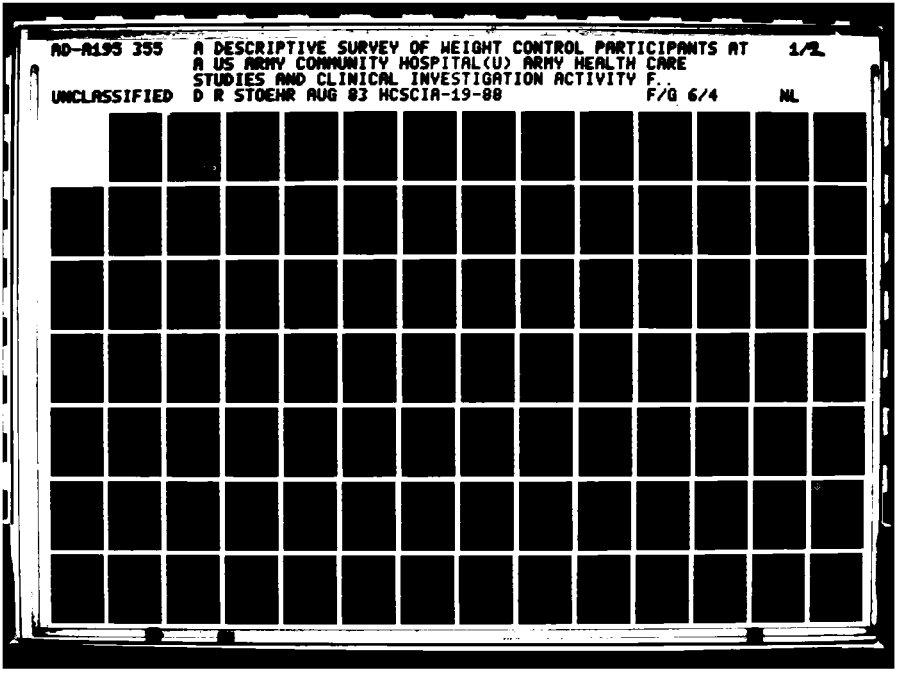
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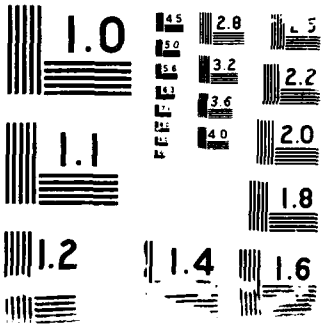
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A DESCRIPTIVE SURVEY OF WEIGHT CONTROL PARTICIPANTS AT A U.S. ARMY COMMUNITY HOSPITAL

A Graduate Research Project
Submitted to the Faculty of
Baylor University
in Partial Fulfillment of the
Requirements for the Degree
of
Master of Health Care Administration

by

Captain David R. Stoehr, AMSC

August 1983

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This study attempts to determine factors which may have an impact on Darnell Army Community Hospital's Weight Control Program participants' capacity to lose weight and/or achieve their desired weight level in accordance with AR 600-9, dated 30 November 1976. Keywords: physical fitness, exercise, weight reduction, behavior

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I. INTRODUCTION

Conditions Which Prompted the Study

At the beginning of the Korean War, troops stationed in occupied Japan were sent to fight on the front lines. These troops were overweight and out-of-shape from their relatively plush style of living since the end of World War II. The results were disastrous. These soldiers had great difficulty in adapting to the steep Korean terrain where they had to be constantly on the move.[1]

It is impossible to know the number of lives that could have been saved during the initial stages of the war if the soldiers would have been in better physical condition to deal with the rigorous requirements of combat.

During the Vietnam conflict soldiers were younger than their Korean counterparts, many being recent high school graduates.[2] One might assume that these young men would be in top physical condition. Yet this assumption was proven inaccurate in a study conducted by the Surgeon General's Office during the late 1960's on soldiers killed in action. Army doctors who participated in the study performed autopsies on soldiers and discovered that a surprisingly high number of soldiers between the ages of 18 and 21 had early signs of arteriosclerosis.[3]

These are two exemplary studies during previous war time situations that indicate the need for the Army to take on

increased interest in physical readiness and weight standards to insure that service members are ready for combat wherever and whenever it occurs.

In an attempt to resolve the problem of overweight service members the Chief of Staff of the Army, in 1976, instituted a comprehensive weight program.[4] More recently, in October 1980, the Army Physical Readiness Test (APRT) was revised to include three events which were standardized for men and women. In August 1982, the entire regulation of the Army Physical Fitness Program, Army Regulation 350-15, was revised. The most recent changes to the weight standard occurred in April 1983, with the total revision of the Army Weight Control Program as specified under Army Regulation 600-9.

Strong support for this Army program of weight control and physical fitness has been given by Lieutenant General Bernhard T. Mittemeyer, U.S. Army Surgeon General. To demonstrate his active support, he directed the formation of the Surgeon General's Task Force on Fitness. This task force was formulated during the summer of 1982 to deal with the concept of total fitness. The following five areas were identified as specific areas of concern:

1. Physical fitness (exercise)
2. Weight control
3. Good nutrition and diet counseling
4. Reducing stress
5. Avoiding abusive substances (alcohol, drugs, cigarettes)[5]

Despite the tremendous emphasis that has been placed upon physical fitness and weight control by the Army, little has been done to evaluate the programs. The one exception, however, is the Lifestyle Program, instituted at the Transportation School, Fort Eustis, Virginia, in February 1981. This program was designed as a ten-week mandatory project wherein overweight soldiers were required to eat three meals a day, seven days a week, in a dining hall especially designed to accommodate weight reduction needs, with a 1,200 calorie diet for females and a 1,500 calorie diet for males. In addition to the special dining facility arrangement, program participants were required to participate in a mandatory exercise program which was held a minimum of three times per week.[6]

During its first ten weeks of existence, the 53 Lifestyle service members lost an average of 20.5 pounds. Eighty-three percent of the participants achieved the program goal weight loss of 1.5 pounds per week. In addition, of the 23 service members who started the program with high blood pressure, only one service member had high blood pressure at the end of the program. Of the 22 service members who had elevated cholesterol levels at the beginning of the program, all experienced a significant decrease. Lastly, the average time it took service members to run 1.7 miles decreased by 4.7 minutes.[7]

Thirty-two of the fifty-three service members were available for a one-year followup. The results of the one-year followup indicates that: (1) 17 service members (55.12 percent) met

the weight goal as prescribed by AR 600-9, and (2) 15 service members (46.88 percent) exceeded the prescribed weight goal. The ratio of service members who were able to maintain their weight at a desirable level was 53 percent of the total 32 service members available for the followup. This success rate of 53 percent is considerable when compared to Weight Watchers and similar groups, where a 20 percent success rate is considered good.[8]

Despite the high success rate for the Lifestyle Program, the one possible shortfall of the project is that service members are required to adhere to the stringent requirements of the program.

In contrast to the mandatory requirements of the Lifestyle Program, the weight reduction program at Darnall Army Community Hospital (DACH), Fort Hood, Texas, takes a slightly different approach. Instead of requiring service members to eat in a specific dining facility, service members are instructed during their initial visit with a dietitian in the Nutrition Clinic on the need to eat three well-balanced meals a day while adhering to the calorie limits of their diets. More responsibility for weight reduction and weight control is therefore placed upon each individual. In addition to the initial diet instruction, service members are expected to attend four followup classes which are given by a pharmacist, a physical therapist, a psychologist, and a social worker. The followup classes are designed to provide information to the service member that will further assist him/her in weight reduction

efforts. If the service member feels that additional support is needed, the Department of Primary Care and Community Medicine at Darnall Army Community Hospital sponsors weekly meetings of Over-Eaters Anonymous.

Statement of the Problem

Two factors impact upon the problem chosen for investigation. The first is that minimal research has been conducted to evaluate the effectiveness of weight reduction programs in the U.S. Army. The second factor is that Darnall Army Communith Hospital's Weight Control Program has never been evaluated for its effect on service member participants' actual weight reduction. Therefore, the identified problem is to determine those factors which may have an impact on *DACH Weight Control* Program participants' capability to lose weight and/or achieve their desired weight level in accordance with AR 600-9, dated 30 November 1976.

The evaluation of DACH participants weight reduction status might possibly provide insight into factors facilitating better weight reduction that other Army weight reduction programs could adopt.

Objectives of Study

Three major objectives were identified for this study:

1. To determine the percentage of the sample service members who have achieved their recommended weekly weight loss of 1 to 1.5 pounds, but have not achieved their desired weight level within a three-month period.

2. To determine the percentage of the sample service members who have achieved their desired weight level by the end of a three-month period as prescribed by AR 600-9, dated November 1976.

3. To determine significant factors which contribute to weight loss of individuals who are participating in the weight control program.

Assumptions

For the purpose of this study, the following assumptions are made:

1. Service members completing the survey questionnaires on a voluntary basis will provide honest information.

2. Three months will be a sufficient period of time to determine an adequate degree of change in the weight level of service members.

3. The overweight problem of service members participating in the study will not be pathaphysiological in etiology.

Limitations

Several limitations were identified in the process of investigation. Service members participating in the study were evaluated only after a three-month interval from their initial entry into the Weight Control Program. This time limitation directly affected the investigator's ability to determine long term program adherence, continued weight reduction, and/or maintenance of desired weight.

Since the inception of this study in September 1982, the Army has made drastic alterations to the Weight Control Program, as evidenced by revision of Army Regulation 600-9. (Appendix A) The following changes to the regulation directly impacted on this study:

(1) revision of height and weight tables to include incremental weight allowance for age;

(2) incorporating measurements of body fat to determine if soldiers who exceed the weight standards are in fact overweight;

(3) specific weight guidance given for Army uniforms (Appendix B); and

(4) officer and enlisted efficiency reports (OERs and EERs) are now to include service members' height and weight and compliance or noncompliance with the provisions of AR 600-9.

Even though these changes did not officially take place until 15 April 1983, the changes did impact directly on the results obtained from this study. This impact came in the form of service members stating that they had achieved their desired weight standard according to the pinch test. When these service members were asked how much additional weight they needed to lose, they identified a lesser amount than actually required. In addition, the requirement to identify weight and physical training achievements on the OERs and EERs provides an additional external stimulus for compliance and noncompliance.

Initially only nineteen followup questionnaires were obtained from study participants. This necessitated an active followup approach to obtain the additional twenty-two questionnaires needed to validate the study. Although participants were asked to be truthful in their responses, possible bias may have occurred due to the fact that participants were asked to place their name, unit, and phone number on the initial questionnaire and their name on the followup questionnaire. An additional bias in responses may have occurred from study participants who were contacted telephonically.

Review of the Literature

Obesity and overweight are two of the most common behavior problems in contemporary western civilization. It is estimated that within the United States alone there are 42 to 84 million individuals who are obese or overweight.[9] According to Krause overweight is a condition of an individual who weighs 10 percent above desired body weight; whereas obesity is associated with an individual's weight being greater than 25 percent above ideal weight.[10] Desired body weight in both of these situations is based on the Metropolitan Life weight table of 1959.

Obesity or overweight can have a profound impact upon an individual's health status. Several chronic type diseases are primarily associated with obesity and overweight, to include: (1) adult-onset diabetes mellitus; (2) problems with heart size and cardiac function; (3) arthritis; (4) gout; and

hypertension. Obesity and overweight are also contributing factors to endometrial carcinoma, arteriosclerosis, gall-bladder disease, and mortality itself.[11]

In light of the association between obesity/overweight and disease, health care providers have a responsibility to inform individuals of the impact of obesity/overweight on their health status as well as to facilitate the individual's responsibility in the self-care management of the problem. Two major plans of action have been identified as facilitating weight reduction: exercise and behavior therapy.

Exercise and its Relationship to Weight Reduction

The relationship between exercise and its effect on weight reduction has recently received greater emphasis. In adult onset of weight gain the problem is usually not associated with an increase in caloric intake, but with a decrease in activity level. The relationship of weight gain and exercise is supported in a study conducted by Chirica and Stunkard. One of the results of the study indicates that obese adults actually walked 40 percent less than non-obese individuals.[12]

There are two major fallacies regarding exercise and weight loss. The first most common belief is that exercise results in an increased appetite. According to a study by Holcutt, persons of normal weight may eat more following increased activity, although usually not right away. However, exercise in overweight persons was not found to stimulate the appetite.[13]

A second fallacy is the idea that exercise needs to be exhausting, strenuous, and time consuming to effect weight loss.[14] If an overweight individual finds it difficult to exercise for an extended period, the time allotted for exercising should initially be extended over several days. The end result will be the same and over time the amount of time devoted to exercise can be gradually increased.

