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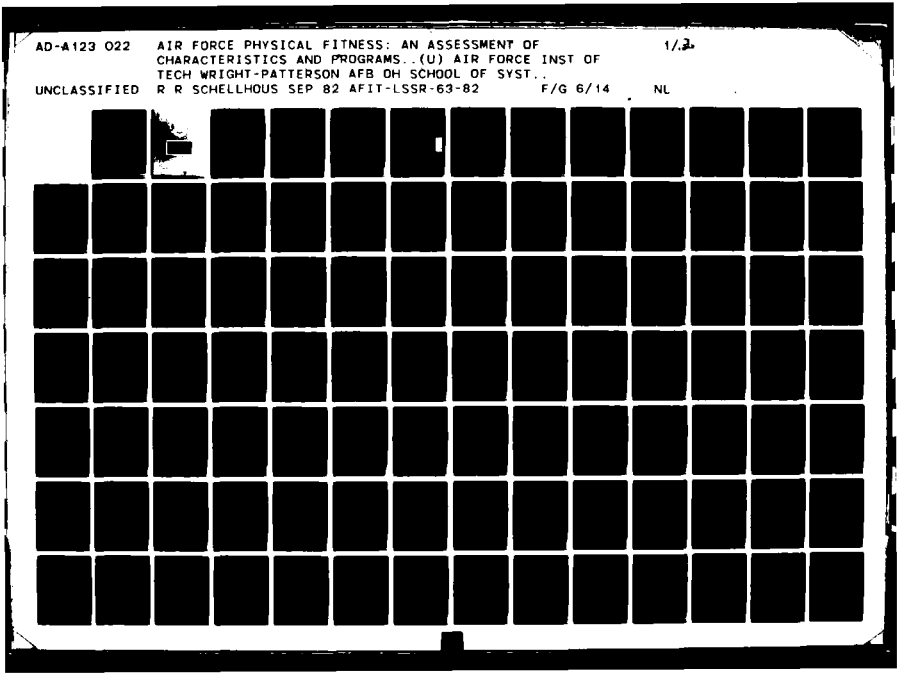

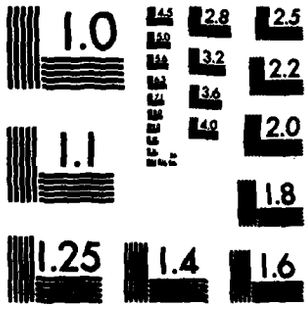

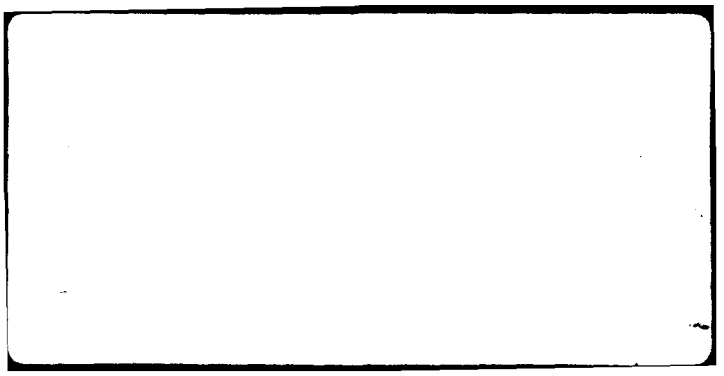

AIR FORCE PHYSICAL FITNESS: AN ASSESSMENT OF CHARACTERISTICS AND PROGRAMS WHICH AFFECT INDIVIDUAL PHYSICAL FITNESS

Robbin R. Schellhous, Captain, USAF

LSSR 63-82

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The Air Force physical fitness program has undergone four major changes since the Air Force became a separate service in 1947. Results of this study indicate that the current fitness program has not yet produced a uniformly high level of physical fitness among Air Force members; only 40 percent of Air Force males are in at least a "passing" aerobic fitness category, and 20 percent get no weekly aerobic exercise whatsoever. Data collected from a survey questionnaire sent to 1600 randomly selected Air Force members assessed the relationship between individual aerobic fitness (as measured by existing Air Force aerobic activity standards) and several other variables, including age, weight, rank, flying status, perceived degree of supervisory support, and availability, adequacy, and use of installation fitness facilities. Individual aerobic fitness is most strongly related to the number of duty hours used for aerobic activities, but fitness is not directly related to degree of adherence to weight standards. Fitness does not depend on support from supervisors and commanders or on the adequacy of existing facilities. More than half of those surveyed favor a more demanding physical fitness program to include mandatory duty-hour participation, more frequent testing, or both.

LSSR 63-82

AIR FORCE PHYSICAL FITNESS: AN ASSESSMENT OF CHARACTERISTICS AND PROGRAMS WHICH AFFECT INDIVIDUAL PHYSICAL FITNESS

A 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 Engineering Management

By

Robbin R. Schellhous, BA, BS
Captain, USAF

September 1982

This thesis, written by

Captain Robbin R. Schellhous

has been accepted by the undersigned on behalf of the faculty of the School of Systems and Logistics in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE IN ENGINEERING MANAGEMENT

DATE: 29 September 1982

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Reader

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CHAPTER I

INTRODUCTION

Chapter Overview

This chapter contains a general background on physical fitness programs in the United States Air Force and the problems experienced in making these programs effective. The specific problem investigated in this research is stated, and research objectives and research questions are listed. Also included in this chapter are scope of study, limitations, research assumptions, and definitions of terms frequently used in the research.

Background

The Department of Defense (DOD) and its historical equivalents have long-recognized the importance of physical fitness as a factor in the overall United States defense posture. DOD has historically supported and encouraged various physical fitness programs as a means of maintaining an effective level of physical fitness among United States military forces. The United States Air Force (USAF), since becoming a separate service in 1947, has also recognized the importance of individual physical fitness, not only for pilots and aircrew members, but for all Air Force (AF) members.

That interest in physical fitness has resulted in several attempts by the Air Force to establish an AF physical fitness program. Programs established by the Air Force have progressed from a program based on individual effort with no guidance or standards, through a 12-

minutes per day exercise program, to the current aerobic exercise program. The AF has considered weight control to be an important factor in individual fitness, and AF physical fitness programs have included weight standards based on individual physical characteristics for all AF members. Physical fitness programs have also attempted to measure individual fitness using a variety of physical fitness test methods. Although one of the important objectives of AF physical fitness programs has been to ensure that all AF members meet and maintain a reasonable level of physical fitness, AF physical fitness programs have, in the opinion of many critics, failed to meet that objective.

The current AF physical fitness program, based on cardiovascular endurance resulting from regular aerobic exercise, has also been criticized as being ineffective in meeting its objective of maintaining reasonable physical fitness among all AF members. Opinions expressed as to why the current program is not working include lack of supervisory and command support, lack of mandatory participation requirements, inconsistent enforcement of standards, lack of accurate methods of measuring fitness, lack of standards high enough to require regular exercise, lack of suitable physical fitness facilities, and lack of sufficient time to participate in aerobic activities.

Attempts by the AF to improve the current program continue, and have been expressed most recently in the publication of new weight standards, which list maximum allowable weights for males and females according to height but without regard to age.

Statement of Problem

The present study was an attempt to determine whether the current voluntary, self-administered AF physical fitness and weight control program is effective in meeting its objective, and to what degree; and to identify those factors which contribute to the successes and weaknesses of the program.

Research Objectives

The overall objective of this research was to gather sufficient data from a random sample of Air Force personnel upon which to base future improvements to the existing AF physical fitness and weight control program. Directed towards the accomplishment of this goal, the following specific research objectives of this research were to:

1. Determine the present level of individual physical fitness, as measured by existing Air Force standards.

2. Determine the relationship between current individual fitness level and the variables of sex, age, weight, rank, flying status, annual physical fitness test score, supervisory and command support, and the availability, adequacy, and use of physical fitness facilities.

3. Collect opinions from AF members concerning the new AF weight standards.

4. Collect suggestions from AF members on ways to improve the existing AF physical fitness and weight control program.

Research Questions

In order to accomplish the research objectives, data were collected to answer the following research questions:

1. What is the current physical fitness level of Air Force members as measured by self-reported frequency and intensity of aerobic activities rated according to criteria listed in AFP 50-56, USAF Aerobics Physical Fitness Program (Male), and AFP 35-57, USAF Aerobics Physical Fitness Program (Female)?

2. What is the relationship between individual aerobic fitness and sex?

3. What is the relationship between individual aerobic fitness and age?

4. What is the relationship between individual aerobic fitness and degree of adherence to Air Force weight standards listed in AFR 35-11, Air Force Physical Fitness Program?

5. What is the relationship between individual aerobic fitness and rank?

6. What is the relationship between individual aerobic fitness and flying status?

7. What is the relationship between individual aerobic fitness and annual physical fitness test score?

8. What is the relationship between individual aerobic fitness and perceived degree of supervisory support for physical fitness activities?

9. What is the relationship between individual aerobic fitness and the availability, perceived adequacy, and use of installation physical fitness facilities?

10. What are AF members' opinions concerning the new Air Force weight standards?

11. What are AF members' suggestions for improving the existing AF physical fitness and weight control program?

Scope of Study

This study does not evaluate the aerobic standards currently used in the AF physical fitness program, does not review or analyze the methodologies used in previous studies cited in this research, and does not review or compare the AF physical fitness program with physical fitness programs of other services.

This study does, however, determine the current level of physical fitness of a random sample of AF personnel as measured by existing AF standards. The study also determines the relationships between current fitness level and the variables of sex, age, weight, rank, flying status, annual physical fitness test score, supervisory support, and availability, adequacy, and use of installation physical fitness facilities. Finally, the study does collect opinions concerning the new AF weight standards (one of the most recent attempts to strengthen the current program) and suggestions for improving the existing AF physical fitness and weight control program.

Limitations

Several limitations inherent in this research should be considered when evaluating the results and conclusions. First, the sample was comprised of AF personnel assigned to continental United States (CONUS) installations only. No personnel assigned to overseas locations were surveyed. Second, personnel surveyed ranged in rank from airman basic to lieutenant colonel. No colonels or general officers were surveyed. Finally, the survey was conducted from May to July 1982, a time which may have had a seasonal influence on the physical activities reported by survey respondents.

Assumptions

Several major assumptions were made in this research concerning Air Force physical fitness. First, a highly effective physical fitness and weight control program would benefit both individual Air Force members and the Air Force as a whole. Also, there is sufficient scientific and medical evidence to show that aerobic exercises and activities, when used at recommended levels of intensity and frequency, can adequately meet individual physical fitness needs.

Definitions

The following terms, used frequently throughout this report, are defined as follows:

Physical fitness. Physical fitness is the ability of an individual to do daily tasks efficiently, without undue fatigue, and have

ample energy left for emergencies and leisure time pursuits. Factors that constitute physical fitness include but are not limited to endurance, muscular strength, flexibility, speed, agility, and maintenance of proper weight standards.

Aerobics. Aerobics ("with oxygen") refers to a variety of exercises that stimulate heart and lung activity long enough to produce beneficial changes in the body. Running, cycling, swimming, and jogging are examples of aerobic exercises.

Cardiovascular. Cardiovascular ("heart" + "conductive system") refers to one of the major systems of the human body. The cardiovascular system is comprised of the heart muscle and its associated network of arteries, veins, and capillaries, which distribute blood to and return blood from all parts of the body.

Maximum oxygen consumption. Maximum oxygen consumption is that amount of oxygen which the body consumes during aerobic exercise. It is measured in milliliters of oxygen per kilogram of body weight per minute. Maximum oxygen consumption is synonymous with aerobic capacity.

CHAPTER II

LITERATURE REVIEW

Chapter Overview

The purpose of this chapter is to review literature applicable to this research on the subject of physical fitness. This chapter reviews research which describes physical fitness in the United States, in the Department of Defense, and in the United States Air Force. Literature describing the history of AF physical fitness programs and describing the current AF program is reviewed, and studies expressing opinions on reasons for program failures are discussed. Finally, research on the relationships among those factors which affect physical fitness listed in the research questions of this study are summarized.

Physical Fitness

Physical Fitness in the United States

The physical fitness problem in the Air Force is a part of the overall fitness problem in the United States. As a nation, present-day Americans are generally in poor physical condition.

One of the first indications of this poor physical condition came at the beginning of World War II. By December 1941, nearly two million males between the ages of 21 and 35 had been given physical examinations as provided by the National Service Act of 1940. Nearly 900,000 of the two million men tested (nearly 45 percent) were rejected for military service because of mental and physical defects, and physicians estimated that, of all the defects noted:

> ninety percent were preventable. Moreover, even the boys who pass the examinations are not vigorous enough, alert and strong enough for some of the special forces [72:25].

Further indications of poor physical condition among Americans came during the Korean War. Despite improvements in diet and medical care throughout the United States following World War II, nearly 50 percent of the American men attempting to enter the military service for the Korean War could not meet the minimum physical fitness standards (57:5).

Poor physical fitness was not limited only to men of military age. A fifteen-year study by Kraus and Weber (47:6-7) involving fitness tests given to 4000 children in the United States and to 3000 children in Europe showed that American youth lagged far behind European youth in physical fitness.

The poor physical condition of Americans is directly related to the culture's sedentary life style. Man is organically designed for vigorous and strenuous physical activity in order to meet the needs of basic survival. Although the need for physical activity in meeting these survival needs in modern society has lessened, man's biological design has not changed much. In order to remain an active and not a sedentary creature, modern man must replace physical labor with physical exercise. Cureton (13:13) discusses America's general failure to realize that physical activity is essential for the body to function properly:

> In the age of the machine when life has become convenient beyond our wildest dreams, when physical exertion threatens to become obsolete, most of us pay more attention to our machines, our cars, televisions, dishwashers, and electrical shoe polishers than we do to the condition of our bodies.

Cooper (10:170) believes that America is in the midst of a biological crisis and questions "the ability of modern man to prosper in a technical

environment without physical fitness."

The myriad problems which beset Americans as a result of this misdirected attention and lack of physical fitness are well recognized. Kraus and Raub (27:10-12) list tension, obesity, musculoskeletal dysfunction, and cardiovascular disease (CVD) as examples of "hypokinetic (lack of sufficient action) diseases" caused by modern sedentary life style. Kenna (23:1) observes that while many communicable diseases which plagued mankind in the past are nearly non-existent today, the increase in technology has been accompanied by a parallel increase in degenerative diseases such as obesity and CVD.

The American Heart Association recognizes seven generally accepted risk factors directly related to strokes, heart attacks, and cardiovascular disorders. These factors are smoking, high cholesterol, high blood pressure, obesity, family history of heart disease, stress, and physical inactivity (28:341). Studies by Cooper (67:36) show that inactive individuals are two to three times more susceptible to CVD than are physically active individuals, and the probability of surviving a first heart attack is two to three times greater among those who are physically active. Research by Stewart (51:54-55) shows that among white males, one-third of all deaths before age sixty-five are due to coronary heart disease (CHD).

Cooper cites several sobering statistics which support the allegation that cardiovascular diseases are the number one health problem in the Western Hemisphere (11:3):

1. Nearly 30 million Americans have some form of CVD.
2. CVD accounts for nearly 55 percent of all deaths in America.

3. CVD costs Americans nearly 23 billion dollars annually in medical benefits, lost wages, and decreased productivity

Evidence which relates physical activity to a decreased susceptibility to CVD, while not absolutely conclusive, is nonetheless very convincing. A very significant study summarized by Montayi (34:35) found that among 31,000 London transportation workers, bus drivers suffered twice as many heart attacks as did bus conductors who were regularly required to climb double deck bus steps. Studies by Paffenbarger on 3875 San Francisco longshoremen over a 22-year period (37:50-53) and on 17,000 Harvard alumni over a 25-year period (36:48) concluded that men who exercised strenuously had significantly fewer fatal heart attacks than those who exercised only occasionally or not at all. Other reports and research (3:1; 9:108; 11:39; 17:23; 23:2; 25:80; 44:4) support the same conclusion that those who engage in regular strenuous physical activity, either naturally during physical labor or artificially during physical exercise, are significantly less susceptible to those degenerative diseases which plague modern Americans.

As a result of its own and international research, America as a nation made significant attempts to correct the physical fitness problem. Public concern for poor physical fitness led to the establishment of the President's Council on Youth Fitness by President Eisenhower in 1956. Physical fitness received increased emphasis in school throughout America, but a wholesale improvement in level of fitness was not immediate. Summarizing events in the decade following the establishment of the President's Council on Youth Fitness, White (71:27) finds:

> Since that time, many other tests have been used, but the original findings still stand. Physically we don't compare well with other countries. We don't even compare well with the last generation of Americans.

Presidential involvement was renewed in 1963 as President Kennedy enlarged the scope of the President's Council, changed its name to the President's Council on Physical Fitness, and through personal example did much to awaken Americans to the importance of physical fitness as a natural resource (24:17):

> For the physical vigor of our citizens is one of America's most precious resources. If we waste and neglect this resource, if we allow it to dwindle and grow soft, then we will destroy much of our ability to meet the great and vital challenges which confront our people. We will be unable to realize our full potential as a nation. . . .Now is the time for the United States to move forward with a national program to improve the fitness of all Americans.

A significant milestone in American fitness occurred in 1968 with the publishing of Dr. Kenneth Cooper's book Aerobics. The book was prompted in part by Cooper's previous studies which showed that nearly 80 percent of the American population had an unsatisfactory level of fitness and that nearly 50 percent were overweight (9:36). Cooper's aerobics program was based on endurance and improved oxygen utilization and greatly revitalized America's interest in physical activities. Jogging associations, running clubs, industry fitness programs, competitive activities, and physical fitness books and articles increased in number. A 1978 survey (30:263-267) reported that nearly half of all Americans were participating in some form of exercise activity. This represented a nearly two-fold increase when compared to 1961 figures. Great strides had obviously been made in improving the level of physical fitness of the American population.

Physical Fitness in the Military

The Air Force concern for physical fitness is in one sense a part of the nation-wide concern about Americans' poor physical condition.

It is also a part of a long-standing concern by DOD to maintain combat readiness in United States' military forces.

Physical fitness in the context of United States military forces is fairly well summarized by Bean, et al. (4:1) as "military operations require men who are physically fit," and Patterson, et al. (47:108):

> In the Armed Forces there is general recognition that, for certain tasks and for the general military bearing of personnel on a station or ship, an adequate level of fitness is important.

The high rejection rate among enlistees and the poor physical condition of those accepted for military service, as previously discussed, led to the United States Army's decision in World War II to devote the first sixteen weeks of training to physical conditioning. Military leaders recognized the importance of excellent physical condition in combat soldiers. Pericola (40:7) summarized the general objective of physical fitness as stated in Army Field Manual 21-20, published in 1941:

> To perform his duties satisfactorily, the soldier must possess great organic vigor, muscular and nervous strength, endurance, and agility. Physical training must be an integral part of every training program.

Physical training was emphasized during and immediately following World War II through exercise programs, running programs, and competitive games. In 1946, War Department Circular 7 prescribed a minimum of five hours per week for physical training for all units in the field, and Army Regulation 605-110 allowed officers one-half day per week for physical exercise (40:8-11).

As this review indicates, by November 1947, when the United States Air Force became a separate service, the United States Army had recognized the importance of physical fitness in military operations and had established programs to improve and maintain physical fitness.

Air Force Physical Fitness

History. The first Air Force publication concerning physical fitness was Air Force Regulation (AFR) 50-5, published in November 1947. This regulation contained only three paragraphs and stated (60:1) that Air Force physical fitness training programs were designed to:

> 1. Develop and maintain a high level of physical fitness in the individual so that he can perform more efficiently his assigned duties.
>
> 2. Encourage regular and healthful exercise.
>
> 3. Foster an aggressive and cooperative team spirit, increase the confidence of the individual, develop sportsmanship, and increase pride through participation in competitive athletics.

The regulation contained no standard physical fitness program, provided no program guidance for commanders, did not specify a required level of physical fitness, and required no physical fitness tests, records, or reports. AFR 50-5 served as the basis for the Air Force physical fitness program from 1947 until 1959.

Air Force Manual (AFM) 160-26, Physical Conditioning, was published in 1956 to give commanders more guidance in establishing physical fitness programs. The manual stated (57:13):

> It is the commander's responsibility to see that his men are developed to a point of maximum fitness physically, psychologically, and socially so that every man can contribute fully to the Air Force mission.

The manual was written as guidance only and again did not specify a standard AF physical fitness program.

A comprehensive study by Balke and Ware (3:9) in 1959 involving 500 male Air Force and civilian personnel concluded:

> On the basis of the experimental findings it can be concluded that the overall state of physical fitness in the Air Force is "poor" and that the Air Force physical fitness program, as it now stands, is ineffective.

These findings prompted a revision to AFR 50-5 in 1959. The revised regulation directed commanders to establish physical conditioning programs, established weight limits, and prescribed regular weekly exercise, either during off-duty or on-duty hours. Again the regulation contained no standard program and no prescribed levels of physical fitness (61:1-10).

In July 1962, the Air Force responded to the increased national emphasis on physical fitness by adopting the Royal Canadian Air Force Five Basic Exercise (5BX) Plan as its official physical conditioning program. The governing publications were Air Force Pamphlet (AFP) 50-5-1 (5BX) for men and AFP 50-5-2, Ten Basic Exercise Plan, (XBX) for women. The 5BX program consisted of five basic exercises designed to condition the skeletal muscles, the heart, and the lungs at a progressive rate of difficulty until a specified level of fitness was obtained. The specified level was determined by age and flying status of the individual. The required level was to be progressively attained through daily exercise, then maintained by exercising three periods per week. The five exercises with their specified number of repetitions were to be completed in eleven minutes. AFP 50-5-1 (59:4) described the 5BX program as:

> Simple because it is easy to do, easy to follow. Progressive because you can develop your own personal fitness at your own rate, to your required level, without getting stiff or sore muscles. Balanced because you condition your muscles, your heart and lungs together for your daily needs. Complete because the principles of muscle and organic development are applied simultaneously and progressively. Self-measuring because it gives you clear-cut "targets for fitness" for your age and body build, along with graduated standards for checking your fitness. Convenient because you can do these exercises any place at your convenience, without gadgets.

The 5BX plan established definite guidelines and standards for physical

fitness, prescribed specific performance levels for individuals based on age and flying status, required an annual evaluation, and required written records and reports. The 5BX program showed great potential for answering the concern for increased physical fitness among military personnel as expressed by the President's Council on Physical Fitness in 1963 (1:3):

> The President's Council has strong interest in physical fitness for armed forces personnel. Special aspects of interest include fitness programs related to the military mission; need for careful evaluation of fitness; each branch of the military service should have a fitness program based on its mission. . . .In general, fitness must be geared to the basic military mission, emergency demands, and finally, enjoyment of life in off-duty hours.

In November 1963, Air Force representatives met with researchers from Indiana University to evaluate the effectiveness of the 5BX program. The study group identified several weaknesses in the program, including a lack of emphasis on the importance of physical fitness, an excessive failure rate, and an unsatisfactory annual testing program (1:1-4). The study group also emphasized the need for an effective physical fitness program (1:3):

> The day is past when the Air Force can afford to spend time and money in fitness programs which have not been carefully adapted to our specific mission. Because of the tremendous significance of fitness and the relationship of individual survival and national security, these programs must be effective.

The study group also recommended the deletion of one exercise entirely, the alteration of another exercise to make it easier, and the lowering of the required standard for each age group (1:5). These recommendations were incorporated into a revised 5BX plan in 1965.

One indication of the ineffectiveness of the 5BX program was revealed by Sanders' research on incoming Squadron Officer School (SOS) company grade male officers from 1964 to 1966. He assembled initial

standard 5BX test data for 6,230 officers and found that only 24.7 percent passed (49:47). Parke generalized from this research (20:2), "This sampling of Air Force people is a good indication of the low level of fitness of the entire force." The passing rate increased, however, to 89.6 percent after twelve weeks of conditioning at SOS, indicating an effective training program accounting for substantial individual improvement (49:60,74-76).

The current USAF aerobics program resulted from extensive research by Dr. Kenneth H. Cooper, at the time an Air Force flight surgeon. In extensive tests of volunteers on a treadmill, Cooper found that the total amount of energy the human body is able to produce before exhaustion (endurance capacity) is correlated very closely with the body's ability to consume oxygen (9:47). By relating oxygen consumption and body weight, Cooper proved that the ability to process and use oxygen is directly related to physical condition and can be used as a measurement of physical fitness. He found that the time required for an individual to run a specified distance correlates closely with oxygen consumption rates measured in subjects on the treadmill (9:52). Specifically, Cooper found that any exercise increases the body's ability to use oxygen if it meets the following criteria:

> If the exercise is vigorous enough to produce a heart rate of 150 beats per minute or more, the training effect benefits begin about five minutes after exercise starts and continue as long as the exercise is performed.
>
> If the exercise is not vigorous enough to produce or sustain a heart rate of 150 beats per minute, but is still demanding oxygen, the exercise must be continued considerably longer than five minutes, the total period of time depending on the oxygen consumed [9:40].

The aerobics conditioning system developed by Cooper was aimed at increasing the efficiency of the circulatory and respiratory systems

in order to increase the upper limit of the body's ability to consume oxygen. After examining the energy requirements of various forms of exercise, Cooper assigned point values to different activities based on the length of each exercise period and the rate of performance in each activity. The point value assigned is directly related to the approximate oxygen requirements, or energy costs, of the exercise. Cooper found that any combination of exercise totaling thirty or more points per week is sufficient to achieve the desired benefits of increased oxygen consumption capacity (9:41):

> What I do say, based on our research, is that 30 points worth of exercise is the minimum that will maintain your body in a condition that we in medicine know to be consistent with essential health, whether you're 19 or 90.

In May 1967, Cooper presented his aerobics plan to the Air Force Chief of Staff (12:2-25), and after evaluation and comment by each major air command, the USAF Aerobics Program was implemented in November 1969 with the publishing of AFP 50-56 and AFM 50-15. As stated in AFP 50-56 (63:2):

> The purpose of the aerobics conditioning program is to develop a higher level of fitness among airmen of all ages by providing an easily followed, interesting, and somewhat demanding program. The exercises are only those that stress the heart and lungs, thereby producing a desirable training effect. The time required for daily exercise is not excessive, but the program does require faithful participation. Many types of exercises and exercise programs have been studied, but the conclusion has invariably been that it is impossible to reach a satisfactory level of fitness without working hard at it. All of the 60-second-a-day exercise programs have proven worthless in improving the condition of the heart and lungs. Consequently, exercise programs must be both vigorous and long enough to produce a valuable conditioning response.

The aerobics program provided for semi-annual testing of all personnel, the test consisting of running 1.5 miles for time. Five fitness categories (I-Very Poor, II-Poor, III-Fair, IV-Good, V-Excellent)

were established, and personnel were placed into one of the categories according to age and run test time. The Air Force goal was to have everyone achieve Category III or higher, but no specific pass or fail criteria were originally established.

The aerobics fitness categories established in AFP 50-56 corresponded to those established by Dr. Cooper. Cooper had previously found that a satisfactory level of fitness exists at oxygen consumption levels of 42.0 milliters of oxygen per kilogram of body weight per minute (ml/kg/min), which correspond to fitness Category IV (10:77-78). Concerning his fitness categories, Cooper stated:

> If you fall in one of the first three categories, you're not in very good condition. . . .In our tests, the first three categories get failing marks. Only Categories IV and V are considered passing.

A study of the aerobic test scores of incoming SOS students from 1969 through 1970 revealed that only 30 percent achieved Category IV or V upon arrival. However, the number of officers in Category IV or V increased to 81 percent following twelve weeks of structured training, indicating the improvement possible with a regular conditioning program (20:2). Official Air Force aerobics test results for 1970-1971 showed an average of 41 percent achieving Category IV or V (21:35).

In 1971, the Air Force established a remedial conditioning program for those who failed to achieve the "Fair" category, and in effect established Category III as the pass or fail standard (58:p.6-6).

In July 1972, the governing directive for the AF physical fitness program, AFM 50-15, was replaced by AFR 50-49. This regulation renamed the fitness categories (I-Poor, II-Fair, III-Average, IV-Good, V-Excellent), changed the required testing frequency from semi-annually to

annually, reduced the passing level from Category III to Category II, and exempted personnel over age 45 from the fitness testing requirement. The regulation also stated that women would be tested using the age group standards in the XBX program. Minimum, ideal, and maximum allowable weights based on height and age for males and females were also listed in AFR 50-49, and a remedial weight control program for overweight personnel was described (65:para 1 to para 13).

In April 1973, the Air Force issued a warning to overweight personnel, reminding them that commanders had the options to discharge, demote, and deny reenlistment to those exceeding maximum weight standards. The warning also stated that the weight standards listed in AFR 50-49 were:

> based on insurance tables which are liberal. They permit even more weight gain with age than is normally medically advisable [42:22].

The Air Force Surgeon General's office in May 1973 reported that a large number of personnel reporting for physiological training were being disqualified for excessive weight and respiratory ailments. Commanders were reminded of their responsibility for the physical fitness and weight control of the personnel under their command (52:12).

The directive governing AF physical fitness and weight control was changed again in 1977 from AFR 50-49 to AFR 35-11. The new regulation made no significant changes to the existing testing requirements, fitness standards, and maximum allowable weight standards.

Inspector General (IG) evaluations in 1977 indicated that many personnel were not participating regularly in physical activity and were performing the annual run test without proper conditioning and preparation.

An Air Force study group convened in September 1978 to study the Air Force physical fitness program and concluded that (5:12) "the Air Force does not have a viable program." The study group recommended an unsupervised conditioning program during off-duty hours for all personnel and an annual test. The recommendations did not result in any changes to AFR 35-11, and as Susi (52:22) observed, "The study group, it appears, recommended a program which they previously concluded was not viable."

A 1979 survey of 432 field grade officers (majors and lieutenant colonels) at Air Command and Staff College (ACSC) found that only 27 percent of the officers accumulated at least thirty aerobics points per week, 39 percent did not participate in any type of conditioning program at all, and 6 percent exceeded their maximum allowable weight (29:4). These results again highlighted a general lack of participation in a regular physical conditioning program.

A number of fatalities which occurred in conjunction with annual aerobics testing in 1978 and 1979 prompted the AF Surgeon General to recommend a significant change to AFR 35-11, a change which was implemented in January 1979 (55:1). According to this revision, personnel age 35 and over were required to be tested using the 3-mile walk instead of the 1.5-mile run. The change immediately became unpopular with affected personnel, and AFR 35-11 was changed again in 1980 to allow running by all personnel.

The problem of a less-than-desirable level of physical fitness in armed forces personnel was addressed by a DOD symposium convened in the spring of 1980. The symposium concluded that the three basic problems obstructing the goal of achieving and maintaining a higher level

of physical fitness and combat readiness in DOD personnel were personnel not understanding the relationship between exercise and fitness, lack of emphasis on testing, and the limited number of aerobic conditioning exercises (2:2).

Acting on recommendations from this symposium, the Department of Defense in June 1981 issued DOD Directive 1308.1, which contains the current DOD guidance for all services' physical fitness programs. The directive explains DOD policy concerning physical fitness (66:1):

> Physical fitness is a vital component of combat readiness and is essential to the general health and well-being of armed forces personnel.

In addition to cardiorespiratory endurance, the basis for the current aerobics program, the directive outlines physical fitness program standards pertaining to stamina, strength, flexibility, and body composition. The standards apply to service members of all ages regardless of military job.

In discussing the objectives of physical fitness training, DOD Directive 1308.1 states (66:Encl 2):

> Ideally, physical fitness training and activities should be designed to develop skills needed in combat, enhance cohesion in units, promote competitive spirit, develop positive attitudes toward exercise, and promote self-confidence and self-discipline. To achieve these ends, physical fitness programs must be carefully planned and supervised, follow the established principles of physical training, and involve the participation of all personnel.

To meet these objectives, the services are required to monitor annual physical fitness tests and report results to DOD, add strength and flexibility training to physical fitness programs, include all people over 40 years old in fitness programs, and make it part of their duty to meet fitness standards, include antismoking and drug and alcohol abuse drives in fitness programs, use percent body fat to measure

overweight personnel, and screen older people medically for cardiac problems and assign them to special physical fitness programs if necessary. Height-weight screening tables included in the directive list maximum allowable weights for males and females according to height and without regard to age.

Current Program. The Air Force implemented DOD 1308.1 with the revision of AFR 35-11 in July 1981. The objectives of the Air Force physical fitness program, as listed in AFR 35-11 (56:para 1a) are to:

1. Have a healthy and efficient military force.

2. Promote the well-being of all members without undue risk to their health.

3. Enhance the overall image of an effective military organization.

Specific objectives of the annual physical fitness test and the weight check are to (56:para 1e) "make sure that all members meet and maintain a reasonable level of physical fitness."

The regulation emphasizes that physical fitness and compliance with fitness standards are individual responsibilities, encourages participitation in year-round self-conditioning programs and activities, then states that participation in a regular physical conditioning program is voluntary. Members must be tested annually by either the 1.5-mile run, the 3-mile walk, or by stationary running. The passing standard for each test option is equivalent to aerobic fitness Category III.

