2007

Assessment and Intervention Project of the303d Intelligence Squadron

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I. Introduction

General John Jumper, Chief of Staff of the Air Force, on July 30, 2003 directed that Airmen would begin a new physical fitness program that includes mandatory physical fitness training at least three times a week as well as testing their ability to perform a 1.5 miles run, push-ups, and sit-ups. Three years after the original announcement, the Air Force is making small steps towards achieving a fitter force. The Air Force released the first issue of its fitness program instruction a year later, with the most updated issue dated 7 July 2005. This new direction will require an institutional cultural change that affects base facilities, basic training, uniforms, and day-to-day operations. Currently, only about 25 percent of all Air Force personnel score above 90 points on a 100-point scale, which puts them in the “Excellent” category.

II. Background

Eight months ago the researcher was assigned as Baker Flight Commander, 303d Intelligence Squadron (303d IS), which has about 70 Airmen. Upon assumption of command, the flight commander conducted an overview of all the major areas such as discipline, manning, promotions, and fitness among others. The flight commander discovered that there was a problem in the area of physical fitness among Baker Flight’s Airmen. The majority of these Airmen are in their first term of service, anywhere from 1 to 6 years. At the beginning of this project, Baker Flight had a mean age of 25 years and a mean score of 82.72. There were 50 individuals between the ages of 20 and 25 with a mean score of 81.8; 12 individuals between 26 and 30 with a mean score of 81;

7 individuals between 31 and 35 with a mean score of 88.14; and 4 individuals in the group of 35 and older with a mean score of 90.

III. Statement of Problem/Issue

The physical fitness testing results seem to indicate that there is a problem when it comes to fitness in the younger generation of Airmen assigned to Baker Flight. They constitute almost 70 percent of the entire flight, with 12 individuals scoring below the satisfactory standard. Perhaps these young men and women have not been in the Air Force long enough to learn how to develop a fitness program that works for their individual needs. Young Airmen recently joining the Air Force could also not be used to participating in a fitness regimen on a regular basis.

IV. Theoretical Basis

Personal fitness depends not only on exercise, but also in many other factors such as sleep, diet, health, body composition among others. There have been studies conducted that suggest that not getting enough sleep could alter our metabolisms and eating habits, making weight control and weight loss more challenging (American Institute for Cancer Research, 2004, p. 1). Eating healthy not only means eating fruits, vegetables, grains, milk products, and grains, but also getting the adequate quantity based on portion sizes.

Recognizing appropriate portion sizes is a crucial step in having a healthy lifestyle.

- ½ cup fruit, vegetable, cooked cereal, pasta or rice = a small fist
- 3 ounces cooked meat, poultry or fish = a deck of cards

- 1 tortilla = a small (7 inch) plate
- ½ half bagel = the width of a large coffee lid
- 1 muffin = a large egg
- 1 teaspoon of margarine or butter = a thumb tip
- 2 tablespoons of peanut butter = a golf ball
- a small baked potato = a computer mouse
- 1 pancake or waffle = a 4 inch CD
- 1 medium apple or orange = a baseball
- 4 small cookies (like vanilla wafers) = four casino chips

(Air Force Medical Service, 2004, p. 2)

In addition to portion sizes, one must also ensure to get a balanced mix of carbohydrates, fats, and proteins in order to fuel our metabolism and control our weight. Many fad diets recommend cutting carbohydrates and/or fats in order to lose weight, but what we need to cut is calories and increase physical activities (American Institute for Cancer Research, 2003, p. 1). Moreover, we ought to have three smaller, evenly spaced meals with two snacks in between meals. "The key is to choose a snack that provides more than just a quick flash of energy. The sugar in fruits is absorbed more slowly and provides an hour or two of energy for most people" (Air Force Medical Service, 2004, p. 1). For instance, if one would to incorporate this suggestion, a sample meal schedule might look like this: breakfast at 7 AM, lunch at 11 AM, snack at 2 PM, dinner at 6 PM, and snack before going to bed. Above all, individuals concerned with their health and/or weight should not skip breakfast. Often, individuals tend to

skip breakfast because they do not have time to eat in the morning or because they want to cut their calorie intake. However, “eating a healthy breakfast fuels the muscles for physical activity and improves productivity. It actually increases the rate at which you burn calories. Skipping this meal is likely to leave you sluggish and hungry” (American Institute for Cancer Research, 2002).

V. Methods

This project will attempt to discover the underlying causes for the large number in physical fitness failures among the 20-25 year old group. Additionally, the project will also include the development of a program aimed at helping these Airmen develop a fitness program that works for them. The project will have a two-phase approach. The first phase will consist of the development of a survey that the researcher will administer to the entire Baker Flight population. Additionally, there will be a focus session with some of the target groups depending on the preliminary results of the data collected. The second phase will consist of the development of a program that will attempt to develop a solid foundation for these young Airmen in order for them to adapt lifelong habits that will improve their health and fitness. There will be a 3-month tracking period in order to assess and adjust the program in order to meet the needs of the individuals involved in the program. Lastly, all the final results will be gathered and submitted for final review.

