
GS-11	108	11.2	17	3.7
GS-10	4	0.4	--	--
GS-9	144	14.9	8	1.7
GS-8	9	0.9	2	0.4
GS-7	67	6.9	13	2.8
GS-6	14	1.5	20	4.3
GS-5	68	7.0	23	4.9
GS-4	36	3.7	12	2.6
GS-3	12	1.2	7	1.5
GS-2	2	0.2	0	0.0
GS-1	3	0.3	3	0.6
O-6	12	1.2	25	5.4
O-5	12	1.2	23	4.9
O-4	17	1.8	35	7.5
O-3	25	2.6	36	7.7
O-2	10	1.0	4	0.9
O-1	16	1.7	2	0.4
E-9	--	--	6	1.3
E-8	11	1.1	10	2.2
E-7	18	1.9	16	3.4
E-6	34	3.5	9	1.9
E-5	74	7.7	11	2.4
E-4	79	8.2	5	1.1
E-3	52	5.4	1	0.2
E-2	15	1.6	--	--
E-1	1	0.1	--	--
TOTAL	965	100.0	465	100.0

Q05 - WHAT IS YOUR SEX?

Male	661	68.6	318	68.8
Female	302	31.4	144	31.2
TOTAL	963*	100.0	462**	100.0

\* 2 missing cases/\*\* 3 missing cases

	<u>OGDEN ALC</u>		<u>HQ AFLC</u>	
	<u>COUNT</u>	<u>PCT OF TOTAL</u>	<u>COUNT</u>	<u>PCT OF TOTAL</u>
Q06 - WHAT AGE GROUP ARE YOU IN?				
< 20 yrs old	9	0.9	2	0.4
20-25 yrs old	160	16.6	28	6.1
26-30 yrs old	133	13.8	47	10.2
31-35 yrs old	135	14.0	60	13.0
36-40 yrs old	131	13.6	86	18.6
41-45 yrs old	121	12.5	98	21.2
46-50 yrs old	101	10.5	57	12.3
51-55 yrs old	98	10.2	50	10.8
56-60 yrs ol	55	5.7	28	6.1
61 and older	22	2.3	6	1.3
	-----	-----	-----	-----
TOTAL	965	100.0	462*	100.0

\* 3 missing cases

Q07 - WHAT IS YOUR TOTAL LENGTH OF SERVICE TIME IN MILITARY/GOVERNMENT?

0-3 yrs	170	17.8	30	6.5
4-8 yrs	206	21.5	69	15.0
9-12 yrs	114	11.9	53	11.5
13-16 yrs	107	11.2	57	12.4
17-20 yrs	113	11.8	87	19.0
21-24 yrs	98	10.3	59	12.9
25-28 yrs	63	6.6	54	11.8
29 yrs or more	85	8.9	50	10.9
	-----	-----	-----	-----
TOTAL	956*	100.0	459**	100.0

\* 9 missing cases/\*\* 6 missing cases

	<u>OGDEN ALC</u>		<u>HQ AFLC</u>	
	<u>COUNT</u>	<u>PCT OF TOTAL</u>	<u>COUNT</u>	<u>PCT OF TOTAL</u>
<b>Q08 - WHAT IS THE HIGHEST LEVEL OF EDUCATION YOU HAVE COMPLETED?</b>				
< High school	8	0.8	1	0.2
High school	201	20.8	48	10.4
< 2 yrs college	332	34.4	98	21.2
Asso/2yrs college	54	5.6	20	4.3
> 2 yrs but no degree	91	9.4	26	5.6
Bachelor's	199	20.6	109	23.6
Master's	71	7.4	146	31.6
PhD	9	0.9	14	3.0
	-----	-----	-----	-----
TOTAL	965	100.0	462*	100.0

\* 3 missing cases

**Q09 - WHAT IS YOUR MARITAL STATUS?**

Single	154	16.0	51	11.0
Married (once)	532	55.3	309	66.7
Divorced and remarried	147	15.3	59	12.7
Separated or divorced	116	12.1	38	8.2
Other	13	1.4	6	1.3
	-----	-----	-----	-----
TOTAL	962*	100.0	463**	100.0

\* 3 missing cases/\*\* 2 missing cases

"Other" Comments

1 Divorced-remarried/widowed-remarried

**Q10 - HAVE YOU BEEN HOSPITALIZED IN AN AIR FORCE/CIVILIAN MEDICAL TREATMENT FACILITY WITHIN THE PAST 5 YEARS?**

Yes	285	29.7	114	24.7
No	676	70.3	348	75.3
	-----	-----	-----	-----
TOTAL	961*	100.0	462**	100.0