The regulation contains extensive guidance for commanders in handling personnel who do not pass the physical fitness test or who are overweight. Instructions and nomograms, based on bicep size for males and forearm size for females, for making adjustments to maximum allowable

weights are also included in AFR 35-11. Strength and flexibility standards, among other DOD Directive 1308.1 requirements, have not yet been addressed by AFR 35-11.

In March 1982, the Air Force began testing a new procedure for measuring fitness based on a six-minute ride on a stationary bicycle (14:1). Work capacity, calculated using pulse readings at increasing workloads, coupled with weight measurements will give individuals a composite physical fitness score; the higher the composite score, the higher the overall physical fitness level. Final results and recommendations from the test program are expected in the fall of 1982 (8).

The Air Force physical fitness program has thus evolved from the three-paragraph guidance of AFR 50-5, through the 5BX and XBX programs, to the current aerobics program governed by AFR 35-11. The changes made to the program through the years were attempts to correct an overall ineffectiveness in meeting the objectives outlined for each particular physical fitness program.

Program Weaknesses. As the preceeding summary indicates, a number of researchers have expressed opinions on reasons for past and present program ineffectiveness. Research papers on physical fitness prepared from 1966 to the present time by officers attending Air Command and Staff College discuss the many possible reasons for the failure and the ineffectiveness of past and present AF physical fitness programs. A summary of problems and weaknesses in AF physical fitness programs as identified in ACSC research is presented in this section as a means of further delimiting the problem of overall program ineffectiveness and as a means of introducing possible factors influencing this ineffectiveness.

Lack of supervisory and command support for physical fitness in the Air Force is the most frequently identified weakness in past and present physical fitness programs. Bronson concluded in 1972 (7:28) that:

> Lack of top echelon support for physical fitness has caused the failure of past fitness programs, has severely limited the success of the present program, and will continue to hinder future programs.

Similarly, eight years later Lee (29:1) concluded that:

> It is obvious that the primary reason for the failure of the present program is lack of emphasis. From the Chief of Staff on down to the lowest supervisors, the AF leadership has made a series of conscious or unconscious decisions to divert monetary, personnel, and time resources to other activities in an attempt to meet pressing requirements.

Other research (20:47; 31:35; 45:vii) also identifies the failure of commanders and supervisors to stress, exemplify, and demand physical fitness and to expend time and resources on objectives, such as physical fitness, which they perceive as not directly related to their unit's mission.

Another weakness identified in AF physical fitness programs is a general lack of motivation for individual participation and improvement. Warren (68:25), Pericola (40:43), Phelps (41:3), and Hinman (20:47) cited the voluntary nature of the program and the lack of rewards, recognition, or incentive for participation as causes for low self-motivation. Hyde (21:55) blamed lack of self-motivation on the fitness program's characteristic failure to capitalize on the well-known benefits of increased esprit de corps and cooperation which result from group participation. Kenna (23:9) pointed out that except for those personnel in Category I and II, there is no incentive for seeking improvement in individual physical fitness.

The stated objectives of the AF physical fitness program are also identified as contributing to the overall ineffectiveness of the program. Lee (29:5) expressed the opinion that the current program objectives are geared to a peacetime mission, do not support the Air Force mission to "fly and fight," and are not designed to prepare individuals for wartime demands on the body. Susi (52:29) concluded that the program objectives place more emphasis on appearance and military image than on physical fitness.

Low physical fitness standards and testing requirements based on the vague objective of meeting and maintaining a "reasonable level of physical fitness" are also identified as a major weakness influencing the effectiveness of the AF physical fitness program. Several studies (18:34; 29:43; 46:31; 67:128) conclude that the annual testing requirement is not frequent enough to require regular physical conditioning, and the 1.5-mile run standards are so low that regular conditioning is not even necessary. Auwarter's summary (2:24) is representative:

> The 1.5-mile run test currently used by the Air Force is a very low standard which encourages what is known as the "gut it out" syndrome. The standards have been lowered to the point that many Air Force personnel attempt the annual test without any preparatory conditioning. . . .The present 1.5-mile jog presents so little challenge to the force that few prepare.

The testing program itself is also identified as a weak component in the AF physical fitness program. Hinman (20:18) questioned the accuracy of officially submitted test results and suggested that "pencil-whipping" annual physical fitness test scores may be a common occurence. Vandevender (67:2) concluded that many people avoid a regular running program because they simply do not like to run and suggested that methods of testing other than running or walking might encourage

more continuous participation in a physical fitness program. Other research (2:17-22; 29:5) concludes that the current testing method is too limited in that it tests only cardiovascular fitness and does not measure strength or flexibility.

Lack of education is identified in ACSC research as another significant weakness in AF physical fitness programs. Several studies (40:43; 45:67; 67:122) conclude that lack of education on the benefits, importance, and effects of exercise is an important factor influencing the low level of regular participation in individual physical fitness programs. Lee (29:5) observed that the present weight control program is directed at remedial correction and contains no provision for preventive education about proper diet and eating habits.

Another factor identified as contributing to the ineffectiveness of AF physical fitness programs is the lack of adequate physical fitness facilities on AF installations. Complete lack of facilities, poor condition and maintenance of existing facilities, and excessive distance from on-base quarters to fitness facilities are all cited (20:47; 29:1; 46:22) as factors contributing to low-level participation in regular physical fitness activities.

Another factor frequently identified in ACSC research is overall poor guidance for and administration of AF physical fitness programs. Specific weaknesses related to program administration are identified as "vague, disorganized, and out-of-date implementing regulations and pamphlets [29:5];" administration of the physical fitness program by unqualified personnel; and lack of central control of the overall physical fitness program (29:6-7).

As substantial as this this research on past and present program ineffectiveness is, it is nonetheless based primarily on opinion. There are presently no empirical data which assess the relationship between actual individual physical fitness level, as measured by an accepted, existing Air Force standard, and the variables of sex, age, weight, rank, flying status, annual physical fitness test score, supervisory support, and the availability, adequacy, and use of installation physical fitness facilities. It is to fill this need for empirical evidence upon which to base future improvements to the AF physical fitness and weight control program that the current study was undertaken.

Before the findings of this research are presented, however, it will be useful to examine other significant studies of military fitness, paying particular attention to the findings of those investigations.

Variables Affecting Individual Physical Fitness

Fitness Level and Physical Fitness Tests

The earliest available literature on military physical fitness testing research describes a study by Karpovich in 1943 in which 122 Army pre-flight aviation students at San Antonio Aviation Cadet Center were tested and retested four days later using the Army Air Force Physical Fitness Test (AAF PFT). The test consisted of pullups, situps, and a 300-yard shuttle run. Results showed a high degree of correlation ($r=+0.85$) between the Physical Fitness Rating (PFR) of individuals in the two tests, indicating that the AAF PFT was at least consistent in its rating of physical fitness based on the three component activities (22:1-2).

Another early study by Weiss in 1944 also involved the AAF PFT. Weiss tested 4,172 men entering military service at seven AAF Basic Training Centers and reported their mean scores for pullups, situps, shuttle run, and PFR. He concluded that personnel entering the Army Air Force were strongest in endurance of abdominal muscles, next strongest in endurance and speed, and weakest in arm and shoulder strength when test results were compared with those of other AAF personnel (69:1-2).

Bean et al. in 1947 analyzed data on physical fitness as measured by the Harvard Step Test, the Navy Step Test, the Army Ground Forces Test, and the Army Air Force Physical Fitness Test for 1,000 men 18 to 41 years of age. The research concluded that none of the tests were satisfactory for discriminating between degrees of individual physical fitness (4:1-2). Further, researchers found that the AAF PFT measured endurance only over very short periods in the situp and pullup tests and that overall the AAF PFT "does not really tax the performer [4:33]." As was previously discussed, use of the AAF PFT was discontinued for Air Force personnel when the Air Force became a separate service in 1947.

Early physical fitness tests (the AAF PFT being of greatest interest in the present research) tended to measure muscular strength and endurance by using basic calisthenic exercises and short shuttle runs or step tests. Differences among tests and lack of a "common denominator" in relating test components made results difficult to compare and did not provide an accurate indication of the physical fitness of the force.

The Balke and Ware study previously discussed is significant for

its approach to measuring physical fitness. Balke and Ware tested 500 males walking on a treadmill at a constant rate of 3.3 miles per hour. The treadmill was elevated one percent each minute, and the test was continued until a heart rate of 180 beats per minute was recorded. The researchers found that maximum oxygen intake measured in ml/kg/min was the most satisfactory means of describing work capacity (3:2-5). Balke and Ware correlated their measurements of maximum oxygen consumption with a suggested physical working capacity rating. Their arbitrary scale was based on test results, on physiologic considerations, and on observations of men at various stages of physical training. From the test results participants were placed into one of three categories: "poor or lower," "fair," and "good or better." The results of the Balke and Ware study, summarized in Table 2.1, indicate that only 18 percent of the test population had a "good or better" work capacity rating.

TABLE 2.1

Balke and Ware Correlation of Work Capacity Rating With Oxygen Intake

Rating of work capacity	Oxygen intake (ml/kg/min)	Percent of test population (N=500)
Inferior	-25	
Very poor	25-30	42
Poor	30-35	
Fair	35-40	40
Good	40-45	
Very good	45-50	18
Excellent	50-55	
Superior	55+	

Source 3:5

Interesting comparisons can be made between the Balke and Ware study and later research by Cooper. The treadmill test used by Cooper in his initial research and used today at the Cooper Clinic in Dallas, Texas is, with only slight modifications, the same test used by Balke and Ware in 1959. In fact, the test is now known as the Balke Treadmill Test (10:17). As a result of his more extensive research, Cooper was able to establish oxygen consumption rates based on age groups for his five fitness categories. Oxygen consumption rates compare quite favorably between the Cooper aerobic fitness categories and the Balke and Ware work capacity ratings. Therefore, maximum oxygen consumption is the common denominator for comparing the results of physical fitness tests conducted by Balke and Ware and by Cooper. The "good or better" categories established by Balke and Ware and by Cooper are roughly equivalent when compared using the 40 ml/kg/min oxygen intake level as the minimum criteria. Results of Cooper's research show that 35.7 percent of the test population achieved the "good or better" category. Table 2.2 shows the results of Cooper's study of 5,267 men through 1977.

TABLE 2.2

Cooper's Correlation of Aerobic Fitness Category and Oxygen Consumption for Different Age Groups

	Oxygen consumption (ml/kg/min)[a]				Percent of test population[b] (N=5,267 males)
	Age				
Fitness Category	Under 30	30-39	40-49	50+	
I. Very poor	-25.0	-25.0	-25.0	-25.0	13.8
II. Poor	25.0-33.7	25.0-30.1	25.0-26.4	-25.0	19.8
III. Fair	33.8-42.5	30.2-39.1	26.5-35.4	25.1-33.7	29.6
IV. Good	42.6-51.5	39.2-48.0	35.5-45.0	33.8-43.0	19.7
V. Excellent	51.6+	48.1+	45.0+	43.1+	17.1

[a]Source 11:28 [b]Source 10:23

Following his extensive laboratory research using the treadmill, Cooper devised a field test to measure aerobic capacity. He found that the distance covered by running for exactly twelve minutes correlated very accurately (r=0.90) with treadmill measurements of oxygen consumption and aerobic capacity (11:29). Cooper then developed distance standards based on age groups for each of the five fitness categories.

In attempting to evaluate the physical fitness of large numbers of people, Cooper found the 12-minute test unsatisfactory because of the requirement to accurately measure the distance covered. Therefore, in order to simplify the administration of the test to large groups, he developed the 1.5-mile run test and related the time required to run 1.5 miles to age groups for each aerobic fitness category. Cooper's most current 1.5-mile run test standards are included in Table 2.3. For purposes of comparison, the 1.5-mile run test standards as listed in AFP 50-56 for USAF males are listed in Table 2.4. Cooper's standards, when compared with AF standards, include six instead of five categories, use different category names, use larger age group ranges, and generally require faster run times to achieve the equivalent fitness category. The current Air Force standard as required by AFR 35-11 is Category III or higher (the Category III in Table 2.4).

Of particular interest is Cooper's correlation of fitness category and weekly aerobic point total. Using measurements of oxygen consumption for all the aerobic activities, Cooper was able to accurately correlate weekly aerobic point totals with aerobic fitness category. This correspondence is presented in Table 2.5. This table shows, for example, the correspondence between 30 aerobic points per week and achievement of the "good" category, both considered minimum levels of acceptable fitness by Cooper (9:36,41).

TABLE 2.3

Cooper's Age Group Standards (Male) for the 1.5-Mile Run Test

	Run test time (minutes)					
	Age					
Fitness Category	13-19	20-29	30-39	40-49	50-59	60+
I. Very poor	15:31+	16:01+	16:31+	17:31+	19:01+	20:01+
II. Poor	12:11- 15:30	14:01- 16:00	14:46- 16:30	15:36- 17:30	17:01- 19:00	19:01- 20:00
III. Fair	10:49- 12:10	12:01- 14:00	12:31- 14:45	13:01- 15:35	14:31- 17:00	16:16- 19:00
IV. Good	9:41- 10:48	10:46- 12:00	11:01- 12:30	11:31- 13:00	12:31- 14:30	14:00- 16:15
V. Excellent	8:37- 9:40	9:45- 10:45	10:00- 11:00	10:30- 11:30	11:00- 12:30	11:15- 13:59
VI. Superior	-8:37	-9:45	-10:00	-10:30	-11:00	-11:15

Source 10:89

TABLE 2.4

AFP 50-56 Age Group Standards (Male) for the 1.5-Mile Run Test

	Run test time (minutes)					
	Age					
Fitness Category	17-29	30-34	35-39	40-44	45-49	50+
I. Poor	16:31+	17:01+	17:31+	18:01+	18:31+	19:01+
II. Fair	14:31- 16:30	15:01- 17:00	15:31- 17:30	16:01- 18:00	16:31- 18:30	17:01- 19:00
III. Average	12:01- 14:30	12:31- 15:00	13:01- 15:30	13:31- 16:00	14:01- 16:30	14:31- 17:00
IV. Good	10:16- 12:00	10:31- 12:30	10:46- 13:00	11:01- 13:30	11:16- 14:00	11:31- 14:30
V. Excellent	-10:15	-10:30	-10:45	-11:00	-11:15	-11:30

Source 64:7

TABLE 2.5

Correlation of Aerobic Fitness Category and Weekly Aerobic Point Total

Fitness Category	Weekly aerobic points
I. Very poor	0
II. Poor	1-14
III. Fair	15-29
IV. Good	30-50
V. Excellent	50+

Source 10:94

In his study of 411 USAF male junior officers attending Squadron Officer School from September to November 1973, Susi (52:36) found that the officers were distributed into fitness categories as shown in Table 2.6. Of particular interest is the finding that 63 percent of the test population fell into the good or better category. This represented a substantial improvement over the findings shown in Table 2.1 and Table 2.2. Results of Susi's study should be interpreted with caution, however, as the junior officers sampled may not be representative of the entire Air Force population.

Physical Fitness and Sex Differences

In a study of men and women entering the Army in 1977, Kowal found that the average woman entering the Army has about half the arm and shoulder strength and about three-fourths the leg strength of the average male recruit (26:13). Kowal also found, perhaps more significantly, that when women engage in strength or aerobic training programs, their absolute increase in work capacity is similar to that of males (26:18).

TABLE 2.6

Fitness Category Distribution for 411 Male Junior Officers Attending Squadron Officer School

Fitness Category	Number of officers	Percent
I. Poor	8	2
II. Fair	9	2
III. Average	135	33
IV. Good	208	51
V. Excellent	51	12
Total	411	100

Source 52:36

Research by Wilmore (73:54) points out that although the average woman has a slightly lower physical fitness level than does the average man in all major components of fitness except flexibility, this difference is more likely due to cultural patterns than to biological differences. Wilmore also concluded that upper body strength is also the biggest difference between male and female physical fitness among the general American population. After studying male and female distance runners and finding that endurance fitness is comparable in males and females when differences in body weight are taken into account, Wilmore concluded (73:58):

> Because of these similarities, and because their needs are essentially the same, there is little reason to advocate different training or conditioning methods based on sex.

Current Air Force physical fitness policies recognize differences in sex by awarding different numbers of aerobic points to males and females for the same aerobic activity (62:66-73). Also, the minimum performance necessary to achieve Category III is different for males and

females in each age group. Cooper makes allowances for females in his 1.5-mile run standards but does not differentiate between male and female aerobic points. Air Force minimum physical fitness standards for males and for females for each of the fitness test options are shown in Table 2.7.

TABLE 2.7

Air Force Minimum Physical Fitness Standards

Age (years)	Time (minutes)					
	Running 1.5 miles		Walking 3 miles		Stationary running	
	Male	Female	Male	Female	Male	Female
17-29	14:30	15:36	40:54	43:52	19:00	17:40
30-34	15:00	16:05	42:04	45:10	17:00	15:50
35-39	15:30	16:40	43:15	46:29	15:45	14:40
40-44	16:00	17:10	44:25	47:44	14:30	13:30
45-49	16:30	17:45	45:34	48:55	13:15	12:20
50+	17:00	18:15	48:19	52:02	12:00	11:10

Source 56:19

Physical Fitness and Age Differences

Research generally supports the expectation that aging causes a progressive decrease in physical working capacity. Bean et al. found that age was negatively correlated with fitness score in each of the four physical fitness tests compared in their 1947 study; they also found (4:23) that:

> Insofar as the improvement in score indicates enhanced fitness it may be said that the effect of age is not noticed in trained men as early as in untrained men.

Balke and Ware noted that aerobic working capacity generally decreased with age but that the decrease was affected far more by living habits. After dividing their subjects into groups ("not active," "intermittently active," and "regularly active") based on the subjects' descriptions of their routine physical activity, the researchers concluded (3:6) that:

> Results for the group with regular physical activity demonstrate that a high level of capacity for aerobic work can be maintained as one grows older.

Current Air Force minimum physical fitness standards make allowances for increasing age as is also shown in Table 2.7.

Physical Fitness and Weight Differences

Very little research was found which relates physical fitness to weight standards among military personnel. Balke and Ware divided their test population into groups of "underweight," "normal weight," and "overweight" individuals. "Normal" weight was arbitrarily considered to be that weight which was within 90 to 100 percent of body height in centimeters minus 100 centimeters (3:7). When weight groups were correlated with treadmill test results, Balke and Ware found a slightly poorer working capacity among the overweight group when compared with the normal and underweight groups. Also, based on their weight categories, Balke and Ware found that 25 percent of the test population were underweight, 42 percent were in the normal range, and 33 percent were overweight (3:7).

Susi also made a basic comparison between physical fitness and weight standards in his study of 30S students. Using the weight standards listed in AFR 50-49, he grouped the students relative to the "ideal"

weight listed for each height. The weight groups used were "below ideal," "within ideal," "above ideal," and "above maximum." Susi then correlated aerobic fitness categories with weight groups for each student. He found, in general, a higher percentage of "above ideal" and "above maximum" weight students in Category I and II than in Category III and higher, suggesting a negative correlation between adherence to AF weight standards and physical fitness (52:36). Susi's correlation between weight and physical fitness is shown in Table 2.8.

TABLE 2.8

Correlation of Weight and Physical Fitness Category

Fitness Category	Total officers in each category	Above "ideal" weight		Above "maximum" weight	
		Number	Percent	Number	Percent
I. Poor	8	4	50	0	0
II. Fair	9	7	78	3	33
III. Average	135	66	49	20	15
IV. Good	208	76	37	25	12
V. Excellent	51	11	22	0	0

Source 52:36

The Air Force weight standards listed in AFR 50-49 and in subsequent directives until the 1981 revision to AFR 35-11 all made allowances for increased weight with age, consistent with the research of Pollack (43:12) which confirmed the:

> natural tendency of the body to convert 0.25 to 0.50 pounds of lean muscle or bone tissue to fat each year after about twenty-five years of age.

AFR 35-11 currently makes no allowances for increased age in specifying

maximum allowable weights. Standards are based only on height. The maximum allowable weights for males listed in AFR 35-11 are identical to the previous maximum weights allowed for 26-30 year old males listed in AFR 50-49. Current maximum allowable weights for females are generally one to six pounds greater than the maximum weight allowed for women 41 years and older listed in AFR 50-49.

Physical Fitness and Rank Differences

The only previous research encountered which relates physical fitness to military rank was that of Balke and Ware. They found only slight differences in mean test duration on the treadmill and mean oxygen consumption among civilian, airman, non-commissioned officer (NCO), and officer groups (3:7). Results of the Balke and Ware research, shown in Table 2.9, suggest that rank has a very minimal effect on physical fitness level.

TABLE 2.9

Correlation of Rank and Physical Fitness Measurements

Rank	Physical fitness measurement	
	Average treadmill test duration (min)	Average maximum oxygen consumption (ml/kg/min)
Civilian	15.6	38.0
Airman	15.4	37.5
Officer	14.9	36.7
NCO	14.5	36.0

Source 3:7

Physical Fitness and Flying Status

Again, very little previous research was found which investigated physical fitness in relation to flying status of military personnel. One study, however, relates flying status indirectly to physical fitness through evaluation of individual health records. Rossing and Allen conducted a study on the health of flight crew members by using a sample taken from 6,000 Strategic Air Command (SAC) flight crew medical records during 1969 and 1970. Results of their study were somewhat surprising considering that one would expect personnel on flying status to be in generally better health and physical condition than personnel of the general Air Force population. Rossing and Allen (48:936-938) found that heart disease was the leading cause of death and was one of the leading causes of permanent disability and retirement among SAC crew members. Furthermore, they found that cardiovascular disease and hypertension, both fairly well-accepted indicators of poor physical fitness, accounted for 50 percent of the groundings of crew members for periods of 30 days or more. Their research suggests that personnel on flying status may be in no better health or physical condition than those who are not.

Physical Fitness, Supervisory Support, and Fitness Facilities

Although lack of supervisory support and lack of physical fitness facilities were both frequently cited as significant factors contributing to the ineffectiveness of the AF physical fitness program, no empirical evidence was found which specifically relates AF physical fitness to supervisory support or to physical fitness facilities.

Considerable information is available, however, which describes physical fitness programs in the business world. Common characteristics of the programs are management support and the provision of physical fitness facilities for employees.

In concert with the general trend towards a greater concern for physical fitness in the United Stanes, leaders in business and industry since 1970 have increasingly encouraged greater physical fitness among employees. Industry leaders such as US Plywood, Union Carbide, Xerox, Continental Can, Phillips Petroleum, Kimberly-Clark, Metropolitan Life, Lockheed, Boeing, General Foods, Texaco, and Firestone are among the many companies and corporations that currently have organized employee physical fitness programs (23:13). A number of articles (6:55; 15:465-467; 32:68-69; 50:8; 70:16) describe typical business physical fitness programs and employee physical fitness facilities. Programs range from encouraging employees to participate in physical activities on their own time to allowing employees to use company facilities during working hours. Facilities made available by employers range from subsidized memberships in YMCAs and health clubs to multi-million dollar company-owned and operated physical fitness complexes. Program leadership techniques range from use of interested employees as leaders to employment of full-time physical fitness directors (15:465-466; 28:343).

The strong support for physical fitness programs by business management is motivated by an impressive list of tangible benefits: more productive employees, decreased absenteeism due to health problems, reduced health insurance claims, and reduced health insurance costs paid by the employer (16:12-14; 19:53-54; 28:343; 53:83). Strong management support is the key to the success of the employee physical fitness

programs in business and industry (23:15). Available literature strongly suggests that employee physical fitness has increased as a result of actions by business and industry management to support physical fitness programs and to provide suitable physical fitness facilities.

In summary, this chapter has presented research findings which identify lack of adequate physical fitness as a past and present problem among the American people, among the military, and more specifically among members of the United States Air Force. A history of AF physical fitness programs was presented with the purpose of providing a perspective for the better understanding of those variables most significantly influencing overall program effectiveness. Previous AF research was unanimous in finding past and present AF physical fitness programs ineffective in maintaining reasonable physical fitness among AF members. Finally, a summary of research on significant variables which specifically affect AF physical fitness was presented with the purpose of establishing a baseline of existing knowledge to be augmented by the results of this study.

CHAPTER III

METHODOLOGY

Chapter Overview

This chapter describes the methodology used to accomplish the research objectives and answer the research questions listed in Chapter I. This section describes the population and the sample from which data were collected, the survey instrument used to collect the data, the procedures used to process the data, and the computer programs and statistical tests employed to analyze the data and answer the research questions.

Population

The population of interest in this research consisted of all active duty members of the United States Air Force assigned to CONUS Department of Defense installations. The population was limited to members assigned to CONUS installations because of the difficulties involved in mailing survey questionnaires to and receiving questionnaires back from personnel assigned to overseas locations. While this limitation restricted generalization of results to CONUS members, similar results could be predicted from overseas members because the survey instrument was designed to solicit personal information and opinion not dependent on location. Official Air Force figures show that the current total number of active duty Air Force members is 565,887 (502,943 males and 62,944 females). Of this total, 114,197 members are serving at overseas locations (41:172-173). The population included

male and female members ranging in enlisted rank from airman basic (E-1) to chief master sergeant (E-9) and in officer rank from second lieutenant (O-1) to general (O-10). The population included personnel with military service experience ranging from zero to forty years and serving in all Air Force Speciality Codes. Attributes of the population measured in this research included sex, age, height, weight, rank, flying status, annual physical fitness test score, frequency and intensity of participation in aerobic activities, opinions on supervisory support for physical fitness activities, opinions on the adequacy of installation physical fitness facilities, opinions on new AF weight standards, and suggestions for improving the existing AF physical fitness and weight control program.

Sample

The sample from which data were collected for this research was taken from the Air Force population. The Personnel Survey Branch, Air Force Manpower and Personnel Center (AFMPC/MPCYPS) was most helpful in selecting and providing a random sample of Air Force members from the CONUS population. The sample size was selected by AFMPC based on its own procedures for the intended population and was sufficient to allow for a 95 percent confidence level (39). The sample size selected by AFMPC totaled 1,598 personnel, which included 712 officer and 886 enlisted AF members. The sample included males and females of all ranks except colonels and generals.

Survey Instrument

A survey questionnaire was used in this research to collect data from which to answer the stated research questions. No existing questionnaire was found which would provide the needed data, so a new questionnaire was designed specifically for this research. The proposed questionnaire was pretested for content validity on 25 male captains and lieutenants enrolled in the graduate engineering management program of the School of Systems and Logistics, Air Force Institute of Technology (AFIT), Wright-Patterson AFB OH. Several minor revisions in the content and format of the questionnaire were made as a result of this test. The questionnaire was then submitted to the Personnael Survey Branch, AFMPC, and, after several more minor revisions, was approved and assigned USAF Survey Control Number 82-26 with expiration date 31 August 1982. The survey questionnaire asked for anonymous responses and solocited non-threatening information known to the respondent. These characteristics supported the assumption of questionnaire reliability.

Military address mailing labels were provided by AFMPC for all personnel selected in the sample. The four-page survey questionnaire, a cover letter introducing the survey and signed by the acting dean of the AFIT School of Systems and Logistics, a Privacy Act Statement, and a preaddressed return envelope were mailed to each person for whom an address label was provided. The mailing labels provided by AFMPC contained the names of six officer and three enlisted personnel with "masked" addresses because of the classified nature of their duty location. These names were discarded from the sample. The small number discarded was assumed to have no significant effect on the sample size.

The total number of survey questionnaires mailed was 1,589, which included mailings to 706 officer and 883 enlisted personnel. A copy of the survey questionnaire, the cover letter, and the Privacy Act Statement are included in Appendix A.

Although designed primarily for the purpose of soliciting data, the questionnaire also included features of format designed to encourage maximum response. The factors of appearance, content, length, and simplicity discussed by Parten (38:384-385) were considered in the questionnaire design. Respondents were guaranteed anonymity and were asked for their truthful and candid answers. Answers were to be marked directly on the questionnaire itself and not on a separate optical scan answer sheet. Questions were widely-spaced on each page, and pages were printed on one side only. Questions asked for simple numerical data or for a choice among several alternatives. Space was provided on the last page of the questionnaire for additional comments.

Data Processing

1,080 usable survey questionnaires were returned out of the original 1,589 mailed, a 68.5 percent response rate. AFMPC officials indicated that the average response rate for Air Force surveys is approximately 60 percent (39).

Responses to each question on the questionnaires returned were converted to numerical values, and the complete set of values for each case was entered into a computer data file, compiled using the Harris 500 computer system. Appendix B contains a complete listing of the 1,080 computer data file cases. A key that relates the numerical values

in each column of the data file to responses on the questionnaire is also included in Appendix B.

A fitness category was assigned for each case based on sex (Question 1), age (Question 2), and annual physical fitness test time (Question 7 or 8), using the standards listed in AFP 50-56 (also reproduced in Table 2.4) for males and AFP 35-57 for females. The individual aerobic fitness category assigned for each case appears in the ninth column of the data file.

Weekly aerobic points were calculated for each case based on sex (Question 1) and on responses to Questions 9a through 9e and Question 10 using the aerobic point values for those activities listed in AFP 50-56 for males and AFP 35-57 for females. Weekly aerobic points for each activity are listed in columns 10 through 15 of the data file.

Evaluation of a sample of the opinions expressed on the new weight standards of AFR 35-11 led to the formulation of six categories of response for Question 16. Each opinion was read, evaluated, and assigned to the category most closely describing its intent. Opinion categories for each case are listed in column 23 of the data file.

Similarly, seven categories of response were formulated for suggested program improvements solicited in Question 17. Each suggestion was read, evaluated, and assigned to the category most closely describing its intent. Suggestion categories for each case are listed in column 24 of the data file.

Data Analysis

Once stored in the computer data file, the data from the survey

questionnaires were analyzed using the computer program Statistical Package for the Social Sciences (SPSS). Because of the large sample size, the Central Limit Theorem was assumed to apply in this research, and all data were assumed to be normally distributed. The Central Limit Theorem states (32:198):

> For large sample sizes, the mean $\bar{x}$ of a sample from a population with mean μ and standard deviation σ has a sampling distribution that is approximately normal, regardless of the probability distribution of the sampled population. The larger the sample size, the better will be the normal approximation to the sampling distribution of $\bar{x}$.

The specific SPSS subprograms used to answer the research questions are briefly described below.

FREQUENCIES. Frequency of response to each question on the nominal or ordinal level was examined using the subprogram FREQUENCIES. Numbers and percentages of responses in each category of each question were computed for males and for females. This subprogram was used for Questions 1, 2, 5, 6, 11, 12, 13, 14, 15, 16, 17, and for individual fitness category. Using a series of IF statements, the computer assigned each case to a weight category ("below ideal," "within ideal," "above ideal," and "above maximum") based on the standards listed in AFR 50-56 for males and AFR 35-57 for females. Weight category was also analyzed using the subprogram FREQUENCIES. Using a series of COMPUTE statements, the computer added together the weekly aerobic points previously calculated for each activity listed in Question 9 and 10 and assigned a total aerobic points per week score to each case. These weekly aerobic point totals were further grouped into categories (0 points, 1-29 points, and 30+ points) and analyzed using the subprogram FREQUENCIES.

CONDESCRIPTIVE. Each survey question involving interval or ratio data was analyzed using the subprogram CONDESCRIPTIVE. The mean, standard

deviation, standard error, and minimum and maximum values were computed for the values reported in Questions 3, 4, 7, 9a through 9e, 10, and the computed weekly aerobic point total.

CROSSTABS. Contingency table analysis, using the subprogram CROSSTABS, was used to examine the possible relationships listed in the research questions. Specifically, the dependent variable of individual aerobic fitness level, derived from the weekly aerobic point total, and each of the independent variables (sex, age, weight, rank, flying status, annual physical fitness test score, supervisory support, and facility availability, use, and adequacy) were arranged in a contingency table, and a chi-square value and probability were computed for each relationship. The null hypothesis that the variables in question are independent was tested using the chi-square statistic and its probability values. A 95 percent confidence level was used in testing all hypotheses. If the probability of obtaining a given chi-square value was 0.0500 or less, then the null hypothesis was rejected with 95 percent confidence, indicating the likelihood that the variables are dependent on each other. In general, the greater the probability value in relation to the desired level of confidence, the greater the likelihood of statistical independence between the variables. Conversely, the smaller the probability in relation to the desired confidence level, the greater the likelihood of statistical dependence between the variables. Because the CROSSTABS subprogram directly computes probability values, the null hypothesis can be readily evaluated at any desired level of confidence. The chi-square statistic indicates only whether the variables are independent or dependent but does not tell how strongly they are related (35:224).

ONEWAY. The subprogram ONEWAY was used to compare the mean

weekly aerobic point totals of the respondents in the different categories of each independent variable. ONEWAY computed the F ratio and its probability values, which were used to test the null hypothesis that the mean weekly aerobic point totals for different categories were equal. If the probability of obtaining a given F ratio was 0.0500 or less, the null hypothesis was rejected with 95 percent confidence, indicating the likelihood that a difference exists among the categories being considered. Because the ONEWAY subprogram also directly computes probability values, the null hypothesis can be readily evaluated at any desired level of confidence.

DUNCAN. The DUNCAN multiple range test was used to analyze those variables with more than two categories of response (Questions 2, 5, 14, 15, 16, 17, and individual fitness level and weight category). DUNCAN grouped into subsets those categories of response with total weekly aerobic point means significantly similar at the 0.0500 level. DUNCAN becomes less exact and subset groupings become questionable as group sizes become more unequal.