Subjects

Baker Flight is led by one commissioned officer and one senior non-commissioned officer, both of whom are over 35 years of age as well as having over 16

years in the Air Force. The rest of the flight is comprised of middle and junior enlisted Airmen, with an age range between 20 and 35 years and anywhere from 1 to 15 years in the Air Force. The majority of these Airmen are junior enlisted with less than 5 years in service and under 25 years of age. Baker Flight personnel work a shift schedule covering the entire 24-hour day, working six days and resting three days. During their work cycle, these Airmen participate in physical fitness activities three times or more.

Instrument

The researcher developed a Personal Fitness Assessment Survey based on training received from the US Air Force's and US Army's physical fitness programs throughout his service in the military. Additionally, the researcher also has participated in several health programs sponsored by the local installation's Health and Wellness Clinic headed by an Exercise Physiologist and a Nutritionist. The survey is being used as the research instrument. This survey focuses on the individual's personal assessment of their body composition, exercise frequency, exercise intensity, fitness habits, nutrition, and personal health. The survey consists of 24 statements that use a five-point Likert scale, a number range, or a direct answer. Basic demographic questions such as age, gender, weight, and years in service are included. The survey does not contain any statements that could personally identify any of the participants in order to maintain confidentiality and solicit frank answers from the participants.

Process

All members of Baker Flight received a copy of the survey. Surveying the entire population will avoid the limitations of sampling such as generalizability of the findings

to the entire population (Brewerton & Millward, 2001, p. 118). Furthermore, Booth-Kewley et al. stated, “sending the survey to everyone increases the “face validity” of the findings and suggests that management cares enough about employees to ask for their inputs” (1997, p. 56). The survey packet included a cover letter that contained the purpose of the project, deadlines, instructions on how to fill out and return the survey, and it also described informed consent as well as the steps taken to ensure their confidentiality. The letter also emphasized the unofficial nature of the survey as well as their voluntary participation. Each member received a copy of the survey packet in their internal distribution box and were instructed to return the survey to the box of the researcher in order to minimize any perceived compromise of objectivity in the process.

VI. Assessment Findings

The researcher distributed 73 surveys, of which 60 were returned, obtaining an 82.19% return rate. During the discussions the researcher had with the individuals that returned the survey, 35 of them were willing to participate in the program, making up 47.94% of the total population at the beginning of the project. Table 1 contains the data gathered about the entire population surveyed.

Table 1

Total Survey Respondents

1. What is your gender?			Male 68.33%		Female 31.66%
2. What is your age?	20-25 68.33%	26-30 15%	31-35 10%	36-40 3.33%	40+ 3.33%
3. What is your weight in pounds?	100-125 3.33%	126-150 20%	151-175 35%	176-200 30%	201-225 11.66%
4. What is your height in inches?	56-60 11.66%	61-65 26.66%	66-70 31.66%	71-75 25%	76+ 5%

5. How many years have you been in the Air Force?			0-5 71.66%	6-10 13.33%	11-15 8.33%	16-20 6.66%
6. How many times a week do you exercise?				3 68.33%	4 23.33%	5+ 8.33%
7. How many minutes do you normally exercise each time?				46-60 73.33%	61-90 23.33%	90+ 3.33%
8. How many 8 oz. glasses of water do you drink every day?			5 31.66%	6 25%	7 30%	8+ 13.33%
9. How many meals a day do you eat?				-2 21.66%	3 66.66%	4 11.66%
10. How many times a day do you snack?				-2 56.66%	3 26.66%	4 16.66%
11. How many alcoholic drinks do you drink in a week?	0 20%	1 15%	2 13.33%	3 26.66%	4+ 25%	
12. How many times a day do you use tobacco products?					0 86.66%	4+ 13.33%
13. How many hours of sleep do you get every night?			5 5%	6 13.33%	7 50%	8+ 31.66%
14. How many points did you score in your last physical fitness test?			50-69 8.33%	70-74 11.66%	75-89 51.66%	90+ 28.33%
15. What is your BMI?					18.5 -24.9 28.33%	25-29.9 71.66%
16. I consider myself a health and fitness enthusiast.						78.66%
17. Carbohydrates, proteins, and fats are important nutrients that I need to consume every day.						88.33%
18. I eat the appropriate sized portions of food.						70.66%
19. I eat breakfast every day/almost every day.				Yes 58.33%		No 41.66%
20. What is/are your primary fitness goal(s)?	None 8.33%	Better Health 30%	Pass Fitness Test 30%	Weight Loss 11.66%	Build Muscle 20%	
21. I know what I need to do to reach my fitness goal.						66.66%
22. BMI is a reliable indicator of body fatness for people.						82.66%
23. Excess weight is a health risk.						86%
24. Diet, physical activity, and family history are important factors to determine if excess weight is a health risk.						88%