\* 4 missing cases/\*\* 3 missing cases

	<u>OGDEN ALC</u>		<u>HQ AFLC</u>	
	<u>COUNT</u>	<u>PCT OF TOTAL</u>	<u>COUNT</u>	<u>PCT OF TOTAL</u>
Q11 - HOW MANY TIMES IN THE LAST YEAR DID YOU SEE OT TALK TO A HEALTH CARE PROVIDER?				
0	96	10.0	39	8.4
1	138	14.3	78	16.9
2-3	355	36.9	167	36.1
4-6	214	22.2	101	21.9
7-9	78	8.1	40	8.7
10-12	29	3.0	19	4.1
13 or more	52	5.4	18	3.9
TOTAL	962*	100.0	462**	100.0

\* 3 missing cases/\*\* 3 missing cases

Q12 - DO YOU CONSULT ANY MEDICAL SELF-CARE LITERATURE/BOOKS WHEN YOU ARE SICK?

Yes	329	34.2	191	41.3
No	634	65.8	272	58.7
TOTAL	963*	100.0	463**	100.0

\* 2 missing cases/\*\* 2 missing cases

Q13 - WHAT IS THE MAJOR REASON YOU CONSULT SELF HELP LITERATURE/BOOKS?

Curious about illness	86	24.2	37	19.4
Learn about symptoms/ ramifications	192	54.1	125	65.4
To see if need to visit doctor	64	18.0	17	8.9
Other	13	3.7	12	6.3
TOTAL	355*	100.0	191**	100.0

\* 610 missing cases/\*\* 274 missing cases

<u>OGDEN ALC</u>		<u>HQ AFLC</u>	
<u>COUNT</u>	<u>PCT OF TOTAL</u>	<u>COUNT</u>	<u>PCT OF TOTAL</u>

"Other" Comments

4	To learn about prescribed drugs
1	All answers apply
1	This type of info is not readily available
1	Reads to be able to apply health food cures
1	To see if there is self-help available

Q14 - WHAT IS THE MAJOR REASON YOU DON'T USE MEDICAL SELF-CARE LITERATURE/BOOKS?

Not sick enough	275	42.8	94	34.6
No time	21	3.3	6	2.2
See doctor when sick	209	32.5	116	42.6
Wouldn't understand literature	11	1.7	9	3.3
Not interested	76	11.8	32	11.8
Other	51	7.9	15	5.5
TOTAL	643*	100.0	272**	100.0

\* 322 missing cases/\*\* 193 missing cases

"Other" Comments

7	Don't own any
5	Family/relatives/friends
3	Literature not always available
3	In medical field myself
2	No faith in medical literature
1	Prefer reading professional journals, not self-care books

	<u>OGDEN ALC</u>		<u>HQ AFLC</u>	
	<u>COUNT</u>	<u>PCT OF TOTAL</u>	<u>COUNT</u>	<u>PCT OF TOTAL</u>
<b>Q15 - DO YOU SMOKE CIGARETTES?</b>				
No, never	546	56.6	216	46.7
No, quit	238	24.7	159	34.3
Yes, less than 1/2 pk/day	28	2.9	11	2.4
Yes, 1/2-1 pk/day	84	8.7	29	6.3
Yes, 1-2 pks/day	61	6.3	39	8.4
Yes, more than 2 pk/day	7	0.7	9	1.9
TOTAL	964*	100.0	463**	100.0

\* 1 missing case/\*\* 2 missing cases

**Q16 - DO YOU SMOKE CIGARS OR A PIPE?**

Yes	29	3.0	27	5.9
No	928	97.0	428	94.1
TOTAL	957*	100.0	455	100.0

\* 8 missing cases/\*\* 10 missing cases

**Q17 - DO YOU USE SMOKELESS OR CHEWING TOBACCO?**

Yes	38	4.0	11	2.4
No	917	96.0	444	97.6
TOTAL	955*	100.0	455**	100.0

\* 10 missing cases/\*\* 10 missing cases

	<u>OGDEN ALC</u>		<u>HQ AFLC</u>	
	<u>COUNT</u>	<u>PCT OF TOTAL</u>	<u>COUNT</u>	<u>PCT OF TOTAL</u>
Q18 - IF YOU QUIT SMOKING, WHAT IS THE MAIN REASON YOU QUIT?				
Told by doctor	7	2.7	2	1.2
Encouraged by family/ friends	22	8.4	19	11.0
Did it for my health	193	73.9	130	75.6
Too expensive	5	1.9	3	1.7
Peer/social pressure	5	1.9	5	2.9
Other	29	11.1	13	7.6
	-----	-----	-----	-----
TOTAL	261*	100.0	172**	100.0

\* 130 missing cases/574 not applicable cases

\*\* 59 missing cases/234 not applicable cases

"Other" Comments

3	Religious reasons
2	Just wanted to
1	Pregnancy

Q19 - IF YOU NOW SMOKE, DO YOU WANT TO QUIT?