When regular physical exercise is performed by an obese or overweight individual the following results can occur:

(1) a decrease in weight;

(2) a change in the percent of body fat in proportion to the percent of lean tissue (without necessarily a decrease in weight);

(3) a greater expenditure of calories than individuals of a thinner body stature;

(4) an improved cardiovascular system.

Overall if exercises are performed consistently over an extended period of time, the increased activity will definitely assist in weight loss efforts.

Behavior Modification and its Relationship to Weight Reduction

The original idea of behavior modification dates back to Pavlov and his work with reflex conditioning. Further research was done by B.F. Skinner in the area of voluntary response conditioning.[15]

Treatment normally begins by obtaining a detailed history of the patient's prior eating habits. Included in this

history are those events that occur prior to, during, and after the actual consumption of food. Based on the nature of these events specific techniques are then applied to alter inappropriate antecedent events (called stimulus control), as well as the act of eating (called contingency management). The ultimate goal of behavior modification is to teach patients to achieve dietary self-control by assisting them in understanding and manipulating the antecedent and consequent condition which theoretically affects their own behavior.[16]

Some studies have shown that when behavior modification techniques are utilized for weight reduction, a greater mean weight loss during outpatient treatment occurs than following any other methods of therapy.[17] After reviewing sixteen studies, Foreyt, Goodrick, and Gotto, however have found that over an extended period of time, few patients who participate in therapy, achieve "clinically" significant losses, some achieve only modest losses, and others return to their pretreatment weight.[18]

Behavior modification can contribute to an individual's weight loss but further research is needed to determine the long-term behavior change effects.

Research Methodology

The descriptive survey approach was selected as the method for conducting the research study. Two questionnaires were utilized to collect data from Fort Hood service members who were initially placed on the Weight Control Program at Darnall Army Community Hospital.

The sample size for the study was determined by using a sample size formula with a confidence level of 95 percent, a population proportion of .5 and degree of accuracy of .05. The formula was as follows:

$$n = \frac{Nz^2p(1-p)}{^2(N-1)+Z^2p(1-p)}$$ [19]

The sample size computed was based on the monthly average number of service members initially placed on the Weight Control Program. The monthly average was 100. The sample size needed for data collection was computed at 41. Therefore, a minimum of 41 service members were needed to complete both the initial and followup questionnaires.

To safeguard against sample "mortality" such as non-completion of followup questionnaires, the minimum sample size number was doubled to determine the number of service members needed for completion of the initial questionnaire.

Data collection was to occur during the months of November and December 1982. However, the length of time for data collection was extended through the first week of January 1983 because an insufficient number of initial questionnaires were actually obtained during November and December 1982.

As identified previously, two instruments in the form of questionnaires were utilized to collect data from the sample. The initial questionnaire (Appendix C) was divided into two parts: general demographic information and weight control program opinions. Initial questionnaires were distributed at the

end of each participant's first weight reduction class, conducted at the Outpatient Nutrition Clinic of Darnall Army Community Hospital on Thursday and Friday of each week.

Prior to distributing the questionnaires this investigator informed all potential participants of the following:

1. purpose of the study;

2. participation in the survey was strictly voluntary;

3. only active duty Army personnel who were on the Army's weight control program could volunteer to participate in the study; and,

4. participation in the study required that a followup questionnaire would also have to be completed.

Three months after completing the initial questionnaire, a cover letter (Appendix D), a followup questionnaire (Appendix E), and a pre-stamped/addressed return envelope were sent to all participants.

The cover letter identified a specific suspense date for returning the followup questionnaire to the investigator. Of the eighty-nine followup questionnaires sent, only nineteen were initially returned. This low response rate necessitated that an active followup be conducted. Each participant who failed to return his/her questionnaire was contacted telephonically. As a result of this telephone followup an additional twenty-six questionnaires were obtained for a total followup response of forty-five.

When the followup questionnaires were received they were matched by name with the individual who completed the

initial questionnaire. These questionnaires were than analyzed according to the following predetermined objectives:

1. The percentage of the sample service members who have achieved their recommended weekly weight loss of 1 to 1.5 pounds but have not achieved their desired weight level within a three-month period.

2. The percentage of the sample service members participating in the study who achieved their desired weight level by the end of a three-month period.

3. The identification of factors which contribute to weight loss of individuals who are participating in the weight control program.

This third objective's data were determined by dividing the participants into two groups. One group was comprised of those service members who successfully achieved their weight level or who lost the recommended weekly weight of 1 to 1.5 pounds. The second group was comprised of service members who failed to achieve their desired weight level and/or failed to lose the recommended weekly weight of 1 to 1.5 pounds.

The chi-square test of homogeneity at a confidence level of .05 was used on the two groups to determine if a relationship existed between weight loss and other specifically identified factors.

FOOTNOTES

[1]Douglas L. Verdier, "All Soldiers Must be Fit to Win," HSC Mercury 3(January 1983): p. 2.

[2]Ibid., p. 2.

[3]Ibid., p. 2.

[4]The Commander's Handbook on Physical Fitness, DA Pamphlet 350-15, Department of the Army, October 1982, p. 16.

[5]Nancy Starnes, "Surgeon General Fitness Force Moves in at Walter Reed," Stripe. 39 (21 January 1983): p. 14.

[6]Transportation School, Lifestyle After-Action Report (Ft. Eustis, VA Transportation School, 1981), p. 2.

[7]Ibid., p. 40.

[8]Ibid., p. 10.

[9]Brian T. Yates, "Improving the Cost-Effectiveness of Obesity Program: Three Basic Strategies for Reducing the Cost Per Pound," International Journal of Obesity , 2(1978): p. 249.

[10]Marie V. Krause, Food Nutrition and Diet Therapy (Philadelphia: W.B. Sanders Company, 1966), p. 323.

[11]Arthur M. Vener, Lawrence R. Krupka, and Roy J. Gerard, "Overweight/Obese Patients on Overview," Practitioner 226 (June 1982): p. 1102.

[12]Raymond S. Dean and Alexander A. Garabedian, "Obesity and Level of Activity," Perceptual and Motor Skills 49 (December 1979): p. 690.

[13]John E. Hocutt, "Exercise and Weight Loss," Delaware Medical Journal 40 (March 1977): p. 146.

[14]Ibid., p. 146.

[15]Barbara A. Davis and Daniel A.K. Roncari, "Behavioral Treatment of Obesity," Canadian Medical Association Journal 119 (23 December 1978): p. 1423.

[16]John P Foreyt, Ken G. Goodrick, and Antonio M. Gotto, "Limitations of Behavioral Treatment of Obesity: Review and Analysis," Journal of Behavioral Medicine 4 (June 1981: p. 160.

[17]Barbara A. Davis and Daniel A.K. Roncari, "Behavioral Treatment of Obesity," Canadian Medical Association Journal 119 (23 December 1978): p. 1423.

[18]John P Foreyt, Ken G. Goodrick, and Antonio M. Gotto, "Limitations of Behavioral Treatment of Obesity: Review and Analysis, Journal of Behavioral Medicine 4 (June 1981): p. 161.

[19]Wayne W. Daniel, Biostatistics: A Foundation for Analysis in the Health Sciences, (New York: John Wiley and Sons, 1978), p. 145.

II. DISCUSSION

General Overview

Eighty-nine service members completed the initial survey questionnaire and were sent followup questionnaires to provide comparative data for analysis. Of the 89 service members who were sent followup questionnaires, 19 responded by returning a completed questionnaire. After an active telephone followup to all who had not submitted a followup questionnaire, an additional 26 questionnaires were received. From the 45 questionnaires received, 41 could be utilized for the study. The other four questionnaires were eliminated from the analysis for the following reasons:

a. Three service members were not required to be on the weight control program.

b. One service member did not know her current weight so no analysis could be conducted.

Of the 44 service members who did not complete the followup questionnaire the following information was obtained from units of 12 service members.

a. Six service members had an Expiration Term of Service (ETS): weight was given as a contributing factor for four of the six.

b. Three service members had a Permanent Change of Station (PCS) to Germany.

c. Two service members' units were deactivated and their new unit could not be located.

d. One service member was attending long term military schooling.

Of the remaining 32 followup questionnaires not received, 15 service members contacted telephonically indicated they would send in the followup questionnaire; however, the the questionnaires were never received.

Analysis of Demographic Data

Demographic data analysis of the 41 service members comprising the sample studied, indicated that:

a. 7 percent were officers; 93 percent were enlisted;

b. 10 percent were female; 90 percent were male.

In addition, data analysis also indicated that the highest percentages of other demographic factors of the sample were as follows:

a. 43.9 percent were in the 17-25 years old range; and 43.9 percent were in the 26-30 years old range.

b. 63.9 percent were high school or trade school graduates; 22 percent were college graduates.

c. 24 percent lived in barracks; 76 percent lived in on- and off-post housing.

d. 58.5 percent had between 1-5 years of service; 31.7 percent had between 6-10 years of service.

e. 53.7 percent were in the white ethnic group; 19.5 percent were in the Spanish ethnic group; 17.2 percent were in the black ethnic group

Analysis of Objectives 1 and 2

Analysis of the data to determine the percentage of the sample who did or did not achieve a weekly weight loss of one to one and one-half pounds and/or their desired weight level indicated the following;

a. 12.20 percent of the service members achieved their desired weight loss of 1 to 1.5 pounds per week, but they were unable to achieve their specific weight goal.

b. 43.90 percent of the service members achieved their desired weight level by the end of a three-month period.

c. 43.90 percent of the service members did not meet either of the predetermined survey objectives for weekly weight loss or achieving desired weight level.

The average weight loss for the 56.10 percent of service members who met their weekly weight loss or achieved their desired weight level was 15.4 pounds per person. Of the 43.90 percent of service members who did not achieve either of the predetermined objectives, each average weight loss was 2.5 pounds. A detailed analysis of the weight loss/gain achieved by the 41 service members who participated in the study can be found in Appendix F.

Analysis of Objective 3

The third objective of the study was to determine those factors which contribute to weight loss of individuals who are participating in the weight control program. This analysis was accomplished by dividing the 41 study participants into success and failure groups. The success group was comprised of service members who had achieved their desired weight loss of 1 to 1.5 pounds per week and/or achieved their desired weight level. The failure group was comprised of those service members who were unable to achieve either a weekly weight loss of 1-1.5 pounds or achieve their desired weight level. For the data analysis, the Chi-square test of homogeneity at a confidence level of .05 was used to determine if there were any significant differences between the two groups.

Contributing Factors

The contributing factors which were specifically identified in the research proposal are listed below:

1. Living quarters environment (initial questionnaire)
2. Educational level (initial questionnaire)
3. Overweight family members (initial questionnaire)
4. Potential adverse actions (initial questionnaire)
5. Personal attitude about Army's Weight Control Program (initial and followup questionnaire)
6. Unit emphasis placed on Army's Weight Control Program (initial questionnaire)
7. Physical activity level (initial and followup questionnaire)
8. Attendance at Overeaters Anonymous weekly meetings (followup questionnaire)

In addition to the eight contributing factors listed above, statistical analysis was also done on the nine following areas since it appeared from a percentage analysis that there would be a significant difference between the success and failure groups.

1. Current ages (initial questionnaire)
2. Current marital status (initial questionnaire)
3. General condition of health (initial questionnaire)
4. Age that weight became a problem (initial questionnaire)
5. Acknowledged difficulty in following guidelines for losing weight (initial questionnaire)
6. Location for meals (initial qeustionnaire)
7. Adherence to calorie restricted diet as planned by dietitian (followup questionnaire)
8. Class given by dietitian to assist with weight loss (followup questionnaire)
9. Feelings about current weight status (followup questionnaire.

The first relationship considered for analysis was based on the service member's living quarters environment. Some service members live in the barracks and are required to eat in the post dining facilities which may limit their ability to

select low calorie foods compared to service members not living in the barracks.

Null Hypothesis HO: No relationship exists between service members living quarters environment and their ability to lose weight.

Alternative Hypothesis HA: A relationship does exist between service members living quarters environment and their ability to lose weight.