Note. Shaded items represent key survey statements/questions

Among all of the 60 participants, 68.33% are between the ages of 20 and 25 years; 71.66% have been in the Air Force less than 5 years; 20% are not passing the

physical fitness test; 71.66% have a BMI in the "overweight" category according to the National Heart Lung and Blood Institute; and 33.33% do not know the steps to take to achieve their fitness goals. Once the data was gathered and analyzed, the researcher met with those that participated and offered to help them set up a plan to reach their fitness goals. Of the 60 participants, 35 decided to go to the second phase in the program, making up 47.94% of the entire flight. Table 2 contains the data gathered about those participating in the second phase of the program.

Table 2

Program Participants Survey Results

1. What is your gender?			Male 68.57%		Female 31.42%
2. What is your age?	20-25 71.42%	26-30 14.28%	31-35 8.57%	36-40 2.85%	40+ 2.85%
3. What is your weight in pounds?		126-150 17.14%	151-175 31.42%	176-200 37.14%	201-225 14.28%
4. What is your height in inches?	56-60 14.28%	61-65 20.00%	66-70 40.00%	71-75 20.00%	76+ 5.71%
5. How many years have you been in the Air Force?		0-5 77.14%	6-10 11.42%	11-15 5.71%	16-20 5.71%
6. How many times a week do you exercise?			3 71.42%	4 20.00%	5+ 8.57%
7. How many minutes do you normally exercise each time?			46-60 71.42%	61-90 25.71%	90+ 2.85%
8. How many 8 oz. glasses of water do you drink every day?		5 31.42%	6 17.14%	7 34.28%	8+ 17.14%
9. How many meals a day do you eat?			-2 22.85%	3 68.57%	4 8.57%
10. How many times a day do you snack?			-2 57.14%	3 25.71%	4 17.14%
11. How many alcoholic drinks do you drink in a week?	0 20.00%	1 11.42%	2 14.28%	3 20.00%	4+ 34.28%
12. How many times a day do you use tobacco products?				0 82.85%	4+ 17.14%
13. How many hours of sleep do you get every night?		5 5.71%	6 14.28%	7 51.42%	8+ 28.57%

14. How many points did you score in your last physical fitness test?			50-69 11.42%	70-74 17.14%	75-89 51.42%	90+ 20.00%
15. What is your BMI?					18.5 -24.9 20.00%	25-29.9 80.00%
16. I consider myself a health and fitness enthusiast.						75.42%
17. Carbohydrates, proteins, and fats are important nutrients that I need to consume every day.						86.28%
18. I eat the appropriate sized portions of food.						64.57%
19. I eat breakfast every day/almost every day.				Yes 42.85%		No 57.14%
20. What is/are your primary fitness goal(s)?	None 5.71%	Better Health 25.71%	Pass Fitness Test 28.57%	Weight Loss 20.00%	Build Muscle 20.00%	
21. I know what I need to do to reach my fitness goal.						53.14%
22. BMI is a reliable indicator of body fatness for people.						82.85%
23. Excess weight is a health risk.						85.71%
24. Diet, physical activity, and family history are important factors to determine if excess weight is a health risk.						88.57%

Note. Shaded items represent key survey statements/questions

Among the program participants, 71.42% are between the ages of 20 and 25 years; 77.14% have been in the Air Force less than 5 years; 28.56% are not passing the physical fitness test; 80% have a BMI in the “overweight” category according to the National Heart Lung and Blood Institute; and 46.86% do not know the steps to take to achieve their fitness goals.

VII. Intervention Program

The researcher developed a three-month program for those participating consisting of nutrition, exercise, rest, and accurate record keeping of exercise and food intake. First, all 35 of the participants were benchmarked on January 12, 2007. Table 3 contains the data gathered during the initial assessment.

Table 3

January 12, 2007 Assessment

Individual	Age	Fitness Score	Fitness Level	Weight
A27	20	68	Poor	189
A63	20	74	Marginal	161
A23	20	79	Good	185
A61	21	61	Poor	140
A60	21	86	Good	166
A56	22	70	Marginal	158
A39	22	72	Marginal	152
A18	22	77	Good	134
A70	22	84	Good	195
A36	22	85	Good	134
A35	22	87	Good	147
A72	22	89	Good	159
A12	23	71	Marginal	198
A16	23	74	Marginal	189
A38	23	76	Good	129
A55	23	76	Good	187
A40	23	79	Good	138
A46	23	86	Good	187
A59	23	97	Excellent	188
A57	24	83	Good	177
A42	24	89	Good	179
A15	25	62	Poor	209
A22	25	70	Marginal	151
A52	25	75	Good	176
A9	25	75	Good	221
A14	26	59	Poor	196
A10	26	85	Good	153
A64	26	91	Excellent	165
A31	27	76	Good	215
A51	27	97	Excellent	181
A66	32	95	Excellent	210
A28	33	79	Good	165
A4	33	98	Excellent	170
A1	37	92	Excellent	175
A67	42	97	Excellent	215