Yes	101	51.8	58	56.3
No	39	20.0	19	18.5
Uncertain	55	28.2	26	25.2
	-----	-----	-----	-----
TOTAL	195*	100.0	103**	100.0

\* 120 missing cases/650 not applicable cases

\*\* 52 missing cases/310 not applicable cases

	<u>OGDEN ALC</u>		<u>HQ AFLC</u>	
	<u>COUNT</u>	<u>PCT OF TOTAL</u>	<u>COUNT</u>	<u>PCT OF TOTAL</u>
Q20 - IF YOU NOW SMOKE AND WOULD LIKE TO QUIT, WHAT IS THE MAIN REASON?				
To improve health	100	67.1	49	65.3
To save money	10	6.7	6	8.0
Encouraged by family/ friends	17	11.4	12	16.0
Told by doctor	4	2.7	1	1.3
Peer/social pressure	6	4.0	5	6.7
Other	12	8.1	2	2.7
	-----	-----	-----	-----
TOTAL	149*	100.0	75**	100.0

\* 144 missing cases/672 not applicable cases

\*\* 70 missing cases/320 not applicable cases

"Other" Comments

2	Tired of smoking/inconvenient
1	Smell is horrible
1	Air Force pressure

Q21 - IF YOU NOW SMOKE, WOULD YOU BE INTERESTED IN ATTENDING A PROGRAM THAT WOULD HELP YOU QUIT?

No, not interested in stopping	39	20.3	19	18.8
No, have tried to stop but can't	10	5.2	6	5.9
No, can stop on my own	64	33.3	25	24.8
Yes, an Air Force sponsored program	58	30.2	42	41.6
Yes, but prefer a civilian- sponsored program	21	10.9	9	8.9
	-----	-----	-----	-----
TOTAL	192*	100.0	101**	100.0

\* 127 missing cases/646 not applicable cases

\*\* 57 missing cases/307 not applicable cases

	<u>OGDEN ALC</u>		<u>HQ AFLC</u>	
	<u>COUNT</u>	<u>PCT OF TOTAL</u>	<u>COUNT</u>	<u>PCT OF TOTAL</u>
<b>Q24 - HOW OFTEN DO YOU PARTICIPATE IN FORMS OF EXERCISE THAT REQUIRE STRENUOUS PHYSICAL ACTIVITY?</b>				
Almost every day	130	13.5	44	9.5
3-5 times/week	261	27.1	123	26.5
1-2 times/week	197	20.4	99	21.3
1-3 times/month	139	14.4	51	11.0
Less than once a month	124	12.9	56	12.1
Rarely/never	113	11.7	91	19.6
TOTAL	964*	100.0	464**	100.0

\* 1 missing case/\*\* 1 missing case

**Q25 - HOW OFTEN DO YOU PARTICIPATE IN NONSTRENUOUS EXERCISE?**

Almost every day	310	32.2	155	33.3
3-5 times/week	163	16.9	95	20.4
1-2 times/week	248	25.7	101	21.7
1-3 times/month	133	13.8	60	12.9
Less than once a month	63	6.5	26	5.6
Rarely/never	47	4.9	28	6.0
TOTAL	964*	100.0	465	100.0

\* 1 missing case

**Q26 - WHAT IS THE MAIN REASON YOU EXERCISE?**

Enjoy it	311	36.4	162	38.9
Meet Air Force standards	23	2.7	8	1.9
Told to do so by doctor	23	2.7	7	1.7
To control weight	179	20.9	76	18.2
Necessary for good health	298	34.9	148	35.5
Other	21	2.5	16	3.8
TOTAL	855*	100.0	417**	100.0

\* 14 missing cases/96 not applicable cases

\*\* 3 missing cases/45 not applicable cases

<u>OGDEN ALC</u>		<u>HQ AFLC</u>	
<u>COUNT</u>	<u>PCT OF TOTAL</u>	<u>COUNT</u>	<u>PCT OF TOTAL</u>

"Other" Comments

5	Exercise is inherent in performing a task
3	To relieve stress
1	To help recover from an operation
1	I work as a part-time ski instructor
1	I hate it, but I do it so I'll look good in my clothes

Q27 - WHAT IS THE MAIN REASON YOU DO NOT EXERCISE REGULARLY?