T-TEST. The null hypothesis that the means of two-category variables (Questions 1, 6, 11, 12, and 13) are equal was tested using the t statistic and its probability values computed with the subprogram T-TEST. If the probability of obtaining a given t value was 0.0500 or less, the null hypothesis was rejected with 95 percent confidence, indicating the likelihood that a difference exists between the variables. Again, because T-TEST directly computes probability values, the null hypothesis can be evaluated at any desired level of confidence.

The subprograms FREQUENCIES and CONDESCRIPTIVE were used to compute the descriptive statistics presented in Chapter IV for the data collected in the survey questionnaire.

The subprograms CROSSTABS, ONEWAY, DUNCAN, and T-TEST were used to compute the chi-square, F ratio, and t statistics which were employed in Chapter V to answer the research questions of this study.

CHAPTER IV

RESULTS

Chapter Overview

This chapter presents the descriptive statistics, computed using the subprograms FREQUENCIES and CONDESCRIPTIVE described in Chapter III, for the data collected by the survey questionnaire. Statistics are reported separately for males and females. Because of the different aerobic point values used in calculating individual fitness level, the different weight standards, and the different annual fitness test standards used for males and females, any statistics based on combined male and female responses would not represent a meaningful assessment of the combined sample. Descriptive statistics are presented for the responses to each question in the survey questionnaire as well as for those additional variables computed for each case by the author (individual fitness category and aerobic points for each activity) and by the computer, using IF and COMPUTE statements (weight category and total aerobic points per week).

Presentation of Findings

Demographic Data

Survey Question 1. Table 4.1 shows the sex distribution of survey respondents.

Survey Question 2. The age groupings used in the questionnaire correspond to the age groups used by the Air Force in AFR 35-11, AFP 50-56, and AFP 35-57. These groups differ slightly from those used in the standards established by Dr. Cooper. However, adjacent pairs of Air Force

TABLE 4.1

Distribution by Sex of Survey Respondents

Sex	Number	Percent
1. Male	968	89.6
2. Female	112	10.4
Total	1080	

age groups can be combined in order to permit basic comparison with Cooper's age groups. Differences in the two age group schemes are best demonstrated by comparing the age groups shown in Table 2.3 and Table 2.4. The age group distribution of survey respondents is shown in Table 4.2.

TABLE 4.2

Age Group Distribution of Survey Respondents

Age group (years)	Male		Female	
	Number	Percent	Number	Percent
1. 17-29	424	43.8	92	82.1
2. 30-34	216	22.3	10	8.9
3. 35-39	200	20.7	8	7.1
4. 40-44	104	10.7	1	0.9
5. 45-49	19	2.0	1	0.9
6. 50+	5	0.5	0	0.0
Total	968		112	

Survey Questions 3 and 4. All fractional measurements of height reported on the questionnaire were rounded to the nearest whole inch before being entered into the data file. Similarly, weight measurements

were rounded to the nearest pound. Table 4.3 describes the height and weight characteristics of the survey respondents. Using height, weight, and sex data, the computer assigned each respondent to one of four weight categories based on the weight tables in AFP 50-56 for males and AFP 35-57 for females. The maximum weight used from each weight table corresponds to the current maximum allowable weight for males and for females listed in AFR 35-11. Table 4.4 shows the weight category distribution of survey respondents. Those respondents whose height exceeds the maximum values listed in the weight tables are not included in Table 4.4.

TABLE 4.3

Height and Weight Characteristics of Survey Respondents

	N	Mean	Standard deviation	Standard error	Minimum	Maximum
Height (inches)						
Male	968	70.579	2.730	0.088	59	81
Female	112	64.973	2.791	0.264	60	73
Weight (pounds)						
Male	968	178.082	21.581	0.694	112	287
Female	112	131.241	19.734	1.865	100	200

TABLE 4.4

Weight Category Distribution of Survey Respondents

	Male		Female	
Weight Category	Number	Percent	Number	Percent
1. Below ideal	168	17.4	4	3.6
2. Within ideal	364	37.7	40	36.0
3. Above ideal	380	39.3	52	46.8
4. Above maximum	54	5.6	15	13.5
Total	966		111	

Survey Question 5. The computer assigned each respondent to one of five rank categories based on the following criteria:

Category	Reported rank
Airman	E-1 through E-3
NCO	E-4 through E-6
Senior NCO	E-7 through E-9
Company grade officer	O-1 through O-3
Field grade officer	O-4 through O-5

Respondents who reported their rank as senior airman (E-4) were classified as NCOs. Table 4.5 shows the rank distribution for the rank categories described and also for combined officer and enlisted categories.

TABLE 4.5

Distribution By Rank Category of Survey Respondents

Rank category	Male		Female	
	Number	Percent	Number	Percent
1. Airman	112	11.6	29	25.9
2. NCO	306	31.6	35	31.3
3. Senior NCO	75	7.7	3	2.7
4. Company grade officer	283	29.2	43	38.4
5. Field grade officer	192	19.8	2	1.8
Total	968		112	
Enlisted	493	50.9	67	59.8
Officer	475	49.1	45	40.2
Total	968		112	

Survey Question 6. Survey question 6 identified those respondents whose military duties routinely include participation in flying activity. Personnel in Air Force Speciality Codes (AFSCs) requiring flight duty include pilots, copilots, navigators, flight nurses, medical technicians, weapons controllers, loadmasters, flight engineers, boom operators, tail gunners, and other operations, maintenance, and support specialists. Personnel on flying status are medically screened more thoroughly and more frequently than non-flying personnel. Table 4.6 shows the flying status distribution of survey respondents.

TABLE 4.6

Distribution by Flying Status of Survey Respondents

Flying status	Male		Female	
	Number	Percent	Number	Percent
1. Yes	217	22.4	6	5.4
2. No	751	77.6	106	94.6
Total	968		112	

Performance and Activity Data

Survey Questions 7 and 8. The run test times listed on the questionnaire were selected so that respondents could be conveniently assigned by the author to an aerobic fitness category based on the age group standards listed in AFP 50-56 for males and AFP 35-57 for females. Thirty-second intervals were chosen so that responses could be assumed to be reasonably accurate to within plus or minus fifteen seconds. Respondents who performed the 3-mile walk or the stationary run test were assigned to either fitness Category II or III based on current standards

listed in AFR 35-11 and reproduced in Table 2.7. Table 4.7 lists the characteristics of the 1.5 mile run test times, and Table 4.8 shows the fitness test and fitness category distribution of survey respondents.

TABLE 4.7

Characteristics of Respondents' 1.5-Mile Run Test Times

	N	Minutes				
		Mean	Standard deviation	Standard error	Minimum	Maximum
Male	839	11.831	1.889	0.065	9.0	18.5
Female	81	13.426	1.732	0.192	9.0	17.5

TABLE 4.8

Distribution of Survey Respondents by Fitness Test and Fitness Category

	Male		Female	
	Number	Percent	Number	Percent
Type of fitness test				
1. No test	59	6.1	14	12.5
2. 3-mile walk/ stationary run test	70	7.2	17	15.2
3. 1.5-mile run test	839	86.6	81	72.3
Total	968		112	
Fitness category				
I. Poor	6	0.7	2	2.0
II. Fair	25	2.7	5	5.1
III. Average	277	30.5	60	61.2
IV. Good	364	40.0	24	24.5
V. Excellent	237	26.1	7	7.2
Total	909		98	

Survey Questions 9 and 10. Weekly aerobic points, based on responses to questions 9 and 10, were calculated by the author for each respondent, using the aerobic point charts from AFP 50-56 and AFP 35-57. Interpolations were made for those reported distances, times, and durations which did not appear exactly in the point charts. Points were awarded in question 10 only for those activities listed in the AF aerobic point charts (badminton, football, golf, soccer, rope skipping, rowing, skating, skiing, tennis, and volleyball). Respondents received no points for reported participation in softball, bowling, dancing. judo, karate, weightlifting, bodybuilding, and other non-listed activities. Using the weekly aerobic points for each respondent's reported activity, the computer calculated a weekly aerobic point total for each respondent. Statistics describing the aerobic points for each activity and the total aerobic points for all respondents are shown in Table 4.9. The computer also assigned respondents to one of three aerobic fitness levels (0 points, 1-29 points, and 30+ points per week) based on weekly total aerobic points. Table 4.10 shows the distribution of survey respondents by aerobic fitness level.

Supervisory Support Data

Survey Questions 11, 12, and 13. Questions 11 and 13 collected respondents' opinions on whether or not their immediate supervisor and their unit commander supported or encouraged participation in physical activities. Question 12 identified those respondents whose supervisors allowed participation in physical activities during normal duty hours. Participation during the lunch hour, if specifically mentioned on a questionnaire, was considered as duty hour participation. A third

TABLE 4.9

Characteristics of Aerobic Activity Points Earned by Survey Respondents

N=968 (Male) N=112 (Female)	Survey question number	Aerobic points per week				
		Mean	Standard deviation	Standard error	Minimum	Maximum
Running	9a					
Male		16.261	29.923	0.962	0	250
Female		11.312	25.136	2.375	0	140
Walking	9b					
Male		2.861	7.463	0.240	0	70
Female		3.062	7.789	0.736	0	56
Swimming	9c					
Male		0.680	4.494	0.159	0	90
Female		1.411	6.200	0.586	0	48
Bicycling	9d					
Male		1.910	7.181	0.231	0	90
Female		1.911	6.767	0.639	0	60
Handball, racquetball, squash, basketball	9e					
Male		8.024	15.123	0.486	0	90
Female		4.304	11.131	1.052	0	72
Other activities	10					
Male		4.246	11.766	0.444	0	90
Female		4.464	11.966	1.441	0	60
Total aerobic points						
Male		32.819	38.591	1.240	0	275
Female		24.750	35.751	3.378	0	151

TABLE 4.10

Distribution of Survey Respondents by Aerobic Fitness Level

Aerobic Fitness Level	Male Number	Male Percent	Female Number	Female Percent
1. 0 points per week	205	21.2	37	33.0
2. 1-29 points per week	373	38.5	46	41.1
3. 30 or more points per week	390	40.3	29	25.9
Total	968		112	

response category ("don't know") was created to accommodate the responses of those who indicated that they did not know the policy of their supervisor or commander. Table 4.11 shows the frequency distribution of respondents' opinions regarding supervisory support. Those respondents allowed to participate in physical fitness activities during duty hours were grouped by the computer according to the number of duty hours per week reportedly used. This distribution of duty hours (0 hours, 1-3 hours, and 4+ hours per week) is also included in Table 4.11. Table 4.12 lists the statistics which describe the duty hours per week used for physical fitness activities.

Facility Data

Survey Questions 14 and 15. Question 14 was used to determine the availability of physical fitness facilities at each respondent's installation. The question also collected opinions on the adequacy of facilities from those respondents with facilities available. Question 15 identified those who used their physical fitness facilities and grouped them according to the frequency of their use. Table 4.13 lists respondents' evaluations and reported use of installation physical fitness facilities.

TABLE 4.11

Respondents' Evaluations of Supervisory Support for Participation in Physical Fitness Activities

	Male		Female	
	Number	Percent	Number	Percent
Immediate supervisor support				
0. Don't know	22	2.3	3	2.7
1. Yes	692	71.5	78	69.6
2. No	254	26.2	31	27.7
Total	968		112	
Duty hour participation allowed				
0. Don't know	38	3.9	5	4.5
1. Yes	542	56.0	62	55.4
2. No	388	40.1	45	40.2
Total	968		112	
Duty hours used for physical fitness activities				
1. 0 hours per week	164	30.3	24	38.7
2. 1-3 hours per week	239	44.1	27	43.6
3. 4+ hours per week	139	25.6	11	17.7
Total	542		62	
Unit commander support				
0. Don't know	29	3.9	3	2.7
1. Yes	758	78.3	79	70.5
2. No	181	18.7	30	26.8
Total	968		112	

TABLE 4.12

Summary of Duty Hours Used for Physical Fitness Activities As Reported by Survey Respondents

	N	Duty hours used per week				
		Mean	Standard deviation	Standard error	Minimum	Maximum
Male	542	2.142	2.125	0.091	0	9
Female	62	1.758	1.956	0.248	0	8

TABLE 4.13

Respondents' Evaluations and Reported Use of Physical Fitness Facilities

	Male		Female	
	Number	Percent	Number	Percent
Facility description				
1. Excellent	208	21.5	18	16.1
2. Good	455	47.0	52	46.4
3. Fair	178	18.4	16	14.3
4. Poor	45	4.6	9	8.0
5. Not available	12	1.2	0	0.0
6. Don't know	70	7.2	17	14.3
Total	968		112	
Facility use				
1. Yes	640	66.1	69	61.6
2. No	328	33.9	43	38.4
Total	968		112	
Frequency of use				
1. 5-7 times per week	78	12.2	9	12.5
2. 3-4 times per week	242	37.8	28	38.9
3. 2 or less times per week	320	50.0	35	48.6
Total	640		72	

Opinion and Suggestion Data

Survey Questions 16 and 17. Responses expressing opinions on the new AFR 35-11 weight standards (question 16) were assigned by the author to one of six general categories based on similarities in meaning among responses. Similarly, suggestions for improving the existing AF physical fitness and weight control program (question 17) were assigned to one of seven categories. Where a respondent listed more than one opinion or suggestion, the one stated first was used as the basis for assignment to a response category. Additional comments listed by respondents following question 17 were generally repetitions or elaborations of opinions or suggestions already listed and were also considered when assigning respondents to opinion and suggestion categories. Table 4.14 shows respondents' opinions by category on the new weight standards, and Table 4.15 lists respondents' suggestions by category for program improvement.

A sample of respondents' opinions concerning the new weight standards is included in Appendix C, and a sample of respondents' suggestions for program improvement is included in Appendix D. The opinions and suggestions listed in the appendices were edited for basic grammar and spelling errors, but otherwise are reproduced as written by each respondent. The number following each opinion and suggestion refers to each respondent's case number. Readers may use the case number to identify additional information (sex, weight, rank, fitness category, etc.) on any respondent by referring to the appropriate line in the complete data file listed in Appendix B. The sample opinions and suggestions listed in the appendices reflect the views of each respondent and do not necessarily represent the views of the author or the position of the Air Force Institute of Technology or the United States Air Force.

TABLE 4.14

Respondents' Opinions on New AFR 35-11 Weight Standards

Opinion category	Male Number	Male Percent	Female Number	Female Percent
0. No opinion	173	17.9	15	13.4
1. Disagree--should allow for age	138	14.3	22	19.6
2. Agree--should not allow for age	460	47.5	53	47.3
3. Make standards even tougher	47	4.9	6	5.4
4. Consider factors other than height	137	14.2	16	14.3
5. Other opinion	13	1.3	0	0.0
Total	968		112	

TABLE 4.15

Respondents' Suggestions for Improving the AF Physical Fitness and Weight Control Program

Suggestion category	Male Number	Male Percent	Female Number	Female Percent
0. No suggestions	227	23.5	23	20.5
1. Current program okay	17	1.8	2	1.8
2. Mandatory duty-hour program	269	27.8	40	35.7
3. More frequent testing	146	15.1	10	8.9
4. Mandatory program and more testing	66	6.8	13	11.4
5. Tougher enforcement	89	9.2	11	8.9
6. Other suggestions	154	15.9	13	11.6
Total	968		112	

CHAPTER V

ANALYSIS AND DISCUSSION

Chapter Overview

This chapter contains an analysis of the data collected by the survey questionnaire. Each research question is analyzed separately, based on the results of the computer subprograms CROSSTABS, ONEWAY, DUNCAN, and T-TEST described in Chapter III. The relationships between the physical fitness variables addressed in this research are discussed, and findings of this research are compared with applicable findings of those previous studies discussed in Chapter II.

Research Question 1

> What is the current physical fitness level of Air Force personnel as measured by self-reported frequency and intensity of aerobic activities rated according to criteria listed in AFP 50-56 (male) and AFP 35-57 (female)?

The characteristic used to measure individual physical fitness level in this research was the total number of aerobic points each respondent earned per week. This measure was chosen because it is based on the existing standards described in AFP 50-56 and AFP 35-57. Also, the research of Cooper and others demonstrates that total aerobic points per week is a valid indicator of individual aerobic fitness. This research used Cooper's recommended minimum of 30 aerobic points per week as the basis for establishing the fitness levels (0 points, 1-29 points, and 30 and more points) shown in Table 4.10. These ordinal-level categories were used as the dependent variable in the contingency tables

(computed with CROSSTABS) used to answer Research Questions 2 through 9. The subprograms ONEWAY, DUNCAN, and T-TEST used the ratio-level mean aerobic points per week as the dependent variable in comparing groups and establishing the strength of relationships among groups.

For the sample surveyed, the average number of aerobic points earned per week was 32.8192 for males and 24.7500 for females. Of the males surveyed, 40.3 percent earned at least 30 aerobic points per week, but 21.2 percent did not earn any points. Of the females surveyed, 25.9 percent earned at least 30 points per week, but 33.0 percent did not earn any points.

No previous research has assessed the aerobic fitness of Air Force females, so a comparison of current female aerobic fitness level with aerobic fitness levels determined in other research could not be made.

The current aerobic fitness levels determined in this research for males, however, can be compared with the fitness levels reported in the 1979 ACSC study previously discussed. The current research found a smaller percentage of respondents at the lowest level (0 points) and a larger percentage at the highest level (30 and more points) when compared with results of the 1979 study. The 1979 study consisted of only male field grade officers, a factor worthy of consideration. Table 5.1 shows the comparison between aerobic fitness levels determined in this research and levels determined in the 1979 ACSC research.

Because the 1970-1971 official Air Force aerobics test results were based on reported times for the 1.5-mile run and not on weekly aerobic points, direct comparison of those results with the results of this study would be improper, despite the predictor-criterion relationship of aerobic fitness level with aerobic fitness category, reported in the findings for Research Question 7.

TABLE 5.1

Comparison Between Aerobic Fitness Levels Determined in Current Research and Levels Determined in 1979 ACSC Research

	Males			
	1979 ACSC Research[a]		Current Research	
Aerobic Fitness Level	Number	Percent	Number	Percent
1. 0 points per week	168	39.0	205	21.2
2. 1-29 points per week	147	34.0	373	38.5
3. 30 and more points per week	117	27.0	390	40.3
Total	432		968	

[a]Source 29:4

Cooper's correlation of weekly aerobic points and aerobic fitness category (Table 2.5) shows that a minimum of 30 points per week is equivalent to fitness Category IV. Using Cooper's criterion (9:36) that "only Categories IV and V are considered passing," this research finds that 40.3 percent of the males surveyed and 25.9 percent of the females surveyed have a level of aerobic fitness that is at least "passing." Also significant is the finding that the aerobic fitness level of 21.2 percent of the males and 33.0 percent of the females surveyed (those earning 0 points per week) must be considered "very poor."

Research Question 2

What is the relationship between individual aerobic fitness and sex?

Contingency Table 1, Appendix E, shows the crosstabulation of aerobic fitness level with sex. The chi-square statistic calculated was:

Chi-square = 11.82892 Probability = 0.0027

indicating that individual aerobic fitness and sex are statistically dependent at the 0.05 level.

Comparison of the mean aerobic points per week for males and females, shown below,

	N	Mean
Males	968	32.819
Females	112	24.750
Entire sample	1080	31.982

t = 2.11 Probability = 0.0350

indicates a significant difference in male and female aerobic fitness levels at the 0.05 level.

Therefore, this research concludes that individual aerobic fitness and sex are significantly related, and that the aerobic fitness level of the males surveyed is significantly higher than the aerobic fitness level of the females surveyed. This finding is consistent with the findings of other researchers cited in Chapter II which show that males have a higher level of physical fitness than females.

Research Question 3

What is the relationship between individual aerobic fitness and age?

Contingency Table 2, Appendix E, shows the crosstabulation of aerobic fitness level with age. The chi-square statistic calculated was:

Male: Chi-square = 16.58923 Probability = 0.0347

Female: Cell sizes too small for valid statistic

indicating that for males individual aerobic fitness and age are statistically dependent at the 0.050 level.

Comparison of the mean aerobic points per week for each age group is shown below:

	Male		Female	
Age Group	N	Mean	N	Mean
17-29 years	424	38.2217	92	24.9674
30-34 years	216	29.7870	10	15.5000
35-39 years	200	27.8150	8	21.1250
40-44 years	104	28.7308	1	151.0000
45 years and older	24	24.0833	1	0.0000
Entire sample	968	32.8192	112	24.7500
	F = 3.897		F = 3.768	
	Prob = 0.0038		Prob = 0.0066	

Results indicate a difference in aerobic fitness level among age groups for males. The small numbers of females in four of the groups preclude any generalizations for females. The DUNCAN subprogram grouped all age categories into one subset, indicating that no one age group was significant in accounting for the reported differences in means. Unequal group sizes make the DUNCAN procedure inexact, however.

Therefore, this research concludes that individual aerobic fitness and age are significantly related among male respondents and that aerobic fitness level is higher among 17-29 year olds than among any of the other age groups. The aerobic fitness levels of respondents 30-44 years of age

are very similar and slightly below the mean of the entire male population. The findings of this research generally support the findings reported in the literature that physical fitness progressively decreases with age.

Research Question 4

What is the relationship between individual aerobic fitness level and degree of adherence to Air Force weight standards as listed in AFR 35-11?

Contingency Table 3, Appendix E, shows the crosstabulation of aerobic fitness level with weight category. The chi-square statistic calculated was:

Male: Chi-square = 10.48860 Probability = 0.1055

Female: Cell sizes too small for valid statistic

indicating that for males individual aerobic fitness and degree of adherence to AF weight standards are statistically independent at the 0.05 level.

Comparison of the mean aerobic points per week for each weight category is shown below:

	Male		Female	
Weight Category	N	Mean	N	Mean
Below ideal weight	168	39.9405	4	37.5000
Within ideal weight	364	34.0005	40	22.8500
Above ideal weight	380	28.4148	52	26.4615
Above maximum weight	54	31.3704	15	20.3333
Entire sample subset	966	32.6925	111	24.7297
	F = 3.765		F = 0.314	
	Prob = 0.0105		Prob = 0.8150	

Two males and one female from the sample were not included in any weight category because their height fell below the minimum height listed in the weight tables in AFR 50-49. Results indicate a significant difference in aerobic fitness level among weight categories for males and no difference among weight categories for females. Again, results reported for females are suspect because of the small numbers in two of the categories. The analysis indicates only that the "below ideal weight" group mean is significantly different from the "above ideal weight" group mean.

Therefore, this research concludes that individual aerobic fitness and degree of adherence to AF weight standards are statistically independent for male respondents. However, aerobic fitness level is significantly higher among those who are "below ideal weight" than among those who are "above ideal weight." Interestingly, the mean aerobic fitness level of those respondents in the "above maximum weight" category is only slightly lower than the mean of the entire male population and is in fact higher than the aerobic fitness level of those respondents in the "above ideal weight" category. These findings suggest that weight control, obviously important for good appearance and military image, is not directly related to individual aerobic fitness level.

Research Question 5

What is the relationship between individual aerobic fitness and rank?

Contingency Table 4, Appendix E, shows the crosstabulation of aerobic fitness level and rank using the five rank categories described in Chapter IV. The chi-square statistic calculated was:

Male: Chi-square = 26.49538 Probability = 0.0009

Female: Cell sizes too small for valid statistic

indicating that for males individual aerobic fitness and rank are dependent at the 0.05 level.

Comparison of the mean aerobic points per week for each rank category is shown below:

	Male		Female	
Rank Category	N	Mean	N	Mean
Airman	112	44.4554	29	22.2069
NCO	306	28.3791	35	16.9714
Senior NCO	75	21.5600	3	0.3333
Company grade officer	283	37.5724	43	35.6512
Field grade officer	192	30.5000	2	0.0000
Entire sample	968	32.8912	112	24.7500
	F = 6.548		F = 2.122	
	Prob = 0.0000		Prob = 0.0830	

Results indicate a difference in aerobic fitness level among males in different rank categories. Again, small numbers in two categories prevent making generalizations for females. Further analysis grouped the ranks into two subsets: NCOs, senior NCOs, and field grade officers in one subset and airmen and company grade officers in the other subset. The latter subset has a significantly higher mean aerobic points per week.

The relationship between aerobic fitness level and rank was further investigated by comparing the aerobic fitness level of officer and enlisted ranks. Contingency Table 4A, Appendix E, shows the cross-

tabulation of aerobic fitness level and rank by officer and enlisted category. The chi-square statistic calculated was:

Male:	Chi-square = 7.01774	Probability = 0.0299
Female:	Chi square = 4.41423	Probability = 0.1100

indicating that for males aerobic fitness level and officer/enlisted rank are dependent and that for females aerobic fitness level and officer/enlisted rank are statistically independent at the 0.05 level.

Comparison of the mean aerobic points per week for officer and enlisted ranks is shown below:

	Male		Female	
Rank Category	N	Mean	N	Mean
Enlisted	493	30.9939	67	18.4925
Officer	475	34.7137	45	34.0667
Entire sample	968	32.8192	112	24.7500
	t = -1.50		t = -2.30	
	Prob = 0.134		Prob = 0.023	

Results indicate that aerobic fitness levels for officers and enlisted ranks are not significantly different for males but are different for females.

Therefore, this research concludes that for males, individual aerobic fitness and rank are dependent. Although the aerobic fitness levels of officer and enlisted ranks are not significantly different, within those categories airmen and company grade officers have significantly higher fitness levels when compared to NCOs, senior NCOs, and field grade officers. For females, officers have a significantly higher

aerobic fitness level than enlisted members.

The research of Balke and Ware on fitness and rank differences, discussed in Chapter II, included civilians and used fitness measurement criteria different from those used in this research; therefore, any comparison of findings would be improper.

Research Question 6

What is the relationship between individual aerobic fitness and flying status?

Contingency Table 5, Appendix E, shows the crosstabulation of aerobic fitness level with flying status. The chi-square statistic calculated was:

Male: Chi-square = 1.75067 Probability = 0.4167

Female: Cell sizes too small for valid statistic

indicating that for males individual aerobic fitness and flying status are statistically independent at the 0.05 level.

Comparison of the mean aerobic points per week for those on flying status and those not on flying status is shown below:

	Male		Female	
Flying Status	N	Mean	N	Mean
Yes	217	34.2995	6	30.6667
No	751	32.3915	106	24.4151
Entire sample	968	32.8192	112	24.7500
	t = 0.64		t = 0.42	
	Prob = 0.521		Prob = 0.679	

Results indicate no difference in aerobic fitness level between flying and non-flying respondents. The small number of females on flying status prevents making generalizations for females.

Therefore, this research concludes that individual aerobic fitness and flying status are statistically independent for male respondents and that there is no significant difference in the mean aerobic points earned per week by flying and non-flying respondents. This finding supports the findings reported in the literature which show that the aerobic fitness of personnel on flying status is no better than the aerobic fitness of non-flying personnel.

Research Question 7

What is the relationship between individual aerobic fitness and annual physical fitness test score?

Contingency Table 6, Appendix E, shows the crosstabulation of aerobic fitness level with annual physical fitness score. Due to the small numbers of respondents in Category I and II, these categories were combined into a "poor and fair" category in order to obtain a valid chi-square statistic. The chi-square statistic calculated was:

Male: Chi-square = 168.29894 Probability = 0.0000

Female: cell sizes too small for valid statistic

indicating that for males individual aerobic fitness and annual physical fitness test score are statistically dependent at the 0.05 level.

Comparison of the mean aerobic points per week for each of the aerobic fitness categories is shown below:

Aerobic Fitness Category	Male N	Male Mean	Female N	Female Mean
0. None	59	17.7797	14	14.3571
I. and II. Poor and Fair	31	8.0645	7	12.1429
III. Average	277	17.2274	60	14.4500
IV. Good	364	29.0659	24	46.2917
V. Excellent	237	63.7890	7	72.5714
Entire sample	968	32.8192	112	24.7500
	F = 72.166		F = 9.142	
	Prob = -0.0000		Prob = 0.0000	

Results indicate a difference in aerobic fitness level among aerobic fitness categories for male and female respondents. Results reported for females are suspect, however, because of the small numbers in three of the aerobic fitness categories. Further analysis grouped the categories for males into three subsets with significantly different means. The "none," "poor and fair," and "average" categories have a mean significantly lower than that of the "good" category, which has a mean significantly lower than the mean of the "excellent" category.

Therefore, this research concludes that individual aerobic fitness and annual physical fitness test score are statistically dependent for male respondents. The mean aerobic fitness level of respondents in the "excellent" category is more than double the aerobic fitness level of respondents in the "good" category. These results suggest that for males, aerobic fitness level as determined by weekly aerobic points is a valid predictor of aerobic fitness category as determined by the annual physical fitness test.

Research Question 8

What is the relationship between individual aerobic fitness and perceived degree of supervisory support for physical fitness activities?

Contingency Table 7, Appendix E, shows the crosstabulation of aerobic fitness level with respondents' opinions on whether or not their immediate supervisor supports or encourages participation in physical fitness activities. Responses of "don't know" were not included in the crosstabulation in order to ensure large enough cell sizes for a valid chi-square statistic. The chi-square statistic calculated was:

Male: Chi-square = 0.58012 Probability = 0.7482

Female: Chi-square = 0.36732 Probability = 0.8322

indicating that individual aerobic fitness and immediate supervisor support are statistically independent for both males and females at the 0.05 level.

Comparison of the mean aerobic points per week for respondents with and without supervisor support is shown below. "Don't know" responses are not included.

	Male		Female	
Immediate Supervisor Support	N	Mean	N	Mean
Yes	692	33.3671	78	23.7821
No	254	31.1535	31	26.9355
Entire sample subset	946	32.7727	109	24.6789
	t = 0.78		t = -0.41	
	Prob = 0.435		Prob = 0.680	

Results indicate no difference in aerobic fitness level between respondents with and without the support of their immediate supervisor.

Another measure of supervisory support for physical fitness activities is the supervisor's position regarding participation in physical fitness activities during normal duty hours. Contingency Table 8, Appendix E, shows the crosstabulation of aerobic fitness level with supervisor's position on duty hour participation. Responses of "don't know" were excluded from the crosstabulation. The chi-square statistic calculated was:

Male:	Chi-square = 3.39382	Probability = 0.1832
Female:	Chi-square = 1.93492	Probability = 0.3800

indicating that individual aerobic fitness and supervisor's position on duty hour participation in physical fitness activities are statistically independent for both males and females at the 0.05 level.

Comparison of mean aerobic points per week for respondents whose supervisors do allow duty hour participation and those who do not are shown below. "Don't know" responses are not included.

	Male		Female	
Duty Hour Participation Allowed	N	Mean	N	Mean
Yes	542	35.2362	62	25.0968
No	388	30.7887	45	25.3333
Entire sample subset	930	33.3806	107	25.1963
	t = 1.72		t = -0.03	
	Prob = 0.085		Prob = 0.974	

Results indicate, at the 0.05 level for males and females, no significant difference in aerobic fitness level between respondents allowed to participate in physical fitness activities during duty hours and those not allowed to participate.

For those respondents allowed to participate in physical fitness activities during duty hours, a comparison was made between aerobic fitness level and actual number of duty hours used per week. Contingency Table 9, Appendix E, shows the crosstabulation of aerobic fitness level with number of duty hours used per week for physical fitness activities. The chi-square statistic calculated was:

Male: Chi-square = 108.60123 Probability = 0.0000

Female: Cell sizes too small for valid statistic

indicating that for males individual aerobic fitness and number of duty hours used per week are statistically dependent at the 0.05 level.

Comparison of mean aerobic points per week for each category of duty hours used is shown below:

	Male		Female	
Number of Duty Hours Used	N	Mean	N	Mean
0 hours per week	171	20.8956	25	24.6800
1-3 hours per week	234	36.4915	26	22.6538
4 or more hours per week	137	51.0365	11	31.8182
Entire sample subset	542	35.2362	62	25.0968
	F = 24.129		F = 0.298	
	Prob = 0.000		Prob = .7431	

Results indicate a significant difference in aerobic fitness level among categories of duty hours used for males. The small numbers of females in all the categories preclude making any generalizations for females. Further analysis indicates that the group means for each duty hour category are all significantly different from each other.

A final measure of perceived degree of supervisory support is respondents' opinions on whether or not their organization or unit commander supports or encourages participation in physical fitness activities. Contingency Table 10, Appendix E, shows the crosstabulation of aerobic fitness level with respondents' opinions on unit commander support. Responses of "don't know" were not included in the crosstabulation. The chi-square statistic calculated was:

Male:	Chi-square = 2.46570	Probability = 0.2774
Female:	Chi-square = 6.01207	Probability = 0.0495

indicating that individual aerobic fitness and unit commander support are statistically independent for males and statistically dependent for females at the 0.05 level.

Comparison of the mean aerobic points per week for respondents with and without unit commander support is shown below. "Don't know" responses are not included.