AVG Age	24.97
AVG Score	80.40

20-25 AVG Score	77.80
20-25 Poor	3
20-25 Marginal	6
20-25 Good	15
20-25 Excellent	1
20-25 Total	25

26-30 AVG Score	81.60
26-30 Poor	1
26-30 Marginal	0
26-30 Good	2
26-30 Excellent	2
26-30 Total	5

31-35 AVG Score	90.67
31-35 Poor	0
31-35 Marginal	0
31-35 Good	1
31-35 Excellent	2
31-35 Total	3

35+ AVG Score	94.50
35+ Poor	0
35+ Marginal	0
35+ Good	0
35+ Excellent	2
35+ Total	2

All of the participants were asked to start the program by following a 1500-calorie diet for two weeks in order to reduce their body fat—and potentially resulting in losing up to ten pounds. Additionally, all participants were also introduced to an exercise regimen consisting of strength training, flexibility, and cardio-pulmonary workouts. At the same time, the researcher pointed out the importance of getting at least eight hours of sleep—especially important during the first two weeks of the reduced calorie diet, and to drink at least one gallon of water per day. If the individuals

participating do not drink enough water during the day, their bodies will try to retain any water it has, which will hamper the kidneys' function, thus accumulating waste products resulting in the liver flushing out impurities (Darden, 2004, p. 196). "As a result, one of the liver's main functions—metabolizing stored fat into usable energy—is minimized" (Darden, 2004, p. 196). Table 4 outlines the 1500-calorie diet that the participants followed for the first two weeks.

Table 4

1500-calorie Diet

BREAKFAST
• 1 cup of oatmeal OR 1 cup of plain cereal with skim or fat free milk OR 1 slice of toast with 1 tbsp peanut butter (about 200 calories)
• ½ cup of orange juice OR tomato juice OR cranberry juice (about 50 calories)
• 1 cup of green tea OR chai tea (0 calories)
• 10 almonds OR walnuts (about 100 calories)
• TOTAL calories—350
LUNCH
• Ham sandwich with 2 slices of wheat bread, lettuce, 1 slice of cheese OR 1 can of soup with 2 slices of wheat bread and 1 slice of cheese OR chicken breast sandwich with 2 slices of wheat bread and 1 slice of cheese (about 350 calories) AND
• 15 almonds OR walnuts (about 150 calories)
• Water (0 calories)
• TOTAL calories—500
AFTERNOON SNACK
• Granola bar OR small fruit with 1 tbsp of peanut butter OR 1 boiled egg whites only & 5 almonds (about 150 calories)
DINNER
• 1 can of tuna with ½ cup of beans, ½ cup of cottage cheese OR 1 can of tuna with 1 slice of cheese, 2 slices of wheat bread or 15 crackers, lime juice, ½ cup of steamed vegetables (about 400 calories) OR
• Chicken breast with ½ cup steamed vegetables, 2 slices of bread or 15 crackers, ½ cup of beans (about 400 calories)
• Water (0 calories)
EVENING SNACK
• Granola bar OR small fruit with 1 tbsp of peanut butter OR 1 boiled egg whites only & 5 almonds (about 150 calories)

Note. Take vitamin supplements while following this diet

The exercise regimen during the first two weeks consisted of the following set three times a week—beginning with eight repetitions and adding repetitions as the workout progresses:

1. Leg-press machine or squat with barbell

2. Straight-arm pullover with one dumbbell
3. Bench press with barbell
4. Biceps curl with barbell
5. Trunk curl on the floor

(Darden, 2004, p. 196)

Additionally, the researcher asked everyone to follow their strength training cycle with a cardio-pulmonary workout of at least 20 minutes alternating between slow running—10-minute mile, sprinting, and incline running. At the end of each workout, all participants spent at least another ten minutes stretching.

At the end of the first two weeks, the researcher modified the participants diet and exercise routine. Table 5 outlines the generic diet for the participants with minor modifications depending on the individual's weight and gender.