Don't have the time	183	42.3	90	45.2
Don't have a place	42	9.7	13	6.5
Don't like to	78	18.0	38	19.1
Don't think I need it	18	4.2	10	5.0
Medical problem restriction	33	7.6	12	6.0
Facilities not available	43	9.9	14	7.0
Not convinced it helps	7	1.6	6	3.0
Other	29	6.7	16	8.0
TOTAL	433*	100.0	199**	100.0

\* 49 missing cases/483 not applicable cases

\*\* 22 missing cases/244 not applicable cases

"Other" Comments

4	Too easy to procrastinate
3	Just don't make the time
2	Don't like doing it alone
2	Too tired
1	Inclement weather

	<u>OGDEN ALC</u>		<u>HQ AFLC</u>	
	<u>COUNT</u>	<u>PCT OF TOTAL</u>	<u>COUNT</u>	<u>PCT OF TOTAL</u>
<b>Q28 - HOW DOES YOUR PRESENT WEIGHT COMPARE WITH WHAT YOU WOULD LIKE TO WEIGH?</b>				
21 or more lbs less	51	5.3	18	3.9
11-20 lbs less	92	9.6	23	5.0
6-10 lbs less	105	11.0	34	7.4
Within 5 lbs	276	28.8	154	33.4
6-10 lbs greater	184	19.2	97	21.0
11-20 lbs greater	143	14.9	73	15.8
21 or more lbs greater	107	11.2	62	13.4
	-----	-----	-----	-----
TOTAL	958*	100.0	461**	100.0

\* 7 missing cases/\*\* 4 missing cases

**Q30 - IF YOU ARE NOW OVERWEIGHT, WOULD YOU BE INTERESTED IN A PROGRAM TO HELP YOU LOSE WEIGHT?**

No, not interested in losing weight	10	2.0	11	4.3
No, have tried to lose but can't	14	2.7	8	3.2
No, can lose on my own	164	32.0	90	35.6
Yes, an Air Force sponsored program	190	37.1	103	40.7
Yes, but prefer civilian-sponsored program	134	26.2	41	16.2
	-----	-----	-----	-----
TOTAL	512*	100.0	253**	100.0

\* 18 missing cases/435 not applicable cases

\*\* 11 missing cases/201 not applicable cases

	<u>OGDEN ALC</u>		<u>HQ AFLC</u>	
	<u>COUNT</u>	<u>PCT OF TOTAL</u>	<u>COUNT</u>	<u>PCT OF TOTAL</u>
Q33 - HOW FREQUENTLY DO YOU USE OFF-BASE HEALTH FACILITIES?				
Never	517	53.8	267	57.4
Less than once every 2-3 months	141	14.7	81	17.4
Once every 2-3 months	43	4.5	26	5.6
About once per month	65	6.8	22	4.7
Once every 2-3 weeks	31	3.2	15	3.2
Once a week	47	4.9	19	4.1
2-3 times per week	77	8.0	27	5.8
4-5 times per week	28	2.9	5	1.1
Almost every day	12	1.2	3	0.6
	-----	-----	-----	-----
TOTAL	961*	100.0	465	100.0

\* 4 missing cases

Q34 - HOW FREQUENTLY DO YOU USE ON-BASE FACILITIES?

Never	531	55.2	255	55.0
Less than once every 2-3 months	82	8.5	41	8.8
Once every 2-3 months	42	4.4	19	4.1
About once per month	39	4.1	13	2.8
Once every 2-3 weeks	26	2.7	20	4.3
Once a week	44	4.6	26	5.6
2-3 times per week	118	12.3	49	10.6
4-5 times per week	45	4.7	31	6.7
Almost every day	35	3.6	10	2.2
	-----	-----	-----	-----
TOTAL	962*	100.0	464**	100.0

\* 3 missing cases/\*\* 1 missing case

OGDEN ALCHQ AFLC

	<u>COUNT</u>	<u>PCT OF TOTAL</u>	<u>COUNT</u>	<u>PCT OF TOTAL</u>
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Q35 - INDICATE YOUR AVERAGE HEALTH DURING THE LAST SIX MONTHS.

Poor	12	1.2	5	1.1
Fair	73	7.6	16	3.5
Average	150	15.6	69	15.0
Good	465	48.2	217	47.1
Excellent	264	27.4	154	33.4
TOTAL	964*	100.0	461**	100.0

\* 1 missing case/\*\* 4 missing cases

Q36 - HOW OFTEN DO YOU USE SEAT BELTS WHEN DRIVING OR RIDING IN AUTOMOBILES OFF-BASE?

All the time	549	57.1	328	70.7
75-99% of the time	201	20.9	79	17.0
25-74% of the time	73	7.6	16	3.4
10-24% of the time	44	4.6	11	2.4
Less than 10% of the time	95	9.9	30	6.5
TOTAL	962*	100.0	464**	100.0

\* 3 missing cases/\*\* 1 missing case

Q37 - HOW MANY HOURS OF SLEEP DO YOU USUALLY AVERAGE EACH NIGHT?