TABLE 1

CONTINGENCY TABLE

SERVICE MEMBERS LIVING QUARTERS ENVIRONMENT AND ITS EFFECT ON WEIGHT LOSS

	Barracks	Post Housing	Off Post Housing	Total
Success	3	5	15	23
Failure	7	2	9	18
Total	10	7	14	41

Degrees of Freedom = 2

Chi-Square Statistic 3.82

Chi-Square Critical Value for 2 Degrees of Freedom 5.99

Conclusion: The null hypothesis is not rejected. The data on which the test is based does not provide sufficient evidence to cause rejection. Therefore, it may be true that no relationship exists between service members living quarters environment and weight loss.

The second relationship considered for analysis is the level of education and its impact upon an individual's ability to lose weight.

Null Hypothesis HO: No relationship exists between education level and an individual's ability to lose weight.

Alternative Hypothesis HA: A relationship does exist between education level and an individual's ability to lose weight.

TABLE 2

CONTINGENCY TABLE

LEVEL OF EDUCATION AND ITS EFFECT ON WEIGHT LOSS

	Attended Trade School or High School	Some College	College Graduate	Total
Success	15	5	3	23
Failure	13	4	1	18
Total	28	9	4	41

Degrees of Freedom = 2

Chi-Square Statistic: .6582

Chi-Square Critical Value for 2 Degrees of Freedom 5.99

Conclusion: The null hypothesis is not rejected. The data on which the test is based does not provide sufficient evidence to cause rejection. Therefore, it may be true that no relationship exists between education level and weight loss.

The third possible contributing factor to weight loss is the impact overweight family members have on an individual's ability to lose weight.

Null Hypothesis HO: No relationship exists between service members having overweight family members and their ability to lose weight.

Alternative Hypothesis HA: A relationship does exist between service members who have overweight family members and their ability to lose weight.

TABLE 3

CONTINGENCY TABLE

FAMILY MEMBERS WHO ARE OVERWEIGHT

	Mother	Father	Brother	Sister	Spouse	Children	Total
Success	11	10	6	8	4	2	41
Failure	7	5	4	6	4	2	28
Total	18	15	10	14	8	4	69

Degrees of Freedom = 5

Chi-Square Statistic: .8142

Chi-Square Critical Value for 5 Degrees of Freedom 11.07

Conclusion: The null hypothesis is not rejected. The data on which the test is based does not provide sufficient evidence to cause rejection. Therefore, it may be true that no relationship exists between service members who have overweight family members and their own weight loss.

The fourth possible contributing factor to weight loss is the potential for adverse action that could be taken against the service member if he/she fails to achieve the desired weight level.

Null Hypothesis HO: No relationship exists between potential adverse actions that will be taken against the service member and his/her ability to lose weight.

Alternative Hypothesis HA: A relationship does exist between potential adverse actions that will be taken against the service member and his/her ability to lose weight.

TABLE 4

CONTINGENCY TABLE

POTENTIAL ADVERSE ACTIONS

*	A	B	C	D	E	F	G	Total
Success	8	15	7	7	2	10	2	51
Failure	3	12	2	9	3	7	1	37
Total	11	27	9	16	5	17	3	88

* A - An adverse comment will be made on my efficiency rating
B - I will be given a bar to reenlistment
C - I will be denied admission to service schools
D - I will be discharged from the service
E - I will be forced into retirement
F - I will be denied promotion
G - I will be removed from flight status

Degrees of Freedom = 6

Chi-Square Statistic: 4.5785

Chi-Square Critical Value for 6 Degrees of Freedom 12.592

Conclusion: The null hypothesis is not rejected. The data on which the test is based does not provide sufficient evidence to cause rejection. Therefore, it may be true that no relationship exists between potential adverse actions and weight loss.

The question about the impact of adverse actions was included in the initial questionnaire which was answered during the months of November, December 1982 and January 1983. Prior to the implementation of the revised AR 600-9 on 15 April 1983, which specifically addresses adverse actions, the actual implementation of adverse actions varied from unit to unit. If

this study would be replicated, one should consider elimination of this question as the adverse actions for failure to meet desired weight standards are to be uniformly applicable.

Another possible contributing factor to weight loss is an individual service member's personal feelings about being placed on the weight control program. There were six different questions asked regarding service members' personal feelings. Each question is analyzed separately.

1. Null Hypothesis HO: No relationship exists between service member's personal attitude about being placed on the Army's weight control program and their ability to lose weight.

Alternative Hypothesis HA: A relationship does exist between a service member's personal attitude about being placed on the Army's weight control program and their ability to lose weight.

TABLE 5

CONTINGENCY TABLE

ATTITUDE ABOUT BEING PLACED ON THE ARMY'S WEIGHT CONTROL PROGRAM

	Slightly Negative Feelings	Indifferent Feelings	Slight Positive Feeling	Strong Positive Feeling	Total
Success	5	7	4	5	21
Failure	4	6	3	5	18
Total	9	13	7	10	39

Degrees of Freedom = 3

Chi-Square Statistic: .0985

Chi-Square Critical Value for 3 Degrees of Freedom 7.815

Conclusion: The null hypothesis is not rejected. The data on which the test is based does not provide sufficient evidence to cause rejection. Therefore, it may be that a relationship exists between personal feelings about being placed on the Army's weight control program and actual weight loss.

2. Null Hypothesis HO: No relationship exists between a service member being overweight and the defense of our country.

Alternative Hypothesis HA: A relationship does exist between a service member being overweight and the defense of our country.

TABLE 6

CONTINGENCY TABLE

IMPORTANCE OF THE WEIGHT CONTROL PROGRAM
TO THE DEFENSE OF OUR COUNTRY

	Strongly Disagree	Disagree	Neither	Agree	Total
Success	2	3	3	15	23
Failure	1	3	6	8	18
Total	3	6	9	23	41

Degrees of Freedom = 3

Chi-Square Statistic: 2.6305

Chi-Square Critical Value for 3 Degrees of Freedom 7.815

Conclusion: The null hypothesis is not rejected. The data on which the test is based does not provide sufficient evidence to cause rejection. Therefore, possibly no relationship exists between the importance of weight control and the defense of our country.

3. Null Hypothesis HO: No relationship exists between military occupational specialty (MOS), physical fitness, and being overweight.

Alternative Hypothesis HA: A relationship does exist between military occupational specialty (MOS), physical fitness, and being overweight

TABLE 7

CONTINGENCY TABLE

MILITARY OCCUPATIONAL SPECIALTY
AND WEIGHT STANDARD

	Disagree	Neither	Agree	Total
Success	6	6	11	23
Failure	6	2	10	18
Total	12	8	21	41

Degrees of Freedom = 2

Chi-Square Statistic: 1.4553

Critical Value for 2 Degrees of Freedom 5.99

Conclusion: The null hypothesis is not rejected. The data on which the test is based does not provide sufficient evidence to cause rejection. Therefore, it may be that no relationship exists between weight loss and adjusting weight and physical fitness standards according to military occupational specialty.

4. Null Hypothesis HO: No relationship exists between the weight standards for officers and enlisted personnel and weight loss.

Alternative Hypothesis HA: A relationship does exist between the weight standards for officers and enlisted personnel and weight loss.

TABLE 8

CONTINGENCY TABLE

WEIGHT STANDARDS FOR OFFICERS AND ENLISTED PERSONNEL

	Strongly Disagree	Neither	Agree	Strongly Agree	Total
Success	1	0	10	12	23
Failure	0	1	7	10	18
Total	1	1	17	22	41

Conclusion: Data was such that an appropriate test could not be conducted because of the small numbers in four cells. These cells could not be combined with other cells since the results would cause a misinterpretation of data.

However, out of the 41 study participants 94.82 percent felt that the same weight standards should apply to both officers and enlisted personnel.

5. Null Hypothesis HO: No relationship exists between whether the weight control program is administered fairly or not and weight loss of individuals.

Alternative Hypothesis HA: A relationship does exist between whether the weight control program is administered fairly or not and the weight loss of individuals.

TABLE 9

CONTINGENCY TABLE

FAIRNESS OF HOW WEIGHT CONTROL PROGRAM IS ADMINISTERED

	Strongly Disagree	Disagree	Neither	Agree	Total
Success	4	7	4	8	23
Failure	1	4	2	11	18
Total	5	11	6	19	41

Degrees of Freedom = 3

Chi-Square Statistic: 3.857

Chi-Square Critical Value for 3 Degrees of Freedom 7.815

Conclusion. The null hypothesis is not rejected. The data on which the test is based does not provide sufficient evidence to cause rejection. Thus there may be no relationship that exists between whether the weight control program is administered fairly or not and an individual's weight loss.

6. Null Hypothesis HO: No relationship exists between an individual's knowledge of people who should be enrolled in the Army's weight control program but are not and weight loss.

Alternative Hypothesis HA: A relationship does exist between an individual's knowledge of people who should be enrolled in the Army's weight control program but are not and weight loss in general.

TABLE 10

CONTINGENCY TABLE

ENROLLMENT IN THE ARMY'S WEIGHT CONTROL PROGRAM

	Disagree	Neither	Agree	Strongly Agree	Total
Success	2	3	11	7	23
Failure	2	7	7	1	17
Total	4	10	18	8	40

Degrees of Freedom = 3

Chi-Square Statistic: 7.9197

Chi-Square Critical Value for 3 Degrees of Freedom 7.815

Conclusion: The null hypothesis is rejected. The data on which the test is based does provide sufficient evidence to cause rejection. Therefore, a relationship may exist between knowing people who should be enrolled in the Army's weight control program and are not and personal weight loss.

One possible contributing reason for the above analysis may be that service members who achieve their desired weight goal are more cognizant of other service members weight than service members who did not achieve their desired weight level.

Five of the above six questions regarding service members' personal feelings about the weight control program were asked on the followup questionnaire. The one question regarding personal attitude about being placed on the Army's Weight Control Program was inadvertently omitted from the followup questionnaire. Of the five questions asked all were analyzed using

the same statistical procedure and confidence level used on the initial questionnaire. The results were that no significant differences existed between the success and failure groups in regard to their feelings about the weight control program.

A sixth possible contributing factor to weight loss is the emphasis placed on the Army's Weight Control Program by the individual's unit.

Null Hypothesis HO: No relationship exists between the amount of emphasis placed on the Army's weight control program by the unit and the service member's ability to lose weight.

Alternative Hypothesis HA: A relationship does exist between the amount of emphasis placed on the Army's weight control program by the unit and the service member's ability to lose weight.

TABLE 11

CONTINGENCY TABLE

	Disagree	Neither	Agree	Strongly Agree	Total
Success	9	8	4	2	21
Failure	4	10	2	2	18
Total	13	18	6	4	41

Degrees of Freedom = 3

Chi-Square Statistic: 2.1254

Chi-Square Critical Value for 3 Degrees of Freedom 7.815

Conclusion: The null hypothesis is not rejected. The data on which the test is based does not provide sufficient evidence to cause rejection. Thus there may be no relationship that exists between the emphasis placed on the Army Weight Control Program by the unit and an individual weight loss.

Prior to the implementation of the revision to AR 600-9 on 15 April 1983, the emphasis on the Army's weight control program was mainly at the discretion of the individual's unit. Since the implementation to the revised AR 600-9 with the requirement that an entry be made by all raters on Officer Efficiency Reports and Enlisted Efficiency Reports, this emphasis should be more consistent in the future.

The seventh possible contributing factor to weight loss is a service member's participation in physical activities, i.e., exercise program. There were three specific questions asked on the initial and followup questionnaires regarding exercise programs. The results of the initial questionnaire are presented below.

The statistical results of the followup questionnaire are similar to the initial questionnaire, therefore the analysis is not repeated for the followup questionnaire.

1. Null Hypothesis HO: No relationship exists between participating in physical training during duty hours and weight loss.

Alternative Hypothesis HA: A relationship does exist between participating in physical training during duty hours and weight loss.

TABLE 12

CONTINGENCY TABLE

PARTICIPATION IN PHYSICAL TRAINING
CONDUCTED DURING DUTY HOURS

	Yes	No	Total
Success	18	4	22
Failure	13	5	18
Total	31	9	40

Degree of Freedom = 1

Chi-Square Statistic: .8100

Chi-Square Critical Value for
1 Degree of Freedom 3.841

Conclusion: The null hypothesis is not rejected, the data on which the test is based does not provide sufficient evidency to cause rejection. Therefore, it may be true that no relationship exists between whether service member participated in physical training during duty hours and actual weight loss.