Table 5

Average Daily Diet

ITEM	BREAKFAST	LUNCH	SNACK	DINNER	SNACK	CALORIES	PROTEIN	CARBS	FAT
• 2 tbsp peanut butter	X					200	7	7	16
• 1 cup sliced strawberries	X					53	1	13	1
• 1 cup watermelon	X					46	1	11.5	0
• 1 English muffin	X					120	4	25	1
• 1 bowl of oatmeal	X					300	8	70	4
• V8 vegetable juice, small	X					35	1	7	0
• 2 egg whites	X				X	24	7	1	0
• 1 slice mozzarella cheese		X				100	7	1	8
• ¼ cup almonds		X				170	7	5	15
• ½ cup beans		X		X		260	16	48	0
• ½ cup cooked broccoli		X		X		52	4	12	1
• ¼ cup raw carrots		X		X		20	2	5	0
• ¼ cup sliced cucumber		X		X		8	1	2	0
• ¼ cup lettuce		X		X		4	1	1	0
• ¼ cup sliced tomato		X		X		16	1	4	1

• 2 slices wheat bread		X		X		160	10	36	1
• Chicken breast		X		X		280	54	0	6
• 1 cup chocolate milk			X			220	9	35	5
• Medium apple					X	71	.5	19	0
• 1 oz beef jerky			X		X	160	26	14	2
Participant's Average Diet						2299	167.5	316.5	61
2000 Calorie Diet Needs						2000	50	292	63
THESE ITEMS MAY BE USED AS SUBSTITUTES (LIST NOT ALL INCLUSIVE)									
• Small baked potato						163	4	38	.5
• Medium pear						96	.5	26	0
• Crab legs						130	26	0	2
• Fish						120	23	0	2.5
• ½ cup tuna						120	26	0	1
• Shrimp						85	18	0	1
• Lobster						240	45	6	3
• Turkey						145	31.5	0	1.5

The researcher also modified the exercise regimen as outlined below. The participants were still following the same instructions as before—one set three times a week beginning with eight repetitions and adding repetitions as the workout progresses and adding more weight once 12 repetitions are completed:

1. Leg curl
2. Leg extension
3. Leg press
4. Standing calf raise
5. Straight-arm pullover with one dumbbell
6. Lat pull down machine
7. Bench press with barbell
8. Incline bench press
9. Bent over row

10. Lateral raise
11. Shoulder press machine
12. Shoulder shrug
13. Bent arm fly
14. Triceps extensions
15. Triceps press down machine
16. Biceps curl with barbell
17. Preacher bar
18. Trunk curl
19. Knee ins
20. Side bends

Additionally, the researcher asked everyone to follow their strength training cycle with a cardio-pulmonary workout of at least 20 minutes alternating between slow running—10-minute mile; sprinting—two minutes at slow pace, two minutes at moderate pace, two minutes at slow pace, two minutes at increased pace, two minutes at slow pace, two minutes at fast pace, two minutes at slow pace, one minute at fastest pace, two minutes at slow pace, two minutes at fast pace, and two minutes at slow pace; incline running; and fast running for 1.5 mile. At the end of each workout, all participants spent at least another ten minutes stretching.

The program's first progress check was conducted on February 9, 2007. Table 6 contains the data gathered during the first progress check.

Table 6

February 7, 2007 Assessment

Individual	Age	Fitness Score	Fitness Level
A27	20	68	Poor
A63	20	74	Marginal
A61	21	64	Poor
A23	21	80	Good
A60	21	84	Good
A56	22	72	Marginal
A39	22	73	Marginal
A18	22	77	Good
A70	22	84	Good
A36	22	85	Good
A35	22	88	Good
A12	23	71	Marginal
A16	23	74	Marginal
A55	23	76	Good
A38	23	78	Good
A40	23	79	Good
A46	23	87	Good
A72	23	89	Good
A59	23	97	Excellent
A57	24	84	Good
A15	25	63	Poor
A22	25	72	Marginal
A52	25	76	Good
A9	25	76	Good
A42	25	89	Good
A14	26	62	Poor
A10	26	85	Good
A31	27	77	Good
A64	27	91	Excellent
A51	27	97	Excellent
A28	33	77	Good
A66	33	95	Excellent
A4	33	99	Excellent
A1	38	93	Excellent
A67	42	97	Excellent

AVG Age	25.14
AVG Score	80.94

20-25 AVG Score	78.40
20-25 Poor	3
20-25 Marginal	6
20-25 Good	15
20-25 Excellent	1
20-25 Total	25

26-30 AVG Score	82.40
26-30 Poor	1
26-30 Marginal	0
26-30 Good	2
26-30 Excellent	2
26-30 Total	5

31-35 AVG Score	90.33
31-35 Poor	0
31-35 Marginal	0
31-35 Good	1
31-35 Excellent	2
31-35 Total	3

35+ AVG Score	95.00
35+ Poor	0
35+ Marginal	0
35+ Good	0
35+ Excellent	2
35+ Total	2

At the end of the first month very small changes took place, and more importantly, the number of individuals not meeting the minimum physical fitness standards outlined by Air Force Instruction was still at ten participants. The average physical fitness score of the participants increased slightly from 80.4 to 80.94 points.