	Male		Female	
Unit Commander Support	N	Mean	N	Mean
Yes	758	32.5805	79	19.2785
No	181	33.7293	30	41.4000
Entire sample subset	939	32.8019	109	25.3670
	t = -0.37		t = -2.42	
	Prob = 0.715		Prob = 0.021	

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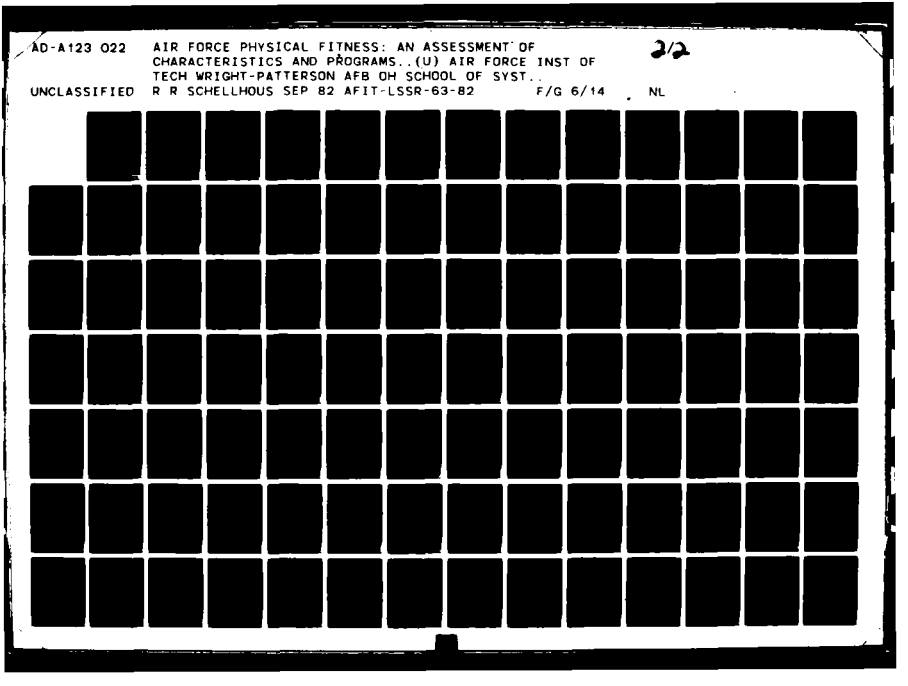

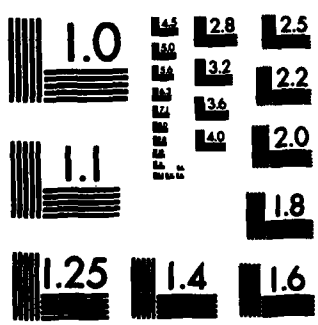

Results for males indicate no significant difference in aerobic fitness level between respondents with and without the support of their unit commander. Results for females, however, do indicate a significant difference.

Therefore, this research concludes that individual aerobic fitness and supervisory support for physical fitness activities, from both the immediate supervisor and the unit commander, are statistically independent for male respondents. Although aerobic fitness level and allowance for duty hour participation are also independent, aerobic fitness level is very positively correlated with actual number of duty hours used per week. Results are similar for females, except that individual aerobic fitness and unit commander support are also statistically dependent.

Research Question 9

> What is the relationship between individual aerobic fitness and the availability, perceived adequacy, and use of installation physical fitness facilities?

Because nearly all respondents (98.8 percent of the males and 100.0 percent of the females) reported that physical fitness facilities were available at their installation, no further analysis on the relationship between individual aerobic fitness and the availability of facilities was performed.

Contingency Table 11, Appendix E, shows the crosstabulation of aerobic fitness level with respondents' ratings of the adequacy of physical fitness facilities at their installation. Responses of "facilities not available" and "don't know" were not included in the crosstabulation.

The chi-square statistic calculated was:

Male: Chi-square = 10.15866 Probability = 0.1181

Female: Cell sizes too small for valid statistic

indicating that for male respondents individual aerobic fitness and adequacy of available facilities are statistically independent at the 0.05 level.

Comparison of the mean aerobic points per week for each facility rating is shown below. Responses of "facilities not available" and "don't know" are not included.

	Male		Female	
Facility Description	N	Mean	N	Mean
Excellent	208	34.4567	18	31.8889
Good	455	32.0462	52	18.9615
Fair	178	39.3539	16	21.8750
Poor	45	36.9333	9	63.0000
Entire sample subset	886	34.32[illegible]4	95	26.0521
	F = 1.555		F = 3.305	
	Prob = 0.1989		Prob = 0.0154	

Results for males indicate no significant difference in aerobic fitness level among ratings of facility adequacy. Small numbers of responses in three categories preclude making any generalizations for females.

Contingency Table 12, Appendix E, shows the crosstabulation of aerobic fitness level with actual use of physical fitness facilities. The chi-square statistic calculated was:

Male: Chi-square = 111.86016 Probability = 0.0000

Female: Chi-square = 12.68115 Probability = 0.0018

indicating that individual aerobic fitness and use of installation physical fitness facilities are statistically dependent for males and females at the 0.05 level.

Comparison of the mean aerobic points per week for respondents who do and who do not use installation physical fitness facilities is shown below:

	Male		Female	
Use of Installation Facilities	N	Mean	N	Mean
Yes	640	39.1656	69	30.1449
No	328	20.6246	43	16.0930
Entire sample	968	32.8192	112	24.7500
	t = 7.74		t = 2.05	
	Prob = 0.000		Prob = 0.043	

Results for males and females indicate a significant difference in aerobic fitness level between respondents who do and who do not use installation physical fitness facilities.

For those respondents who do use installation physical fitness facilities, a comparison was made between aerobic fitness level and actual frequency of facility use. Contingency Table 13, Appendix E, shows the crosstabulation of aerobic fitness level with frequency of installation physical fitness facility use. The chi-square statistic calculated was:

Male: Chi-square = 121.29272 Probability = 0.0000

Female: Cell sizes too small for valid statistic

indicating that individual aerobic fitness and frequency of facility use are statistically dependent for males at the 0.05 level.

Comparison of the mean aerobic points per week for each category of facility use frequency is shown below:

	Male		Female	
Frequency of Facility Use	N	Mean	N	Mean
2 or less times per week	320	24.9000	35	18.5429
3-4 times per week	242	48.4587	28	33.2500
5-7 times per week	78	72.1923	9	56.4444
Entire sample subset	640	39.5719	72	29.0000
	F = 63.556		F = 5.049	
	Prob = 0.0000		Prob = 0.0000	

Results indicate a significant difference in aerobic fitness level among frequency of facility use categories for male respondents. The small number of females in one category precludes any generalizations for females.

Therefore, this research concludes that individual aerobic fitness for males is unrelated to the adequacy of existing installation physical fitness facilities. Male and female respondents who never use existing facilities have a lower aerobic fitness level than those respondents who do use existing facilities. Among those respondents who do use installation facilities, there is a strong positive correlation between individual aerobic fitness and frequency of use. Frequent users (5-7 times per week) earn nearly three times more aerobic points per week than infrequent users (2 or less times per week) earn.

Research Question 10

What are AF members' opinions concerning the new Air Force weight standards?

The opinions on the new Air Force weight standards presented in Appendix C are generally representative of the opinions expressed by many survey respondents. Table 4.14 shows the distribution of survey responses by opinion category for males and females.

One of the variables which could be expected to influence a respondent's opinion on weight standards is the respondent's own weight category. In order to investigate the relationship between weight category and opinion on weight standards, a chi-square statistic was calculated from a crosstabulation of weight category and opinion category. Contingency Table 14, Appendix E, shows this crosstabulation. Responses of "no opinion" and "other opinion" were not included in the contingency table. The chi-square statistic calculated was:

Male: Chi-square = 42.05022 Probability = 0.0000

Female: Cell sizes too small for valid statistic

indicating that for males, individual weight category and opinion on the new Air Force weight standards are, as expected, statistically dependent at the 0.05 level. In general, figures from the contingency table suggest that "heavy" respondents (those who are "above ideal weight" and "above maximum weight") tend to disagree with the new standards, while "lighter" respondents (those "within ideal weight" and "below ideal weight") tend to agree.

Individual aerobic fitness is another variable which could be expected to influence a respondent's opinion on weight standards.

Comparison of the mean aerobic points per week for respondents in each opinion category (excluding "no opinion" and "other opinion" responses) is shown below:

	Male		Female	
Opinion Category	N	Mean	N	Mean
Disagree--should allow for age	138	25.9783	22	14.5455
Agree--should not allow for age	460	32.0022	53	23.3019
Make standards even tougher	47	49.7872	6	29.5000
Consider factors other than height	137	38.1095	16	28.8125
Entire sample subset	782	33.0780	97	22.6082
	F = 5.530		F = 0.687	
	Prob = 0.0009		Prob = 0.5623	

Results indicate a significant difference in aerobic fitness level among weight standard opinion categories for males and no significant difference for females. Results for females are suspect because of the small numbers in three of the categories. Further analysis indicates that respondents who disagree with the new weight standards have a significantly lower mean aerobic fitness level than do respondents who agree with the new standards.

Therefore, this research concludes that opinion on new weight standards and respondent weight category are statistically dependent for male respondents. Also, the mean aerobic fitness level of respondents who agree with the new standards is significantly higher than the fitness level of respondents who disagree. Respondents who feel the standards should be even tougher have a significantly higher aerobic fitness level than respondents in all other categories. Interestingly, although the

number of females is too small to make many generalizations, the percentages of males and females in each of the opinion categories is very similar, as shown in Table 4.14.

Research Question 11

What are AF members' suggestions for improving the existing AF physical fitness and weight control program?

The suggestions for improving the existing AF physical fitness and weight control program presented in Appendix D are generally representative of the suggestions offered by many survey respondents. Table 4.15 shows the distribution of survey responses by suggestion category for males and females.

A respondent's suggestions for improving the existing program could possibly be influenced by the respondent's aerobic fitness level. In order to investigate the relationship between aerobic fitness level and suggestions for program improvement, a chi-square statistic was calculated from a crosstabulation of aerobic fitness level with suggestion category. Responses of "no suggestions" and "other suggestions" were not included in the contingency table. The chi-square statistic calculated was:

Males: Chi-square = 4.72058 Probability = 0.7870

Female: Cell sizes too small for valid statistic

indicating that for males individual aerobic fitness and suggestions for improving the existing AF physical fitness program are statistically independent at the 0.05 level. Contingency Table 15, Appendix E, shows this crosstabulation.

Comparison of the mean aerobic points per week for respondents in each suggestion category (excluding "no suggestion" and "other suggestions" responses) is shown below:

	Male		Female	
Suggestion Category	N	Mean	N	Mean
Current program okay	17	17.5294	2	3.0000
Mandatory duty-hour program	269	37.0074	40	28.6500
More frequent testing	146	33.4110	10	28.4000
Mandatory program and more testing	66	33.3182	13	19.8462
Tougher enforcement	89	35.6292	11	43.8182
Entire sample subset	587	34.9250	76	28.6316
	F = 1.100		F = 1.007	
	Prob = 0.3559		Prob = 0.4095	

Results indicate no significant difference in aerobic fitness level among suggestions for improvement categories for male and female respondents. Again, results are suspect for females because of the small numbers in four of the categories.

Therefore, this research indicates that the suggestions made by respondents for improving the existing AF physical fitness and weight control program are statistically independent from respondents' aerobic fitness level. A large percentage of respondents (49.7 percent of the males and 55.0 per cent of the females) suggested either a mandatory duty-hour program, more frequent physical fitness testing, or both.

The statistical independence of individual aerobic fitness level and suggestion category implies, therefore, that approximately half of all respondents, representing all levels of aerobic fitness, favor a

generally more demanding physical fitness program.

CHAPTER VI

CONCLUSIONS AND RECOMMENDATIONS

Chapter Overview

This chapter summarizes the conclusions that can be drawn from this study of individual physical fitness and the Air Force physical fitness and weight control program. Recommendations upon which to base improvements to the existing program are made, and recommendations for further research are suggested.

Specific Conclusions

Males

Judgment must always be used when making inferences about a large population based on data from a smaller sample of that population. The large sample size and high survey questionnaire return rate in this research indicate that conclusions made for the sample of Air Force males should be applicable to the entire Air Force population. Conclusions with supporting empirical data were discussed in detail for each research question in Chapter V. Following is a summary of these conclusions for Air Force males:

1. The current Air Force program of physical fitness, governed by AFR 35-11, has not yet produced a uniformly high level of physical fitness among Air Force males. If aerobic points earned per week are used as a basis of fitness measurement, only 40 percent of Air Force males are in at least a "passing" category. At the other end of the

scale, 20 percent of Air Force males get no aerobic exercise whatsoever.

2. Individual aerobic fitness does not depend on how close men are to the "ideal" weight for their height. The mean aerobic fitness level for overweight people is not significantly different from the mean fitness level of the entire sample. "Slim and trim" may be important for good appearance and military image but does not necessarily equate to better physical fitness.

3. At the same time, nearly half of the men agree with the new Air Force weight standards; the 14 percent who disagree are generally those who are above their ideal weight or maximum weight. The remainder of the men expressed opinions which did not clearly agree or disagree with the new weight standards. This finding suggests that while weight does not necessarily influence aerobic fitness, the enforcement of current weight standards to achieve other results such as good military image and positive self-concept does not work against acceptance of the program by Air Force males.

4. Indeed, one of the most significant conclusions that can be drawn from the data is that most Air Force males would support a more effective physical fitness program. This inference is based on the fact that more than 50 percent of the respondents favor a beefed-up physical fitness program to include mandatory duty-hour participation, more frequent testing, or both. Whether this interest in a more effective program is motivated by a desire to do well in the annual fitness tests or by a more general belief in the importance of physical fitness is, of course, not indicated in the data. The findings clearly indicate, however, the perceived need for a more demanding program.

5. Physical fitness programs require an investment of time as well as an investment of effort. Among the respondents in this research, there is not a significant difference in the mean weekly aerobic point totals of those males who were or those who were not permitted and encouraged to use duty hours for physical fitness activities. Apparently, motivated individuals will find the time for fitness activities and will participate even if their supervisor or commander does not support or encourage physical fitness. However, among the 56 percent who were permitted to exercise during duty hours, the mean weekly aerobic point total for those who used four or more duty hours per week (51.0365 points) is much higher than the mean of the entire 542 respondent subgroup (35.2362 points). Among this subgroup, and probably among the entire population, time equals fitness. If Air Force members used more duty hours to participate in aerobic activities, the overall physical fitness of the Air Force should increase.

6. The annual physical fitness test has drawn considerable criticism in the literature (2:24; 20:18) and from survey respondents as being an inaccurate measure of actual physical fitness. The contention that the annual fitness test measures only once-a-year fitness and not overall physical fitness certainly has merit. Data from this research indicate that the number of aerobic points earned per week is as good an indicator of aerobic fitness category as is the annual aerobics test. Given this fact, Cooper's assertion (9:40-45) that the number of aerobic points earned per week is an accurate measure of overall aerobic fitness is strengthened. Of course, measures of overall physical fitness based on aerobic points earned per week would be accurate only if participants reported weekly aerobic points honestly and accurately.

7. Physical fitness generally decreases with increasing age. Men below age 29 are in the best shape; men over age 45 are in the worst shape. Not surprisingly, partly because of the positive relationship between age and rank, physical fitness also decreases with increasing rank. These findings agree with those reported in the literature (3:6-7). This decrease is explained only partially by age, however. Higher rank within the enlisted and officer corps generally means increased managerial responsibility, less time for physical fitness activities, and less actual physical work. Airmen and junior officers (the younger workers) are in much better shape than senior NCOs and senior officers (the older managers). Being older or of higher rank is certainly no excuse for poor physical fitness, however. The literature clearly points out that increasing age does not have to produce a decline in aerobic fitness (3:6; 4:23).

8. The data do not support the expectation that men on flying status are in better shape than non-flyers. The more frequent and thorough medical screening of flying personnel does not necessarily result in an increased level of physical fitness as measured by total aerobic points earned per week.

Females

The number of females surveyed in this research was generally too small to permit many statistically significant conclusions. The small sample size should be considered in making any inferences from the sample to the entire Air Force female population. Because of the small sample size, the following findings made with regard to Air Force females are of necessity confined to the sample.

1. Assessment of the current level of physical fitness, based on aerobic points earned per week, shows only 26 percent in at least a "passing" category; 33 percent get no weekly aerobic exercise whatsoever.

2. Females have a significantly lower aerobic fitness level than males, a finding supported in the literature (73:54).

3. Women officers have a significantly higher aerobic fitness level than enlisted women.

4. Nearly 14 percent of the women are above their maximum weight, and another 47 percent are above their ideal weight. When compared with men, 6 percent of whom exceed their maximum weight and another 39 percent of whom exceed their ideal weight, women appear to have a greater problem with weight control. Alternately, the standards for women may need adjustment.

5. Individual aerobic fitness among females is independent of immediate supervisor support and supervisor position on duty-hour participation in physical fitness activities. This parallels findings for males.

6. Women who do use physical fitness facilities are in much better shape than those who do not.

Recommendations

The following recommendations are offered for consideration in future efforts to improve the effectiveness of the Air Force physical fitness and weight control program:

1. Consider the candid suggestions for improving the current program, many of which are practical and applicable, offered by the

respondents to the survey in this research. Of particular interest are the suggestions for a mandatory program during duty hours. If these suggestions are implemented, aerobic fitness level should increase, based on the direct relationship between duty hours used and aerobic fitness level as determined in this research.

2. Base measurements of physical fitness on the total number of aerobic points earned per week and not on a once-a-year fitness test. Develop an appropriate mechanism for accurately and honestly reporting individual aerobic points. The mechanism should be non-punitive and should stress recognition and positive reinforcement of suitably motivated people.

3. Initially spending money on new or improved facilities may not solve the problem; the resource that can most effectively improve individual physical fitness is time. If more duty time is allowed and facilities are used more, then consider improving existing facilities or building new facilities.

4. Use weight control as a measure of appearance and military image and not as a measure of physical fitness.

5. Place greater emphasis on physical fitness and weight control for people over 30 years old who do not exercise regularly, especially senior NCOs and senior officers. Perhaps more frequent weight checks and a more closely monitored aerobics conditioning program would encourage those over 30 to improve their physical condition.

6. Increase efforts to educate Air Force members on the benefits of physical fitness and proper weight control. Commanders' Calls, daily bulletins, and bulletin boards could all be used to disseminate information on exercise benefits, conditioning techniques, proper diet, and

other aspects of physical fitness and weight control.

7. Place greater emphasis on physical fitness and weight control for women. Again, perhaps more frequent weight checks and a more closely monitored conditioning program would be helpful in encouraging women to improve their overall physical condition. An important comment made by many of the female respondents was that there is a general lack of suitable physical fitness facilities for women on many if not most installations. Improved facilities for women could be an important motivator for increasing female fitness.

8. Also regarding females, collect more data from a larger sample in order to make more valid inferences on characteristics of the Air Force female population.

9. Future research on the relationship between individual physical fitness and other variables such as marital status, career field, length of service, and job description would be helpful in determining other significant characteristics of the Air Force population which possibly influence individual physical fitness.

APPENDICES

APPENDIX A

COVER LETTER, PRIVACY ACT STATEMENT, AND SURVEY QUESTIONNAIRE

DEPARTMENT OF THE AIR FORCE
AIR FORCE INSTITUTE OF TECHNOLOGY (ATC)
WRIGHT-PATTERSON AIR FORCE BASE, OH 45433

REPLY TO ATTN OF: AFIT/LSH (Capt Schellhous, AV 785-6761) 10 May 1982

SUBJECT: Air Force Physical Fitness Survey

TO: Survey Participant

1. As an active duty Air Force member, you have been randomly selected to participate in an important Air Force research project. Your responses to the items in this questionnaire will be used in evaluating the effectiveness of the Air Force physical fitness and weight control program. The information and opinions you provide will help in formulating plans to improve the existing physical fitness program.

2. We ask that you be among those who will take a few minutes from their busy schedules to provide some important physical fitness information. Please answer each question as truthfully and as candidly as possible. We guarantee complete confidentiality, and no attempt will be made to identify any individual with specific survey responses.

3. This survey has been approved by Headquarters USAF and has been assigned USAF Survey Control Number 82-26.

4. Please return the completed survey form in the envelope provided within one week of receipt.

5. Your participation is sincerely appreciated.

JEROME G. PEPPERS, JR.
Acting Dean
School of Systems and Logistics

1 Atch
Questionnaire

Robbin R Schellhous
ROBBIN R. SCHELLHOUS, Captain, USAF
Resident Graduate Student

USAF Survey Control Number 82-26

PRIVACY STATEMENT

In accordance with paragraph 8, AFR 12-35, the following information is provided as required by the Privacy Act of 1974:

a. Authority:

(1) 5 U.S.C. 301, Departmental Regulations; and/or

(2) 10 U.S.C. 8012, Secretary of the Air Force, Powers, Duties, Delegation by Compensation; and/or

(3) DOD Instruction 1100,13, 17 Apr 68, Surveys of Department of Defense Personnel; and/or

(4) AFR 30-23, 22 Sep 76, Air Force Personnel Survey Program.

b. Principal Purposes. The survey is being conducted to collect information to be used in research aimed at illuminating and providing inputs to the solution of problems of interest to the Air Force and/or DOD.

c. Routine Uses. The survey data will be converted to information for use in research of management related problems. Results of the research, based on the data provided, will be included in written master's theses and may also be included in published articles, reports, or texts. Distribution of the results of the research, based on the survey data, whether in written form or presented orally, will be unlimited.

d. Participation in this survey is entirely voluntary.

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

SURVEY TO ASSESS SELECTED VARIABLES AFFECTING

THE PHYSICAL FITNESS OF AIR FORCE PERSONNEL

1. Sex: ____ male ____ female

2. Present age: ____ 17-29 ____ 30-34 ____ 35-39 ____ 40-44

   ____ 45-49 ____ 50 years and over

3. Height: _____ inches

4. Weight: _____ pounds

5. Rank: _____

6. Currently on flying status: Yes _____ No _____

7. Recalling your best effort within the past 12 months in running 1.5 miles, either during the annual 1.5-mile run test or on your own, check the time listed below which is closest to your performance:

   _____ 9 min : 00 sec or less

_____ 9:30	_____ 13:00	_____ 16:30
_____ 10:00	_____ 13:30	_____ 17:00
_____ 10:30	_____ 14:00	_____ 17:30
_____ 11:00	_____ 14:30	_____ 18:00
_____ 11:30	_____ 15:00	_____ 18:30
_____ 12:00	_____ 15:30	_____ 19:00
_____ 12:30	_____ 16:00	_____ 19:30 and over

   _____ I have not run 1.5 miles during the past 12 months.

8. If you performed the 3-mile walk or stationary run test instead of the 1.5-mile run, please list your time or duration to the nearest half minute on the line below:

   _____

   _____ I have not performed the 3-mile walk or stationary run test within the past 12 months.

9. From the following list of activities, please provide your best estimate of the information requested for <u>each</u> of those activities in which you <u>regularly</u> participate:

<u>Regularly</u> means participation at least an average of once per week during those times of the year when weather permits.

<u>Average distance</u> means the average distance covered in each run, walk, swim, etc.

<u>Average time</u> means the average time to cover the distance listed.

<u>Times per week</u> means the average number of times per 7-day week that you participate in the specified activity.

a. Running: Average distance _____ miles
Average time _____ minutes
Times per week _____

b. Walking: Average distance _____ miles
Average time _____ minutes
Times per week _____

c. Swimming: Average distance _____ yards
Average time _____ minutes
Times per week _____

d. Bicycling: Average distance _____ miles
Average time _____ minutes
Times per week _____

e. Handball, racquetball, squash, basketball:

Average duration of each game, session, etc. _____ minutes
Times per week _____

10. List any other physical activities, sports, or games in which you regularly participate. List the applicable information for each activity:

Activity	Average distance	Average time/ duration	Times per week

11. In your opinion, does your immediate supervisor support or encourage your participation in physical fitness activities?

Yes _____ No _____

12. Does your immediate supervisor allow you to participate in physical fitness activities during your normal duty hours?

Yes _____ No _____

If yes, list the approximate number of duty hours per week that you use for physical fitness activities:

_____ hours

13. In your opinion, does your organization or unit commander support or encourage your participation in physical fitness activities?

Yes _____ No _____

14. Which of the following best describes the physical fitness facilities (gyms, tracks, courses, pools, courts, etc.) at your installation which are available to support the activities listed in Question 9:

_____ Excellent
_____ Good
_____ Fair
_____ Poor
_____ Facilities not available
_____ Don't know

15. If physical fitness facilities <u>are available</u> at your installation, do you ever use them for physical fitness activities?

Yes _____ No _____

If <u>yes</u>, please indicate the average frequency of your use:

_____ 5-7 times per week

_____ 3-4 times per week

_____ 2 or less times per week

16. The recent change to AFR 35-11, published in November 1981, lists maximum allowable weights according to height but without regard to age. What is your opinion concerning the new weight standards?

17. What are your suggestions for improving the Air Force physical fitness and weight control program?

THANK YOU FOR COMPLETING THIS SURVEY.

We would appreciate any additional comments you care to make concerning the Air Force physical fitness and weight control program or this survey: (Continue on reverse side if necessary.)

APPENDIX B

COMPUTER LISTING OF RESPONSES TO SURVEY QUESTIONNAIRE

Key for Relating Numerical Data File Values to Questionnaire Responses

Data file column number	Description	Question number on questionnaire	Values and responses
1	Sex	1	1 = male 2 = female
2	Age	2	1 = 17-29 4 = 40-45 2 = 30-34 5 = 45-49 3 = 35-39 6 = 50+ years
3	Height	3	Number of inches
4	Weight	4	Number of pounds
5	Rank	5	1 = AB 10 = 2dLt 2 = Amn 20 = 1Lt 3 = A1C 30 = Capt 4 = SrA-Sgt 40 = Major 5 = SSgt 50 = Lt Col 6 = TSgt 7 = MSgt 8 = SMSgt 9 = CMSgt
6	Flying status	6	1 = yes 2 = no
7	Annual run test time	7	Time in minutes 50 = did not run
8	Annual walk or stationary run test time	8	Time in minutes 50 = did not walk or stationary run
9	Aerobic fitness category		0 = None 3 = Average(III) 1 = Poor(I) 4 = Good(IV) 2 = Fair(II) 5 = Excellent(V)
10	Aerobic points per week running	9a	Number of points
11	Aerobic points per week walking	9b	Number of points
12	Aerobic points per week swimming	9c	Number of points

Data file column number	Description	Question number on questionnaire	Values and responses
13	Aerobic points per week bicycling	9d	Number of points
14	Aerobic points per week for handball, racquetball, squash, basketball	9e	Number of points
.15	Aerobic points per week for other activities	10	Number of points 50 = some activity but no points awarded
16	Supervisor support	11	0 = Don't know 1 = Yes 2 = No
17	Duty hour participation allowed	12	0 = Don't know 1 = Yes 2 = No
18	Duty hours used per week for fitness activities		Number of hours 0 = no to Question 12
19	Unit commander support	13	0 = Don't know 1 = Yes 2 = No
20	Fitness facility description	14	1 = Excellent 4 = Poor 2 = Good 5 = Not available 3 = Fair 6 = Don't know
21	Facility use	15	1 = Yes 2 = No
22	Frequency of use		0 = No to Question 15 1 = 5-7 times per week 2 = 3-4 times per week 3 = 2 or less times per week
23	Opinion on weight standards	16	0 = No opinion 1 = Disagree--should allow for age 2 = Agree--should not allow for age 3 = Make standards tougher 4 = Consider other factors 5 = Other opinion

Data file column number	Description	Question number on questionnaire	Values and responses
24	Suggestions for program improvement	17	0 = No suggestions 1 = Current program okay 2 = Mandatory program during duty hours 3 = More frequent testing 4 = Mandatory program and more testing 5 = Tougher enforcement 6 = Other suggestions
25	Individual case number		Numbers from 1 to 1080

1	2	70	169	5	2	10.0	50	5	3	0	0	0	0	0	2	2	0	2	2	1	3	2	2	1
1	2	71	165	30	2	12.5	50	4	0	0	0	0	27	8	1	1	2	1	3	1	2	2	2	2
1	3	74	185	50	2	12.5	50	4	0	0	0	0	0	0	1	1	0	1	3	2	0	2	6	3
2	1	62	117	3	2	15.0	50	3	0	15	0	0	0	0	2	2	0	2	1	1	3	2	2	4
1	2	70	172	10	2	11.5	50	4	0	5	0	0	0	0	2	1	1	1	2	1	3	0	3	5
1	2	67	135	40	2	11.5	50	4	3	0	40	0	0	0	1	2	0	1	1	1	2	4	6	6
2	1	69	142	10	2	13.0	50	3	0	0	0	0	0	50	2	1	2	2	3	2	0	3	5	7
1	4	72	198	50	2	13.5	50	4	0	0	0	0	0	16	2	2	0	2	3	2	0	4	6	8
2	1	70	160	30	2	15.0	50	3	96	4	0	0	0	50	2	2	0	2	2	2	0	2	5	9
2	1	66	135	20	2	15.5	50	3	16	6	0	12	20	50	1	1	2	2	2	1	3	1	3	10
1	4	72	180	50	1	12.0	50	4	0	0	0	0	0	0	1	2	0	1	6	2	0	0	1	11
1	1	70	173	4	2	9.5	50	5	70	0	0	0	18	50	1	2	0	1	3	1	2	2	2	12
1	4	73	160	8	2	13.0	50	4	40	0	0	0	0	50	1	2	0	1	1	1	3	2	0	13
2	1	66	120	1	2	15.0	50	2	0	42	0	0	0	0	1	1	0	1	6	2	0	2	2	14
1	1	74	205	4	2	10.5	50	4	0	0	0	0	18	0	1	1	1	1	6	2	0	2	6	15
1	2	70	131	4	2	13.5	50	3	0	0	0	0	0	0	1	2	0	1	2	2	0	4	0	16
1	2	69	165	5	2	12.5	50	4	5	0	0	0	0	0	2	2	0	2	1	1	3	1	2	17
1	2	69	203	5	2	9.5	50	5	140	0	0	0	50	50	2	1	0	2	3	1	2	4	6	18
1	1	67	150	4	2	10.5	50	4	8	7	0	0	0	3	1	1	0	1	2	1	3	2	6	19
1	1	66	155	4	2	11.5	50	4	0	0	0	0	0	0	2	2	0	2	2	2	0	0	2	20
1	3	68	151	6	2	13.0	50	4	0	0	0	0	0	0	1	1	5	1	5	2	0	2	2	21
2	3	60	100	20	2	14.5	50	3	0	0	0	0	0	0	1	1	0	1	2	1	3	2	3	22
1	2	70	163	30	1	9.5	50	5	75	0	0	0	0	3	1	1	0	2	2	1	3	3	2	23
1	4	72	205	7	2	13.5	50	4	0	0	0	0	0	0	1	1	2	1	2	2	0	0	0	24
1	1	70	145	10	2	10.0	50	5	0	15	12	0	18	0	1	1	2	1	3	1	3	4	6	25
1	3	72	190	40	2	15.5	50	3	0	0	0	0	9	0	2	2	0	2	2	2	0	0	0	26
1	3	73	210	7	1	50.0	40	3	0	12	0	0	0	50	1	1	0	1	2	2	0	4	6	27
2	1	62	128	4	2	50.0	17	3	0	0	0	0	0	0	1	2	0	1	3	2	0	2	0	28
1	2	71	185	30	1	10.5	50	[illegible]	8	0	0	0	0	4	2	1	2	1	2	1	3	2	0	29
1	1	70	165	10	2	10.0	50	5	12	0	0	0	0	0	1	1	0	1	4	1	3	0	6	30
2	1	67	145	10	2	14.5	50	3	0	0	0	10	0	18	1	1	0	1	2	1	3	2	0	31
1	1	71	180	5	2	13.5	50	3	0	0	0	0	0	50	1	1	0	1	2	2	0	2	2	32
1	1	69	175	3	2	9.5	50	5	18	0	0	0	27	50	1	1	5	1	3	1	2	4	6	33
1	1	72	165	30	2	9.5	50	5	45	0	0	0	0	0	1	2	0	2	1	2	0	0	0	34
1	4	74	211	30	2	13.5	50	4	0	0	0	10	18	4	2	2	0	2	2	2	0	1	6	35
1	3	70	165	40	2	12.0	50	4	0	0	0	0	0	15	1	1	2	1	1	2	0	0	0	36
1	4	66	153	7	2	9.0	50	5	72	0	10	0	0	50	1	1	3	1	1	1	2	2	2	37
1	1	71	175	5	2	11.0	50	4	6	0	0	0	28	0	2	2	0	2	3	2	0	1	6	38
1	1	71	180	3	2	9.0	50	5	0	0	0	0	0	50	2	1	0	1	1	1	3	1	0	39
1	2	75	226	6	2	13.5	50	3	4	0	0	0	0	50	1	1	4	1	1	1	3	2	2	40
2	1	62	114	30	2	12.0	50	4	0	0	27	0	0	50	2	2	0	1	3	2	0	2	5	41
1	3	69	185	30	2	10.5	50	5	90	0	0	0	0	12	1	1	2	1	1	1	2	4	6	42
1	2	69	165	3	2	11.5	50	4	20	0	0	0	9	50	2	2	0	2	4	2	0	2	0	43
1	2	65	135	20	2	10.5	50	5	0	6	0	50	0	6	1	1	4	1	1	2	0	2	2	44
1	1	72	178	5	2	9.5	50	5	6	0	0	0	15	0	1	1	3	1	3	1	2	2	3	45
2	1	68	137	3	2	13.0	50	3	24	0	4	0	27	24	1	2	0	1	3	1	2	4	2	46
1	4	72	198	6	2	12.5	50	4	38	0	0	0	0	0	1	1	3	1	2	1	2	2	6	47
1	1	72	195	5	2	13.5	50	3	9	0	0	0	0	0	1	1	2	1	3	1	2	0	6	48
2	1	63	136	4	2	50.0	17	3	0	0	0	0	0	50	1	2	0	1	2	2	0	1	3	49
1	1	69	165	5	2	10.5	50	4	37	0	0	0	3	0	1	2	0	1	2	1	1	2	6	50