2. Null Hypothesis HO: No relationship exists between how frequent a service member participates in mandatory physical training and weight loss.

Alternative Hypothesis HA: A relationship does exist between how frequent a service member participates in mandatory physical training and weight loss.

TABLE 13

CONTINGENCY TABLE

FREQUENCY OF MANDATORY PHYSICAL TRAINING

	5 Times Per Week	4 Times Per Week	3 Times Per Week	2 Times Per Week	Total
Success	4	2	12	1	19
Failure	3	2	10	2	17
Total	7	4	22	3	36

Degrees of Freedom = 3

Chi-Square Statistic: .5484

Chi-Square Critical Value for 3 Degrees of Freedom 7.815

Conclusion: The null hypothesis is not rejected. The data on which the test is based does not provide sufficient evidence to cause rejection. Therefore, it may be true that no relationship exists between the frequency that service member participates in mandatory physical training and weight loss.

3. Null Hypothesis HO: No relationship exists between participation in physical activities after duty hours and weight loss.

Alternative Hypothesis HA: A relationship does exist between participation in physical activities after duty hours and weight loss.

TABLE 14

CONTINGENCY TABLE

PARTICIPATION IN PHYSICAL ACTIVITIES
AFTER DUTY HOURS

	Yes	No	Total
Success	14	9	23
Failure	9	8	17
Total	23	17	40

Degree of Freedom = 1

Chi-Square Statistic: .3850

Chi-Square Critical Value for 1 Degree of Freedom 3.841

Conclusion: The null hypothesis is not rejected. The data on which the test is based does not provide sufficient evidence to cause rejection. Therefore, it may be true that no relationship exists between participation in physical activities after duty hours and weight loss.

The results of these three questions indicate that no significant relationship exists between physical activity and weight loss. These results contradict results from other studies identified in the review of the literature. Hocutt, for example, found that exercise not only can result in a significant initial weight loss, but over an extended period of time can result in sustained weight loss even in individuals who were obese since childhood.[1] In addition, a study by the President's Council on Physical Fitness and Sports states that intensive physical exercise over a period of time will result in depletion of excess fat and an increase in the percentage of lean body tissue.[2]

One can only conjecture that the success group may have spent a considerable additional amount of time exercising or even though the failure group exercised, their caloric intake did not decrease so that only minimal benefit was obtained from the exercise.

The last contributing factor that may impact upon an individual's weight loss is the service member's participation in the Over-Eaters Anonymous Program conducted at Fort Hood.

Null Hypothesis HO: No relationship exists between participation in Fort Hood's Over-Eaters Anonymous Program and weight loss.

Alternative Hypothesis HA: A relationship does exist between an individual who participates in Fort Hood's Over-Eaters Anonymous Program and weight loss.

TABLE 15

CONTINGENCY TABLE

PARTICIPATION IN FORT HOOD'S OVER-EATERS ANONYMOUS PROGRAM

	Yes	No	Total
Success	3	17	20
Failure	0	14	14
Total	3	31	34

Degree of Freedom = 1

Chi-Square Statistic: 3.486

Chi-Square Critical Value for 1 Degree of Freedom 3.841

Conclusion: The null hypothesis is not rejected. The data on which the test is based does not provide sufficient evidence to cause rejection. Therefore, it may be true that no relationship exists between a service member's participation in Fort Hood's Over-Eaters Anonymous Program and the amount of weight loss achieved.

Based on the results obtained above there is an indication that belonging to Over-Eaters Anonymous may contribute to weight loss. Some of the possible reasons for this relationship are:

1. the influence of peer pressure;
2. personal motivation to belong to Over-Eaters Anonymous;
3. the support system found in Over-Eaters Anonymous.

Of the nine additional contributing factors analyzed only the following two factors were found statistically significant:

1. difficulty in following guidelines for losing weight;
2. feelings about current weight status.

Although not statistically significant, the contributing factor regarding a calorie restricted diet planned by a dietitian appeared to have some relevance in the relationship to weight loss. Further analysis of data from a larger sample would be necessary to statistically determine actual significance.

The actual analysis for the two statistically significant contributing factors is as follows.

1. Null Hypothesis HO: No relationship exists between the amount of difficulty experienced in following weight loss guidelines and the actual amount of weight that is lost.

Alternative Hypothesis HA: A relationship does exist between the amount of difficulty experienced in following weight loss guidelines and the actual amount of weight that is lost.

TABLE 16

CONTINGENCY TABLE

DIFFICULTY IN FOLLOWING GUIDELINES FOR WEIGHT LOSS

	Yes	No	Total
Success	4	18	22
Failure	9	9	18
Total	13	27	40

Degree of Freedom = 1

Chi-Square Statistic: 4.5749

Chi-Square Critical Value for 1 Degree of Freedom ~~5.99~~ 3.8419

Conclusion: The null hypothesis is rejected. The data on which the test is based does provide sufficient evidence to cause rejection. Therefore, it may be true that a relationship does exist between the amount of difficulty that a service member has in following weight loss guidelines and his ability to lose weight.

2. Null Hypothesis HO: No relationship exists between feelings regarding current weight status and the amount of weight lost.

Alternative Hypothesis HA: A relationship does exist between feelings regarding current weight status and the amount of weight lost.

TABLE 17

CONTINGENCY TABLE

FEELINGS ABOUT CURRENT WEIGHT STATUS

	Very Satisfied	Some What Satisfied	Neither	Some What Dissatisfied	Total
Success	13	6	2	2	23
Failure	3	2	7	2	18
Total	16	8	9	4	41

Degrees of Freedom = 3

Chi-Square Statistic: 12.6038

Chi-Square Critical Value for 3 Degrees of Freedom 7.815

Conclusion: The null hypothesis is rejected. The data on which the test is based does provide sufficient evidence to cause rejection. Therefore, it may be true that a relationship does exist between feelings regarding current weight status and the amount of weight lost.

The following is the statistical analysis of the calorie restricted diet planned by a dietitian.

Null Hypothesis HO: No relationship exists between following a calorie restricted diet as planned by a dietitian and a service member's ability to lose weight.

Alternative Hypothesis HA: A relationship does exist between following a calorie restricted diet as planned by a dietitian and a service member's ability to lose weight.

TABLE 18

CONTINGENCY TABLE

SERVICE MEMBERS WHO FOLLOWED A CALORIE RESTRICTED DIET AS PRESCRIBED BY A DIETITIAN

	Yes	No	Total
Success	13	9	22
Failure	6	12	32
Total	19	21	40

Degree of Freedom = 1

Chi-Square Statistic: 2.6338

Chi-Square Critical Value for 1 Degree of Freedom 3.841

Conclusion: The null hypothesis is not rejected. The data on which the test is based does not provide sufficient evidence to cause rejection. Therefore, it may be true that a relationship does not exist between following a calorie restricted diet as planned by a dietitian and a service member's ability to lose weight.

Summary of Contributing Factors

In summary, from the statistical analysis that was conducted on the success or failure groups a relationship was determined between only three contributing factors and weight loss. Those relationships found significant were as follows:

1. A service member's knowledge of people who should be enrolled in the Army's Weight Control Program but are not and weight loss in general.

2. The amount of difficulty that a service member experiences in following the weight loss guidelines and the actual amount of weight that is lost.

3. A service member's feeling about his/her current weight status and the amount of weight lost.

In addition to the three areas that were significant, there are indications that two other areas, although not significant, might be considered for possible relationship, given a larger sample size.

1. Participation in Fort Hood's Over-Eaters Anonymous Program and achieving desired weight loss.

2. Following a calorie restricted diet as planned by a dietitian and a service member's ability to lose weight.

The result of physical activity and its relationship to weight loss was the one area, according to the review of the literature, that should have been significant, yet was not. As stated earlier one can only conjecture the reason why the success group and the failure group did not differ significantly in regards to the amount and the frequency of their physical activity. To actually determine the underlying reason(s), further investigation would have to be conducted.

FOOTNOTES

[1]John E. Hocutt, "Exercise and Weight Loss," Delaware Medicine Journal 49 (March 1977): p. 149.

[2]"Physical Fitness Research Digest" President's Council on Physical Fitness and Sports Series 5 No. 2 (Washington, D.C.; April 1975), p. 21.

III. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The purpose of this study was to determine those factors which may have an impact on Darnall Army Community Hospital's Weight Control Program participants' capability to lose weight and/or achieve their desired weight level in accordance with AR 600-9, dated 30 November 1976. The study was conducted utilizing a descriptive survey approach. Two questionnaires were utilized to collect data from Fort Hood service members who were initially placed on the Weight Control Program at Darnall Army Community Hospital. The initial questionnaire was completed during the months of November and December 1982 and January 1983. Three months after completing the initial questionnaire, a followup questionnaire was sent to all participants. Of the eighty-nine followup questionnaires that were sent out, only 41 could be utilized for statistical analysis purposes. These 41 follow-up questionnaires were matched by name with the individuals who completed the initial questionnaire. All 41 initial and follow-up questionnaires were then analyzed according to three predetermined objectives. The chi-square test of homogeneity at a confidence level of .05 was used on the initial followup questionnaire to determine if a relationship existed between weight loss and 17 specifically identified contributing factors.

Results of the statistical analysis showed that only three contributing factors were found to be significant. They are as follows.

1. A service member's knowledge of people who should be enrolled in the Army's Weight Control Program but are not and weight loss in general.

2. The amount of difficulty that a service member experiences following the weight loss guidelines and the actual amount of weight that is lost.

3. A service member's feeling about his/her current weight status and the amount of weight lost.

The one truly surprising result from this statistical analysis was the fact that exercise and its relationship to weight loss was not found significant. The relationship between exercise and weight loss has been proven significant in numerous studies conducted in the area of weight loss.

Recommendations

Based upon the results of the study and the experience gained in conducting this investigation several recommendations are identified.

1. The study should be replicated in light of the major changes that are contained in the revision of AR 600-9, which was implemented on 15 April 1983. Information for this study was based on AR 600-9, dated November 1976.

2. The actual size of the sample should be increased to improve the validity of the results obtained.

3. The length of time that the study is conducted should be increased to a minimum of six months. By increasing the time period, one could better determine if participants were able to sustain desired weight levels and/or continue in weight reduction.

4. Specific questions that were contained on the initial questionnaire should be deleted from the questionnaire since they did not lend any additional relevance to the study. Suggested questions to be deleted from the initial questionnaire include numbers 11, 13, 17, 18, 19, 20, 27, 27, and 35 c through g.

APPENDIX A

Army Regulation 600-9
The Army Weight Control Program

Headquarters
Department of the Army
Washington, DC
1 February 1983

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*Army Regulation 600–9

Effective 15 April 1983

Personnel—General

The Army Weight Control Program

Summary. This revision implements guidance in DOD Directive 1308.1, dated 29 June 1981, which establishes a weight control program in all the Services.

Applicability. This regulation applies to all members of the Active Army, the Army National Guard (ARNG), and the US Army Reserve (USAR), to include those ARNG and USAR personnel in Active Guard/Reserve (AGR) status.

Impact on New Manning System. This regulation does not contain information that affects the New Manning System.

Supplementation. Supplementation of this regulation requires prior approval from HQDA (DAPE-MPA), WASH DC 20310.

Interim changes. Interim changes to this regulation are not official unless they are authenticated by The Adjutant General. Users will destroy interim changes on their expiration dates unless sooner superseded or rescinded.

Suggested improvements. The proponent agency of this regulation is the Office of the Deputy Chief of Staff for Personnel. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to HQDA(DAPE-MPA), WASH DC 20310.

Contents

Appendixes

*This regulation supersedes AR 600–9, 30 November 1976.

14. Commanders of major medical commands

a. Commanding General, US Army Health Services Command (CG, HSC). The CG, HSC is responsible for—

(1) Instituting weight reduction and counseling programs in Army medical factilities in support of the Army Weight Control Program.

(2) Providing appropriate literature and training aids for use by personnel, supervisors, and commanders in selection of a proper diet.

b. Commanders of other major medical commands (overseas). These commanders are responsible for instituting weight reduction and counseling programs in Army medical facilities in support of the Army Weight Control Program overseas.

15. Commanding General, US Army Reserve Components Personnel and Administration Center (CG, RCPAC)

The CG, RCPAC is responsible for—

a. Monitoring the Army Weight Control Program in the Individual Ready Reserve (IRR).

b. Taking appropriate action under guidance prescribed in this regulation.

c. Insuring that members applying for tours of AD, active duty for training (ADT), active duty support (ADS), and AGR meet the body fat standards prescribed in this regulation (personnel who do not meet these standards will not be permitted to enter on AD, ADT, or ADS, or in AGR status).