The second progress check took place on March 9, 2007 and Table 7 contains the data from this check.

Table 7

March 9, 2007 Assessment

Individual	Age	Fitness Score	Fitness Level
A63	20	75	Good
A61	21	68	Poor
A27	21	69	Poor
A23	21	81	Good
A60	21	87	Good
A56	22	74	Marginal
A39	22	75	Good
A18	22	78	Good
A70	22	83	Good
A36	22	87	Good
A35	22	89	Good
A12	23	74	Marginal
A16	23	75	Good
A55	23	77	Good
A38	23	79	Good
A40	23	80	Good
A72	23	88	Good
A59	23	95	Excellent
A57	24	84	Good
A46	24	88	Good
A15	25	67	Poor
A22	25	71	Marginal
A52	25	77	Good
A9	25	77	Good
A42	25	91	Excellent
A14	26	67	Poor
A10	26	86	Good
A31	27	79	Good
A64	27	93	Excellent
A51	28	95	Excellent
A66	33	94	Excellent
A4	33	99	Excellent
A28	34	78	Good
A1	38	93	Excellent
A67	42	96	Excellent

AVG Age	25.26
AVG Score	81.97

20-25 AVG Score	79.56
20-25 Poor	3
20-25 Marginal	3
20-25 Good	17
20-25 Excellent	2
20-25 Total	25

26-30 AVG Score	84.00
26-30 Poor	1
26-30 Marginal	0
26-30 Good	2
26-30 Excellent	2
26-30 Total	5

31-35 AVG Score	90.33
31-35 Poor	0
31-35 Marginal	0
31-35 Good	1
31-35 Excellent	2
31-35 Total	3

35+ AVG Score	94.50
35+ Poor	0
35+ Marginal	0
35+ Good	0
35+ Excellent	2
35+ Total	2

This time there were more significant changes than last month. For instance, importantly, the number of individuals failing the physical fitness test dropped from

ten to seven; the number of participants scoring above 90 increased from seven to eight. Additionally, the average physical fitness score of the participants increased slightly from 80.94 to 81.97 points. The third and last progress check took place on April 13, 2007 and Table 8 contains the data from this check.

Table 8

April 13, 2007 Assessment

Individual	Age	Jan Score	Fitness Score	Fitness Level	Jan WT	Apr WT
A63	20	74	77	Good	161	158
A61	21	61	70	Marginal	140	140
A27	21	68	74	Marginal	189	180
A23	21	79	79	Good	185	190
A60	21	86	86	Good	166	166
A39	22	72	76	Good	152	155
A56	22	70	77	Good	158	152
A18	22	77	82	Good	134	130
A36	22	85	88	Good	134	135
A35	22	87	90	Excellent	147	144
A16	23	74	76	Good	189	187
A12	23	71	77	Good	198	190
A55	23	76	78	Good	187	185
A40	23	79	82	Good	138	135
A70	23	84	84	Good	195	193
A72	23	89	91	Excellent	159	161
A38	24	76	78	Good	129	129
A57	24	83	85	Good	177	178
A46	24	86	87	Good	187	189
A59	24	97	95	Excellent	188	186
A15	25	62	69	Poor	209	201
A22	25	70	77	Good	151	145
A52	25	75	79	Good	176	178
A42	25	89	92	Excellent	179	177
A14	26	59	74	Marginal	196	181
A9	26	75	79	Good	221	215
A31	27	76	78	Good	215	210
A10	27	85	88	Good	153	150
A64	27	91	95	Excellent	165	167
A51	28	97	98	Excellent	181	178
A66	33	95	96	Excellent	210	205
A4	33	98	99	Excellent	170	172
A28	34	79	79	Good	165	165
A1	38	92	93	Excellent	175	175
A67	42	97	97	Excellent	215	214
AVG Age	25.40	AVG Score	83.57	AVG WT	174.11	171.89

20-25 AVG Score	81.21
20-25 Poor	1
20-25 Marginal	2
20-25 Good	17
20-25 Excellent	4
20-25 Total	24

26-30 AVG Score	85.33
26-30 Poor	0
26-30 Marginal	1
26-30 Good	3
26-30 Excellent	2
26-30 Total	6

31-35 AVG Score	91.33
31-35 Poor	0
31-35 Marginal	0
31-35 Good	1
31-35 Excellent	2
31-35 Total	3

35+ AVG Score	95.00
35+ Poor	0
35+ Marginal	0
35+ Good	0
35+ Excellent	2
35+ Total	2

The changes among the participants were even more noticeable during the last progress check, especially when compared with the benchmark results. The number of individuals failing the physical fitness test once again decreased to four, with a total decrease of six individuals since the beginning of the program. The average score increased to 83.57, with a total increase of 3.17 points. The group's weight average

also decreased from 174.11 to 171.89. Individuals scoring 90 or above also increased once again to ten, with a total increase of three. A more detailed analysis of the data reveals that in the weight category, five individuals remained the same, nine increased, and 21 lost anywhere from 1 to 15 pounds. In the fitness category, four individuals stayed the same, one decreased, and 30 increased their fitness score anywhere from 1 to 15 points.