Less than 4 hours	6	0.6	3	0.6
4 hours	13	1.4	3	0.6
5 hours	54	5.6	30	6.5
6 hours	266	27.7	132	28.6
7 hours	405	42.1	203	43.9
8 hours	188	19.5	84	18.2
9 hours	24	2.5	7	1.5
10 hours	5	0.5	0	0.0
11 hours	0	0.0	0	0.0
More than 11 hours	1	0.1	0	0.0
TOTAL	962*	100.0	462**	100.0

\* 3 missing cases/\*\* 3 missing cases

	<u>OGDEN ALC</u>		<u>HQ AFLC</u>	
	<u>COUNT</u>	<u>PCT OF</u> <u>TOTAL</u>	<u>COUNT</u>	<u>PCT OF</u> <u>TOTAL</u>
Q38 - HOW MANY TIMES PER WEEK DO YOU EAT BREAKFAST?				
None	145	15.1	68	14.7
1/week	112	11.6	51	11.0
2/week	181	18.8	85	18.3
3/week	88	9.1	27	5.8
4/week	55	5.7	15	3.2
5/week	81	8.4	35	7.5
6/week	71	7.4	34	7.3
7/week	229	23.8	149	32.1
TOTAL	962*	100.0	464**	100.0

\* 3 missing cases/\*\* 1 missing case

Q39 - HOW OFTEN DO YOU DRINK ALCOHOLIC BEVERAGES?				
Never	313	32.6	74	15.9
< once every 2-3 months	132	13.7	58	12.5
Once every 2-3 months	63	6.6	36	7.8
Once per month	83	8.6	36	7.8
Once every 2-3 weeks	85	8.8	43	9.3
Once per week	110	11.4	61	13.1
2-3 times/week	109	11.3	87	18.8
4-5 times/week	35	3.6	29	6.3
Almost every day	24	2.5	26	5.6
Every day	7	0.7	14	3.0
TOTAL	961*	100.0	464**	100.0

\* 4 missing cases/\*\* 1 missing case

	<u>OGDEN ALC</u>		<u>HQ AFLC</u>	
	<u>COUNT</u>	<u>PCT OF TOTAL</u>	<u>COUNT</u>	<u>PCT OF TOTAL</u>
Q40 - IF YOU DRINK, HOW MANY DRINKS DO YOU USUALLY CONSUME AT ONE TIME?				
1 drink	180	28.2	117	30.8
2 drinks	195	30.6	157	41.3
3 drinks	130	20.4	56	14.7
4 drinks	62	9.7	29	7.6
5 drinks	23	3.6	12	3.2
6 drinks	21	3.3	6	1.6
7 drinks	8	1.3	0	0.0
8 drinks	6	0.9	1	0.3
More than 8 drinks	13	2.0	2	0.5
TOTAL	638*	100.0	380**	100.0

\* 30 missing cases/297 not applicable cases

\*\* 8 missing cases/77 not applicable cases

Q41 - HOW CALORIE CONSCIOUS ARE YOU?

Pay little or no attention	425	44.1	193	41.5
Sometimes avoid foods which have too many calories	329	34.1	175	37.6
Keep a rough count of the calories	176	18.3	70	15.1
Closely watch and control calories	34	3.5	27	5.8
TOTAL	964*	100.0	465	100.0

\* 1 missing case

Q42 - DO YOU DRINK LOWFAT/SKIM MILK OR WHOLE MILK?

Lowfat/skim milk only	495	51.4	233	50.1
Whole milk only	153	15.9	59	12.7
Both	207	21.5	93	20.0
Neither	108	11.2	80	17.2
TOTAL	963*	100.0	465	100.0

\* 2 missing cases

	<u>OGDEN ALC</u>		<u>HQ AFLC</u>	
	<u>COUNT</u>	<u>PCT OF TOTAL</u>	<u>COUNT</u>	<u>PCT OF TOTAL</u>
<b>Q43 - DO YOU EAT BUTTER OR MARGARINE?</b>				
Butter only	60	6.2	32	6.9
Margarine only	387	40.2	172	37.0
Both	470	48.9	238	51.2
Neither	45	4.7	23	4.9
	-----	-----	-----	-----
TOTAL	962*	100.0	465	100.0

\* 3 missing cases

<b>Q44 - HAVE YOU HAD YOUR BLOOD TESTED FOR CHOLESTEROL?</b>				
No	498	51.6	188	40.6
Yes, no problem	305	31.6	196	42.3
Yes, problems	87	9.0	22	4.8
Yes, but don't know results	28	2.9	18	3.9
Don't remember/ not sure	47	4.9	39	8.4
	-----	-----	-----	-----
TOTAL	965	100.0	463*	100.0

\* 2 missing cases

<b>Q45 - DO YOU TRY TO CONTROL YOUR INTAKE OF SATURATED FATS?</b>				
Control closely	116	12.0	56	12.0
Control somewhat	499	51.8	258	55.5
No, but would know how	185	19.2	80	17.2
No, not sure how	163	16.9	71	15.3
	-----	-----	-----	-----
TOTAL	963*	100.0	465	100.0