16. Commanders and supervisors

Commanders and supervisors are responsible for—

a. Implementing the Army Weight Control Program, to include the evaluation of the weight and military appearance of all individuals under their jurisdiction.

b. Insuring the continued evaluation of all personnel under their command or supervision against the body fat standards prescribed in this regulation.

c. Maintaining data on the number of personnel in their command or under their supervision who—

(1) Enter a weight control program each year.

(2) Subsequently either meet the body fat standards of this regulation, or were separated from the Service for reasons related to overweight conditions.

17. Health care personnel

Health care personnel are responsible for—

a. Assisting commanders and supervisors by providing weight reduction counseling to individuals who are overweight.

b. Verifying weight and measuring percent body fat of personnel, as required by paragraph 20*a*.

c. Evaluating overweight individuals.

d. Identifying those individuals who have a pathological condition requiring medical treatment.

18. Individuals

Each commissioned officer, warrant officer, and enlisted member is personally responsible for meeting the body fat standards prescribed in this regulation.

Section III
Weight Control

19. Policy

a. Commanders and supervisors will monitor all members of their command (officers, warrant officers, and enlisted personnel) to insure that they maintain proper weight, body composition (as explained in the glossary), and personal appearance. At minimum, personnel will be weighed when they take the Army Physical Readiness Test (APRT) or at least every 6 months. Personnel exceeding the screening table weight (shown at app A), or identified by the commander or supervisor for a special evaluation, will have a determination made of percent body fat. Identification and counseling of overweight personnel are required.

b. Commanders and supervisors will provide educational and other motivational programs to encourage personnel to attain and maintain proper weight standards. Such programs can include—

(1) Nutrition education sessions conducted by qualified health care personnel.

(2) Exercise programs, even though minimum APRT standards are achieved.

c. Maximum allowable percent body fat standards are as follows:

	Age Group			
	17–20	21–27	28–39	40 & Older
Male (% body fat)	20	22	24	26
Female (% body fat)	28	30	32	34

However, all personnel are encouraged to achieve the more stringent Department of Defense (DOD)-wide goal, which is 20 percent body fat for males and 26 percent body fat for females.

d. Personnel who are overweight (as explained in the glossary)—

(1) Will be considered nonpromotable (to the extent such nonpromotion is permitted by law).

(2) Will not be authorized to attend professional military or civilian schooling.

(3) Will not be assigned to command positions.

20. Procedures

a. Body fat composition will be determined for personnel—

Section I
Introduction

1. Purpose
This regulation establishes policies and procedures for the implementation of the Army Weight Control Program.

2. References
Required publications are listed in appendix D.

3. Explanation of abbreviations and terms
Abbreviations and special terms used in this regulation are explained in the glossary.

4. Objectives
a. The primary objective of the Army Weight Control Program is to insure that all personnel—

(1) Are able to meet the physical demands of their duties under combat conditions.

(2) Present a trim military appearance at all times.

b. Excessive body fat—

(1) Connotes a lack of personal discipline.

(2) Detracts from military appearance.

(3) May indicate a poor state of health, physical fitness, or stamina.

c. Objectives of the Army Weight Control Program are to—

(1) Assist in establishing and maintaining—

(a) Discipline.

(b) Operational readiness.

(c) Optimal physical fitness.

(d) Health.

(e) Effectiveness of Army personnel through proper weight control.

(2) Establish appropriate body fat standards.

(3) Provide procedures for which personnel are counseled to assist in meeting the standards prescribed in this regulation.

(4) Foster high standards of professional military appearance expected of all personnel.

Section II
Responsibilities

5. General
The Army traditionally has fostered a military appearance which is neat and trim. Further, an essential function of day-to-day effectiveness and combat readiness of the Army is that all personnel are healthy and physically fit. Self-discipline to maintain proper weight distribution and high standards of appearance are essential to every individual in the Army.

6. Deputy Chief of Staff for Personnel (DCSPER)
The DSCPER is responsible for the Army Weight Control Program.

7. The Surgeon General (TSG)
TSG is responsible for—

a. Establishing medical examination and counseling policies in support of the Army Weight Control Program.

b. Evaluating the medical aspects of the program.

c. Establishing and reviewing procedures for determination of body fat content.

8. Deputy Chief of Staff for Logistics (DCSLOG)
The DSCLOG is responsible for—

a. Establishing food service guidance in support of the Army Weight Control Program.

b. Publishing guidance and information pertaining to the caloric content of items served on master menus.

9. Chief, National Guard Bureau (CNGB)
The CNGB is responsible for—

a. Implementing and monitoring the Army Weight Control Program in the ARNG (including units).

b. Taking appropriate action under guidance prescribed in this regulation.

10. Chief, Army Reserve (CAR)
The CAR is responsible for—

a. Monitoring the Army Weight Control Program in the USAR.

b. Taking apropriate action under guidance prescribed in this regulation.

11. Commanders of major Army commands (MACOMs)
MACOM commanders are responsible for insuring that personnel within their commands are evaluated under the body fat standards precribed in this regulation.

12. Commanding General, US Army Training and Doctrine Command (CG, TRADOC)
The CG, TRADOC is responsible for informing personnel at initial entry on active duty (AD) about basic nutrition and sound food consumption practices.

13. Commanding General, US Army Forces Command (CG, FORSCOM)
The CG, FORSCOM is responsible for implementing and maintaining the Army Weight Control Program in USAR troop program units (TPUs).

k. Following removal from a weight control program, if it is determined (under *a* above) that an individual exceeds the screening table weight (app A) and the body fat standard prescribed in paragraph 19*c* within 36 months, then the following will apply:

(1) If health care personnel determine that the individual exceeds the screening table weight and the body fat standard—

(a) Within 12 months from the date of the previous removal from the program, and no underlying or associated disease process is found as the cause of the condition, the individual will be subject to separation from the Service under *j* above. (Satisfactory progress in a previous weight control program will not be considered a good reason to justify time in a new program.)

(b) After the 12th month, but within 36 months from the date of the previous removal from the program, and no underlying or associated disease process is found as the cause of the condition, the individual will be followed 90 days to meet the standards. Personnel who meet the maximum allowable weight or body fat standard after that period will be removed from the program. All others will be subject to separation from the Service under *j* above.

(2) If the individual is determined by health care personnel to exceed the maximum allowable weight and body fat standard, and the condition is due to an underlying or associated disease process, action described in *d* above will be taken.

l. Inherent in the responsibility of selection boards is the obligation to select only those individuals who are considered to be physically fit to perform the duties required of them at all times. Compliance with the Army Weight Control Program as prescribed in this regulation will be considered in the selection process for promotion, professional military or civilian schooling, or assignment to command positions. Procedures for commanders and supervisors to provide current information for use by selection boards indicating whether individuals meet the prescribed standards will be included in DA regulations or issued by separate correspondence.

m. Records will be maintained in unit files for personnel in weight control programs. On transfer from one unit to another, the losing commander or supervisor will forward the records and a statement to the gaining unit with information indicating the status of the individual's participation in a weight control program. When the transfer is a permanent change of station, the unit commander's statement and records will be—

(1) Filed as transfer documents in the Military Personnel Records Jacket, US Army, under AR 640–10.

(2) Removed on inprocessing.

(3) Forwarded to the gaining unit commander or supervisor.

21. Reenlistment criteria

a. During the first 6 months after the effective date of this regulation, personnel of all ages must meet either the screening table weight at appendix A for age 40 and over, or the body fat standard in paragraph 19*c* for age 40 and over, to reenlist or extend their enlistment, if otherwise eligible.

b. Beginning 6 months after the effective date of this regulation, personnel who exceed the screening table weight at appendix A and the body fat standard for their current age group in paragraph 19*c* will not be allowed to reenlist or extend their enlistment.

c. Exceptions to policy for Active Army personnel (including RC personnel on AD) are prescribed in this subparagraph. For soldiers who are otherwise physically fit and have performed their duties in a satisfactory manner, the commnder exercising General Court Martial Convening Authority, or the first general officer in the soldier's normal chain of command (whichever is in the most direct line to the soldier) may approve the following exceptions to policy:

(1) Extension of enlistment may be authorized for personnel who meet one of the following criteria:

(a) Individuals who have a temporary medical condition which precludes loss of weight. In such cases, the nature of on-going treatment will be documented; the extension will be for the minimum time necessary to correct the condition and achieve the required weight loss.

(b) Pregnant soldiers who are otherwise fully qualified for reenlistment, including those with approved waivers, but who exceed acceptable standards prescribed in this regulation, will be extended for the minimum period which will allow birth of the child, plus 6 months. Authority, which will be cited on DA Form 1695 (Oath of Extension of Enlistment) is AR 601–280, paragraph 3–3. On completion of the period of extension, the soldier will be reevaluated under paragraph 19.

(2) Exceptions to policy allowing reenlistment are authorized only in cases where—

(a) Medically documented conditions (para 20*d*) preclude attainment of required standards.

(b) Disability separation is not appropriate.

d. Exceptions to policy for RC personnel not on AD. All requests for extension of enlistment for ARNG and USAR (TPU and IRR) personnel will be processed under NGR 600–200 or AR 140–111, paragraph 3–60, as appropriate.

(1) Whose body weight exceeds the screening table weight in appendix A.

(2) Or when the unit commander or supervisor determines that the individual's appearance suggests that body fat is excessive.

b. Routine weigh-ins will be accomplished at the unit level. Percent body fat measurements will be accomplished by health care personnel (health care personnel are defined in the glossary). Personnel exceeding percent body fat standards will be medically evaluated; they also will be provided weight reduction counseling.

c. The sample correspondence shown in appendix B will be completed and retained by the unit commander or supervisor, to document properly recommendations and actions taken in each case.

d. If an individual's condition is diagnosed by medical authorities to result from an underlying or associated disease process, health care presonnel will take one of the following actions:

(1) Prescribe treatment to alleviate the condition and return personnel to their unit.

(2) Hospitalize individuals for necessary treatment; this action applies to Action Army personnel only.

(3) Determine whether the individual's condition is medically disqualifying for continued service. In these cases, disposition will be made under provisions of appropriate regulations.

e. If health care personnel discover no underlying or associated disease process as the cause of the condition, and the individual is classified as overweight, these facts will be documented and the individual entered in a weight control program. Suspension of favorable personnel actions will be initiated under AR 600–31 for personnel in a weight control program.

(1) Maximum allowable weight will be determined, and a safely attainable weight loss goal will be established, by qualified health care personnel. The weight loss goal will be designed to enable soldiers to lose excess body fat and progress to a point preferably below, but at least at, the maximum allowable weight specified by health care personnel and recorded on the format indicated in appendix B. Weigh-ins will be made by unit personnel monthly (or during unit assemblies for ARNG and USAR personnel) to determine progress.

(2) As an exception to *g* below, an individual who has no weight loss after any two consecutive monthly weigh-ins may be referred by the commander or supervisor to health care personnel for reevaluation. If health care personnel are unable to determine a medical reason for lack of weight loss—and if the individual is not in compliance with the body fat standards at paragraph 19*c* and still exceeds the screening table weight (app A)—the commander or supervisor will inform the individual that—

(a) Progress is unsatisfactory.

(b) He or she is subject to separation, as specified in *j* below.

f. Commanders and supervisors will remove individuals administratively from a weight control program as soon as maximum allowable weight, or the body fat standard, is achieved. The removal action will be documented as shown in appendix B; removal of suspension of favorable personnel actions will be accomplished at that time.

g. After a period of dieting and/or exercise for 6 months, personnel who have not made satisfactory progress (as explained in the glossary) toward their maximum allowable weight, and who still exceed the screening table weight (app A) will be processed as follows:

(1) If health care personnel determine that the condition is due to an underlying or associated disease process, action described in *d* above will be taken.