VIII. Conclusions

The three-month program data revealed that for the most part, everyone benefited from participating in it; some lost weight, some increased their physical fitness score; and some built more muscle—the main fitness goals discussed in the survey. More importantly, the researcher believes that the participants have learned valuable techniques and gained invaluable tools to maintain their physical fitness; moreover, they became more aware of their own bodies' complex functioning and are now better prepared to improve their personal health. Although there were improvements in all age ranges, the most improved was the 20-25 year range.

This group of Airmen made up the target population of this project. Below is a table that details the changes in physical fitness scores before and after the program.

Table 9

20-25 Year Range Scores

January 2007	
20-25 AVG Score	**77.80**
20-25 Poor	**3**
20-25 Marginal	**6**
20-25 Good	**15**
20-25 Excellent	**1**
20-25 Total	**25**

April 2007	
20-25 AVG Score	**81.21**
20-25 Poor	**1**
20-25 Marginal	**2**
20-25 Good	**17**
20-25 Excellent	**4**
20-25 Total	**24**

Weight wise, three individuals remained the same, seven increased, and 13 lost weight. As far as their score, two remained the same, one decreased (still scoring above 90 points), and 21 increased their score. There is one individual that showed extraordinary improvement. This individual lost 15 pounds, increased their score by 15 points and is one point away from passing the physical fitness test.

> It stands to reason that achieving and maintaining a healthy lifestyle through gradual changes and a lifetime commitment to balance, variety, and moderation in regular physical activity and healthful eating may be the key to success. Most health experts do agree that no one lifestyle factor is responsible for overweight and obesity. Instead, a complex combination of factors fuels this growing problem. The foods that we eat, the frequency of eating, and portion size all contribute to the numbers of calories consumed. The desired approach is to incorporate small, achievable modifications in eating behaviors and additions of activity into daily life—activity that does not impinge on free time, and is enjoyable, and that can become habitual. The goal here is sustainability and balance. (Air Force Medical Service, 2004, p. 1-2)

Finally, the researcher provided a copy of the program results to the Osan Air Base, South Korea Health and Wellness Clinic staff for their review and further instructions on the disposition of this study.

IX. Appendix

Dear Participant,

The 303d Intelligence Squadron has recently restructured its physical training program as a result of the recent changes made to the Air Force Fitness Instruction. A cursory look at the physical fitness scores would reveal no indications of any problems in this area. However, the individuals participating in the mandatory physical training program are for the most part younger service members. This research will attempt to discover some of the root causes for these scores. Additionally, it will attempt to determine if there is a relation between age and lower scores. Once the data is analyzed, the results will be made available to all squadron personnel as well as being forwarded to the installation's Health and Wellness Center.

You are under no obligation to participate. You may choose not to participate. Please answer honestly and carefully each question. The administrator of the survey assures you that your **anonymity** will be protected. The procedures are designed so that an individual is not identified. Responses will only be reported in a group form. The enclosed survey instrument is not associated with a specific individual. Please return the survey to the administrator's inbox by **November 10, 2006.** Should you have any questions or want individualized assistance, please feel free to contact the administrator at extension 6650.

Make your opinions heard and make a difference. The administrator wants to thank you for taking part in The Fitness Assessment Survey.

Sincerely,

Jesus Diaz, Jr.

PERSONAL FITNESS ASSESSMENT

The following assessment will ask you about your fitness program in relation to the following categories:

- Body composition
- Exercise frequency
- Exercise intensity
- Fitness habits
- Nutrition
- Personal health

As with any assessment, these categories only reflect your self-perception. The more realistic you are with your answers, the more likely that the assessment will be meaningful. Your candid participation will help you determine the strengths and weaknesses of your fitness program as you see them and can help you fine-tune your program to achieve better personal health and possibly a better fitness score.

The researcher will design an individualized wellness program for any personnel wishing to improve their personal health and increase their physical fitness score as a result of the program. Additionally, participants in this program will keep detailed records of their participation in order to track progress and make any adjustments as necessary. The initial guided phase will last three months at which point the participant will have the necessary knowledge, skills, and tools to continue to make adjustments to their program in order to maintain and improve their personal health and fitness goals.