\* 2 missing cases

	<u>OGDEN ALC</u>		<u>HQ AFLC</u>	
	<u>COUNT</u>	<u>PCT OF TOTAL</u>	<u>COUNT</u>	<u>PCT OF TOTAL</u>
<b>Q46 - HOW WOULD YOU RATE YOUR KNOWLEDGE OF NUTRITION?</b>				
Much better than avg	143	14.8	63	13.5
Somewhat better than avg	313	32.5	154	33.1
About average	437	45.4	212	45.6
Somewhat worse than avg	58	6.0	32	6.9
Much worse than avg	12	1.2	4	0.9
TOTAL	963*	100.0	465	100.0

\* 2 missing cases

**Q49 - WHAT IS THE MAIN SOURCE OF THE HEALTH-RELATED INFORMATION YOU RECEIVE?**

Television/radio	242	25.4	101	22.1
Newspaper	100	10.5	64	14.0
Magazines	338	35.5	174	38.0
Bulletin bd/pamphlets	57	6.0	36	7.9
Friends	33	3.5	17	3.7
Doctor/med center	97	10.2	34	7.4
Other	59	6.2	25	5.5
Don't receive any	26	2.7	7	1.5
TOTAL	952*	100.0	458**	100.0

\* 13 missing cases/\*\* 7 missing cases

"Other" Comments

8	Family/relatives
7	Books
7	Professional journals
5	All sources apply equally
3	Nutrition classes
2	Library
1	Medical literature
1	Professional Military Education programs
1	"Slim for Life" class sponsored by the American Heart Association

	<u>OGDEN ALC</u>		<u>HQ AFLC</u>	
	<u>COUNT</u>	<u>PCT OF TOTAL</u>	<u>COUNT</u>	<u>PCT OF TOTAL</u>
Q52 - ARE YOU CURRENTLY CERTIFIED IN CARDIOPULMONARY RESUSCITATION?				
Yes	188	20.1	64	13.9
No	748	79.9	396	86.1
	-----	-----	-----	-----
TOTAL	936*	100.0	460**	100.0

\* 29 missing cases/\*\* 5 missing cases

Q53 - ARE YOU INTERESTED IN ATTENDING A CPR TRAINING CLASS?				
Yes	567	70.4	223	53.6
No	137	17.0	97	23.3
Uncertain	101	12.5	96	23.1
	-----	-----	-----	-----
TOTAL	805*	100.0	416**	100.0

\* 160 missing cases/\*\* 49 missing cases

### Appendix C: Selection of Survey Comments

"I think there should be a program or clinic for military people to assist them in losing weight."

"I have some angry feelings about the Air Force weight program. I have never had a problem with weight (5'11" and 155 lbs), but I have had friends who were in much better shape than I who also had a different muscle build, who have been practically harassed out of the service. If we are supposed to be warriors, why does the system discriminate against those who have the best muscle build for being warriors?"

"The Air Force seems to equate physical fitness with only the ability to run 1.5 miles in a given time and to measure a magical number of pounds for a given height. All other considerations are apparently considered immaterial. In 27 years of Air Force membership, I have accumulated one of the thinnest medical records on file in the hospital. In that time, the most serious entry is a workup on a recurring loss of circulation in one arm attributed to a pinched nerve. Other than that, there are a couple of cases of flu, before the advent of flu immunizations, a mashed finger (temporary stupidity on the job), and dysentery in Turkey. I believe that this carries more significance than the arbitrary weight/running evaluations done annually. Conversely, a person who runs great and is ten pounds underweight can have a six-year record that is measured in pounds rather than inches, and the Air Force seems to feel that they are medically fit and a big asset to the services. The whole program could use serious review and revision. Eliminate the yearly tests and use the documented medical history for determining ability."

"Many of the weight-reduction, swimming, and other exercise programs are during day time so can not go to work and program without taking annual leave."

"Most AF programs dwell on the negative results if you don't lose weight. (i.e.- out of AF). Need to stress positive things -(i.e. feel better, look better, etc.) - Not 'if you don't' rather 'If you do'. I feel the AF needs to support 'constructively' its people. Stress 'professionalism' rather than 'perfectism' - Perfectism causes mental health problems."

"The Air Force has a very negatively oriented WMP. People should be encouraged to lose weight rather than threatened. The threat should remain, but positive reinforcement should be maintained. The FIT program is very poorly administered on this base. Some squadrons enforce participation and others don't care. It's a mandatory program for the entire base and is from 0600-0700 Mon-Fri for 90 calendar days, but more than 30% to 50% don't show. The Air Force says 'Lose Weight!!!' but won't tell you how. There is quarterly dietary counseling, but you have to be on the program to get it. I know, that's what happened when I tried to get professional help in Jan 85. Then I only got 1 counseling session."