1	2	71	205	5	2	14.5	50	3	0	0	0	0	0	0	2	2	0	2	5	2	0	2	2	51
2	1	63	115	3	2	11.5	50	3	15	0	0	0	0	0	1	2	0	1	2	2	0	2	2	52
1	2	67	148	10	2	10.0	50	5	25	0	0	0	0	0	1	1	5	1	2	1	1	1	3	53
1	2	72	199	6	2	14.5	50	3	0	2	0	0	0	0	1	2	0	1	2	2	0	1	0	54
1	1	69	165	5	2	12.0	50	4	5	0	0	4	54	50	2	2	0	2	2	1	2	2	0	55
1	1	72	172	3	2	9.5	50	5	12	0	0	0	15	50	2	2	1	1	1	1	3	1	3	56
1	2	70	160	6	2	12.0	50	4	45	5	0	0	18	6	1	1	1	1	3	1	3	2	2	57
1	2	71	204	6	2	16.0	50	2	0	0	0	0	0	50	1	1	0	1	3	2	0	1	3	58
1	1	77	208	3	2	11.5	50	4	16	0	0	0	0	0	1	1	3	1	2	2	0	2	0	59
2	1	62	112	3	2	13.0	50	3	2	0	0	0	0	50	2	2	0	2	3	1	3	0	0	60
1	2	70	185	5	2	50.0	42	3	0	0	0	0	7	50	1	1	0	1	2	1	3	4	2	61
1	2	72	170	6	2	10.0	50	3	85	0	0	0	0	0	2	2	0	2	6	2	0	2	2	62
1	3	72	175	6	2	18.0	50	1	0	16	0	7	0	50	1	2	0	1	2	2	0	0	1	63
1	4	67	165	7	2	50.0	40	3	0	0	0	0	0	6	1	1	2	1	1	1	3	1	5	64
1	1	70	154	4	2	10.5	50	4	0	0	0	0	0	0	2	1	0	2	6	2	0	0	6	65
1	2	75	190	5	2	50.0	50	0	0	0	0	4	0	0	1	2	0	1	1	2	0	2	3	66
1	3	74	198	6	2	14.5	50	3	0	0	0	0	0	3	1	1	1	1	2	1	3	3	2	67
2	1	64	135	4	2	50.0	50	0	0	0	0	0	0	50	1	1	0	1	2	2	0	1	3	68
1	3	72	180	40	2	10.0	50	5	0	0	0	0	15	50	1	1	1	1	2	1	2	2	3	69
1	3	69	147	40	1	15.0	50	3	0	0	0	0	0	0	1	1	0	1	3	2	0	0	0	70
1	3	64	155	30	2	10.5	50	5	30	5	0	0	0	0	1	1	5	1	2	1	1	3	5	71
1	1	72	185	10	2	11.5	50	4	36	0	0	0	0	0	1	1	0	1	3	1	3	2	0	72
1	3	73	171	40	2	50.0	41	2	0	0	0	25	0	0	1	1	2	1	3	1	3	1	3	73
1	2	69	158	20	2	10.0	50	5	0	2	0	10	9	3	2	2	0	1	2	1	3	4	2	74
1	1	64	135	4	2	9.5	50	5	0	0	0	30	45	50	1	1	8	1	4	1	2	2	3	75
2	2	65	135	30	2	15.0	50	3	0	0	0	0	0	0	1	2	0	1	2	2	0	2	4	76
1	4	73	188	50	2	50.0	50	0	0	0	0	0	7	0	1	1	1	1	3	1	3	2	5	77
1	3	71	165	7	2	16.5	50	2	0	0	0	0	18	50	1	1	0	1	2	1	2	0	4	78
1	2	69	165	6	2	12.0	50	4	0	0	0	0	14	3	1	1	3	1	1	1	2	2	2	79
1	3	69	178	50	2	12.5	50	3	0	0	0	0	27	20	1	2	0	1	3	1	2	0	6	80
1	4	69	155	50	2	9.5	50	5	125	9	0	2	0	0	2	2	0	1	1	2	0	0	2	81
1	1	71	160	20	2	12.0	50	4	0	0	8	0	0	0	2	1	1	1	1	1	2	0	3	82
1	2	72	145	30	2	10.0	50	5	0	0	0	0	8	0	1	1	2	1	2	1	3	2	5	83
1	2	72	190	5	2	50.0	50	0	0	0	0	0	0	0	1	1	0	1	6	2	0	2	0	84
1	3	69	182	40	1	50.0	50	0	36	0	0	0	22	0	1	1	7	1	2	1	2	1	2	85
1	2	70	160	40	1	12.0	50	4	64	0	0	0	0	0	2	1	4	2	1	1	2	2	6	86
1	3	70	190	50	2	13.5	50	3	48	0	0	0	9	50	1	1	6	1	1	1	1	3	6	87
2	1	62	106	30	2	14.5	50	3	12	0	0	0	0	0	1	1	0	1	2	2	0	2	0	88
1	3	71	160	40	1	9.5	50	5	52	0	0	0	36	0	1	1	8	1	1	1	2	0	2	89
1	3	70	165	40	2	50.0	50	0	0	0	0	0	0	30	1	1	0	1	2	2	0	0	0	90
1	4	73	145	50	2	50.0	38	4	0	0	0	0	0	0	1	1	0	1	1	2	0	0	0	91
1	4	70	153	50	2	9.0	50	5	130	0	0	0	0	0	1	1	2	1	1	1	2	0	4	92
1	2	70	165	7	2	50.0	43	3	0	0	0	6	0	0	1	2	0	1	2	1	0	2	0	93
1	3	72	201	40	1	11.5	50	4	0	0	0	0	18	3	1	1	1	1	6	2	0	4	6	94
1	1	66	145	30	2	9.0	50	5	60	0	2	32	15	50	1	1	4	1	2	1	3	2	3	95
1	2	69	180	5	2	14.5	50	3	0	0	0	0	27	50	1	1	3	1	2	1	2	2	4	96
1	3	73	185	40	1	9.5	50	5	60	10	0	0	0	0	1	1	2	1	3	2	0	3	6	97
1	3	69	163	50	2	11.5	50	4	24	0	0	0	27	0	1	1	5	1	3	1	1	2	2	98
1	3	69	167	40	2	50.0	50	0	0	0	0	0	0	0	2	1	0	2	2	2	0	3	2	99
1	1	72	215	3	2	10.5	50	4	60	0	72	0	18	50	1	2	0	1	2	1	2	4	6	100

1	4	68	160	40	1	11.0	50	5	0	0	0	0	0	0	1	1	0	1	2	2	0	2	4	101
1	2	69	175	30	1	10.5	50	5	60	0	0	0	0	3	1	1	4	1	2	1	3	2	5	102
1	3	71	193	8	2	16.0	50	2	0	0	0	0	0	50	1	1	2	1	2	2	0	1	2	103
1	3	71	190	30	1	11.5	50	4	0	0	0	0	0	50	1	1	0	1	1	1	3	4	0	104
1	3	72	188	30	2	12.5	50	4	40	0	0	0	36	0	1	1	5	1	2	1	1	2	6	105
1	2	69	165	6	2	50.0	35	3	0	0	0	0	18	3	1	1	2	1	2	1	2	0	2	106
1	3	75	220	40	1	15.5	50	3	0	0	0	0	15	50	1	1	2	1	2	1	3	1	2	107
1	2	73	175	7	2	13.5	50	3	0	0	0	0	0	0	2	2	0	2	1	2	0	1	2	108
1	5	70	140	9	2	15.0	50	3	60	0	0	0	0	0	1	1	4	1	3	1	3	2	2	109
1	3	67	165	8	1	50.0	38	3	0	0	0	0	18	0	1	1	2	1	2	1	3	2	6	110
1	2	71	187	5	2	13.5	50	3	0	50	0	0	18	26	1	1	1	1	2	1	2	4	3	111
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1	2	74	188	7	2	12.5	50	4	5	8	0	0	0	3	1	1	1	1	6	2	0	3	2	113
2	1	64	120	4	2	50.0	50	0	0	4	0	0	0	0	1	1	4	1	6	2	0	3	2	114
1	4	68	145	7	1	50.0	43	3	0	0	0	0	0	0	1	1	0	1	2	2	0	0	0	115
1	5	69	165	8	2	50.0	50	0	0	0	0	0	0	0	1	2	0	1	6	2	0	2	0	116
1	3	73	205	30	2	12.5	50	4	0	0	0	0	18	0	2	2	0	2	1	1	3	2	2	117
1	3	74	180	40	2	14.5	50	3	0	0	0	0	0	0	2	1	0	1	2	1	3	1	5	118
1	2	75	190	5	2	9.0	50	5	32	0	0	0	6	3	2	1	0	1	3	1	3	2	3	119
1	2	68	158	5	2	50.0	39	3	0	0	0	15	0	0	1	1	1	1	3	2	0	2	6	120
1	2	68	145	30	2	11.0	50	4	0	0	0	5	0	0	2	2	0	2	3	1	3	2	2	121
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1	2	75	190	7	2	12.0	50	4	0	0	48	0	50	50	1	1	1	1	1	1	1	2	5	123
1	1	76	195	5	2	13.5	50	3	0	45	0	0	0	0	1	2	0	1	2	2	0	1	4	124
1	2	68	138	4	2	11.0	50	4	0	0	0	10	0	50	1	2	0	1	2	1	3	2	3	125
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1	2	71	205	5	2	10.0	50	5	0	10	0	0	18	27	1	1	4	1	2	1	3	4	5	127
1	1	74	210	3	1	9.5	50	5	27	7	0	3	27	50	2	2	0	1	2	1	2	2	2	128
1	1	75	160	3	2	9.0	50	5	60	0	25	20	0	0	1	2	0	1	1	1	1	0	6	129
1	1	71	181	4	2	12.5	50	3	0	0	0	0	0	16	1	1	2	1	2	2	0	0	0	130
2	1	64	114	3	2	50.0	50	0	0	8	0	12	0	0	1	1	0	1	4	2	0	0	6	131
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1	4	72	180	40	2	12.0	50	4	48	0	0	0	0	0	1	1	3	1	1	1	2	2	0	133
1	2	65	128	7	2	11.5	50	4	22	0	0	0	0	26	1	1	3	2	1	1	2	0	0	134
1	1	76	215	4	2	10.5	50	4	4	0	0	0	2	0	2	2	0	1	2	1	2	2	2	135
2	1	67	120	3	2	9.0	50	5	60	18	0	0	0	0	1	1	0	1	2	2	0	0	5	136
1	2	72	190	30	1	13.0	50	3	6	0	0	0	0	6	1	1	4	1	2	1	3	2	2	137
1	4	70	175	40	2	11.0	50	5	10	0	0	0	45	0	1	1	3	1	3	1	1	3	0	138
2	1	64	130	5	2	12.5	50	4	12	4	0	15	0	0	1	1	4	1	1	1	2	4	4	139
1	1	68	185	10	2	12.5	50	3	0	0	0	0	0	0	1	1	0	1	3	2	0	4	6	140
1	1	69	146	3	2	11.0	50	4	0	18	0	0	0	0	1	2	0	1	2	2	0	4	6	141
1	3	70	171	7	2	14.0	50	3	0	12	0	0	0	0	2	2	0	1	2	2	0	4	3	142
1	1	71	195	2	2	13.0	50	3	6	0	0	0	0	50	1	2	4	1	2	1	3	2	6	143
1	2	71	198	6	2	12.5	50	4	0	0	0	0	27	50	1	1	3	1	2	1	2	2	0	144
1	2	70	145	6	2	11.0	50	4	0	0	0	0	3	50	1	1	0	1	1	2	0	2	4	145
2	1	68	140	4	2	15.5	50	3	0	0	0	5	0	50	1	1	5	1	3	1	3	2	4	146
1	1	72	149	3	2	13.0	50	3	0	0	0	0	0	0	1	2	0	1	6	2	0	2	0	147
2	1	66	115	3	1	15.5	50	3	0	0	0	0	0	0	1	1	0	1	3	1	3	1	6	148
1	1	74	187	5	2	12.0	50	4	20	0	0	0	9	50	1	1	5	2	3	2	0	3	3	149
1	4	73	160	40	2	50.0	16	3	0	0	0	0	0	9	2	2	0	2	6	2	0	0	2	150

1	3	72	178	40	2	10.5	50	5	30	0	0	0	4	0	2	2	0	2	2	2	0	2	6	151
1	2	72	205	30	1	50.0	50	0	0	0	0	0	0	50	1	1	2	1	2	1	4	3	3	152
1	2	68	145	30	1	11.0	50	4	0	6	0	0	27	0	1	1	1	1	2	1	3	2	3	153
1	2	68	152	20	2	10.0	50	5	0	0	3	2	0	16	2	2	0	2	1	1	3	2	1	154
1	1	74	210	5	2	14.0	50	3	12	0	0	0	36	16	1	1	9	1	2	2	0	4	4	155
1	1	71	175	20	1	9.5	50	5	64	0	0	0	0	50	1	1	2	1	3	1	3	2	0	156
1	1	70	169	4	2	50.0	50	0	0	0	0	10	27	50	1	1	2	1	1	1	1	3	5	157
1	1	70	170	3	2	12.5	50	3	40	8	0	0	0	50	2	2	0	1	2	1	2	2	5	158
1	2	71	195	5	2	12.5	50	4	0	0	0	0	0	3	1	1	1	1	2	1	2	2	3	159
1	1	73	210	30	2	50.0	40	3	0	0	0	0	0	0	1	2	0	1	2	1	0	0	2	160
1	2	67	150	7	2	12.5	50	4	0	0	0	0	0	0	1	1	0	1	6	2	0	4	0	161
1	1	73	160	3	2	9.0	50	5	0	0	0	0	70	0	1	2	0	1	1	1	1	0	0	162
1	3	70	180	8	2	50.0	40	3	0	0	0	0	0	50	1	1	1	1	6	2	0	1	6	163
1	2	66	145	30	2	9.5	50	5	70	0	0	0	0	0	1	1	3	1	2	1	2	0	3	164
1	4	72	167	30	2	50.0	42	3	0	0	0	0	0	0	2	2	0	1	6	2	0	0	6	165
1	2	72	170	30	2	14.5	50	3	0	0	4	2	8	0	1	2	0	1	2	1	3	2	2	166
1	3	67	155	7	2	12.0	50	4	16	0	0	0	6	0	2	2	0	2	1	1	1	0	3	167
1	1	67	157	20	2	11.5	50	4	40	0	0	0	2	50	2	1	5	2	3	1	1	1	0	168
1	2	72	170	30	1	18.5	50	1	0	3	0	0	0	0	2	2	0	2	4	2	0	4	2	169
1	4	71	185	40	2	50.0	38	3	0	0	0	0	0	50	1	1	0	1	2	1	3	2	2	170
2	1	66	145	20	2	50.0	43	3	30	0	0	5	0	40	1	1	1	2	1	1	2	3	4	171
1	1	68	160	4	2	10.5	50	4	0	0	0	0	0	0	1	2	0	1	6	2	0	2	0	172
1	1	74	155	4	2	12.0	50	4	12	6	0	0	0	50	1	2	0	1	2	1	3	2	3	173
1	2	70	165	20	2	11.0	50	4	0	3	0	0	0	0	2	2	0	2	2	2	0	0	0	174
1	5	73	220	50	2	50.0	38	3	0	2	0	0	0	0	1	1	1	1	1	2	0	5	5	175
1	2	71	180	5	2	12.0	50	4	18	0	30	0	0	50	1	1	4	2	3	1	1	2	3	176
1	3	65	155	40	1	12.5	50	4	40	0	0	0	0	50	1	1	0	2	1	2	0	4	2	177
1	3	70	200	30	2	10.0	50	5	48	0	0	0	9	50	1	1	2	1	2	1	2	3	3	178
1	4	70	149	50	2	15.5	50	3	3	0	0	0	0	6	1	1	5	1	2	1	3	0	2	179
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1	2	70	160	4	2	15.0	50	3	0	15	0	0	20	0	1	1	5	1	1	1	2	4	4	182
1	1	65	135	5	2	12.5	50	3	24	0	0	0	18	0	1	1	3	1	2	1	2	0	3	183
1	1	66	170	3	2	11.0	50	4	30	12	0	0	0	50	2	2	0	2	2	1	1	2	2	184
1	5	72	176	9	2	11.5	50	4	48	12	0	0	3	50	1	1	1	1	3	1	1	2	5	185
1	2	67	135	5	2	11.0	50	4	0	0	0	0	0	50	1	2	0	1	1	2	0	2	3	186
1	1	74	175	20	2	10.0	50	5	20	0	0	0	0	50	1	1	5	1	1	1	3	3	5	187
1	3	77	228	40	2	50.0	40	3	0	0	0	0	0	3	1	1	0	1	2	1	3	4	3	188
1	2	70	180	30	1	11.0	50	4	32	0	0	0	0	50	1	1	1	1	1	1	2	2	4	189
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1	6	76	220	50	2	50.0	45	3	0	0	0	2	0	50	1	2	0	1	1	2	0	2	6	191
1	3	71	165	40	1	50.0	40	3	0	4	0	0	0	0	1	1	0	1	4	1	3	3	2	192
1	2	71	160	30	1	12.0	50	4	0	0	0	0	0	0	1	1	0	1	1	2	0	0	6	193
1	4	74	170	50	2	10.0	50	5	60	0	8	3	0	50	1	1	2	1	2	1	2	2	6	194
1	1	68	138	4	2	11.0	50	4	5	16	0	0	9	50	2	2	0	1	1	1	3	2	3	195
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1	1	72	205	3	2	9.0	50	5	0	0	0	0	0	50	1	2	0	1	3	1	3	1	6	197
2	1	64	138	3	2	17.5	50	1	8	0	0	4	0	0	1	2	0	1	2	1	2	1	6	198
1	3	70	146	30	2	9.0	50	5	125	0	0	10	0	18	1	2	0	1	2	2	0	2	2	199
1	2	67	160	20	2	11.0	50	4	15	10	0	0	0	13	2	2	0	2	1	2	0	2	2	200

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1	1	72	199	20	2	12.5	50	3	36	6	0	0	18	18	1	1	9	1	1	1	1	0	2	205
1	3	74	170	40	2	11.0	50	4	0	0	0	8	0	0	1	2	0	1	3	1	3	2	3	206
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1	3	71	170	6	2	15.0	50	3	0	5	0	0	0	50	2	2	0	2	2	2	0	1	2	209
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1	4	69	155	50	2	12.5	50	4	24	0	0	5	0	26	2	1	4	1	2	1	2	4	0	211
2	1	64	103	20	2	12.0	50	4	32	3	0	0	0	39	0	1	2	2	6	1	1	0	2	212
1	1	71	165	20	2	14.0	50	3	0	0	0	0	0	50	1	1	0	0	6	2	0	2	0	213
1	3	72	160	30	1	11.5	50	4	32	0	0	0	0	0	1	2	0	1	3	2	0	0	0	214
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1	4	72	172	50	2	13.5	50	4	9	0	0	0	0	6	1	1	1	1	1	1	3	2	2	216
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1	3	67	160	40	2	14.5	50	3	0	0	0	0	0	0	1	1	0	1	1	1	3	4	6	219
1	2	72	178	30	2	12.0	50	4	36	0	0	0	9	6	1	1	0	1	1	1	2	2	4	220
1	2	74	170	30	1	11.5	50	4	24	0	0	0	27	3	1	1	4	1	1	1	2	0	2	221
1	2	74	179	30	1	10.5	50	5	60	0	0	0	0	0	1	1	3	1	1	1	3	3	5	222
2	1	63	124	3	2	11.0	50	5	75	56	0	6	0	50	2	2	0	2	3	1	2	2	2	223
1	3	74	205	30	2	14.5	50	3	0	0	0	10	0	6	2	2	0	2	2	2	0	2	2	224
1	3	69	174	50	1	11.5	50	4	64	0	0	0	0	0	1	1	0	1	1	2	0	2	3	225
1	2	74	205	30	2	13.5	50	3	1	4	0	3	0	0	1	1	0	1	1	1	3	0	0	226
1	1	70	168	20	2	10.5	50	4	0	30	0	0	0	50	1	2	0	1	2	1	2	2	1	227
1	4	68	160	7	2	50.0	50	0	0	0	0	0	7	2	1	1	0	1	1	2	0	0	0	228
1	3	69	203	5	2	16.0	50	2	0	0	0	0	0	50	1	2	0	1	2	1	3	1	4	229
1	3	69	162	50	1	13.5	50	3	0	0	0	0	0	0	1	1	0	1	1	2	3	1	0	230
1	2	67	178	30	1	12.0	50	4	9	0	0	0	0	50	1	1	2	1	2	1	3	2	1	231
1	1	70	145	20	1	10.0	50	5	75	0	2	0	14	0	1	1	1	1	1	1	3	3	6	232
2	1	60	116	5	2	12.0	50	4	25	0	0	5	0	50	1	2	0	1	4	1	3	2	2	233
1	1	72	200	5	1	15.0	50	2	0	0	0	0	0	0	1	1	0	1	6	2	0	2	0	234
1	2	72	145	2	2	11.0	50	4	18	0	20	0	18	50	1	1	2	2	2	1	2	1	6	235
1	1	71	198	4	2	11.5	50	4	20	0	0	0	38	50	2	2	0	1	2	1	2	4	6	236
2	1	65	120	3	2	12.5	50	4	0	15	0	60	0	60	1	1	0	2	4	1	1	2	5	237
1	2	71	180	5	2	13.0	50	3	0	6	0	40	0	50	1	2	0	1	2	2	0	4	3	238
1	2	70	190	5	2	12.5	50	4	0	0	0	0	0	3	2	2	0	1	4	2	0	2	4	239
1	2	69	160	5	2	12.5	50	4	0	6	0	5	0	50	2	2	0	1	2	1	2	2	0	240
1	4	71	195	40	1	13.5	50	4	6	4	0	0	0	6	1	1	6	1	1	2	0	2	2	241
1	1	69	149	4	2	12.0	50	4	0	0	0	0	0	30	1	2	0	1	2	1	2	2	5	242
1	3	67	168	40	2	50.0	39	3	0	0	0	0	0	0	2	2	0	2	2	2	0	1	2	243
1	2	66	140	30	1	14.0	50	3	0	0	0	0	0	0	1	1	0	1	2	1	3	0	0	244
1	4	66	161	40	2	13.5	50	4	0	0	0	0	0	0	1	2	0	1	1	2	0	1	5	245
1	5	73	175	50	2	14.0	50	4	24	0	0	15	0	0	1	1	3	1	2	1	2	2	3	246
1	4	67	145	50	2	9.5	50	5	30	0	0	0	0	50	1	1	2	1	1	1	2	2	2	247
1	3	67	150	30	2	11.5	50	4	0	0	0	0	0	0	1	1	0	1	6	2	0	2	2	248
2	1	68	145	20	2	11.5	50	4	48	2	6	20	0	50	1	1	0	1	1	1	1	4	6	249
1	1	65	155	4	2	50.0	40	3	0	0	0	0	13	0	1	2	0	1	4	1	3	1	6	250

1	3	70	165	50	2	11.5	50	4	36	0	0	0	0	6	2	2	0	2	1	1	3	0	3	251
1	1	70	165	5	2	13.5	50	3	12	0	0	0	0	3	1	2	0	1	2	1	3	0	6	252
1	4	67	175	40	1	50.0	40	3	0	9	0	0	27	6	1	1	3	1	1	1	2	1	2	253
1	1	69	150	4	2	12.5	50	3	9	0	0	0	31	0	1	1	6	1	1	1	2	1	3	254
1	1	71	180	3	2	10.0	50	5	100	48	1	90	30	0	2	2	0	0	3	1	1	2	5	255
1	1	74	216	5	2	14.5	50	3	0	30	0	0	0	0	1	2	0	1	6	2	0	4	4	256
1	3	70	185	40	1	12.0	50	4	8	0	0	0	9	0	1	1	4	1	2	1	3	2	0	257
2	1	64	140	5	2	15.0	50	3	0	0	0	0	0	0	1	1	3	1	6	2	0	2	0	258
1	1	77	200	3	2	11.5	50	4	6	0	0	0	50	0	1	1	1	1	3	1	2	2	0	259
1	3	74	195	7	2	12.5	50	4	0	0	0	0	0	50	1	1	0	1	3	2	0	2	5	260
1	2	74	195	5	2	10.5	50	5	3	0	0	0	18	0	1	1	2	1	2	1	3	2	5	261
1	3	73	205	40	1	13.5	50	3	30	6	0	0	3	0	1	1	0	1	1	1	2	2	3	262
1	3	68	152	30	2	9.0	50	5	40	0	0	0	0	3	2	2	0	2	6	2	0	2	4	263
1	4	72	180	50	1	10.0	50	5	50	0	0	0	22	6	1	1	2	1	1	1	2	0	2	264
1	4	74	169	50	1	15.0	50	3	45	0	0	0	0	0	1	1	9	1	1	1	1	0	5	265
1	2	72	165	30	2	11.5	50	4	0	0	0	0	0	0	1	1	0	1	6	2	0	2	3	266
1	3	69	220	7	2	15.0	50	3	6	10	0	0	0	0	1	1	4	1	2	1	2	1	3	267
1	4	67	138	50	1	50.0	38	3	0	0	0	0	13	0	2	2	0	2	2	2	0	4	2	268
1	4	69	190	40	2	18.0	50	1	0	0	0	0	0	0	1	1	0	1	2	1	3	1	2	269
1	4	74	210	40	1	11.5	50	4	15	0	0	0	27	50	1	1	3	1	2	1	2	4	0	270
2	1	64	140	3	2	50.0	41	3	0	0	0	0	0	50	1	2	0	2	2	1	2	2	2	271
1	2	71	163	40	2	10.0	50	5	35	0	0	0	0	0	1	1	2	1	3	1	3	2	6	272
1	4	71	150	50	2	50.0	33	3	0	10	0	0	0	0	1	1	3	2	2	2	0	2	0	273
1	1	70	168	20	2	9.5	50	5	50	28	0	12	0	50	1	1	0	1	2	2	0	4	6	274
2	1	66	143	4	2	15.5	50	3	3	2	0	0	0	50	1	1	2	2	2	1	3	2	4	275
1	1	72	195	20	1	10.5	50	4	24	2	0	0	0	0	2	2	0	2	2	1	3	0	6	276
1	1	70	155	10	1	12.0	50	4	0	0	0	0	0	0	1	1	0	1	6	2	0	0	0	277
1	2	67	150	30	1	9.0	50	5	100	0	0	1	9	0	2	2	0	2	3	1	3	3	2	278
1	2	73	164	30	2	11.0	50	4	0	0	0	10	36	6	2	2	0	2	3	1	1	2	2	279
1	3	67	179	6	2	50.0	39	3	0	0	0	0	0	0	1	2	0	1	2	2	0	1	6	280
1	4	74	175	8	2	50.0	50	0	0	0	0	0	0	0	1	2	0	1	1	2	0	2	2	281
1	3	72	163	50	1	10.5	50	5	48	0	0	0	36	0	0	1	0	1	2	1	2	0	2	282
1	2	70	170	30	2	10.0	50	5	40	0	0	0	0	0	2	1	4	1	3	1	2	0	0	283
1	3	73	210	10	2	13.5	50	3	0	4	0	0	18	12	2	1	4	2	1	1	1	2	2	284
1	4	68	170	30	2	9.5	50	5	80	0	0	0	0	0	2	1	4	1	2	1	3	0	3	285
1	1	67	150	10	2	10.5	50	4	0	0	0	0	26	0	2	1	2	2	6	1	3	2	2	286
1	1	66	130	4	1	9.0	50	5	20	0	0	0	0	0	2	2	0	1	2	1	3	2	5	287
1	1	67	125	4	2	50.0	50	0	0	0	0	0	0	0	1	2	0	0	2	1	3	2	0	288
1	3	71	192	50	2	50.0	50	0	0	0	0	0	0	0	2	1	1	2	2	2	0	2	3	289
1	3	71	165	30	2	16.5	50	2	0	0	0	0	0	0	1	1	0	1	2	2	0	0	5	290
1	1	72	170	30	2	12.0	50	4	16	0	0	3	9	0	1	2	0	1	2	1	3	0	5	291
2	1	67	145	10	2	50.0	43	3	2	5	0	0	0	50	1	1	3	0	3	2	0	2	6	292
1	3	72	185	7	2	12.0	50	4	0	8	0	0	0	3	1	1	4	1	3	1	3	4	0	293
1	4	69	160	50	2	50.0	50	0	0	15	0	0	0	0	2	2	0	0	1	2	0	2	1	294
1	2	71	170	30	2	9.5	50	5	48	0	0	0	0	50	1	1	1	1	2	1	2	2	2	295
1	4	71	174	50	2	50.0	50	0	0	0	0	0	0	0	1	1	0	1	1	2	0	0	5	296
1	1	66	160	10	2	9.0	50	5	38	0	0	0	60	50	2	2	0	2	2	1	2	4	4	297
1	3	72	200	40	1	13.0	50	4	0	6	0	0	0	50	1	1	0	1	1	2	0	4	0	298
1	1	70	150	20	1	10.5	50	4	12	0	0	18	0	50	1	2	0	1	2	2	0	4	2	299
1	1	72	199	5	2	11.0	50	4	20	30	6	0	36	50	2	1	0	1	4	2	0	4	4	300

1	1	66	205	5	2	10.0	50	5	0	0	0	0	52	50	1	1	6	1	1	1	2	2	3	301
1	3	68	168	6	2	50.0	42	3	0	0	0	0	0	50	1	1	4	1	6	2	0	4	4	302
1	3	68	178	7	2	50.0	50	0	0	0	0	0	20	0	1	1	6	1	2	1	2	2	2	303
1	5	70	145	9	2	50.0	43	3	0	0	0	0	0	50	1	0	0	1	1	2	0	2	2	304
1	1	71	180	3	2	11.5	50	4	3	20	0	0	6	0	1	1	4	1	2	1	2	2	3	305
1	2	72	203	5	2	12.0	50	4	8	6	0	4	45	52	1	1	1	1	2	1	1	1	2	306
1	2	67	155	30	1	11.0	50	4	48	0	0	0	0	0	1	2	0	1	2	1	0	5	2	307
1	3	71	198	7	2	50.0	50	0	0	0	0	6	0	50	1	1	4	2	2	1	3	1	3	308
1	1	66	156	20	2	10.0	50	5	26	0	0	0	18	0	0	2	0	0	6	1	2	2	2	309
1	1	71	175	4	2	12.5	50	3	0	0	0	0	0	50	1	1	2	1	2	1	2	2	2	310
1	1	73	185	10	1	11.5	50	4	0	0	0	0	0	0	1	2	0	1	2	1	3	0	0	311
1	4	74	170	50	2	12.0	50	4	50	0	0	6	0	0	2	2	0	1	5	2	0	2	3	312
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2	1	62	132	5	2	50.0	35	3	0	3	9	0	0	0	1	1	2	1	2	1	1	2	2	314
1	3	70	152	40	2	50.0	43	3	0	0	0	0	0	50	1	1	0	2	2	2	0	3	6	315
1	2	69	171	7	2	50.0	50	0	0	0	0	0	0	0	1	2	0	1	6	2	0	1	0	316
1	3	71	175	40	1	10.5	50	5	12	0	0	0	0	0	1	1	3	1	2	1	3	2	2	317
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1	1	70	140	30	1	10.5	50	4	36	0	0	0	0	0	1	2	0	1	3	1	3	0	1	319
2	1	64	130	3	2	15.5	50	3	0	0	0	0	0	0	1	2	0	1	3	1	3	0	0	320
1	1	69	185	5	2	50.0	50	0	0	0	0	0	0	0	1	2	0	1	2	2	0	0	0	321
1	3	75	210	5	2	13.5	50	3	0	0	0	0	0	0	1	1	0	1	6	2	0	2	2	322
1	1	68	140	6	2	13.0	50	3	5	1	0	0	9	50	1	1	3	2	2	1	2	2	2	323
1	1	67	178	5	2	9.5	50	5	100	0	0	0	0	50	1	1	8	1	1	2	0	2	2	324
1	3	72	185	50	2	16.0	50	3	0	0	0	0	9	0	1	1	0	1	2	1	3	0	0	325
1	4	70	170	50	1	12.0	50	4	80	0	0	4	0	50	2	1	3	2	2	2	2	2	6	326
2	1	66	125	30	1	12.5	50	4	18	0	0	0	0	0	1	0	0	1	2	1	3	2	4	327
1	3	68	172	8	2	15.0	50	3	0	0	0	0	7	0	1	2	0	1	4	2	0	5	2	328
1	2	59	160	30	1	9.0	50	5	170	0	0	0	0	0	1	2	0	1	3	1	3	4	4	329
1	2	78	195	30	1	11.0	50	4	0	0	0	0	0	0	1	2	0	1	3	1	2	2	3	330
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1	1	72	150	2	2	10.0	50	5	30	30	0	8	18	50	1	1	3	1	1	1	3	2	5	332
1	3	69	173	40	1	50.0	50	0	0	0	0	0	0	0	1	1	0	1	3	2	0	3	2	333
1	2	67	160	6	1	16.5	50	2	0	15	0	0	0	50	1	1	0	1	2	2	0	1	0	334
1	1	74	175	3	2	12.0	50	4	0	0	0	0	9	50	1	1	1	1	5	2	0	2	5	335
1	1	70	180	3	2	11.5	50	4	45	0	0	0	54	0	2	2	0	1	2	1	2	2	3	336
1	1	71	155	4	2	11.5	50	4	0	12	0	0	0	0	1	1	0	1	2	1	3	2	4	337
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1	1	67	145	4	2	9.0	50	5	0	0	0	0	0	4	1	1	2	1	2	1	3	2	2	340
1	1	71	189	5	2	12.5	50	3	0	0	0	0	27	3	2	2	0	2	5	2	0	1	2	341
1	2	70	172	30	1	11.5	50	4	0	0	0	0	5	0	1	1	0	1	2	1	3	4	0	342
1	1	74	161	4	2	12.0	50	4	0	30	0	0	0	0	1	1	0	1	2	1	3	2	6	343
1	1	72	192	5	2	12.5	50	3	0	0	0	0	0	50	2	2	0	2	2	2	0	1	4	344
1	1	72	160	3	2	50.0	50	0	0	7	0	0	45	50	2	2	0	1	2	1	2	2	0	345
1	2	73	195	10	2	11.5	50	4	0	2	0	8	0	20	1	1	5	1	2	1	3	4	6	346
1	2	68	138	30	2	10.0	50	5	27	0	0	0	9	50	2	2	0	2	2	1	2	2	4	347
1	5	72	165	50	2	50.0	50	0	0	0	0	0	0	0	2	2	0	0	2	2	0	2	0	348
1	3	74	199	30	2	10.0	50	5	27	6	0	0	0	0	1	1	0	1	1	2	0	2	0	349
1	2	72	190	30	2	12.5	50	4	10	0	0	0	9	0	2	1	0	1	3	1	3	2	3	350