(2) If no underlying or associated disease process is found to cause the overweight condition, the individual will be subject to separation from the Service, under appropriate regulations indicated in *j* below.

h. Personnel will be continued in a weight control program (as provided in *e* through *g* above) after the initial 6-month period, if they—

(1) Still exceed the body fat standard (or maximum allowable weight), and

(2) Have made satisfactory progress toward their maximum allowable weight, or are at or below the screening table weight (app A).

i. To assist commanders and supervisors, a flow chart outlining procedural guidance is shown at appendix C.

j. The commnder or supervisor will inform the individual in writing that initiation of separation proceedings is being considered under the following regulations: AR 635–200, chapter 11 or 13; AR 635–100, chapter 5; NGR 600–200, chapter 7; NGR 600–101; NGR 600–5; NGR 635–100; AR 135–175; or AR 135–178. This procedure will be followed, unless a medical reason is found to preclude the loss of weight, or there is other good cause to justify additional time in the weight control program.

(1) The individual will immediately respond to the separation consideration letter in writing. The commander or supervisor will consider the response and initiate separation action if no adequate explanation is provided, unless the individual submits an application for retirement, if eligible. USAR personnel in an AGR status who fall under the purview of this paragraph will be released from AD and returned to the appropriate Reserve control group.

(2) If separation action is not initiated, or does not result in separation, the individual will be entered or continued in a weight control program, as specified in *e* above.

e. Requests for exceptions to policy will be forwarded through the chain of command, with the commander's personal recommendation and appropriate comment at each level. As a minimum, requests will include—

(1) The physician's evaluation.

(2) A record of progress in the weight control program.

(3) Current height and weight.

(4) Body fat content.

(5) Years of active Federal service.

(6) Other pertinent information.

Appendix A
Weight for Height Table (Screening Table Weight)

Height (in inches)	MALE Age 17-20	MALE Age 21-27	MALE Age 28-39	MALE Age 40+	FEMALE Age 17-20	FEMALE Age 21-27	FEMALE Age 28-39	FEMALE Age 40+
58	—	—	—	—	104	107	110	113
59	—	—	—	—	107	110	114	117
60	132	136	139	141	111	114	117	121
61	136	140	144	146	115	118	121	125
62	141	144	148	150	119	123	126	130
63	145	149	153	155	123	126	130	134
64	150	154	158	160	126	130	134	138
65	155	159	163	165	130	134	138	142
66	160	163	168	170	135	139	143	147
67	165	169	174	176	139	143	148	151
68	170	174	179	181	143	147	151	156
69	175	179	184	185	147	151	155	160
70	180	185	189	192	151	156	160	165
71	185	189	194	197	155	159	164	169
72	190	195	200	203	160	164	169	174
73	195	200	205	208	165	169	174	179
74	201	206	211	214	170	174	180	185
75	206	212	217	220	175	179	184	190
76	212	217	223	226	180	185	190	196
77	218	223	229	232	184	190	195	201
78	223	229	235	238	189	194	200	206
79	229	235	241	244	194	199	205	211
80	234	240	247	250	198	204	210	216

Appendix B
Sample Correspondence for Weight Control Program

FORMAT FOR REQUESTING PRELIMINARY MEDICAL EVALUATION

FROM: Commanding Officer
TO: MEDDAC

Subject: Weight Control Program

Ref: AR 600-9.

1. _____ ( ) exceeds the weight for height tables by ____ pounds; ( ) appears to have excess body fat.

2. It is requested that body fat content be measured and a medical evaluation be conducted in accordance with reference AR.

Date _____ Signature _____

FIRST INDORSEMENT

FROM: MEDDAC (Health Care Personnel)
TO: Commanding Officer

1. In accordance with the reference, _____ has been examined and found to weigh ____ pounds and have a body fat content of ____ percent. This individual (check appropriate block/blocks):

( ) Exceeds the weight for height tables, or ( ) does not exceed the weight tables.

( ) Exceeds the percent body fat standard by ____ percent. The individual's maximum allowable weight is ____ pounds in current age category.

( ) Does not exceed the percent body fat standard. The individual's maximum allowable weight is ____pounds in current age category.

( ) Is fit for participation in a weight control/physical exercise program.

The cause of this overweight condition (is) (is not) due to a medical disorder.

2. The following action(s) is/are recommended.

( ) Weight reduction program.

( ) Hospitalization for pathological medical disorder.

( ) No further action.

3. The soldier has been advised that: The loss of ____pounds within 6 months is determined to be a realistic goal. Present weight is ____pounds, loss per month should be ____pounds.

Date _____ Signature _____

SECOND INDORSEMENT

From: Commanding Officer
To: (Individual Soldier)

You have been determined to be overweight and a goal of ____pounds of weight loss per month has been established. Your maximum allowable weight is ____pounds. This should be attained no later than ____months from this date. Failure to achieve your maximum allowable weight could result in separation from the Service.

Date_____ Signature_____

THIRD INDORSEMENT

From: (Individual Soldier)
To: Commanding Officer

I understand my responsibilities to achieve the maximum allowable weight and to have my weight recorded periodically or during unit training assemblies (UTA) as applicable.

Date_____ Signature_____

(to be used when weight goal is not attained after ___ months)

FOURTH INDORSEMENT

From: Commanding Officer
To: MEDDAC (Health Care Personnel)

Present weight, body fat percentage, and medical reevaluation are requested.

Date _____ Signature_____

FIFTH INDORSEMENT

From: MEDDAC (Health Care Personnel)
To: Commanding Officer

I have reexamined the individual and found present weight to be ____pounds, ( ) which meets the screening table weight, or which ( ) exceeds the screening table weight. The individual's present body fat is ____ percent and present maximum allowable weight is ____ pounds. This individual is ( ) within percent body fat standard, or ( ) exceeds percent body fat standard.

The cause of the overweight condition (is) (is not) due to a pathological medical disorder.

Additional remarks:

Date_____ Signature_____

SIXTH INDORSEMENT

FROM: Commanding Officer
TO: Military Personnel Officer

1. The individual has been determined to be in compliance with the provisions of AR 600-9, and is therefore removed from the weight control program effective this date.

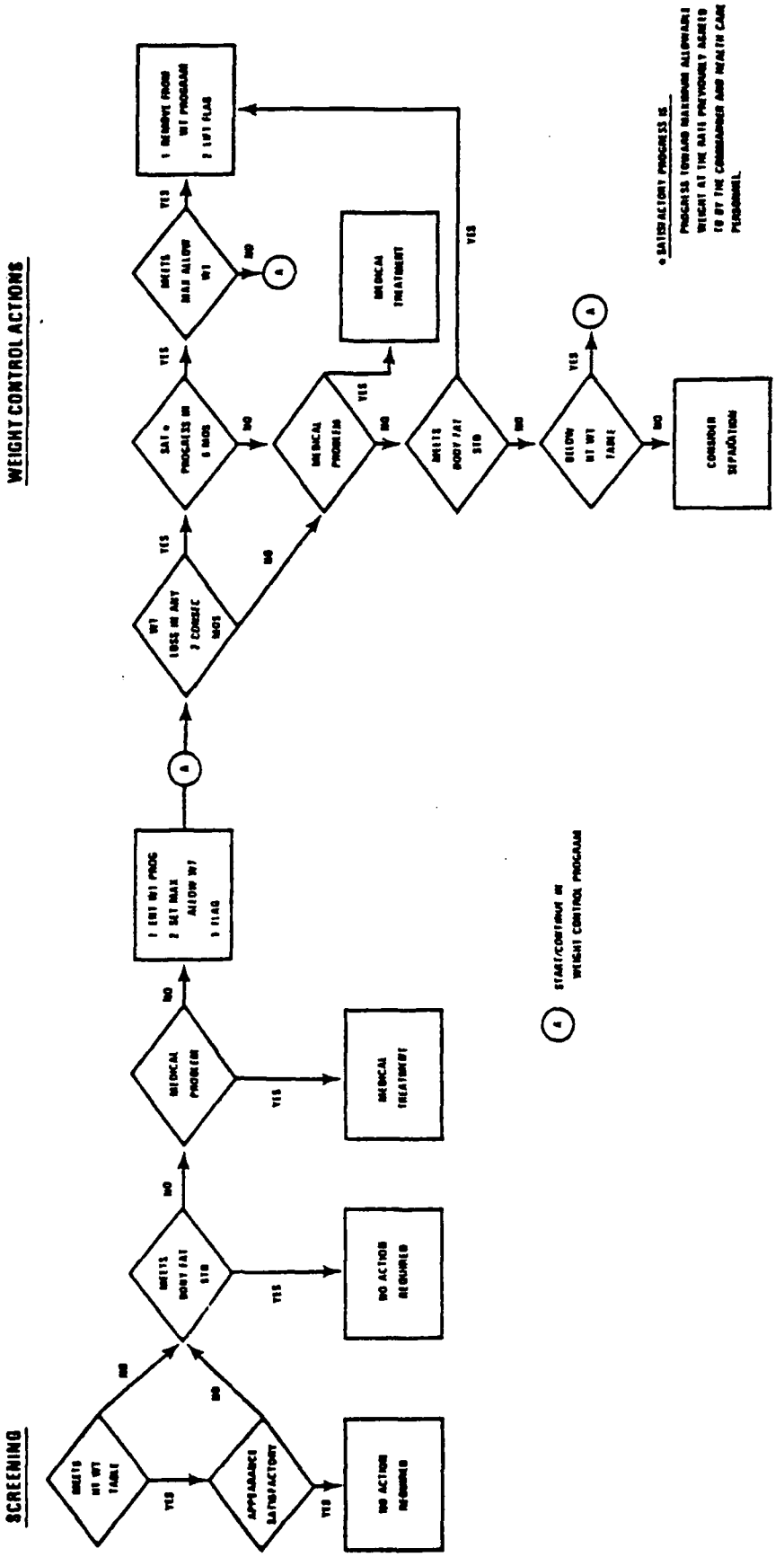
2. The individual's current weight is ____ pounds. Screening table weight is ____ pounds for present age category. Maximum allowable weight is ____ pounds for present age category.

3. This correspondence will be retained in the individual's MPRJ for 48 months from this date.

Date _____ Signature _____

Appendix C
Flow Process Guide for Screening and Weight Control Actions

(*NOTE*: This appendix applies to all personnel: officers, warrant officers, and enlisted)



Appendix D
References

Required Publications

AR 135–175 (Separation of Officers). Cited in paragraph 20*j*.

AR 135–178 (Separation of Enlisted Personnel). Cited in paragraph 20*j*.

AR 140–111 (Enlisted and Reenlistment). Cited in paragraph 21*d*.

AR 600–31 (Suspension of Favorable Personnel Actions for Military Personnel in National Security Cases and Other Investigations or Proceedings). Cited in paragraph 20*e*.

AR 601–280 (Army Reenlistment Program). Cited in paragraph 21*c*(1)*(b)*.

AR 635–100 (Officer Personnel). Cited in paragraph 20*j*.

AR 635–200 (Enlisted Personnel). Cited in paragraph 20*j*.

AR 640–10 (Individual Military Personnel Records). Cited in paragraph 20*m*(1).

NGR 600–5 (Enlisted Career Management). Cited in paragraph 20*j*.

NGR 600–100 (Commissioned Officers—Federal Recognition and Related Personnel Activities). Cited in paragraph 20*j*.

NGR 600–200 (Enlisted Personnel Management). Cited in paragraphs 20*j* and 21*d*.

NGR 635–100 (Termination of Appointment and Withdrawal of Federal Recognition). Cited in paragraph 20*j*.

Glossary

Section I
Abbreviations

AD ..... active duty

ADS ..... active duty support

ADT ..... active duty for training

AGR ..... Active Guard/Reserve

APRT ..... Army Physical Readiness Test

ARNG ..... Army National Guard

CAR ..... Chief, Army Reserve

CG ..... Commanding General

CNGB ..... Chief, National Guard Bureau

DA ..... Department of the Army

DCSPER ..... Deputy Chief of Staff for Personnel

DCSLOG ..... Deputy Chief of Staff for Logistics

DOD ..... Department of Defense

FORSCOM ... US Army Forces Command

HQDA ..... Headquarters, Department of the Army

HSC ..... US Army Health Services Command

IRR ..... Individual Ready Reserve

MACOM ..... major Army command

RC ..... Reserve Component

RCPAC ..... US Army Reserve Component Personnel and Administration Center

TPU ..... troop program unit

TRADOC ..... US Army Training and Doctrine Command

TSG ..... The Surgeon General

USAR ..... US Army Reserve

Section II
Terms

Body composition

The human body is composed to two major elements: lean body mass (which includes muscle, bone, and essential organ tissue), and body fat. Body fat is expressed as a percentage of total body weight that is fat. For example, an individual who weighs 200 pounds and 18 percent body fat has 36 pounds of fat. Women generally have a higher percent of body fat than men because of genetic and hormonal differences; thus, body fat standards differ among men and women by age groups.