"More studies should be conducted on why organizations and policies cause stress. Individuals can maintain stress management on an individual basis, however stress that is built-in to a position should be eliminated. Perhaps a starting point would be the merit promotion system that measures success by promoting employees to higher positions rather than rewarding them for the job being done."

"The government should provide exercise facilities in or near the work area, or at least shower and locker room. Then shift schedules should be flexible enough to allow an exercise program in the work place and some incentive to participate."

"I feel that overweight and out of shape people are not dealt with properly in the Air Force. I've seen instances where a 18 year TAFMS senior NCO was spared from discharge due to 'politics.' In order to see improvement you must be stern. I respect the IQ of the Air Force but I can't help but frown at the physical fitness of my fellow airmen. Note other services; Army, Marines; if they can do it; so can we."

"I believe the Weight Management Program is very unfair. I strongly believe appearance in and out of uniform is more important than if a person is a pound or two overweight. I also believe that a person observes the right to put on a few extra pounds with age. It's wrong that a person body structure does not seem to account towards the current weight standards."

"I believe the Air Force already has a good program for promoting health. I do not believe additional expenditures should be made to expand the scope of efforts. Each of us has the responsibility, wisdom, and desire (or lack of) to maintain our health."

"The Air Force needs to initiate a health program for all its members. I believe afternoon exercise shop-wide from 3-4 pm 3 times a week would be at least an attempt. There are entirely too many overweight people in the Air Force today. It seems the higher the rank the worse the shape. Health education should be an annual requirement."

"I think there should be a number of different activities that can be done besides just running once a year to show that you are physically fit. I feel I am in good physical shape yet even with months of practice I can just barely qualify for the mile and a half. I feel that some people have the ability to run and some do not."

"I try watching my weight but I must eat at the chow hall and it is hard to get the nutrients without eating too much."

"A base sponsored exercise program before/during or after work hours would be great. Most of the programs at Hill AFB are centered around the military. Civilians are not generally allowed to attend."

"I strongly believe there should be a mandatory group fitness schedule for all military members."

"I feel that the Air Force should promote physical fitness by allowing an hour or so a week off in order to participate in an exercise program or by allowing employees to flex on days when their exercise classes begin early."

"The AF pays lip service to health with its aerobics and CARE. I was identified as having a high cholesterol count during a periodic physical 2 years ago. To date, I have had no follow-up."

"Annual physical fitness tests are worthless without regular exercise. The US Army takes physical conditioning seriously and has scheduled programs within the unit. This is duty time/mandatory formation. If the AF is serious they need to be willing to devote the time and effort to the programs."

"I do not think civil service employees should have to pay an annual fee to utilize the base gym facilities. More gym facilities should be constructed to alleviate overcrowding."

"I feel the Air Force is really missing the boat by allowing smoking in its buildings. I am sure I am less productive because of the poor air I am forced to breathe. I have complained about cigarette smoke in our office but nothing happens. I could complain higher but I feel my career would suffer if I did. If the Surgeon General says breathing cigarette smoke is bad for your health, why am I forced to breathe it at work, in halls, rest rooms, etc.?"

"For civilians the USAF shows a lack of real interest in Wellness Programs. One suggestion would be use of flexible lunch period of one to one and one half hours so employees could exercise at local or on base facilities."

"The Air Force needs to reduce the stress associated with the military career. Stress education should be a priority. Also, the weight control and physical fitness programs are worthless! They should be terminated in their present form. Either initiate a daily program or disregard it completely."

"To this point the AF only pays lip service to physical well being. We need direction from the top down that AF members will be encouraged and provided specified duty hours to participate in a physical conditioning program."

"I feel that more facilities would be of great help. Facilities locally are inadequate for the total personnel (both military and civilian) on this base."

"I would like to see more exercise equipment in areas of paperwork and office jobs. Exercise helps reduce stress as well as cardiovascular improvement."

"The Air Force puts a lot of emphasis on people being overweight, but people like me who are underweight would like to get information on how to gain body weight."

"I feel the Air Force should set weight standards for civilian employees similar to the standards for military personnel."

"As a civilian, I'm not aware of AF Health Promotion Programs. I do know the military are allowed duty time to use the base gym and other facilities 2-3 times per week, but civilians aren't allowed to use the facilities at any time."

"The AF should do more than just one aerobics run per year. Why not fall out 3 times a week for exercise, and run the aerobics every 3 months. The government needs to outlaw smoking in all Federal buildings and provide help to get smokers to quit. (Private industry is already doing this)."

"Provide facilities for workouts during lunch - allow extended lunch periods i.e., 1 and 1/2 hours and work later to complete your 8 hour day."

"Vending machines in our work areas have only junk food. It would be helpful if they were stocked with nutritious items."

"Programs are provided for military use." No facilities are available for civilian use."