2	1	64	123	3	2	15.0	50	3	0	0	0	0	0	0	2	2	0	2	2	2	0	2	6	351
1	2	74	190	30	1	10.0	50	5	12	0	0	0	0	50	1	1	1	1	2	1	3	5	3	352
1	1	74	185	4	2	14.0	50	3	0	6	3	0	0	0	2	2	0	2	6	2	0	2	3	353
1	5	74	172	50	2	14.5	50	3	32	4	0	0	0	0	1	1	2	1	1	1	3	2	3	354
1	3	71	170	40	1	11.5	50	4	0	0	0	0	0	0	1	2	0	1	2	1	2	1	3	355
1	3	69	160	30	2	12.0	50	4	24	0	0	0	0	20	1	2	0	2	2	2	0	4	2	356
1	3	70	175	40	2	15.5	50	3	0	0	0	0	0	0	1	1	0	1	1	2	0	3	6	357
1	3	71	180	7	2	11.5	50	4	0	8	0	2	0	50	2	2	0	2	2	2	0	1	4	358
1	1	70	178	3	2	13.5	50	3	6	0	30	0	0	0	2	2	0	1	1	1	3	0	0	359
1	3	69	148	30	2	15.5	50	3	0	0	0	0	0	0	1	1	0	1	6	2	0	2	5	360
1	1	73	160	20	2	11.0	50	4	15	0	0	0	7	50	1	1	3	1	2	1	2	2	4	361
1	1	76	180	20	2	10.0	50	5	0	0	5	0	18	3	1	1	6	1	2	1	2	0	5	362
2	1	65	120	10	1	11.0	50	5	48	0	0	0	29	0	1	1	2	1	2	1	2	4	3	363
1	1	72	155	6	2	11.5	50	4	0	22	0	0	18	4	1	1	2	1	2	1	2	1	4	364
1	1	72	190	3	2	9.0	50	5	70	0	4	0	60	25	2	1	0	1	2	1	2	2	2	365
1	4	69	153	40	2	50.0	41	3	0	4	0	0	0	0	2	2	0	1	2	1	3	2	2	366
1	1	71	155	3	2	9.5	50	5	12	0	0	0	72	50	1	2	0	1	3	1	3	2	5	367
1	1	73	196	5	2	10.5	50	4	0	0	0	0	27	50	1	2	0	1	3	1	2	2	5	368
1	1	69	183	5	2	16.0	50	2	2	1	0	0	0	0	1	2	0	1	2	1	3	4	0	369
1	1	72	180	5	2	11.0	50	4	0	0	0	30	40	0	1	1	2	1	4	1	2	2	4	370
1	1	72	172	3	2	9.5	50	5	0	0	0	0	0	50	1	2	0	1	2	1	2	2	5	371
1	4	72	185	30	2	10.5	50	5	45	0	0	0	0	50	2	2	0	2	2	2	0	0	6	372
1	1	71	154	3	2	10.0	50	5	0	0	0	0	27	50	1	1	3	1	1	1	1	1	0	373
1	3	69	181	30	2	14.5	50	3	0	0	0	0	54	0	1	2	0	1	2	1	2	2	0	374
1	1	70	152	3	2	50.0	50	0	0	0	3	0	0	0	2	2	0	2	2	1	3	0	0	375
1	2	70	170	30	2	50.0	39	3	0	3	0	5	9	0	1	1	1	1	2	1	0	1	0	376
1	1	70	160	3	2	10.0	50	5	6	5	0	0	0	0	1	2	0	1	2	2	0	4	0	377
1	3	73	155	5	2	13.0	50	3	0	0	0	10	0	0	1	2	0	1	2	2	0	2	0	378
1	3	71	178	50	2	12.0	50	4	45	0	0	0	13	50	1	1	5	1	4	1	2	2	2	379
1	2	72	201	40	1	11.5	50	4	18	0	0	0	0	50	1	1	1	1	2	2	0	4	6	380
1	1	66	152	20	2	12.0	50	4	6	1	0	0	0	0	1	1	2	1	1	1	3	0	2	381
1	4	73	178	40	2	14.0	50	3	24	8	0	0	0	0	2	0	0	1	1	2	0	2	4	382
1	1	77	210	5	2	13.5	50	3	0	5	0	2	27	0	1	1	1	1	3	1	3	2	0	383
1	1	69	147	1	2	12.0	50	4	3	0	0	0	18	36	1	2	0	1	2	1	2	2	2	384
1	2	73	222	5	2	14.5	50	3	0	0	0	20	0	0	1	1	0	1	1	1	3	2	0	385
1	2	74	175	30	2	11.0	50	4	0	0	0	0	0	26	1	2	0	2	2	2	0	1	2	386
2	1	71	171	10	2	11.5	50	4	40	0	6	0	0	50	1	1	1	1	2	1	1	2	3	387
1	3	72	174	40	2	50.0	38	3	0	0	0	0	20	0	1	2	0	2	2	1	3	2	0	388
1	1	70	148	10	2	11.0	50	4	70	0	0	0	0	50	1	1	0	1	3	2	0	4	3	389
1	1	68	141	4	2	10.5	50	4	0	0	2	0	0	50	1	1	4	1	2	1	2	2	3	390
1	2	67	180	6	2	50.0	40	3	0	14	0	0	0	0	1	2	0	1	1	1	3	2	6	391
1	3	72	175	7	2	15.0	50	3	0	0	0	0	0	50	2	1	0	1	2	1	3	5	6	392
1	2	72	195	5	2	11.0	50	4	0	12	0	0	0	0	2	1	0	1	1	2	0	1	3	393
1	4	76	222	50	1	12.0	50	4	16	0	0	0	0	3	1	1	4	1	1	1	2	2	5	394
1	2	69	170	6	2	50.0	50	0	0	0	0	0	72	0	1	1	2	1	2	1	2	2	2	395
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1	4	69	188	8	2	14.5	50	3	0	0	0	0	7	0	1	2	0	1	2	1	3	4	2	397
1	1	67	135	3	2	9.5	50	5	12	40	0	0	45	0	1	2	0	1	3	1	2	2	6	398
1	1	72	195	30	1	14.5	50	3	0	0	0	0	0	3	1	1	0	1	2	2	0	2	0	399
1	2	76	180	30	2	11.0	50	4	0	0	0	30	0	0	2	2	0	2	2	2	0	3	6	400

1	1	66	140	10	2	11.0	50	4	15	0	0	0	23	0	1	1	5	1	2	1	3	0	0	401
1	1	70	170	30	2	50.0	50	0	0	0	0	0	75	50	0	2	0	1	2	1	1	0	3	402
1	1	69	179	3	2	10.0	50	5	27	0	0	0	18	29	1	1	2	1	2	1	3	1	2	403
1	3	67	162	30	1	13.0	50	4	40	0	0	0	0	0	1	1	0	1	1	1	3	0	5	404
1	3	74	215	30	2	50.0	50	0	0	3	0	0	0	50	1	1	2	1	2	1	2	2	0	405
1	4	69	180	40	2	12.5	50	4	50	0	0	2	0	0	2	2	0	2	2	2	0	2	4	406
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1	6	67	138	50	2	15.0	50	4	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	408
1	3	68	160	30	2	9.5	50	5	200	0	0	0	0	0	1	1	5	1	2	1	1	2	3	409
1	4	66	162	50	1	9.0	50	5	60	0	0	45	0	0	1	1	0	1	4	2	0	4	6	410
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1	3	74	200	30	2	12.5	50	4	0	36	0	14	18	0	2	2	0	2	3	2	0	5	2	423
2	1	63	115	4	2	11.5	50	4	10	0	0	0	18	0	1	2	0	1	1	1	2	?	2	424
1	1	72	175	3	2	10.5	50	4	0	0	0	0	11	0	1	2	0	1	3	2	0	1	0	425
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1	4	75	256	50	2	14.5	50	3	30	0	3	0	0	0	2	2	0	2	4	1	2	4	2	428
2	1	64	112	20	2	14.5	50	3	0	5	15	0	0	0	2	2	0	2	4	2	0	4	2	429
1	2	67	152	30	1	10.0	50	5	10	4	0	6	6	3	1	2	0	1	3	1	3	2	2	430
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1	2	80	190	40	2	11.0	50	4	50	0	0	0	26	50	1	1	5	1	1	1	1	0	2	437
1	3	72	183	7	2	15.5	50	3	9	0	0	0	4	0	1	1	4	1	1	1	3	2	4	438
1	2	72	200	6	2	9.5	50	5	0	0	0	0	26	9	1	1	4	1	1	1	1	2	4	439
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1	1	73	180	30	1	10.0	50	5	0	0	0	0	0	50	1	2	0	1	2	2	0	2	2	445
1	3	70	185	40	1	13.5	50	3	20	16	0	3	3	0	1	1	3	1	1	1	3	1	2	446
1	4	68	175	8	2	15.0	50	3	0	0	0	0	0	0	2	2	0	1	6	2	0	4	2	447
1	3	70	165	30	2	11.5	50	5	0	0	0	0	0	50	1	1	0	1	3	2	0	2	2	448
1	3	70	165	40	1	11.5	50	5	0	6	0	0	0	50	1	1	0	1	2	2	0	2	5	449
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1	3	70	175	40	2	13.5	50	3	0	0	0	0	0	0	1	1	0	1	3	2	0	4	0	453
1	1	70	180	5	2	16.0	50	2	0	0	0	0	26	0	1	2	0	1	3	1	3	2	2	454
1	2	70	185	20	2	10.5	50	5	36	0	0	0	0	0	2	1	1	1	2	1	1	1	2	455
1	1	71	164	3	2	11.0	50	4	0	0	0	0	0	50	1	1	1	2	2	1	3	1	3	456
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1	1	72	151	3	2	50.0	50	0	0	15	0	0	36	0	2	2	0	1	2	1	3	2	0	465
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1	1	72	180	20	1	10.0	50	5	0	0	0	0	0	0	1	1	0	1	4	1	3	4	0	470
1	3	66	155	6	2	50.0	38	3	0	0	0	0	0	0	1	1	0	1	6	2	0	0	0	471
1	1	68	165	5	2	12.0	50	4	40	30	0	0	0	3	1	2	0	1	2	2	0	2	2	472
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1	3	68	190	7	2	50.0	41	3	0	0	0	0	0	18	1	1	5	1	1	2	0	2	2	474
1	2	73	185	30	1	12.5	50	4	0	6	0	0	0	0	2	1	0	2	2	1	3	4	0	475
1	4	74	196	50	2	13.0	50	4	0	0	0	0	0	0	2	2	0	2	2	1	3	2	1	476
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1	2	72	171	30	2	9.5	50	5	15	12	0	0	0	0	2	2	0	1	3	1	3	4	5	678
1	1	67	156	30	1	9.5	50	5	150	0	0	15	27	50	1	1	9	1	1	1	2	1	2	679
1	1	69	180	3	2	14.5	50	3	0	0	0	0	0	0	0	0	0	1	2	1	3	2	6	680
1	3	72	173	40	2	10.0	50	5	60	0	0	0	0	0	1	1	0	1	2	1	2	3	6	681
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1	1	70	175	5	2	12.5	50	3	0	0	0	0	0	50	1	1	1	1	2	2	0	4	3	683
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1	1	72	171	3	2	9.5	50	5	45	0	0	0	18	0	1	1	1	1	2	1	1	2	3	688
1	1	72	170	5	2	13.5	50	3	0	0	0	0	0	65	2	2	0	2	6	2	0	2	0	689
1	2	72	200	20	2	15.0	50	3	0	0	0	0	0	50	1	2	0	1	2	1	3	1	3	690
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1	4	73	186	7	2	13.0	50	4	0	0	0	0	0	38	1	2	0	1	1	1	2	0	0	699
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1	4	65	163	30	1	50.0	50	0	0	0	0	0	0	0	1	2	0	1	6	2	0	2	1	707
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1	4	68	170	40	2	15.5	50	3	0	0	0	0	0	0	1	2	0	1	1	2	0	2	0	709
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1	3	72	190	40	1	14.0	50	3	4	2	0	0	0	0	2	1	1	1	1	1	3	2	0	729
1	3	71	180	50	1	9.5	50	5	100	0	0	8	0	50	2	2	0	2	2	1	1	2	6	730
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1	1	74	178	10	2	9.0	50	5	32	0	0	8	13	52	1	2	0	1	3	1	2	1	2	751
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1	1	74	227	5	2	11.5	50	4	8	0	0	0	36	0	2	2	0	1	3	1	3	4	6	901
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1	3	69	178	5	2	14.5	50	3	0	18	0	0	0	0	1	0	0	1	6	2	0	4	6	978
1	1	71	180	2	2	13.0	50	3	10	6	0	0	0	0	1	2	0	1	2	1	2	2	0	979
1	2	77	175	30	2	14.0	50	3	0	0	0	0	9	0	1	1	1	1	1	1	3	2	3	980
1	1	68	165	4	2	50.0	50	0	0	0	0	0	0	0	2	2	0	1	2	1	2	0	0	981
2	1	66	131	3	2	13.0	50	3	4	0	0	0	14	50	2	1	2	2	2	1	3	2	5	982
1	1	65	125	2	2	10.0	50	5	80	0	90	0	0	50	1	2	0	1	2	2	0	0	2	983
1	1	70	170	4	1	10.5	50	4	37	0	17	0	0	0	2	1	1	2	2	1	2	2	6	984
1	3	74	205	40	2	14.0	50	3	100	0	0	0	0	0	2	2	0	2	3	1	1	2	0	985
1	1	76	200	10	2	11.5	50	4	0	0	0	0	27	0	1	1	6	2	4	1	3	0	0	986
1	1	70	178	10	2	12.0	50	4	0	2	0	0	3	50	1	1	2	1	2	1	3	2	5	987
1	4	74	183	30	2	10.5	50	5	8	0	0	0	0	50	1	1	2	2	3	1	2	0	2	988
1	1	71	160	4	2	50.0	40	3	0	0	0	0	0	50	0	0	0	1	6	2	0	4	6	989
2	1	67	136	30	2	50.0	32	4	0	24	48	0	27	50	2	2	0	2	4	1	2	0	2	990
1	2	67	180	5	2	12.5	50	4	20	0	0	0	40	0	1	2	0	1	2	1	2	0	2	991
1	1	67	135	3	1	9.0	50	5	20	0	9	90	27	26	1	1	6	1	2	1	2	4	6	992
1	4	71	184	40	1	50.0	43	3	0	0	8	0	0	0	1	1	4	1	2	1	3	2	0	993
1	1	70	155	3	2	11.5	50	4	0	0	0	6	0	13	1	2	0	1	1	1	3	3	6	994
1	4	75	190	50	1	11.5	50	4	32	0	0	0	0	0	1	1	6	1	2	1	2	2	5	995
1	1	76	212	20	2	10.0	50	5	0	0	0	0	18	50	2	2	0	1	2	1	3	2	2	996
1	1	72	180	5	2	12.5	50	3	0	0	0	0	0	50	1	1	2	1	2	1	2	2	6	997
1	1	68	175	4	2	10.0	50	5	36	3	0	2	9	0	1	1	8	1	1	1	2	2	3	998
1	1	72	160	2	2	9.0	50	5	0	0	0	0	0	0	1	0	0	1	4	1	0	0	6	999
1	1	71	165	4	2	11.5	50	4	0	0	0	0	0	0	1	1	0	1	2	2	0	2	0	1000

1	1	73	178	5	2	9.0	50	5	144	0	0	0	0	50	1	1	2	1	2	1	1	3	2	1001
1	3	74	185	40	2	9.5	50	5	60	0	0	0	0	0	2	2	0	1	1	2	0	3	6	1002
1	1	68	149	3	2	9.0	50	5	12	0	0	0	0	50	2	2	0	2	2	1	3	3	3	1003
1	1	68	186	5	2	10.0	50	5	60	0	0	30	54	50	1	1	8	1	2	1	1	2	4	1004
1	1	69	165	4	2	9.0	50	5	4	0	0	0	0	0	2	2	0	0	2	1	3	4	6	1005
1	1	70	160	4	2	10.5	50	4	0	0	0	0	0	0	1	0	0	1	2	1	2	4	5	1006
2	1	66	127	30	2	50.0	22	3	0	0	0	0	0	0	1	0	0	1	6	2	0	3	6	1007
1	1	71	160	20	2	11.0	50	4	0	40	0	0	0	0	2	2	0	2	2	2	0	2	0	1008
1	2	71	200	5	2	13.5	50	3	0	0	0	0	0	0	2	2	0	2	3	1	3	4	2	1009
2	1	61	148	4	2	11.5	50	4	0	0	0	0	0	0	1	2	0	1	2	1	3	2	2	1010
1	3	74	210	50	2	13.5	50	3	30	0	0	0	18	50	1	1	0	1	5	2	0	2	0	1011
1	1	66	130	30	1	11.0	50	4	2	3	0	0	0	6	2	1	3	1	2	2	0	2	5	1012
1	2	68	150	30	2	9.0	50	5	45	0	0	0	0	0	1	1	3	1	1	1	2	2	2	1013
1	2	70	145	30	1	13.0	50	3	6	0	0	0	9	41	1	2	0	1	1	1	3	3	0	1014
1	3	72	150	7	2	12.0	50	4	56	7	0	0	0	0	1	2	0	1	1	1	1	0	0	1015
1	3	67	153	7	1	13.5	50	3	0	0	0	0	0	50	1	1	0	1	1	2	0	4	3	1016
1	4	72	182	40	1	50.0	41	3	0	0	0	0	0	0	1	1	0	1	1	2	0	2	2	1017
1	2	66	167	30	2	10.0	50	5	54	0	0	0	0	0	1	1	0	1	2	1	3	3	2	1018
1	1	70	175	20	2	14.0	50	3	2	0	0	0	9	50	2	1	3	1	1	1	3	1	6	1019
1	1	70	175	4	2	9.5	50	5	245	0	0	0	0	50	1	1	1	1	2	1	2	0	2	1020
1	1	74	190	20	2	10.5	50	4	0	0	0	0	0	50	1	1	0	1	3	1	3	0	5	1021
2	1	71	145	30	2	13.0	50	3	0	0	0	0	0	0	1	1	0	1	6	2	0	0	0	1022
1	3	68	162	30	2	12.0	50	4	24	2	0	0	0	3	2	2	0	2	3	1	3	2	6	1023
2	1	64	115	20	2	12.0	50	4	0	0	0	0	9	0	1	2	0	1	3	1	3	2	2	1024
1	1	74	155	4	2	9.5	50	5	50	1	3	20	0	0	2	2	0	1	3	2	0	2	6	1025
1	4	73	183	30	1	13.5	50	4	20	0	0	0	0	50	0	0	0	0	2	1	2	1	6	1026
1	1	70	145	4	2	11.0	50	4	3	0	0	0	18	50	1	1	0	1	2	1	3	3	3	1027
1	1	69	145	3	2	9.0	50	5	18	10	0	0	18	50	2	1	2	2	3	1	2	4	5	1028
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1	2	70	200	7	2	50.0	50	0	0	0	0	0	0	0	1	1	0	1	6	2	0	1	3	1031
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1	3	68	174	50	2	12.5	50	4	60	0	0	0	15	0	2	2	0	2	2	1	3	2	2	1034
1	1	70	165	4	2	9.0	50	5	10	0	0	0	0	40	1	2	0	2	3	1	1	0	6	1035
1	1	68	158	30	1	10.5	50	4	0	18	0	0	27	0	1	1	1	1	3	1	3	2	0	1036
1	1	70	153	4	2	9.0	50	5	0	0	0	0	0	50	1	1	4	1	2	1	1	2	3	1037
1	4	70	168	40	1	11.5	50	4	0	12	0	0	0	0	1	1	0	1	2	1	3	3	4	1038
1	2	72	160	30	1	11.5	50	4	0	0	18	0	0	0	2	1	0	1	3	2	0	2	3	1039
1	1	69	170	2	2	12.0	50	4	0	5	0	24	0	0	1	0	0	1	3	2	0	2	3	1040
1	1	73	180	20	1	9.5	50	5	48	0	0	0	87	50	1	1	5	1	3	1	1	2	6	1041
1	3	70	188	30	1	12.0	50	4	36	0	0	0	0	0	1	2	0	2	4	1	3	4	2	1042
2	1	63	115	3	2	13.5	50	3	0	0	0	0	0	4	1	1	2	1	6	1	3	1	5	1043
1	1	70	185	5	2	13.0	50	3	0	0	0	0	0	0	2	2	0	2	4	2	0	2	2	1044
1	4	70	172	40	1	14.5	50	3	6	1	0	0	2	0	0	1	1	1	2	1	3	2	6	1045
1	1	69	165	30	1	11.0	50	4	40	0	0	0	0	0	1	1	5	1	3	2	0	2	3	1046
1	4	70	180	50	2	12.0	50	4	0	0	0	0	0	3	2	2	0	2	2	2	0	1	1	1047
1	4	72	172	40	2	11.0	50	5	30	0	0	5	0	0	1	1	4	1	1	1	2	2	3	1048
1	2	74	190	30	1	11.0	50	4	30	0	0	0	18	0	1	1	5	1	2	1	3	1	3	1049
1	3	74	287	40	2	12.0	50	4	36	0	0	30	0	0	2	1	0	2	1	2	0	4	6	1050

1	1	68	174	5	2	12.5	50	3	0	0	0	0	18	50	1	1	5	1	2	1	2	4	4	1051
1	1	69	151	5	2	12.0	50	4	30	0	0	0	0	0	2	2	0	2	2	1	2	4	2	1052
1	1	70	155	30	2	12.0	50	4	36	16	0	0	0	19	1	1	3	1	1	1	2	3	2	1053
1	2	79	215	30	2	10.0	50	5	36	0	3	0	9	50	1	1	5	1	5	2	0	2	2	1054
1	1	68	150	4	2	10.0	50	5	12	4	0	0	5	6	2	2	0	1	2	1	2	2	2	1055
1	3	71	189	5	2	16.5	50	2	0	3	0	0	0	0	2	0	0	1	6	1	3	2	3	1056
1	1	72	201	5	2	14.0	50	3	0	0	0	0	0	0	2	2	0	2	2	1	0	1	6	1057
1	1	68	155	4	2	9.0	50	5	20	0	0	0	9	50	2	2	0	1	3	1	2	2	2	1058
1	1	74	180	20	2	10.0	50	5	24	0	0	0	9	0	1	2	0	1	2	1	3	1	0	1059
1	1	72	195	5	2	14.5	50	3	0	5	0	0	18	0	1	2	0	1	6	1	2	1	3	1060
1	1	68	175	5	2	14.0	50	3	0	0	0	0	0	0	1	1	2	1	2	1	2	1	2	1061
1	4	67	165	40	1	10.0	50	5	12	0	0	0	0	0	1	1	3	1	2	1	3	2	0	1062
1	2	65	145	40	1	14.0	50	3	40	0	0	0	0	50	1	2	0	1	1	1	2	2	2	1063
1	4	69	170	30	2	16.5	50	2	0	0	0	0	0	0	2	2	0	0	2	2	0	4	0	1064
1	2	72	185	7	2	13.5	50	3	0	2	0	0	0	0	2	2	0	1	2	2	0	2	2	1065
1	1	70	165	20	2	11.5	50	4	18	0	0	0	0	0	1	2	0	1	1	1	3	2	2	1066
1	1	71	153	30	1	10.0	50	5	60	1	0	0	0	0	1	2	0	1	3	1	2	4	0	1067
1	1	68	140	5	2	11.0	50	4	0	0	0	0	0	6	2	2	0	1	1	2	0	2	0	1068
1	3	69	186	6	2	14.5	50	3	6	0	0	12	0	0	1	2	0	1	1	1	3	4	2	1069
1	1	70	170	5	2	9.5	50	5	0	0	0	0	72	50	1	1	5	1	1	1	1	2	5	1070
1	1	68	150	20	1	10.5	50	4	0	0	0	0	36	0	1	1	2	1	2	1	3	4	0	1071
1	1	71	150	30	1	11.0	50	4	0	0	0	0	0	0	1	1	0	1	2	1	3	4	0	1072
1	1	72	193	3	2	50.0	50	0	0	0	0	48	0	0	0	2	0	1	3	2	0	1	4	1073
1	1	74	214	6	2	14.0	50	3	9	40	0	0	0	0	1	1	7	1	1	1	2	2	2	1074
1	1	70	195	4	2	14.5	50	3	0	20	0	0	0	0	1	2	0	2	3	2	0	4	0	1075
2	2	63	106	6	2	50.0	15	3	0	0	0	0	0	0	2	2	0	1	6	2	0	2	2	1076
1	3	73	195	40	1	9.5	50	5	80	30	0	0	0	50	1	1	4	1	2	1	2	2	5	1077
1	1	69	150	4	2	11.5	50	4	0	0	3	0	0	58	1	1	2	1	2	1	3	0	0	1078
1	2	74	185	5	2	14.5	50	3	14	0	0	0	0	0	1	2	0	1	6	1	2	0	0	1079
1	3	67	180	6	2	50.0	50	0	0	0	0	0	0	0	2	2	0	2	6	0	3	4	3	1080

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APPENDIX C

SAMPLE OF RESPONSES TO SURVEY QUESTION 16: ONINION ON NEW WEIGHT STANDARDS

The sample opinions listed in this appendix reflect the views of each respondent and do not necessarily represent the views of the author or the position of the Air Force Institute of Technology or the United States Air Force.

I think the age factor should be reinstated. Weight control becomes more difficult as one gets older and this should be taken into account. (17)*

I think they're ridiculously stupid. People come in all shapes sizes, and physical conditions. It's ridiculous to expect them all to be physically fit at a particular weight--the average! This regulation, with all its good intentions, has too many good Air Force people concerned about weight loss or gain and distracts them from their job. (33)

I have heard no favorable comment and consider them detrimental to morale. A seventeen-year old has different metabolism, muscle tone, etc. than a forty-year old. Present reg seems a big joke--a square filler. (35)

Weight has nothing to do with job performance. We are not models, we are military men and women who choose to defend their country. If the military really stuck to AFR 35-11 and all commanders supported the program 100%, there would be very little supervision in the Air Force because no one could meet the standard. (61)

Ridiculous--it's as if the Air Force was trying to build a superior race. (108)

I feel the weight standards are inaccurate because many people cannot maintain that standard. I personally carry about 200 pounds and usually when I get below my max weight, I feel weak and tired. (229)

Stinks! Personnel become less active as they age, and it's impossible to keep up with first-termers. As you gain in rank you are unable to establish a physical fitness program without sacrificing your duties, family, etc. (245)

How does height to weight show a person's physical fitness? If I weighed my maximum, I would either be extremely muscular or extremely fat! (297)

At age 25, I'm 20 pounds heavier than I was at age 18, but I can run farther, faster, and lift more. Weight has no bearing whatsoever on true physical condition. For example, Earl Campbell at 5'-10" and 220 pounds would be 30 pounds overweight by AF standards. (300)

They are classic examples of abject idiocy! They not only ignore the fact-of-life reality that human beings tend to gain weight as they age ("middle age spread") but also demoralize or eliminate outright people whose contributions are desperately needed. In a society whose avowed aim is to strike down discrimination based on features other than performance, why do we still have weight control? (356)

As the body matures the metabolism slows, increasing the probability to gain additional weight. I strongly feel a fair assessment should be made to include a person's age. Allowances need not be ridiculous--however, they should be made! (364)

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*Numbers refer to individual case number listed in data column 25, Appendix B.