Health care personnel

Trained physicians (military or civilian employees or contract), physician's assistants, nurse practitioners, and dieticians under supervision of the unit surgeon or the commander of the medical treatment facility. For the purpose of this regulation, this term includes personnel or US Forces and host nations. For RC personnel, health care personnel normally used for medical purposes are authorized.

Maximum allowable weight

A mathematically derived maximum body weight, to be used as an objective for soldiers whose body fat exceeds the current standard for their age category. Derived by health care personnel by summing the current lean body mass and fat allowable for an individual to comply with the percent body fat standard. This weight is different than the screening table weight in appendix A.

Overweight

An individual is considered overweight when his or her percent body fat exceeds the standard specified in paragraph 19*c* of this regulation.

Satisfactory progress

Progressing toward a point preferably below, but at least at, the individual's maximum allowable weight (specified by health care personnel) at a monthly weight loss rate that was previously agreed to by the commander or supervisor, in consultation with health care personnel. This is different from the screening table weight in appendix A.

Weight control

An individual program by which each soldier attains and maintains an acceptable weight and body composition through self-motivation or involvement in an official weight control program.

By Order of the Secretary of the Army:

E. C. MEYER
General, United States Army
Chief of Staff

Official:

ROBERT M. JOYCE
Major General, United States Army
The Adjutant General

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APPENDIX B

Specific Weight Guidance for Army Uniforms

ROUTINE

* U N C L A S S I F I E D *

PT U0164 097/2321Z 59 PAGE 01

ACTION: AG

INFO COPIES: CS ICAV JAG MEDDAC 504MI //TCC USE//

USACC 3514 89MP CACCS 13COS //AC FY//

//R&D____//

//FC____//

RTTUZYUW RUEADWD1335 0972213-UUUU--RUCLBFA.

ZNR UUUUU RULYLKA T COMDT USAELM SCH MUSIC NORFOLK VA

R 072213Z APR 83

FM HQ DA WASHDC //DAPE-MPA-CS//

TO AIG 7405

AIG 7406

AIG 7407

AIG 7446

AIG 7447

AIG 7585

ARSTAF

ACCT DA-BHCSVD

BT

ABJ	
EXEC	
CO	
CPS	
CSM	

UNCLAS

SUBJECT: NEW ARMY WEIGHT CONTROL PROGRAM

A. AR 600-9 DTD 15 FEB 83.

B. HQDA MSG, SAB, DTG 142258Z MAR 83.

1. THE FOLLOWING GUIDANCE IS FURNISHED IN ADDITION TO THAT PROVIDED IN ABOVE REFERENCES.

A. CLARIFICATION OF APPENDIX A, AR 600-9 (SCREENING TABLE

ROUTINE * U N C L A S S I F I E D *

~~CLOTHING~~ WEIGHT.

60

(1) HEIGHT AND WEIGHT ARE WITHOUT SHOES AND OUTER CLOTHING.

PAGE
~~PAGE~~ 02 RUEADWJ1335 UNCLAS

(2) IF THE HEIGHT FRACTION IS LESS THAN ONE-HALF INCH, USE THE SCREENING WEIGHT FOR THE NEXT LOWER HEIGHT VALUE FOR THE APPROPRIATE AGE.

(3) IF THE HEIGHT FRACTION IS ONE-HALF INCH OR MORE USE THE SCREENING WEIGHT FOR THE NEXT HIGHER HEIGHT VALUE FOR THE APPROPRIATE AGE.

(4) THE MEASURED WEIGHT OF AN INDIVIDUAL WILL BE ROUNDED TO THE NEAREST WHOLE POUND IN THE SAME MANNER AS HEIGHT.

B. WEIGHT ALLOWANCE FOR ARMY UNIFORMS ARE AS FOLLOWS AND MAY BE USED BY UNITS AND SUBTRACTED FROM THE INDIVIDUAL'S TOTAL WEIGHT DURING INITIAL AND PERIODIC WEIGH-INS.

UNIFORM		WEIGHT
~~ARMY~~ TAN UNIFORM-MEN	W/SHOES	6.0
~~ARMY~~ GREEN UNIFORM, WITHOUT COAT-MEN	W/SHOES	4.5
UTILITY UNIFORM-MEN AND WOMEN	W/BOOTS	8.0
COMBAT CAMOUFLAGE UNIFORM-MEN AND WOMEN	W/BOOTS	12.0
HOSPITAL DUTY UNIFORM-MEN	W/SHOES	6.0
FOOD SERVICE UNIFORM-MEN	W/BOOTS	8.0
ARMY GREEN (AG-338) UNIFORM SKIRT AND JACKET-WOMEN	W/SHOES	7.0

~~ROUTINE~~ ROUTINE

****

* U N C L A S S I F I E D *

****

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ARMY GREEN CLASSIC UNIFORM WITHOUT JACKET-WOMEN	W/SHOES	5.0
HOSPITAL DUTY UNIFORM,WOMEN,PANTSUIT	W/SHOES	5.0
HOSPITAL DUTY UNIFORM,WOMEN,DRESS	W/SHOES	4.0
FOOD SERVICE UNIFORM-WOMEN	W/BOOTS	7.0
BOOTS,COMBAT - MEN AND WOMEN		4.5
SHOES,OXFORD - MEN AND WOMEN		2.5
ARMY GREEN BLOUSE		1.5
CLASSIC JACKET-WOMEN		1.5

C. INDIVIDUALS WHO ARE OVERWEIGHT AND ARE SEPARATED FROM THE SERVICE AT ETS OR FOR NON-COMPLIANCE WITH THE AR 600-9 STANDARDS WILL CONTINUE TO BE ASSIGNED TO THE INDIVIDUAL READY RESERVE (IRR) FOR COMPLETION OF THEIR MILITARY SERVICE OBLIGATION.

D. RESERVE COMPONENT PERSONNEL WITH A SPLIT TRAINING ENLISTMENT OPTION (WHEREBY THEY INITIALLY COMPLETE BASIC TRAINING AND RETURN FOR ADVANCED INDIVIDUAL TRAINING AT A LATER DATE) ARE SUBJECT TO THE AR 600-9 STANDARDS ONLY AFTER COMPLETION OF INITIAL ENTRY TRAINING OR A TOTAL OF SIX MONTHS OF ACTIVE DUTY, WHICHEVER COMES FIRST.

E. PERSONNEL WHO STARTED TRAVEL IN CONJUNCTION WITH A PCS TO A PROFESSIONAL DEVELOPMENT COURSE PRIOR TO 15 APRIL 1983 OR REPORTED

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TO THE APPROPRIATE SCHOOL WITHIN TWO WEEKS AFTER 15 APRIL WILL BE

****

* U N C L A S S I F I E D *

****

ALLOWED ~~ALLOWED~~ TO ENTER THE COURSE OF INSTRUCTION EVEN THOUGH THEY MAY BE OVERWEIGHT. TRAINING CENTER COMMANDERS AND SCHOOL COMMANDANTS SHOULD USE PRUDENT JUDGEMENT IN THIS AREA AND CONSIDER THE CIRCUMSTANCES IN EACH CASE SINCE TRAVEL IN INDIVIDUAL CASES CAN VARY FROM 30-60 DAYS AFTER INITIAL IMPLEMENTATION OF AR 600-9 ON 15 APRIL 1983.

2. PERSONNEL WHO BECOME PREGNANT WHILE IN A WEIGHT CONTROL PROGRAM WILL BE REMOVED FROM THE PROGRAM AND FLAGGING ACTION TERMINATED. THEY WILL BE RE-ENTERED IN THE WEIGHT CONTROL PROGRAM IF REQUIRED, AFTER THE COMPLETION OF CONVALESCENT LEAVE FOLLOWING THE PREGNANCY AND APPROVAL BY A MEDICAL DOCTOR.

3. IN COURSES WHERE A CERTIFICATE OF COMPLETION IS ISSUED IN LIEU OF A CERTIFICATE OF GRADUATION FOR A PROFESSIONAL DEVELOPMENT COURSE, INDIVIDUALS MAY REQUEST A CERTIFICATE OF GRADUATION FROM THE SCHOOL WITHIN SIX MONTHS PROVIDING THEY MEET THE WEIGHT CONTROL STANDARDS. EXCEPTIONS TO THE SIX MONTH PERIOD MAY BE MADE BY THE SCHOOL COMMANDANT WHEN CIRCUMSTANCES WARRANT SPECIAL CONSIDERATION. FOR EXAMPLE, AN INTERRUPTION IN A WEIGHT CONTROL PROGRAM BECAUSE OF MEDICAL PROBLEMS.

4. AS IN ALL PROGRAMS, COMMANDERS ARE EXPECTED TO USE COMMON SENSE,

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DISCRETION, AND JUDGEMENT IN IMPLEMENTING AND ENFORCING THE PROGRAM.

c

1335

APPENDIX C

Weight Reduction Initial Questionnaire

WEIGHT REDUCTION INITIAL QUESTIONNAIRE

GENERAL INFORMATION

1. Name_____

2. Rank_____

3. Today's date_____ *Duty Phone* _____

4. What unit are you assigned to?_____

5. What is your current age? (Circle number)

   1 17-25
   2 26-30
   3 31-35
   4 36-39
   5 40-45
   6 46-Older

6. What is your sex? (Circle number)

   1 Male
   2 Female

7. What is your present marital status? (Circle number)

   1 Never married
   2 Married
   3 Divorced
   4 Separated
   5 Widow/Widower
   6 Living together

8. Where is your home? (Circle number)

   1 Barracks
   2 Post housing
   3 Off-post housing
   4 Other, please specify_____

9. What is the highest level of education completed? (Circle number)

   1 Grade school
   2 Some high school
   3 High school graduate
   4 Trade school
   5 Some college
   6 College graduate, specify major_____
   7 Some graduate work
   8 A graduate degree, specify degree & major_____

10. How many years of active duty service do you have? (Circle number)

1 1-5
2 6-10
3 11-15
4 16-20
5 21-25
6 26 or greater

11. What is your military occupational specialty (MOS)?

_____ NUMBER AND LETTER CODE

_____ TITLE

12. To what ethnic group do you belong? (Circle number)

1 American Indian
2 Black
3 Oriental
4 Spanish
5 White
6 Other

13. Are you eligible for flight status? (Circle number)

1 Yes
2 No

14. In general, do you consider your health to be: (Circle number)

1 Excellent
2 Good
3 Fair
4 Poor

15. Which member(s), if any, of your family is(are) overweight?

		(Circle number)	
A	Mother	1 Yes	2 No
B	Father	1 Yes	2 No
C	Brother(s)	1 Yes	2 No
D	Sister(s)	1 Yes	2 No
E	Spouse	1 Yes	2 No
F	Son(s)	1 Yes	2 No
G	Daughter(s)	1 Yes	2 No

16. At what age did your weight become a problem? (Circle number)

    1 Age 1-6
    2 Age 7-13
    3 Age 14-18
    4 Age 19-22
    5 Age 23-30
    6 Over the age of 30

WEIGHT CONTROL PROGRAM

17. How were you selected to participate in the Army Weight Control and Physical Fitness Program? (Circle number)

    1 All members of the unit were weighed and I was found to be over the A.R. 600-9 limit
    2 I was singled out because I looked overweight
    3 I volunteered for the program
    4 Other, specify_____

18. Where was your initial weight control evaluation conducted? (Circle number)

    1 Troop medical clinic (TMC)
    2 Acute minor illness clinic (AMIC)
    3 Emergency room
    4 Outpatient clinic
    5 Diet clinic

19. Who administers the weight control program in your unit? (Circle number)

    1 Company commander
    2 Executive officer
    3 First sergeant
    4 Unit training officer
    5 Supervisor in duty section
    6 Other, specify_____

20. What is the date you were placed in the Army weight control program?

    _____DATE

21. After your initial selection for participation in the program, were you seen by a health care provider, i.e., doctor or dietitian? (Circle letter)

    A Yes
    B No

If Yes, by which health care provider were you seen? (Circle number)

1 Physician
2 Nurse
3 Dietitian
4 Physician assistant
5 AMOSIST
6 Other

22. What is your height without shoes? _____FEET _____INCHES

23. What was your "official" weight when you entered the program?

A _____POUNDS (with clothing)

B _____POUNDS (adjusted for no clothing)