PERSONAL FITNESS ASSESSMENT SURVEY

Directions: For each of the following statements, indicate the extent to which you agree or disagree using the following guide:

SA – Strongly Agree | A – Agree | N – Neither Agree nor Disagree | D – Disagree | SD – Strongly Disagree

1. What is your gender?					Male			Female	
2. What is your age?				-19	20 ~ 25	26 ~ 30	31 ~ 35	36 ~ 40	40+
3. What is your weight in pounds?	- 99	100~ 125	126~ 150	151~ 175	176~ 200	201~ 225	226~ 250	251~ 275	276+
4. What is your height in inches?		- 45	46 ~ 50	51 ~ 55	56 ~ 60	61 ~ 65	66 ~ 70	71 ~ 75	76+
5. How many years have you been in the Air Force?					0~5	6 ~ 10	11 ~ 15	16 ~ 20	20+
6. How many times a week do you exercise?					1	2	3	4	5+
7. How many minutes do you normally exercise each time?					- 30	31 ~ 45	46 ~ 60	61 ~ 90	90+
8. How many 8 oz. glasses of water do you drink every day?					-4	5	6	7	8+
9. How many meals a day do you eat?					-2	3	4	5	6+
10. How many times a day do you snack?					-2	3	4	5	6+
11. How many alcoholic drinks do you drink in a week?					0	1	2	3	4+
12. How many times a day do you use tobacco products?					0	1	2	3	4+
13. How many hours of sleep do you get every night?					-4	5	6	7	8+
14. How many points did you score in your last physical fitness test?					0~50	50 ~ 69	70 ~ 74	75 ~ 89	90+
15. What is your BMI?					- 18.5	18.5 ~ 24.9	25 ~ 29.9	30 +	
16. I consider myself a health and fitness enthusiast.					SA	A	N	D	SD
17. Carbohydrates, proteins, and fats are important nutrients that I need to consume every day.					SA	A	N	D	SD
18. I eat the appropriate sized portions of food.					SA	A	N	D	SD
19. I eat breakfast every day/almost every day.					Yes			No	
20. What is/are your primary fitness goal(s)?		None		Better Health	Pass Fitness Test		Weight Loss		Build Muscle
21. I know what I need to do to reach my fitness goal.					SA	A	N	D	SD
22. BMI is a reliable indicator of body fatness for people.					SA	A	N	D	SD
23. Excess weight is a health risk.					SA	A	N	D	SD
24. Diet, physical activity, and family history are important factors to determine if excess weight is a health risk.					SA	A	N	D	SD

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Individual	Age	Jan Score	Fitness Score	Fitness Level	Jan WT	Apr WT
A63	20	74	77	Good	161	158
A61	21	61	70	Marginal	140	140
A27	21	68	74	Marginal	189	180
A23	21	79	79	Good	185	190
A60	21	86	86	Good	166	166
A39	22	72	76	Good	152	155
A56	22	70	77	Good	158	152
A18	22	77	82	Good	134	130
A36	22	85	88	Good	134	135
A35	22	87	90	Excellent	147	144
A16	23	74	76	Good	189	187
A12	23	71	77	Good	198	190
A55	23	76	78	Good	187	185
A40	23	79	82	Good	138	135
A70	23	84	84	Good	195	193
A72	23	89	91	Excellent	159	161
A38	24	76	78	Good	129	129
A57	24	83	85	Good	177	178
A46	24	86	87	Good	187	189
A59	24	97	95	Excellent	188	186
A15	25	62	69	Poor	209	201
A22	25	70	77	Good	151	145
A52	25	75	79	Good	176	178
A42	25	89	92	Excellent	179	177
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A9	26	75	79	Good	221	215
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A66	33	95	96	Excellent	210	205
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26-30 Poor	0
26-30 Marginal	1
26-30 Good	3
26-30 Excellent	2
26-30 Total	6

31-35 AVG Score	91.33
31-35 Poor	0
31-35 Marginal	0
31-35 Good	1
31-35 Excellent	2
31-35 Total	3

35+ AVG Score	95.00
35+ Poor	0
35+ Marginal	0
35+ Good	0
35+ Excellent	2
35+ Total	2

73 surveys distributed, 60 returned 82.19%

11. How many alcoholic drinks do you drink in a week?

Survey#	Id #	Answer
1	1	4+
2	2	3
4	4	4+
6	6	2
7	7	4+
8	8	1
10	10	3
14	14	0
15	15	4+
17	17	0
18	18	4+
22	22	4+
24	24	3
25	25	0
27	27	2
28	28	1
29	29	4+
30	30	2
32	32	0
35	35	3
40	40	0
41	41	0
42	42	4+
43	43	4+
44	44	4+
45	45	4+
47	47	1
48	48	2
49	49	0
50	50	3
52	52	2
53	53	3
55	55	4+
57	57	1
60	60	3

Total	Percentage
0 =7	20.00%
1 = 4	11.42%
2 = 5	14.28%
3 = 7	20.00%
4+ = 12	34.28%