Seems to be too idealistic. This type of regulation fails to take into account an obvious fact of life that as a person gets older, their lifestyle, physical makeup, and body chemistry change from what we had at the age of 18 years. (415)

I think that having weight standards at all is ridiculous. Completion of an organized physical fitness program is all that should be required. 100% participation in such a program would negate the requirement for weight control since continuous participation would insure that all individuals are fit for duty. (473)

Inflexible and unrealistic! As a young man I had a chronic case of the "skinnies." After age 35 my metabolism slowed markedly. A 35-year eating pattern slowly but steadily increased my weight. Now I am forced to stay within the parameters of a 26-year old! (488)

Stupid. Allows young men to enter the service just under their maximum weight and then have to go on a weight reduction program or be separated just because they added a few pounds with age, which normally happens. (544)

The new standard is not in the best interest of the Air Force. Too much productive time is lost trying to lose weight and meet the standard. Weight standards should be abolished and more emphasis placed on physical fitness and conditioning. (644)

As people get older, their metabolism slows down. Unless they continually exercise, they will get heavier. There ought to be some allowance for age. (679)

You're still trying to make us all look, sound, and smell alike. We're not. (842)

Dumb! Should have been left the way it was. (855)

They stink! I am nowhere near obesity, yet folks continually harrass me. On the other hand, several short people get away with rolls of fat. I think the whole system is inadequate and intrinsically unfair to tall people. (960)

At my age, for persons in the lower echelons who are still growing, age should be a factor in considering maximum allowable weight. (1028)

Weight has nothing to do with physical fitness. There are many high school, college, and professional athletes who are in excellent physical condition but who would not meet the Air Force weight standard for height. The weight standards set by the Air Force are strictly cosmetic. (1042)

Weight standards should be strictly adhered to with additional time above and beyond the standard work day devoted to physical exercise. The military should be lean and trim, not a haven for fat people. (95)

Still too lenient. I could weigh 211 for my height which is excessive for my build. (97)

I feel that they are probably still too high. My own maximum is 218 pounds, and I would be in poor shape if I even came close. (113)

Okay if they make everyone go by the same standard. I saw a MSgt weigh people in and some were at least 20 pounds overweight and he let them get by. (237)

The new regulation changes nothing except for weight standards. The problem still lies in enforcing the regulation for senior individuals who are overweight. There definitely seems to be a difference in enforcing weight standards between junior and senior individuals. (239)

I do not feel the Air Force is the place for overweight people. There should be repercussions for commanders and supervisors who have overweight people. (339)

The weight standards are still too low. Except in those rare cases where the individual's physical conditioning or bone structure is unusual, most individuals should be 10-20 pounds lighter than current standards allow. (457)

I have always felt that persons who were older should not be allowed to be fat just because they are older. I am disappointed with the appearance standards in the Air Force and their lack of enforcement. As a recent graduate of an NCO Academy, I noticed many NCOs in the class who couldn't see their belt buckles. Also, some of the officers in this command must buy their uniforms from a tent maker. Weight and appearance standards should apply to all Air Force members, officer and enlisted alike. (528)

A step in the right direction. Should probably be less lenient than they currently are. (542)

I have always felt that the men's weight standards are too lax. There are many men I consider to be fat who are within their weight limit. Conversely, there are many women I know who are close to their weight limit who look just fine. I think there is a definite double standard. (579)

I think the new weight standards could do a lot to improve the physical appearance of USAF personnel if the program were taken seriously and administered properly. As it is, the program is a joke at every organization I have ever bee. ssigned to. (604)

Too high except for weight lifters. (645)

Too lenient. Overweight, out-of-condition people look bad and perform at a level beneath their capability. (681)

I think the weight standards are ridiculous. A person my height can be obese and not overweight. (723)

It makes no difference because it is not enforced at all ranks and ages. (854)

Better. But I am disgusted by the rule that is putting several enlisted personnel with me under severe pressure to lose weight when there is a captain in my building not threatened with losing his job that somewhat resembles a whale. (884)

The weight standards are too lax, and when applied tend to discriminate against enlisted personnel. Weight control is nesessary for good health and helps project the proper military image. Standards should be tightened and enforced equally for both officer and enlisted personnel. (1002)

Present weight standards outlined in AFR 35-11 allow too many pounds to Air Force members. Too many people have their goal set too low at the maximum allowable weight. (1001)

The new standards are fair, but at times I know it has put a lot of mental stress on some people to lose weight. I feel there should be a grace period of six months after your first indication that you are overweight. If you haven't lost weight by the end of six months, then you should be put on the fat-boy program. (1004)

A person who might look heavy and have a bad appearance but is not overweight by AF standards is not hassled. Yet a person who is a pound over the max is hassled to the max! (1005)

They should have come long ago. They should be more rigidly enforced. Fat people should be identified by squadron and told that they have been identified as health problems. (1012)

Too much weight allowed. (1038)

In my opinion I think this was a step in the right direction. We have too many senior NCOs and officers that are a disgrace to the United States Air Force because of the way the uniform bulges due to excess weight. (12)

Generally support. "Old" slouchy men/women don't look any better than "younger" ones. (117)

Another hopeless attempt to get rid of "beer bellies." However, it was a move in the right direction. It now takes the "hefties" four weeks of crash dieting to make the weight limits instead of three. (139)

Probably appropriate, but for individuals over 45 the 90-day "correction" period seems inadequate to overcome the lack of mental and physical discipline established during the previous decade. (175)

Agree. People shouldn't be allowed to get heavier just because they get older. (206)

I feel the change in the weight standard is a beneficial one to the Air Force. It gives us a more fit, combat-ready force, and an overall healthier group of people. (223)

Excellent. The older you get the more work your heart has to do. Extra weight just causes more stress on your heart. (233)

I agree that weight allowances should be enforced more strictly for the older personnel. Their positions of greater responsibility tax their bodies a lot, so they must be fit to be effective. (286)

I agree--just because you're getting older doesn't mean you're allowed to get fatter. Yes, your metabolism gets slower, but then you're older and more mature to acquire discipline to stay slim and trim. Your job is more important when you're older, so you should be in shape even more. (327)

If someone can't meet the weight standards they have a real problem. (347)

It is okay. People don't have to get fat just because they get old. (360)

I feel that if a person is wearing the uniform, he/she should look good in it regardless of age. "Middle age spread" has no place in the Air Force. (480)

People will see that they have to remain fit for a longer period of time. I noticed a lot of negative reaction to the announcement, but I feel the standards will help me maintain or reduce my present weight for as long as I'm in the Air Force. Definitely a positive step. (656)

I feel that previous standards were too lenient, therefore projecting poor image. New weight standards should improve the appearance of some Air Force people. (676)

I think it is a good idea, however, many NCOs are in deep trouble because they didn't count on the regulation being changed. (680)

Okay. The Air Force had developed a weight problem among its senior members. Since November, the weight problem, in my office anyway, has disappeared. (819)

I personally think it is fine. I personally had to lose 16 unneeded pounds. (834)

I think it is about time the Air Force started treating everybody equal. (955)

I think it is great. What we don't need is an Air Force full of "porkers." (960)

Standards are a very important part of keeping within the "military image." I agree with the new weight standards for appearances only. (962)

Excellent. It's about time the Air Force started cracking down on overweight lazy bums sitting on their rear ends all day. (984)

I don't really care what the standards are. Just set them up and leave them alone. This jockeying them up and down is for the birds. (991)

I think it's good. So many AF people out of shape! No kidding! Especially security police; if I was an SP I'd make sure I was in shape. I wish we had even tougher standards. (1003)

Good. It should make a cosmetic improvement and should raise the general level of physical fitness. (1017)

I think this was a step in the right direction. The previous weight tables were too liberal. (1030)

As a very active individual who has for years been "heavy, I feel the new change to 35-11 was made without enough consideration for individuals who tend to be heavy but muscular--not fat. I have always been close to my maximum weight yet last month I logged over 100 miles in preparation for several ten-kilometer races. I feel good, look good, and am certainly not fat. Rather than lumping everyone into the same category weight-wise, you have to have a system that considers each individual. The nomograms are of little help. (42)

I am enrolled in a weight reduction program in my squadron. Beginning next month I will begin training for the shot put. During the track season I will gain 20-40 pounds of muscle, none of which will affect my job performance. The nomogram did not help increase my max allowable weight, even though I have 16" biceps. (100)

I feel these weight standards are fair, but should give more consideration and flexibility to those who are very big-boned or extremely muscular. (111)

About right for me. However, a co-worker is a weight lifter--solid muscle--and has been classified as "overweight." A real joke. Fat content should be considered--how about weight in water? (108)

Should be based on build also, not age. (219)

It is wrong. I am one pound under my max, yet I am not fat. I am solid. If I were fat and did not look good in uniform I should be put on the fat-boy program. But the Air Force should make extra allowances for people who are built solid. (236)

I lift weights and consequently am very solidly built. I have to diet and fast for about 4-5 days before every weigh-in to be under my maximum allowable weight. I am also not considered fat--my measurements are 38-28-38. Use a frame-structure method to measure the build of a person. (249)

Height/weight do not relate. Body density should be the true measure. However, this does not indicate body conditioning or muscle tone. (268)

Personal experience says that an individual's background has a good deal to do with body weight. There are numerous individuals on active duty who participated in intercollegiate athletics and weight lifting programs. Yet, when they came on active duty, they found they were overweight by AF standards. These types of things must be considered when arriving at an individual's proper weight, rather than relying on a standard weight shart. (298)

The weight standards are okay. However, the frame of the person should be considered more. (397)

I feel that bone structure should be the deciding factor on weight. (466)

I know several individuals who are always worried about their weight, but they don't look obese or fat or overweight by any definition. I know "looks good" is hard to define, but it shouldn't be a difficult, time-consuming process to get a waiver for weight if it is obvious to others that a person "looks good." (525)

I am very large-boned and although I run three miles a day, five days a week, I have a hard time keeping under my maximum weight. I am defin itely not fat. It all comes down to the bulk of a person's body and not just height or age. (601)

I find the whole 35-11 weight program to be bureaucratic tripe. Standards based on arbitrary weight without consideration of somatotype is pseudo-scientific nonsense. (614)

Weight standards are a poor means of determining combat fitness. A person exceeding the standards may be very well fit for combat, and a person within standards may be totally unfit for combat. (615)

I believe that weight standards by using a chart are not fair at all. A person should be looked at by a doctor or specialist and body fat should be measured and a physical test should be performed. We are all different and should be judged accordingly. I am a big person--not obese but big--but the weight chart is the only thing standing between me and a career in the Air Force. It is disheartening to go to my orderly room and have some skinny fool who probably can't get out of his own way tell me I'm overweight. This program is just not people-oriented. (651)

The weight control program should be more subjective and based more on performance, rather objectively based on height and appearance as it is now. (652)

Factors such as age and muscle structure should probably be considered, without allowing unnecessary obesity. (812)

Weight standards are inappropriate. Should use percent body fat measured with calipers for ease of administration. (821)

They are beneficial if used as a guideline. I feel that a system which measures percent of body fat and some type of test for cardiovascular fitness should be used in conjunction with the weight standards. (853)

The standards are completely wrong. The Air Force is not God and should take into consideration that people are different. All people are not alike. Let's give God credit for making us each different and try to set up our guidelines along his lines. I think the Air Force has gone overboard on this subject. (880)

Any time you arbitrarily assign weight to a height you have stifled the flexibility to account for the natural differences in people. Other things that I know must be considered are bone structure, muscle tone, and muscle development and bulk. I have known people with a minimal amount of body fat, pure muscle, and a big-boned structure and have seen them put on the fat-boy program for weighing more than their height allowed. (881)

The new weight standards are unfair and unrealistic. They are unfair in that they are continually changing and fail to consider hereditary tendencies toward weight gain. They are unrealistic in that there are few people who can say they weigh less at age 40 than they did at age 18. As one gets older in the military, jobs tend to include less physical activity, thus increasing the likelihood of weight gain. (915)

As a squadron commander I am faced with enforcing this regulation. I have people who weigh near but under their maximum yet do not "look good" in a uniform. I also have several physically fit athletic types who exceed their maximum yet do "look good" in uniform. I have seen tremendous disparity in determining what "looks good" among squadrons, bases, and commands. (1050)

APPENDIX D

SAMPLE OF RESPONSES TO SURVEY QUESTION 17: SUGGESTIONS FOR PROGRAM IMPROVEMENT

The sample suggestions listed in this appendix reflect the views of each respondent and do not necessarily represent the views of the author or the position of the Air Force Institute of Technology or the United States Air Force.

Have a controlled physical fitness program that makes it mandatory to participate in a physical conditioning program. (12)*

If the Air Force is really serious about fitness and weight control then perhaps weekly mandatory formations would add some credibility to the program. I believe the 3-mile walk should not be an option. Too many times I have seen overweight individuals merrily walking, chatting, and often smoking while taking their yearly constitutional. Can this realistically be called a fitness program? The Army awards points towards promotion, in varying amounts, dependent upon an individual's performance in a fitness exam. If the Air Force did this, there would be a vast increase in the number of physically fit airmen. (17)

I think the Air Force should start a program of daily exercise. The program should include running and other exercises and should be mandatory for everyone from generals to airmen basics. Running just once a year just doesn't cut it. Please help to save lives—we all need a change for the better. (20)

I strongly feel we need to revert back to weekly calisthentics for everyone in the Air Force in order to eliminate the attitude that peacetime conditions create. Emphasis should be on physical strengths and not on how fast an individual can run a 1.5-mile course. (40)

I think that time during the day (1 hour) should be given for physical fitness. I believe it would really help in the morale of people in the Air Force. (46)

Running 1.5 miles once a year is wrong. I have been in the service for 11 years. In that time I may have run or walked my aerobics test 3 times. I know this is wrong, but if the program is not supported from the top, it won't be supported from the bottom. (61)

The present USAF aerobics testing program is a joke. All it proves is whether a person, regardless of their physical condition, can keep from having a heart attack when pushed once a year. Many people I have talked to favor a mandatory physical training program. The "whole man" concept should include a member's state of fitness. (62)

Make the athletic program mandatory, not voluntary! Enforce at least 2-3 hours of P.E. each week. Exercise is not only good for weight but also "stress" and emotional ventilation. The current "voluntary" program is a joke for the older personnal who are not single and "competitive." (74)

Provide time and training money. (108)

I would like to see a mandatory formation type program by units one day per week. Calisthentics followed by running would be a good program. (113)

*Numbers refer to individual case number listed in data column 25, Appendix B.

The Air Force, including myself, is too out of shape. Squadrons need to set up one hour per day and make people like me get out and get in shape. (124)

I feel required weekly exercise for all USAF personnel is a must. I hate running. (146)

Either: (1) Get serious about it and make it mandatory with PT sessions for all personnel, or (2) Abolish the program. (177)

In three years I have never run aerobics. Other organizations on base allow time for physical fitness activities. Greater consistency among organizational policies is desirable. (212)

The Air Force should institute some type of mandatory program where units would gather together once a week or so for some form of physical activity. It need not be strenuous, but should require some effort. It would instill a sense of team spirit in fun and exercise. It would help incorporate in us all the values of exercise. (223)

We should have a time set aside as a squadron for physical fitness at the gym, as the Army does, during duty hours. (233)

Encourage the Air Force to support 30 minutes per day dedicated to physical fitness, such that a person's lunch hour could be combined to allow time to run, etc. (264)

Establish a weekly program with mandatory participation by everyone. (268)

If we really want physically fit people, we must provide time for them to stay in shape. Allow people one hour per day for three days per week. Require people to run 1.5 miles in 10 minutes 30 seconds. (297)

Make mandatory programs of 3 to 5 times per week, one hour each time. The program should be during duty hours. If it is necessary to go from an eight to a nine-hour day, then so be it. Gymnasiums should be for active duty only. Our fitness is more important than a dependent's hobby. Overcrowding by dependents is a problem at every gym I have been to in the last 11 years. (300)

Institute a mandatory, supervised program. I am reaching the age where I am less inclined to participate, but I need it even more than a young person. (304)

If higher HQ officials feel the fitness program should remain, then some type of physical activity must become part of the daily program during the workday schedule. Physical fitness is only a once-a-year program for too many of the service populace. (318)

If the Air Force wants to have an effective physical fitness program, allocate a mandatory hour per day for physical fitness. I think the majority would participate. Mandatory time will force personnel to get some exercise, tension will decrease, people will feel good, and morale will go up. (347)

The Air Force should scrap the current program. The only way individuals are going to train is to make it mandatory to participate in a weekly type program. The 3-mile walk is a joke. (379)

I feel there is no physical fitness program in the Air Force. Running 1.5-miles once a year does not prove a thing. Physical fitness has to be a daily thing. I recommend a mandatory, daily program with group participation in calisthenics, running, etc. (397)

More regimented and mandatory programs instead of an annual 1.5-mile run. I'm academically inclined and would rather read a book than exercise. I hate exercising but know I should. (422)

If the Air Force wants to get serious about fitness, I suggest a mandatory fitness program done as a unit with the commander leading the way. The activity need not be strenuous; 30 or 40 minutes of calisthenics would be adequate. The benefits would be increased esprit de corps, closeness with the commander, etc. No test should be required; only 100 percent participation. The USMC and the U.S. Army have learned these lessons while the USAF has been pretending that they are an airline instead of a military force. (473)

The yearly requirement to run 1.5 miles is not enough. If we ever had a war half the people around you probably wouldn't make it because they're not in condition to participate. (478)

Make it mandatory or forget it! Commanders at all levels should make physical fitness programs a scheduled, mandatory formation. (480)

I would like to see mandatory physical training for all personnel. We don't have to go overboard and run 5 miles per day with combat boots and a pack, but with workloads and schedules and the attitude of many bases about using any duty time for PT, many people don't take their rightful time to get in shape. A mandatory, scheduled fitness program would solve this problem. (525)

The only way a military organization can be truly physically fit is to have everyone in the organization work on their fitness as part of a group activity. I strongly believe in physical fitness being an integral part of the USAF, not just a "prove-it-once-a-year" action. (542)

People who participate in a regular exercise program find the so-called aerobic standards a joke. I think the current standards should require a "good" rating or better, and if people can't make it, tough. There should be an alternative test for those who hate to run or walk. (579)

If we are going to have a fit force, we are going to have to dedicate some time to do it, and we are going to have to get earnest about it. (652)

If we were required to run once a week, pot bellies would be a thing of the past. (656)

The annual aerobics program is more hazardous than beneficial. Most people will not train for a run they are only required to do once a year. If you are serious about requiring aerobic conditioning, then put together a serious program. If not, quit risking a person's health and safety with a program designed to fill a square in the Air Force.

The current program is a joke. Either scrap the pseudo-program we have now or get off dead center and provide time, instructors, and a regulation with teeth that makes participation mandatory in selected physical activities. 723)

Set aside (by regulation) a minimum of one hour daily for everyone to go do exercising of the person's choice. (842)

A staggered lunch hour manning schedule which insures a minimun of 90 minutes per day is set aside for each individual to work out is a must. (853)

Have PT every morning for 30 minutes or before each shift so there is participation by everyone. (880)

If you can't give us at least a half hour daily for physical training then don't ask us to go out and kill ourselves once a year to meet some requirement in AFR 35-11. The Army doesn't, the Navy doesn't, the Marines don't, and the Air Force shouldn't. (895)

I think each squadron should make it a mandatory program to have everyone take time from work and do some type of physical sport. (1004)

To increase participation, make the program mandatory, just like AFR 35-10. Commanders should be required to make time available for aerobics. (1017)

A yearly 1.5-mile run is a farce. Physical fitness should be tested on a weekly or monthly basis. (95)

The annual aerobics test should be increased to quarterly or twice a year, or be completely done away with. If it is increased, I feel that more military people will get in good physical condition and stay that way. (111)

This once-a-year thing is for the birds. I think once a month testing would help to reveal people who are out of shape a lot sooner. I think the standard for the over-forty age group is asking a lot, but maybe it's what we need because this is the age group where our young people really get their impression of the seniors. (119)

I think the runs should be conducted more often to preclude some people attempting the 1.5-mile run when they are out of shape. (173)

Either press for a more frequently applied program (walk/run once a month) or forget the whole thing. I see too many guys killing themselves once a year--that's a waste of time. (188)

Test and weigh in at least twice a year. (206)

I feel the present program is a lot of hogwash. I don't feel that a once-a-year program as we presently have is effective. I feel that in order to make the AF physical fitness program work, it should be made mandatory that the 1.5-mile running or walking test be conducted at least once a month. (229)

If the Air Force wishes to conduct a physical fitness program which keeps their personnel physically fit and within the weight standards, they should do it on a weekly basis for all individuals. (239)

Make the run requirement once a month rather than once a year! If you're going to continue once a year, then do away with it. It only gives older guys heart attacks when they do it so unoften. Some may not like so frequent a program at first, but esprit de corps would rise in the long run and work output would be better. My brother instituted a running program in the outfit he runs at his base. He said it improved work output and discouraged drug use in his enlisted men. They couldn't run and stay on drugs. They became proud of being in shape. (327)

I personally feel that the enlisted men and women should be made to pass a certain fitness test at least once a month, similar to the one we did in basic training. (336)

Replace the annual run/walk with regular weekly physical fitness sessions, say a structured program for two duty hours per week. Do this only if the USAF's real interest is in being fit--not just appearing to be so. (356)

I feel quarterly tests should be conducted; those failing should be tested weekly or put on a remedial training program and constantly tested until they pass. People under 34 years of age should not have the option of walking. Anyone under 34 years of age should be able to run 1.5 miles. (455)

Aerobics should be run more than once a year. As it is, running/walking only once a year does more to damage a person's health than not doing it at all. (604)

A once-a-year run of 1.5 miles does not mean that someone is in shape. I believe that regular exercise on a constant basis 2 or 3 times a week (say one hour at a time) would keep people in better shape and possibly even keep inches off around the pot belly. We need more exercises more often--not necessarily only running. (676)

Hold qualifications more often, perhaps quarterly or semiannually, and don't let out-of-shape people continue in service. As it is right now, the physical fitness and weight control program is a joke with the results too often "pencil-whipped." Let's do it right. (812)

Conduct a daily/weekly fitness program. If our duty schedule permits it, let us do our workouts during duty hours. I'm not suggesting that fitness come before duty, but that the two can coexist together. The overall result will be not only a more fit AF but also a group of workers more ready to do their duties. (824)

When I attended the NCO Academy we had physical training 3 times per week for one hour each time. At the end of six weeks I felt much better about myself and was almost physically fit—but the program was mandatory. Do the same with the AF fitness program. (944)

Make the run test a quarterly or semiannual requirement and spot check the honesty of the people. I know for a fact that lots of people are not running or weighing in because they have a "friend" in the orderly room. Official test results do not reflect the true physical fitness level of the Air Force. (1060)

Physical fitness is now the product of individual, self-motivated effort and not one of the formal goals of the system. Put a block on physical condition in efficiency reports and you would see a complete change in attitude. (89)

Continue the same basic system we have now with the following modifications: (1) decrease the time required to pass the 1.5-mile run to twelve minutes for everyone, (2) have the individual and immediate supervisor certify regular participation in a fitness program, and (3) eliminate the optional 3-mile walk. Also, place control of the system at a level which can maintain the integrity of the program. (100)

To better encourage running, make changing/shower rooms available at places other than the gym. (112)

For those who are overweight or who fail the run test, cut their separate rations for each month they are overweight or are in a failing status. That's motivation—money talks. Either put teeth in the program or forget it. (117)

Establish a briefing program explaining and illustrating the benefits that come from good physical condition. (126)

Increase gym shower facilities. Mandate at least weekly exercise programs. Include running, walking, cycling, swimming, and mixed exercises as part of the annual fitness test. Consider monitoring heart and lungs during testing. Test at least quarterly. Require that supervisors allow duty time for exercising. (139)

Encourage folks to change their behavior and become more aware of the benefits of being physically fit. Motivate in a positive way—not out of fear of punishment. (199)

Take more action against fatties and out-of-shape folks. Encourage more widespread participation in physical activities by testing more than once a year, collecting and reporting aerobic points earned each week to immediate supervisors, emphasizing intramural sports more, and recognizing people who are in shape through some sort of special awards or benefits. (218)

Put more emphasis on soldierly qualities and requirements for deployments or war. Offer challenging, entertaining ways to stay fit and advertise them to make them desirable and part of career progression. (286)

Make physical fitness a command interest item. Right now only weight control is. This could be because weight control is easy to measure and put on a slide. Need more O-5 and O-6 leadership by example. (317)

Make repercussions for commanders and supervisors with overweight people. (339)

Fitness requirements should be the same for both males and females. Since most requirements for Air Force jobs are established without regard to sex, mobility requirements are made without regard to sex, and most other duty-related activities do not make a distinction based on a person's sex, this activity should be no exception. (360)

I'm the aerobics monitor for our squadron. I have never heard so much complaining about any program. If we're going to have a program, then let's do it right or forget it altogether. We need to get the senior officers and NCOs into the act. They are by far the worst. Don't worry so much about the younger airmen and officers. Let's get the old Air Force in shape. (362)

Incorporate regular group athletics/calisthenics into the program. This would help morale as well as fitness. I'm prejudiced because I spent three years in the Army where they have such a program. (381)

Making a program that rewards those who participate satisfactorily is as necessary as revamping the entire program. Each command, base, or squadron should have its own physical fitness plan that meets its needs. (415)

It does not appear that the Air Force has a physical fitness program in effect. We need to develop a series of physical stress tests (pushups, pullups, situps, run, etc.) that each individual will take semiannually. The tests will measure the individual's physical condition and, combined with a little running and conditioning, will improve the physical fitness of the Air Force. (457)

Eliminate the running. As it now stands you can easily get a passing score just by knowing the timer. It's hard to flunk a friend. In 12 years in the Admin field I have seen as many people passed by the pen as I have seen pass by actually performing. (543)

Have one! The Air Force philosophy pertaining to physical fitness is "as time permits." As a result, there is no program. The cost of a mandatory program conducted en masse during duty hours would be more than repaid by increased health, esprit de corps, and work efficiency. (586)

Make unit fitness and combat capability the responsibility of every commander. Make this a required statement of his or her OER: "This commander ensures unit fitness by. . ." If this means morning PT for the entire unit, it wouldn't be all bad! Living physical fitness and maintaining combat capability can't be regulated; they must be done by example from the top--no exceptions. (615)

There should be incentive programs for physical fitness (money, leave, awards, promotions, etc.). Accommodations should be made for family participation in physical fitness programs. (669)

Provide good facilities. Women need a place to reapply makeup, blow-dry their hair, roll and curl their hair, apply creams, etc. I'm sure the designers of all gymnasiums must be males! (671)

Make physical fitness more of an issue, especially among flight crews. Ensure that everyone is aware of the methods available for maintaining physical fitness. Get rid of the greasy, starchy junk foods served in alert dining halls. (679)

Why don't you award points towards promotion to those who are physically fit? This would accomplish two things: (1) It would provide a real incentive to keep fit, and (2) If you are busy working out you have less time to get drunk or abuse drugs, so it probably would reduce D&A abuse problems in the Air Force. (680)

Require more emphasis from supervisors. Replace the promotion folder portrait with a full-length photo. Emphasize the contribution good conditioning makes to work output. (681)

Make promotion photo a full length photo--taken once a year. The Marine Corps does this with outstanding results. (730)

Determination of whether you are in any kind of physical shape should be put in the hands of competent people, not incompetents such as first sergeants or commanders. (810)

Don't continue to waste Air Force money with this type of survey. Devote the money to improving base facilities. (854)

I could never understand how the Air Force could require you to perform to certain standards, yet not provide guidance or time to practice to perform to that standard. If you require me to fly, you provide the training and duty time to perform to required standards. Why is the physical fitness requirement any different? (881)

Schedule many weekly physical fitness activities with participation in one activity mandatory. Include comments on an individual's personal physical fitness program in OER/APR. Provide positive incentives to those on overweight or remedial fitness programs. (915)

Decrease the times required to pass the annual test. Eliminate the 3-mile walk. Add calisthentics (pullups, pushups, situps, etc.) to the program. Lower the maximum weight limits. (984)

Provide three different one-hour workout times each day so that everyone has the opportunity to participate. (1001)

Make the standards tougher. Basic training--what a sad thing. I went in "in shape," came out "out of shape." I mean 8th grade football was tougher, even the boy scouts! I don't mean to be harsh, but it's the truth. (1003)

Enforce it or get rid of it. Quit making it easier so that everyone can pass. (1030)

Commanders should actively participate and schedule time during duty hours time to be available for personal physical exercise. (1038)

Make testing a joy to other than runners. If we had bicycle and swimming alternatives to running, we would have more people willing to develop their own programs on a regular basis--and consequently realize greater personal fitness. (35)

Build some frisbee golf courses at Air Force bases. This sport is very relaxing and provides all the aerobic exercise a person needs. There are more participants in the United States than most people realize. (398)

Require a periodic affidavit from each person signifying minimum training and then have enough tests to cover all the various training programs (running, swimming, cycling, etc.). (410)

With the increased interest and participation in dancercise, jazzercise, exercise to music, and weight lifting, the Air Force needs to incorporate these types of activities into the program. It is easier to do something that helps you become physically fit when you enjoy rather than hate doing it. (466)

Individualize programs. The perceived policy seems to be how pretty we look in uniform, not how physically fit we are. (488)

Include weight lifting and exercise tests in addition to running. Those who have developed a working exercise program are penalized into running. Running is not for everyone! (537)

Since most AF jobs require little, if any, fitness requirements, the official physical fitness program should be eliminated. Standards should be tailored to the physical requirements of each job. (1002)

APPENDIX E

CONTINGENCY TABLES

CONTINGENCY TABLE 1

Crosstabulation of Aerobic Fitness Level With Sex

COUNT / ROW PCT / COL PCT / TOT PCL	MALE 1.	FEMALE 2.	ROW TOTAL
0. 0 POINTS	205 84.7 21.2 19.0	37 15.3 33.0 3.4	242 22.4
1. 1-29 PTS	373 89.0 38.5 34.5	46 11.0 41.1 4.3	419 38.8
2. 30+ PTS	390 93.1 40.3 36.1	29 6.9 25.9 2.7	419 38.8
COLUMN TOTAL	968 89.6	112 10.4	1080 100.0

CONTINGENCY TABLE 2

Crosstabulation of Aerobic Fitness Level With Age

Male

COUNT / ROW PCT / COL PCT / TOT PCL	17-29 YRS OLD (1.)	30-34 YRS OLD (2.)	35-39 YRS OLD (3.)	40-44 YRS OLD (4.)	45 YEARS AND OVER (5.)	ROW TOTAL
0.	82	42	49	24	8	205
0 POINTS	40.0	20.5	23.9	11.7	3.9	21.2
	19.3	19.4	24.5	23.1	33.3	
	8.5	4.3	5.1	2.5	0.8	
1.	147	90	88	42	6	373
1-29 PTS	39.4	24.1	23.6	11.3	1.6	38.5
	34.7	41.7	44.0	40.4	25.0	
	15.2	9.3	9.1	4.3	0.6	
2.	195	84	63	38	10	390
30+ PTS	50.0	21.5	16.2	9.7	2.6	40.3
	46.0	38.9	31.5	36.5	41.7	
	20.1	8.7	6.5	3.9	1.0	
COLUMN TOTAL	424	216	200	104	24	968
	43.8	22.3	20.7	10.7	2.5	100.0

Female

COUNT / ROW PCT / COL PCT / TOT PCL	17-29 YRS OLD (1.)	30-34 YRS OLD (2.)	35-39 YRS OLD (3.)	40-44 YRS OLD (4.)	45 YEARS AND OVER (5.)	ROW TOTAL
0.	26	7	3	0	1	37
0 POINTS	70.3	18.9	8.1	0.0	2.7	33.0
	28.3	70.0	37.5	0.0	100.0	
	23.2	6.3	2.7	0.0	0.9	
1.	42	1	3	0	0	46
1-29 PTS	91.3	2.2	6.5	0.0	0.0	41.1
	45.7	10.0	37.5	0.0	0.0	
	37.5	0.9	2.7	0.0	0.0	
2.	24	2	2	1	0	29
30+ PTS	82.8	6.9	6.9	3.4	0.0	25.9
	26.1	20.0	25.0	100.0	0.0	
	21.4	1.8	1.8	0.9	0.0	
COLUMN TOTAL	92	10	8	1	1	112
	82.1	8.9	7.1	0.9	0.9	100.0

CONTINGENCY TABLE 3

Crosstabulation of Aerobic Fitness Level With Weight Category

Male

COUNT / ROW PCT / COL PCT / TOT PCL	BELOW IDEAL WT 1.	WITHIN IDEAL WT 2.	ABOVE IDEAL WT 3.	ABOVE MAX WT 4.	ROW TOTAL
0.	32	79	80	14	205
0 POINTS	15.6	38.5	39.0	6.8	21.2
	19.0	21.7	21.1	25.9	
	3.3	8.2	8.3	1.4	
1.	53	136	163	20	372
1-29 PTS	14.2	36.6	43.8	5.4	38.5
	31.5	37.4	42.9	37.0	
	5.5	14.1	16.9	2.1	
2.	83	149	137	20	389
30+ PTS	21.3	38.3	35.2	5.1	40.3
	49.4	40.9	36.1	37.0	
	8.6	15.4	14.2	2.1	
COLUMN TOTAL	168	364	380	54	966
	17.4	37.7	39.3	5.6	100.0

Female

COUNT / ROW PCT / COL PCT / TOT PCL	BELOW IDEAL WT 1.	WITHIN IDEAL WT 2.	ABOVE IDEAL WT 3.	ABOVE MAX WT 4.	ROW TOTAL
0.	1	10	19	7	37
0 POINTS	2.7	27.0	51.4	18.9	33.3
	25.0	25.0	36.5	46.7	
	0.9	9.0	17.1	6.3	
1.	1	22	17	5	45
1-29 PTS	2.2	48.9	37.8	11.1	40.5
	25.0	55.0	32.7	33.3	
	0.9	19.8	15.3	4.5	
2.	2	8	16	3	29
30+ PTS	6.9	27.6	55.2	10.3	26.1
	50.0	20.0	30.8	20.0	
	1.8	7.2	14.4	2.7	
COLUMN TOTAL	4	40	52	15	111
	3.6	36.0	46.8	13.5	100.0

CONTINGENCY TABLE 4

Crosstabulation of Aerobic Fitness Level With Rank

Male

COUNT / ROW PCT / COL PCT / TOT PCT	AIRMAN 1.	NCO 2.	SENIOR NCO 3.	COMP GD OFFICER 4.	FIELD GD OFFICER 5.	ROW TOTAL
0.	17	74	24	51	39	205
0 POINTS	8.3	36.1	11.7	24.9	19.0	21.2
	15.2	24.2	32.0	18.0	20.3	
	1.8	7.6	2.5	5.3	4.0	
1.	40	125	34	96	78	373
1-29 PTS	10.7	33.5	9.1	25.7	20.9	38.5
	35.7	40.8	45.3	33.9	40.6	
	4.1	12.9	3.5	9.9	8.1	
2.	55	107	17	136	75	390
30+ PTS	14.1	27.4	4.4	34.9	19.2	40.3
	49.1	35.0	22.7	48.1	39.1	
	5.7	11.1	1.8	14.0	7.7	
COLUMN TOTAL	112	306	75	283	192	968
	11.6	31.6	7.7	29.2	19.8	100.0

Female

COUNT / ROW PCT / COL PCT / TOT PCT	AIRMAN 1.	NCO 2.	SENIOR NCO 3.	COMP GD OFFICER 4.	FIELD GD OFFICER 5.	ROW TOTAL
0.	10	14	2	9	2	37
0 POINTS	27.0	37.8	5.4	24.3	5.4	33.0
	34.5	40.0	66.7	20.9	100.0	
	8.9	12.5	1.8	8.0	1.8	
1.	14	13	1	18	0	46
1-29 PTS	30.4	28.3	2.2	39.1	0.0	41.1
	48.3	37.1	33.3	41.9	0.0	
	12.5	11.6	0.9	16.1	0.0	
2.	5	8	0	16	0	29
30+ PTS	17.2	27.6	0.0	55.2	0.0	25.9
	17.2	22.9	0.0	37.2	0.0	
	4.5	7.1	0.0	14.3	0.0	
COLUMN TOTAL	29	35	3	43	2	112
	25.9	31.3	2.7	38.4	1.8	100.0