24. Have you been informed of your desired weight according to Army standards in A.R. 600-9? (Circle number)

1 Yes
2 No

If Yes, what is your desired weight?_____POUNDS

25. What do you feel is your ideal body weight?_____POUNDS

26. Were you given a date by which you were to reach the acceptable weight? (Circle number)

1 No, explain_____

_____

2 Yes, enter date_____

27. Where are you to be "officially" weighed? (Circle number)

1 In the unit area
2 In the duty section area
3 At the medical treatment facility

28. How often are you to be "officially" weighed? (Circle number)

1 Daily
2 Once per week
3 Once per two weeks
4 Once per month
5 Other, specify_____

29. Do you find it difficult to follow guidelines for losing weight? (Circle number)

    1 Yes
    2 No

    If yes, what makes it difficult to follow guidelines for losing weight? _____

    _____

    _____

30. Was any penalty action specified if you failed to make satisfactory progress?

		(Circle number)			
A	An adverse comment will be made on my efficiency rating	1	Yes	2	No
B	I will be given a bar to reenlistment	1	Yes	2	No
C	I will be denied admission to service schools	1	Yes	2	No
D	I will be discharged from the service	1	Yes	2	No
E	I will be forced into retirement	1	Yes	2	No
F	I will be denied a promotion	1	Yes	2	No
G	I will be removed from flight status	1	Yes	2	No

31. Do you eat in your troop dining facility? (Circle letter)

    A Yes
    B No

    If Yes, does your company dining facility offer "low calories" food, i.e., salads, diet soda, sugar substitute, etc." (Circle number)

    1 Yes
    2 No
    3 Don't know

32. What are your present feelings about being placed on the weight control program? (Circle number)

    1 Strong negative feelings
    2 Slight negative feelings
    3 Indifferent feelings
    4 Slight positive feelings
    5 Strong positive feelings

33. How do you feel about the weight control program? (Please indicate your feelings in regard to the following statements by circling the appropriate number for each statement.)

A. The weight control program is important to the defense of our country.

1 Strongly Disagree 2 Disagree 3 Neither 4 Agree 5 Strongly Agree

B. Weight and physical fitness standards should be adjusted for each military occupational specialty (MOS).

1 Strongly Disagree 2 Disagree 3 Neither 4 Agree 5 Strongly Agree

C. The same standards should apply to both enlisted and officer personnel.

1 Strongly Disagree 2 Disagree 3 Neither 4 Agree 5 Strongly Agree

D. The program in my unit is administered fairly to all personnel.

1 Strongly Disagree 2 Disagree 3 Neither 4 Agree 5 Strongly Agree

E. I know of people who are not on the program but should be.

1 Strongly Disagree 2 Disagree 3 Neither 4 Agree 5 Strongly Agree

F. My unit seems to put too much attention on the program.

1 Strongly Disagree 2 Disagree 3 Neither 4 Agree 5 Strongly Agree

34. What are the scores on your most recent physical fitness test?

A Test Results:
1 Number of push-ups in 2 minutes_____NUMBER
2 Number of sit-ups in 2 minutes_____NUMBER
3 Time of 2-mile run (min:sec)_____TIME

B I have not taken the test for the following reason:

_____

35. Do you participate in physical training conducted during duty time? (Circle letter)

A Yes
B No

If Yes, in which activities of the PT program do you participate? (Circle appropriate number for each type of activity)

C Calisthenics

1 Never
2 Occasionally
3 Frequently
4 Routinely

D Running

1 Never
2 Occasionally
3 Frequently
4 Routinely

E Organized team sports

1 Never
2 Occasionally
3 Frequently
4 Routinely

F Swimming

1 Never
2 Occasionally
3 Frequently
4 Routinely

G Weight lifting/body building

1 Never
2 Occasionally
3 Frequently
4 Routinely

36. How often does your unit have mandatory PT? (Circle number)

1 Once per day
2 Four times per week
3 Three times per week
4 Two times per week
5 Once per week
6 Other, specify_____

37. Do you participate in physical activities after duty hours? (Circle number)

1 Yes
2 No

If Yes, in what type of physical activities do you participate? (Example: racquet ball, jogging, bowling, etc.) _____

_____

_____

How often do you participate? (Example: 1 hour per week, 4 times per week, etc.) _____

_____

_____

38. Any additional comments you would like to make regarding the weight control program here at Ft. Hood can be listed in the space provided below.

_____

_____

_____

_____

_____

_____

APPENDIX D

Cover Letter - Followup Questionnaire

DEPARTMENT OF THE ARMY
UNITED STATES ARMY MEDICAL DEPARTMENT ACTIVITY
FORT HOOD, TEXAS 76544

March 31, 1983

REPLY TO
ATTENTION OF
Hospital Headquarters

Dear Weight Reduction Participant:

Three months ago you completed an initial questionnaire on weight reduction during your appointment at the Nutrition Clinic, Darnall Army Community Hospital. Enclosed is the followup questionnaire that needs to be completed to obtain additional information for the study.

It is important that the enclosed questionnaire be compledted not later than 7 April 1983, because there is a time constratint for when the completed project has to be submitted to my graduate research committee.

If you have any questions regarding the questionnaire, please don't hesitate to contact me for clarification, telephone number 532-8004.

Thank you for your assistance in completing this survey. I wish you continued success in your weight reduction efforts.

Sincerely yours,

David R. Stoehr
Captain, AMSC
Administrative Resident

Enclosure

APPENDIX E

Weight Reduction Followup Questionnaire

WEIGHT REDUCTION FOLLOW-UP QUESTIONNAIRE

1. Name_____

2. Rank_____

3. Today's date_____

4. Date of last clinic "weigh-in"_____DATE

5. What was your "official" weight at the last clinic weigh-in?

   A _____POUNDS (with clothing)

   B _____POUNDS (adjusted for no clothing)

6. How often were you "officially" weighed? (Circle number)

   1 Daily
   2 Once per week
   3 Once per two weeks
   4 Once per month
   5 Other, specify_____

7. In general, do you consider your health to be: (Circle number)

   1 Excellent
   2 Good
   3 Fair
   4 Poor

8. Have you reached your established weight goal? (Circle number)

   1 Yes
   2 No

   If No, how many more pounds do you need to lose?_____POUNDS

9. If you have <u>not</u> reached your goal yet, do you feel that you will reach your goal? (Circle number)

   1 Yes
   2 No

10. Are you still participating in the program? (Circle letter)

    A Yes
    B No

If No, please indicate reason: (Circle number)

1 Emphasis on program has diminished and I have quit the the program
2 Transferred to new unit and have not picked up on a new program yet
3 Other, explain_____

_____

11. Did you follow a calorie restricted diet as planned by a dietitian? (Circle number)

1 Yes
2 No

12. Did you follow another diet plan? (Circle number)

1 Yes
2 No

If Yes, what type of diet?_____

Where did you obtain information regarding this diet plan?

_____SOURCE

13. Did you participate in physical exercise activities after duty hours, i.e., aerobic exercises as prescribed by a physical therapist? (Circle number)

1 Yes
2 No

If Yes, what type of physical activities did you participate in? (Example: racquetball, jogging, bowling, aerobic exercises, etc.)

_____

How often did you participate: (Example: 1 hour per week, 4 times per week, etc.)

_____

14. Did you participate in a mandatory physical training program within your unit? (Circle letter)

A Yes
B No

If Yes, how often did your unit have mandatory PT? (Circle number)

1 Five times per week
2 Four times per week
3 Three times per week
4 Two times per week
5 Once per week
6 Other, specify_____

15. Have you participated in a physical fitness test since completing the initial questionnaire? (Circle letter)

A Yes
B No

If Yes, what were your test results?

1 Number of push-ups in 2 minutes_____NUMBER
2 Number of sit-ups in 2 minutes_____NUMBER
3 Time for 2-mile run (min:sec)_____TIME

16. Which of the five weight reduction classes did you attend?

		Circle Number			
A	Dietitian	1	Yes	2	No
B	Physical therapist	1	Yes	2	No
C	Social worker	1	Yes	2	No
D	Psychologist	1	Yes	2	No
E	Pharmacist	1	Yes	2	No

17. Did the class given by the dietitian assist you in your weight reduction effort? (Circle number)

1 Yes
2 No

If No, what changes would you recommend to improve the class?

Specify_____

_____

_____

_____

_____

18. Did the class given by the pharmacist assist you in your weight reduction effort? (Circle number)

    1 Yes
    2 No

    If No, what changes would you recommend to improve the class?
    Specify_____

    _____

    _____

    _____

19. Did the class given by the physical therapist assist you in your weight reduction effort? (Circle number)

    1 Yes
    2 No

    If No, what changes would you recommend to improve the class?
    Specify_____

    _____

    _____

    _____

20. Did the class given by the psychologist assist you in your weight reduction effort? (Circle number)

    1 Yes
    2 No

    If No, what changes would you recommend to improve the class?
    Specify_____

    _____

    _____

    _____

21. Did the class given by the social worker assist you in your weight reduction effort? (Circle number)

    1 Yes
    2 No

    If No, what changes would you recommend to improve the class?
    Specify_____

    _____

    _____

    _____

22. Did you participate in the Over-Eaters Anonymous weekly meetings sponsored by the Department of Primary Care and Community Medicine? (Circle letter)

A Yes
B No

If Yes, did the Over-Eaters Anonymous weekly meetings assist you in your weight reduction effort? (Circle number)

1 Yes
2 No

If No, what changes would you recommend to improve the meetings? Specify_____

_____

_____

_____

23. How do you feel about your current weight status? (Circle number)

1 Very satisfied with my progress
2 Somewhat satisfied with my progress
3 Neither satisfied nor dissatisfied with my progress
4 Somewhat dissatisfied with my progress
5 Very dissatisfied with my progress

24. How do you feel about the weight control program? (Please indicate your feelings in regard to the following statements by circling the appropriate number for each statement.)

A. The weight control program is important to the defense of our country.

1 Strongly Disagree 2 Disagree 3 Neither 4 Agree 5 Strongly Agree

B. Weight and physical fitness standards should be adjusted for each military occupational specialty (MOS).

1 Strongly Disagree 2 Disagree 3 Neither 4 Agree 5 Strongly Agree

C. The same standards should apply to both enlisted and officer personnel.

1 Strongly Disagree 2 Disagree 3 Neither 4 Agree 5 Strongly Agree

D. The program in my unit is administered fairly to all personnel.

1 Strongly Disagree 2 Disagree 3 Neither 4 Agree 5 Strongly Agree

E. I know of people who are not on the program but should be.

1 Strongly Disagree 2 Disagree 3 Neither 4 Agree 5 Strongly Agree

25. Any additional comments you would like to make regarding the Weight Control and Physical Fitness Program here at Ft. Hood can be listed in the space provided below.

_____

_____

_____

_____

_____

_____

APPENDIX F

Individual Analysis of Weight Loss/Gain

INDIVIDUAL ANALYSIS OF WEIGHT LOSS/GAIN

	Weight Loss/Lb	Weight Gain/Lb	SM Reached Weight Goal	Length of Time on the Program/Wks
1	8		Yes	21
2	34		Yes	19
3		8	No	13
4	4		No	11
5	4.4		No	13
6	6		Yes	18
7		.5	No	13
8		4	No	12
9	12		Yes	11
10		11	No	13
11		3	No	18
12	17		Yes	17
13	8		No	12
14	20		Yes	12
15	27		Yes	10
16	0		No	12
17	15.5		Yes	12
18	20.5		Yes	12
19	3		Yes	13
20	11		Yes	15
21	28		Yes	13
22	8		No	16
23		14	No	17
24	12		Yes	12
25	2		No	14
26	10		No	15
27	23		Yes	13
28	17		Yes	12

29	8		Yes	13
30	23		Yes	14
31	30		Yes	13
32	9		Yes	14
33	9		No	14
34		3	No	14
35	4		No	14
36	5		Yes	10
37	3		Yes	9
38	6.4		Yes	12
39	15		Yes	13
40	0		No	10
41	5		No	13

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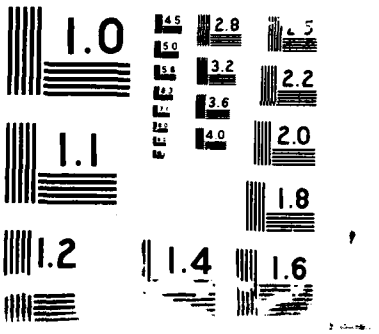
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