"It is refreshing to see the Air Force is concerned about the overall health and well being of its employees, continued support programs by the USAF are certainly welcomed and appreciated."

"I don't think we are well enough informed about Air Force Health Promotion Program. To tell the truth, I didn't even know there was such a program."

"I feel more Americans need to help themselves. Why does the AF spend funds for things that should be personal responsibility?"

"The Air Force should take a more affirmative stand on the smoking issue as pertaining to the workplace. Also separate the non-smokers from the smokers in the eating establishments. The NCO Club at Hill separates the smokers and non-smokers by about 10 feet."

"CPR/Stress Management/Emergency First Aid should be required once a year for each unit. Good times would be Christmas/New Year, before 4th July, before Labor Day, and before spring/summer break. This way the people who are traveling have just had their courses."

"Poor sponsorship in military construction projects to get showers for civilians who want to workout at lunch. To get 2 shower stalls for the west area our building had to get approval from the Pentagon. Two shower stalls for 800 people is ridiculous but we were thankful to get that. Every building over 100 people should have two stalls in them."

"As a smoker I feel the effort being put forth to pressure people into quitting is unconstitutional. I am and always have been considerate of nonsmokers. I do not smoke in designated areas. But I feel that nonsmokers should tolerate smoking in designated areas if they must be in it for a particular reason. I realize also that there are many people not well enough educated to take care of themselves on a day to day basis and they need guidance from institutions but the government must quit trying to control all people to the extent that freedom of choice no longer exists. Already excessive controls exist on some of the most ridiculous things. People should spend more time correcting their own lives and keep out of other peoples private lives."

"Why can't base restaurants provide more nutritious meals at lunch?"

"I find that I feel better physically and mentally about myself if I am exercising regularly and eating right but I feel each person needs their own personal diet and forms of exercise because everyone has their own individual health problems. What works for one person might not work for another."

"I feel stress management is an integral part of everyone's lifestyle. This is probably essential to offer all personnel."

"Locker and shower facilities should be a requirement in all buildings."

"The Air Force is too lenient on physical fitness. Need better controlled aerobics testing."

"I feel the Air Force has an excellent fitness program."

"I feel the military base offers an excellent selection of exercise/recreation and personal self-help classes for civilians. Most info flyers are left unread; while the 'calendar' style does seem to get more attention (there are already a surplus of unnecessary flyers; amounting to excessive waste of materials, usually ridiculed or ignored). A newspaper style would be better received and could cover most material and indepth articles, recipes and be very well received by the general populace."

"I experienced a heart attack with follow-on coronary by-pass surgery. While recuperating in the hospital I was advised by the nursing staff that an inordinate number of their patients were from the base. I cited this to a cardiologist who was an advisor on stress management during rehabilitation. He stated that government middle managers were prime candidates for cardiac problems due to the stress caused by frustrations attendant with their jobs, i.e., too many levels of supervision with the result that you could not satisfy all levels of supervision no matter how skilled you were. This cardiologist was adamant in his belief that frustration was a prime stress generator."

"A mandatory exercise program two or more times a week would definitely improve health and physical conditions of active Air Force military personnel."

Part of the Air Force mission is to see that their members stay fit. Allow them more exercise time at the gym."

"Smokers should be segregated from non-smokers."

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## BLOCK 19. ABSTRACT

The purpose of this thesis was to investigate the health practices, attitudes, and perceptions of military and civilian personnel assigned to the Ogden Air Logistics Center, (ALC), Hill AFB, Utah. - Additionally, the results were compared with data obtained from the Vogel study conducted at Headquarters Air Force Logistics Command (HQ AFLC) in 1986. The six health practices included body weight, eating breakfast, hours of sleep, smoking, alcohol consumption, and strenuous physical activity.

Data was collected using a survey questionnaire that duplicated the HQ AFLC 1986 survey.

Study results concerning the current health practices of Ogden ALC personnel showed that more civilians than military think of themselves as overweight; generally, civilian employees eat breakfast more frequently than military members; both categories reported sleeping the same number of hours each night; more military personnel currently smoke cigarettes than their civilian counterparts; over twice as many civilians than military claimed to be non-drinkers; and more military than civilians engage in regular strenuous physical activity.

When Ogden ALC - HQ AFLC comparisons were made it was found that generally Ogden ALC personnel eat breakfast more frequently, smoke less, engage in strenuous physical activity more, drink less often and fewer drinks per sitting when they do the HQ AFLC personnel. Results also showed that HQ AFLC personnel are closer to their ideal weight than are Ogden ALC individuals while both populations reported sleeping the same number of hours each night.

Questions soliciting respondents' attitudes and perceptions on health-related issues revealed that the majority of personnel believe that the Air Force is not providing them with the proper amount of health information. Both military and civilian personnel expressed considerable interest in various health promotion and health-related program offerings.

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