CONTINGENCY TABLE 4A

Crosstabulation of Aerobic Fitness Level With Officer and Enlisted Rank

Male

COUNT / ROW PCT / COL PCT / TOT PCT	ENLISTED	OFFICER	ROW TOTAL
	1.	2.	
0. 0 POINTS	115	90	205
	56.1	43.9	21.2
	23.3	18.9	
	11.9	9.3	
1. 1-29 PTS	199	174	373
	53.4	46.6	38.5
	40.4	36.6	
	20.6	18.0	
2. 30+ PTS	179	211	390
	45.9	54.1	40.3
	36.3	44.4	
	18.5	21.8	
COLUMN TOTAL	493	475	968
	50.9	49.1	100.0

Female

COUNT / ROW PCT / COL PCT / TOT PCT	ENLISTED	OFFICER	ROW TOTAL
	1.	2.	
0. 0 POINTS	26	11	37
	70.3	29.7	33.0
	38.8	24.4	
	23.2	9.8	
1. 1-29 PTS	28	18	46
	60.9	39.1	41.1
	41.8	40.0	
	25.0	16.1	
2. 30+ PTS	13	16	29
	44.8	55.2	25.9
	19.4	35.6	
	11.6	14.3	
COLUMN TOTAL	67	45	112
	59.8	40.2	100.0

CONTINGENCY TABLE 5

Crosstabluation of Aerobic Fitness Level With Flying Status

Male

COUNT / ROW PCT / COL PCT / TOT PCL	YES 1.	NO 2.	ROW TOTAL
0. 0 POINTS	39 19.0 18.0 4.0	166 81.0 22.1 17.1	205 21.2
1. 1-29 PTS	88 23.6 40.6 9.1	285 76.4 37.9 29.4	373 38.5
2. 30+ PTS	90 23.1 41.5 9.3	300 76.9 39.9 31.0	390 40.3
COLUMN TOTAL	217 22.4	751 77.6	968 100.0

Female

COUNT / ROW PCT / COL PCT / TOT PCL	YES 1.	NO 2.	ROW TOTAL
0. 0 POINTS	2 5.4 33.3 1.8	35 94.6 33.0 31.3	37 33.0
1. 1-29 PTS	2 4.3 33.3 1.8	44 95.7 41.5 39.3	46 41.1
2. 30+ PTS	2 6.9 33.3 1.8	27 93.1 25.5 24.1	29 25.9
COLUMN TOTAL	6 5.4	106 94.6	112 100.0

CONTINGENCY TABLE 6

Crosstabulation of Aerobic Fitness Level With Annual Physical Fitness Test Score

Male

COUNT / ROW PCT / COL PCT / TOT PCL	NONE 0.	POOR AND FAIR 2.	AVERAGE 3.	GOOD 4.	EXCELLENT 5.	ROW TOTAL
0.	22	15	85	67	16	205
0 POINTS	10.7	7.3	41.5	32.7	7.8	21.2
	37.3	48.4	30.7	18.4	6.8	
	2.3	1.5	8.8	6.9	1.7	
1.	23	14	131	152	53	373
1-29 PTS	6.2	3.8	35.1	40.8	14.2	38.5
	39.0	45.2	47.3	41.8	22.4	
	2.4	1.4	13.5	15.7	5.5	
2.	14	2	61	145	168	390
30+ PTS	3.6	0.5	15.6	37.2	43.1	40.3
	23.7	6.5	22.0	39.8	70.9	
	1.4	0.2	6.3	15.0	17.4	
COLUMN TOTAL	59	31	277	364	237	968
	6.1	3.2	28.6	37.6	24.5	100.0

Female

COUNT / ROW PCT / COL PCT / TOT PCL	NONE 0.	POOR AND FAIR 2.	AVERAGE 3.	GOOD 4.	EXCELLENT 5.	ROW TOTAL
0.	9	1	23	4	0	37
0 POINTS	24.3	2.7	62.2	10.8	0.0	33.0
	64.3	14.3	38.3	16.7	0.0	
	8.0	0.9	20.5	3.6	0.0	
1.	4	5	29	7	1	46
1-29 PTS	8.7	10.9	63.0	15.2	2.2	41.1
	28.6	71.4	48.3	29.2	14.3	
	3.6	4.5	25.9	6.3	0.9	
2.	1	1	8	13	6	29
30+ PTS	3.4	3.4	27.6	44.8	20.7	25.9
	7.1	14.3	13.3	54.2	85.7	
	0.9	0.9	7.1	11.6	5.4	
COLUMN TOTAL	14	7	60	24	7	112
	12.5	6.3	53.6	21.4	6.3	100.0

CONTINGENCY TABLE 7

Crosstabulation of Aerobic Fitness Level With Immediate Supervisor Support

Male

COUNT / ROW PCT / COL PCT / TOT PCT	YES (1.)	NO (2.)	ROW TOTAL
0. 0 POINTS	142	57	199
	71.4	28.6	21.0
	20.5	22.4	
	15.0	6.0	
1. 1-29 PTS	267	99	366
	73.0	27.0	38.7
	38.6	39.0	
	28.2	10.5	
2. 30+ PTS	283	98	381
	74.3	25.7	40.3
	40.9	38.6	
	29.9	10.4	
COLUMN TOTAL	692	254	946
	73.2	26.8	100.0

Female

COUNT / ROW PCT / COL PCT / TOT PCT	YES (1.)	NO (2.)	ROW TOTAL
0. 0 POINTS	27	9	36
	75.0	25.0	33.0
	34.6	29.0	
	24.8	8.3	
1. 1-29 PTS	31	14	45
	68.9	31.1	41.3
	39.7	45.2	
	28.4	12.8	
2. 30+ PTS	20	8	28
	71.4	28.6	25.7
	25.6	25.8	
	18.3	7.3	
COLUMN TOTAL	78	31	109
	71.6	28.4	100.0

CONTINGENCY TABLE 8

Crosstabulation of Aerobic Fitness Level With Duty Hour Participation

Male

COUNT / ROW PCT / COL PCT / TOT PCL	YES (1.)	NO (2.)	ROW TOTAL
0. 0 POINTS	101 53.4 18.6 10.9	88 46.6 22.7 9.5	189 20.3
1. 1-29 PTS	206 57.5 38.0 22.2	152 42.5 39.2 16.3	358 38.5
2. 30+ PTS	235 61.4 43.4 25.3	148 38.6 38.1 15.9	383 41.2
COLUMN TOTAL	542 58.3	388 41.7	930 100.0

Female

COUNT / ROW PCT / COL PCT / TOT PCL	YES (1.)	NO (2.)	ROW TOTAL
0. 0 POINTS	17 48.6 27.4 15.9	18 51.4 40.0 16.8	35 32.7
1. 1-29 PTS	27 61.4 43.5 25.2	17 38.6 37.8 15.9	44 41.1
2. 30+ PTS	18 64.3 29.0 16.8	10 35.7 22.2 9.3	28 26.2
COLUMN TOTAL	62 57.9	45 42.1	107 100.0

CONTINGENCY TABLE 9

Crosstabulation of Aerobic Fitness Level With Duty Hours Used Per Week

Male

COUNT / ROW PCT / COL PCT / TOT PCL	0 HRS PER WK (0.)	1-3 HRS PER WK (1.)	4+ HRS PER WK (2.)	ROW TOTAL
0. 0 POINTS	73	20	8	101
	72.3	19.8	7.9	18.6
	42.7	8.5	5.8	
	13.5	3.7	1.5	
1. 1-29 PTS	54	108	44	206
	26.2	52.4	21.4	38.0
	31.6	46.2	32.1	
	10.0	19.9	8.1	
2. 30+ PTS	44	106	85	235
	18.7	45.1	36.2	43.4
	25.7	45.3	62.0	
	8.1	19.6	15.7	
COLUMN TOTAL	171	234	137	542
	31.5	43.2	25.3	100.0

Female

COUNT / ROW PCT / COL PCT / TOT PCL	0 HRS PER WK (0.)	1-3 HRS PER WK (1.)	4+ HRS PER WK (2.)	ROW TOTAL
0. 0 POINTS	9	6	2	17
	52.9	35.3	11.8	27.4
	36.0	23.1	18.2	
	14.5	9.7	3.2	
1. 1-29 PTS	9	13	5	27
	33.3	48.1	18.5	43.5
	36.0	50.0	45.5	
	14.5	21.0	8.1	
2. 30+ PTS	7	7	4	18
	38.9	38.9	22.2	29.0
	28.0	26.9	36.4	
	11.3	11.3	6.5	
COLUMN TOTAL	25	26	11	62
	40.3	41.9	17.7	100.0

CONTINGENCY TABLE 10

Crosstabulation of Aerobic Fitness Level With Unit Commander Support

Male

COUNT / ROW PCT / COL PCT / TOT PCL	YES (1.)	NO (2.)	ROW TOTAL
0. 0 POINTS	156	39	195
	80.0	20.0	20.8
	20.6	21.5	
	16.6	4.2	
1. 1-29 PTS	303	61	364
	83.2	16.8	38.8
	40.0	33.7	
	32.3	6.5	
2. 30+ PTS	299	81	380
	78.7	21.3	40.5
	39.4	44.8	
	31.8	8.6	
COLUMN TOTAL	758	181	939
	80.7	19.3	100.0

Female

COUNT / ROW PCT / COL PCT / TOT PCL	YES (1.)	NO (2.)	ROW TOTAL
0. 0 POINTS	27	8	35
	77.1	22.9	32.1
	34.2	26.7	
	24.8	7.3	
1. 1-29 PTS	36	9	45
	80.0	20.0	41.3
	45.6	30.0	
	33.0	8.3	
2. 30+ PTS	16	13	29
	55.2	44.8	26.6
	20.3	43.3	
	14.7	11.9	
COLUMN TOTAL	79	30	109
	72.5	27.5	100.0

CONTINGENCY TABLE 11

Crosstabulation of Aerobic Fitness Level With Fitness Facility Description

Male

COUNT / ROW PCT / COL PCT / TOT PCL	EXCELLENT 1.	GOOD 2.	FAIR 3.	POOR 4.	ROW TOTAL
0. 0 POINTS	37	86	35	7	165
	22.4	52.1	21.2	4.2	18.6
	17.8	18.9	19.7	15.6	
	4.2	9.7	4.0	0.8	
1. 1-29 PTS	75	198	57	18	348
	21.6	56.9	16.4	5.2	39.3
	36.1	43.5	32.0	40.0	
	8.5	22.3	6.4	2.0	
2. 30+ PTS	96	171	86	20	373
	25.7	45.8	23.1	5.4	42.1
	46.2	37.6	48.3	44.4	
	10.8	19.3	9.7	2.3	
COLUMN TOTAL	208	455	178	45	886
	23.5	51.4	20.1	5.1	100.0

Female

COUNT / ROW PCT / COL PCT / TOT PCL	EXCELLENT 1.	GOOD 2.	FAIR 3.	POOR 4.	ROW TOTAL
0. 0 POINTS	4	18	4	1	27
	14.8	66.7	14.8	3.7	28.4
	22.2	34.6	25.0	11.1	
	4.2	18.9	4.2	1.1	
1. 1-29 PTS	8	23	9	2	42
	19.0	54.8	21.4	4.8	44.2
	44.4	44.2	56.3	22.2	
	8.4	24.2	9.5	2.1	
2. 30+ PTS	6	11	3	6	26
	23.1	42.3	11.5	23.1	27.4
	33.3	21.2	18.8	66.7	
	6.3	11.6	3.2	6.3	
COLUMN TOTAL	18	52	16	9	95
	18.9	54.7	16.8	9.5	100.0

CONTINGENCY TABLE 12

Crosstabulation of Aerobic Fitness Level With Use of Physical Fitness Facilities

Male

COUNT / ROW PCT / COL PCT / TOT PCL	YES (1.)	NO (2.)	ROW TOTAL
0. (0 POINTS)	15	22	37
	40.5	59.5	33.0
	21.7	51.2	
	13.4	19.6	
1. (1-29 PTS)	30	16	46
	65.2	34.8	41.1
	43.5	37.2	
	26.8	14.3	
2. (30+ PTS)	24	5	29
	82.8	17.2	25.9
	34.8	11.6	
	21.4	4.5	
COLUMN TOTAL	69	43	112
	61.6	38.4	100.0

Female

COUNT / ROW PCT / COL PCT / TOT PCL	YES (1.)	NO (2.)	ROW TOTAL
0. (0 POINTS)	74	128	202
	36.6	63.4	20.9
	11.6	39.4	
	7.7	13.3	
1. (1-29 PTS)	255	118	373
	68.4	31.6	38.7
	39.8	36.3	
	26.4	12.2	
2. (30+ PTS)	311	79	390
	79.7	20.3	40.4
	48.6	24.3	
	32.2	8.2	
COLUMN TOTAL	640	325	965
	66.3	33.7	100.0

CONTINGENCY TABLE 13

Crosstabulation of Aerobic Fitness Level With Frequency of Facility Use

Male

COUNT / ROW PCT / COL PCT / TOT PCT	5-7 TIME PERWEEK 1.	3-4 TIME PERWEEK 2.	2 TIMES OR LESS 3.	ROW TOTAL
0. 0 POINTS	5	15	52	72
	6.9	20.8	72.2	11.3
	6.4	6.2	16.3	
	0.8	2.3	8.1	
1. 1-29 PTS	9	69	176	254
	3.5	27.2	69.3	39.7
	11.5	28.5	55.0	
	1.4	10.8	27.5	
2. 30+ PTS	64	158	92	314
	20.4	50.3	29.3	49.1
	82.1	65.3	28.8	
	10.0	24.7	14.4	
COLUMN TOTAL	78	242	320	640
	12.2	37.8	50.0	100.0

Female

COUNT / ROW PCT / COL PCT / TOT PCT	5-7 TIME PERWEEK 1.	3-4 TIME PERWEEK 2.	2 TIMES OR LESS 3.	ROW TOTAL
0. 0 POINTS	0	8	9	17
	0.0	47.1	52.9	23.6
	0.0	28.6	25.7	
	0.0	11.1	12.5	
1. 1-29 PTS	2	9	20	31
	6.5	29.0	64.5	43.1
	22.2	32.1	57.1	
	2.8	12.5	27.8	
2. 30+ PTS	7	11	6	24
	29.2	45.8	25.0	33.3
	77.8	39.3	17.1	
	9.7	15.3	8.3	
COLUMN TOTAL	9	28	35	72
	12.5	38.9	48.6	100.0

CONTINGENCY TABLE 14

Crosstabulation of Weight Category With Opinion on Weight Standards

Male

COUNT / ROW PCT / COL PCT / TOT PCT	DISAGREE 1.	AGREE 2.	TOUGHER STANDARD 3.	OTHER FACTORS 4.	ROW TOTAL
1. IDEAL WT	12 9.5 8.7 1.5	78 61.9 17.0 10.0	12 9.5 25.5 1.5	24 19.0 17.6 3.1	126 16.2
2. IDEAL WT	42 14.8 30.4 5.4	189 66.5 41.2 24.2	20 7.0 42.6 2.6	33 11.6 24.3 4.2	284 36.4
3. IDEAL WT	68 21.1 49.3 8.7	176 54.7 38.3 22.6	14 4.3 29.8 1.8	64 19.9 47.1 8.2	322 41.3
4. MAX WT	16 33.3 11.6 2.1	16 33.3 3.5 2.1	1 2.1 2.1 0.1	15 31.3 11.0 1.9	48 6.2
COLUMN TOTAL	138 17.7	459 58.8	47 6.0	136 17.4	780 100.0

CONTINGENCY TABLE 14 Continued

Female

COUNT / ROW PCT / COL PCT / TOT PCT	DISAGREE 1.	AGREE 2.	TOUGHER STANDARD 3.	OTHER FACTORS 4.	ROW TOTAL
1.	0	2	0	0	2
IDEAL WT	0.0	100.0	0.0	0.0	2.1
	0.0	3.8	0.0	0.0	
	0.0	2.1	0.0	0.0	
2.	7	21	3	4	35
IDEAL WT	20.0	60.0	8.6	11.4	36.5
	31.8	39.6	50.0	26.7	
	7.3	21.9	3.1	4.2	
3.	12	23	3	8	46
IDEAL WT	26.1	50.0	6.5	17.4	47.9
	54.5	43.4	50.0	53.3	
	12.5	24.0	3.1	8.3	
4.	3	7	0	3	13
MAX WT	23.1	53.8	0.0	23.1	13.5
	13.6	13.2	0.0	20.0	
	3.1	7.3	0.0	3.1	
COLUMN TOTAL	22	53	6	15	96
	22.9	55.2	6.3	15.6	100.0

CONTINGENCY TABLE 15

Crosstabulation of Aerobic Fitness Level With Suggestions for Program Improvement

Male

COUNT / ROW PCT / COL PCT / TOT PCL	PROGRAM OK AS IS 1.	REQD-DTY MORE HOURS 2.	MORE TESTING 3.	REQD AND MORE 4.	TOUGHER ENFORCE 5.	ROW TOTAL
0.	5	49	24	13	18	109
0 POINTS	4.6	45.0	22.0	11.9	16.5	18.6
	29.4	18.2	16.4	19.7	20.2	
	0.9	8.3	4.1	2.2	3.1	
1.	8	104	61	24	30	227
1-29 PTS	3.5	45.8	26.9	10.6	13.2	38.7
	47.1	38.7	41.8	36.4	33.7	
	1.4	17.7	10.4	4.1	5.1	
2.	4	116	61	29	41	251
30+ PTS	1.6	46.2	24.3	11.6	16.3	42.8
	23.5	43.1	41.8	43.9	46.1	
	0.7	19.8	10.4	4.9	7.0	
COLUMN TOTAL	17	269	146	66	89	587
	2.9	45.8	24.9	11.2	15.2	100.0

Female

COUNT / ROW PCT / COL PCT / TOT PCL	PROGRAM OK AS IS 1.	REQD-DTY MORE HOURS 2.	MORE TESTING 3.	REQD AND MORE 4.	TOUGHER ENFORCE 5.	ROW TOTAL
0.	1	11	3	4	1	20
0 POINTS	5.0	55.0	15.0	20.0	5.0	26.3
	50.0	27.5	30.0	30.8	9.1	
	1.3	14.5	3.9	5.3	1.3	
1.	1	17	3	5	5	31
1-29 PTS	3.2	54.8	9.7	16.1	16.1	40.8
	50.0	42.5	30.0	38.5	45.5	
	1.3	22.4	3.9	6.6	6.6	
2.	0	12	4	4	5	25
30+ PTS	0.0	48.0	16.0	16.0	20.0	32.9
	0.0	30.0	40.0	30.8	45.5	
	0.0	15.8	5.3	5.3	6.6	
COLUMN TOTAL	2	40	10	13	11	76
	2.6	52.6	13.2	17.1	14.5	100.0

SELECTED BIBLIOGRAPHY

A. REFERENCES CITED

1. Air Force Military Personnel Center, U.S. Department of the Air Force. Conference Report of Meeting Between United States Air Force and Indiana University Personnel Regarding the USAF Physical Fitness Program. Randolph AFB TX, 21 November 1963.

2. Auwarter, Carmen E., Major, USAF. "Added Life to the Air Force Physical Fitness Program." Unpublished research report No. 125-81, Air Command and Staff College, Maxwell AFB AL, May 1981. AD B057709L.

3. Balke, Bruno, and Ray W. Ware, Captain, USAF. "The Present Status of Physical Fitness in the Air Force." Unpublished research report No. 59-67, School of Aviation Medicine, Randolph AFB TX, May 1959. AD 036235.

4. Bean, W. B., and others. "A Critique of Physical Fitness Tests." Unpublished technical report No. 56-1(07), Army Medical Research Laboratory, Fort Knox KY, 19 February 1947. AD 806395.

5. Bennington, Raymond O., Lieutenant Colonel, USAF. "Report of TDY Travel for the Purpose of Participating in the AF Physical Fitness Study Group." Unpublished travel report, Air Force Military Personnel Center, Randolph AFB TX, 5 October 1978.

6. Bensahel, J. G. "How To Stay Sane During a Corporate Crisis," International Management, November 1974, pp. 17-18.

7. Bronson, Richard A., Major, USAF. "An Air Force Competitive Physical Fitness Program." Unpublished research report No. 0355-72, Air Command and Staff College, Maxwell AFB AL, May 1972.

8. Butler, Bobbie, Captain, USAF. Chief, Personal Appearance and Fitness Branch, Special Programs Division, Directorate of Personnel Program Action, Air Force Manpower and Personnel Center, Randolph AFB TX. Telephone interview, 21 January 1982.

9. Cooper, Kenneth H. Aerobics. New York: Bantam Books, 1968.

10. _____. The Aerobics Way. New York: Bantam Books, 1977.

11. _____. The New Aerobics. New York: Bantam Books, 1970.

12. _____. "The Proposed United States Air Force Physical Fitness Program." Unpublished research report, unnumbered, Aerospace Medical Laboratory, Wilford Hall USAF Hospital, Lackland AFB TX, May 1967.

13. Cureton, Thomas K. Physical Fitness and Dynamic Health. New York: The Dial Press, 1973.

14. Dalton, Pat. "Bike May Replace Run or Walk in Test," Air Force Times, 29 March 1982, pp. 2-3.

15. Everett, Michael D. "Strategies For Increasing Employees' Level of Exercise and Physical Fitness," Journal of Occupational Medicine, July 1979, pp. 463-467.

16. "Fitness Movement Seen Curbing High Cost of Illness to U.S. Industry," Commerce Today, February 3, 1975, pp. 11-14.

17. Fixx, James F. The Complete Book of Running. New York: Random House, 1977.

18. Hays, Gary R., Major, USAF. "Aerobics and the Rated Officer." Unpublished research report No. 1205-74, Air Command and Staff College, Maxwell AFB AL, May 1974.

19. Higgins, C. W., and B. U. Phillips. "How Company Sponsored Fitness Programs Keep Employees On the Job," Management Review, December 1979, pp. 53-56.

20. Hinman, E. Parke, Major, USAF. "Air Force Physical Fitness—It Can Be Improved." Unpublished research report No. 1255-74, Air Command and Staff College, Maxwell AFB AL, May 1974.

21. Hyde, Robert C., Major, USAF. "Physical Fitness in the Air Force: Is Aerobics the Answer?" Unpublished research report No. 1415-72, Air Command and Staff College, Maxwell AFB AL, May 1972.

22. Karpovich, Peter V. "The Reliability of the AAF Physical Fitness Test." Unpublished research report, Project No. 184-1, Army Air Forces School of Aviation Medicine, Randolph Field TX, 20 October 1943. AD 132993.

23. Kenna, Michael J., Major, USAF. "Physical Fitness: Can We Afford Not To?" Unpublished research report No. 1305-80, Air Command and Staff College, Maxwell AFB AL, May 1980.

24. Kennedy, John F. "The Soft American," Sports Illustrated, December 26, 1960, pp. 16-17.

25. Kolata, Gina B. "Heart Disease Prevention—Evidence is Unequivocal," Science Digest, February 1979, pp. 79-80.

26. Kowal, Dennis M. "Physical Fitness In the Army." Unpublished research report, M 14/77, U.S. Army Research Institute of Environmental Medicine, Natick MA, 17 March 1977. AD A052430.

27. Kraus, H., and W. Raab. Hypokinetic Disease. Springfield IL: Charles C. Thomas, Inc., 1961.

28. Kreitner, Robert. "Employee Physical Fitness: Protecting an Investment in Human Resources," Personnel Journal, July 1976, pp. 340-344.

29. Lee, James H., Major, USAF. "A New Air Force Physical Fitness and Weight Control Program." Unpublished research report No. 1405-80, Air Command and Staff College, Maxwell AFB AL, May 1980.

30. Leepson, M. "Physical Fitness Boom," Editorial Research Papers, April 14, 1978, pp. 263-279.

31. Luigs, Charles F., Major, USAF. "Physical Fitness in the United States Air Force." Unpublished research report No. 1740-72, Air Command and Staff College, Maxwell AFB AL, May 1972.

32. Martin, Jack. "New Business Boom--Employee Fitness," Nation's Business, February 1978, pp. 68-70.

33. McClave, James T., and P. George Benson. Statistics For Business and Economics. San Francisco: Dellen Publishing Company, 1979.

34. Montayi, Henry L. "Summary of Research on the Relationship of Exercise to Heart Disease," Journal of Sports Medicine and Physical Fitness, March 1962, pp.35-51.

35. Nie, Norman H., and others. SPSS--Statistical Package for the Social Sciences, Second Edition. New York: McGraw Hill Book Company, 1975.

36. Paffenbarger, Ralph S. "Coronary Curb," Time, December 12, 1977, pp. 47-49.

37. _____, and others. "Work Activity and Fatal Heart Attacks Studied by Multiple Logic Risk Analysis," American Journal of Epidemiology, January 1979, pp. 50-55.

38. Parten, Mildred. Surveys, Polls, and Samples: Practical Procedures. New York: Cooper Square Publishers, Inc., 1966.

39. Paulson, Sandra. Personnel Survey Branch, Air Force Manpower and Personnel Center, Randolph AFB TX. Telephone interviews conducted intermittently from 17 March to 13 August 1982.

40. Pericola, Raymond, Major, USAF. "Air Force Physical Fitness." Unpublished research report No. 1507-71, Air Command and Staff College, Maxwell AFB AL, May 1971.

41. Phelps, Terrance J., Major, USAF. "Run for Fun, Health, and Mental Stability With a Mandatory USAF Fitness Program." Unpublished research report No. 1935-80, Air Command and Staff College, Maxwell AFB AL, May 1980.

42. "Physical Fitness and Weight Control," TIG Brief, 22 June 1973, p.22.

43. Pollack, Michael L., and others. Health and Fitness Through Physical Activity. New York: John Wiley and Sons, 1978.

44. President's Council On Physical Fitness. Adult Physical Fitness. Washington: Government Printing Office, 1963.

45. Raub, Eugene L., Major, USAF. "Aerobics Is For All USAF Personnel." Unpublished research report No. 1940-79, Air Command and Staff College, Maxwell AFB AL, April 1979.

46. Reid, Robert E., Major, USAF. "Physical Fitness, A Motivational Approach." Unpublished research report No. 2235-74, Maxwell AFB AL, May 1974.

47. Rogers, F. R. Selections From Great Educators Throughout the Ages In Physical Education and Healthful Living. New York: Prentice-Hall, Inc., 1954.

48. Rossing, Robert C., and Margaret F. Allen. "Information Yield On Annual Flight Examination," Aerospace Medicine, August 1974. pp. 930-939.

49. Sanders, James B., Major, USAF. "A Solution to the Air Force Physical Fitness Problem." Unpublished research report No. 4-67, Air Command and Staff College, Maxwell AFB AL, June 1967.

50. Sperryn, Peter. "Executive Fitness," Accountant, July 3, 1980, pp. 8-10.

51. Stewart, William H. The Heart of Americans. New York: Prentice-Hall, Inc., 1970.

52. Susi, Ronald A., Major, USAF. "Aerobics: Fact or Fiction?" Unpublished research report No. 2654-74, Air Command and Staff College, Maxwell AFB AL, May 1974.

53. Tuthill, M. L. "All Work and Enough Play Keep Employees Fit," Nation's Business, November 1979, pp. 82-84.

54. "United States Air Force in Facts and Figures," Air Force Magazine, May 1982, pp. 171-182.

55. U.S. Department of the Air Force. Air Force Physical Fitness Program. AFR 35-11, Immediate Message Change 79-1. Washington: Government Printing Office, 23 September 1977.

56. _____. Air Force Physical Fitness Program. AFR 35-11. Washington: Government Printing Office, 28 July 1981.

57. _____. Physical Conditioning. AFM 160-26. Washington: Government Printing Office, 8 June 1961.

58. _____. Physical Fitness. AFM 50-15, Change 3. Washington: Government Printing Office, February 1971.

59. _____. The Royal Canadian Air Force 5BX Plan for Physical Fitness. AFP 50-5-1. Ottawa: Queen's Printer and Controller of Stationery, 1962.

60. _____. Training--Physical Conditioning. AFR 50-5. Washington: Government Printing Office, 13 November 1947.

61. _____. Training--Physical Conditioning. AFR 50-5. Washington: Government Printing Office, 27 April 1959.

62. _____. USAF Aerobics Physical Fitness Program (Female). AFP 35-57. Washington: Government Printing Office, 30 November 1978.

63. _____. USAF Aerobics Physical Fitness Program (Male). AFP 50-56. Washington: Government Printing Office, 1 November 1969.

64. _____. USAF Aerobics Physical Fitness Program (Male). AFP 50-56. Washington: Government Printing Office, 31 July 1974.

65. _____. USAF Physical Fitness and Weight Control Program. AFR 50-49. Washington: Government Printing Office, 21 July 1972.

66. U.S. Department of Defense. Physical Fitness and Weight Control Program. DOD Directive 1308.1. Washington: Government Printing Office, 29 June 1981.

67. Vandevender, Leonard G., Major, USAF. "USAF Aerobic Physical Fitness Testing: Are There Other Methods?" Unpublished research report No. 2475-79, Air Command and Staff College, Maxwell AFB AL, May 1979.

68. Warren, Stanley G., Major, USAF. "Aerobics: Physical Conditioning Program or Testing Program?" Unpublished research report No. 2915-74, Air Command and Staff College, Maxwell AFB AL, May 1974.

69. Weiss, Raymond A., Captain, USA. "Physical Fitness of Entering AAF Personnel." Unpublished research report, Project No. 195-1, Army Air Forces School of Aviation Medicine, Randolph Field TX, 27 May 1944. AD 143726.

70. White, J. R., and G. Steinbach. "Motivating Executives to Keep Physically Fit," Harvard Business Review, March 1978, p. 16.

71. White, Paul D. Fitness for the Whole Family. New York: Doubleday Press, 1964.

72. Williams, Jesse F. The Principles of Physical Education, Philadelphia: Saunders and Company, 1948.

73. Wilmore, J. P. "Exploring the Myth of Female Inferiority," The Physician and Sports Medicine, May 1974, pp. 50-59.

B. RELATED SOURCES

Biersner, Robert J., and others. "Correlations of Physical Fitness, Perceived Health Status, and Dispensary Visits With Performance in Stressful Training." Unpublished technical report No. 71-30, Navy Medical Neuropsychiatric Research Unit, San Deigo CA, April 1971. AD 763306.

Brown, Robert S., Donald E. Ramirez, and John M. Taub. "The Prescription of Exercise for Depression," The Physician and Sports Medicine, December 1978, pp. 35-45.

Fixx, James F. Jim Fixx's Second Book of Running. New York: Random House, 1980.

Hill, Charles A., Midshipman, USN. "An Analysis of the Relationship of Neurological Activity to Physical Exertion." Unpublished research report, USNA-TSPR No. 69, United States Naval Academy, Annapolis MD, 22 May 1975. AD A015956.

Klein, Carl E., and others. "Comparative Studies on Physiological Indices of Fitness in Man Under Exercise, Low Pressure, and Acceleration," Human Adaptability and Its Methodology. Japan Society for the Promotion of Sciences, Tokyo, Japan, 1966. AD 670819.

Kreitner, Robert. "Just How Fit Are Your Employees?" Business Horizons, August 1979, pp. 39-45.

Krumboltz, John D., First Lieutenant, USAF. "Physical Proficiency As a Predictor of Leadership." Unpublished research report, AFPTRC-TN-57-60, Air Force Personnel and Training Research Center, Lackland AFB TX, May 1957. AD 126391.

McCarthy, Philip J., and Frederick F. Stephan. Sampling Opinions: An Analysis of Survey Procedure. New York: Wiley, 1958.

Miller, Robert E. "Predicting First Year Achievement of Air Force Academy Cadets, Class of 1964." Unpublished research report, PRL-TDR-64-18, Personnel Research Laboratory, Lackland AFB TX, July 1964. AD 606868.

Nelson, Dale O. Dynamic Fitness. Health, Physical Education, and Recreation Department, Utah State University, 1976.

Patterson, John L., and others. "Evaluation and Prediction of Physical Fitness Utilizing Modified Apparatus of the Harvard Step Test." Unpublished research report, Project MR005.13-3001, U.S. Naval School of Aviation Medicine, Pensacola FL, 15 December 1964. AD 458383.

Pyle, Richard L. "Performance Measures for a Corporate Fitness Program," Human Resources Management, Fall 1979, pp. 26-30.

Reedy, Jack D., Captain, USAF, and others. "Evaluation of the Harvard Step Test With Respect to Factors of Height and Weight." Unpublished research report No. 140, Army Medical Research Laboratory, Fort Knox KY, 10 June 1954. AD 32878.

Sheehan, George A. Dr. Sheehan on Running. Mountain View CA: World Publications, 1975.

_____. "When the Stress of Modern Living Becomes Too Much, Run," Runner's World, November 1978, pp. 36-39.

Smith, Paul. "Defense's New Fitness Guide Says Shape Up," Air Force Times, 17 August 1981, pp. 1, 22.

"Staywell," Personnel Journal, March 1981, pp. 159-160.

Swengros, Glenn. "Staying In Shape for the Rigors of Management '75: A Sound Body," Management Review, January 1975, pp. 12-17.

END