

A SURVEY OF THE PROBLEMS AND SOLUTIONS OF
WEIGHT CONTROL IN HIGH SCHOOL WRESTLING

by *4589*

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INTRODUCTION

Wrestling has been considered a demanding sport, requiring flexibility, agility, strength, endurance, quickness, and toughness. These were not inborn qualities in all young athletes. They had to be acquired by many.¹ The acquisition of these traits was gained only through sacrifice. Keith commented, "Individual sacrifice is a part of the normal life of a high school or college wrestler...."² Perhaps the part of wrestling conditioning which called for the most sacrifice and self-discipline was the area of weight control.³

The study of weight control and, more specifically, weight reduction was an important undertaking. When the reduction of weight was done properly, it was an important aspect of wrestling training. It was significant because the very nature of the sport required weight control. The wrestler had to maintain the proper poundage by proper diet. He worked very hard and the movements were combinations of sudden bursts of energy and sustained muscle contractions. He had to have a ready amount of energy available that would not fail him. This was best done by controlling the wrestlers weight

with a proper diet.⁴

Proper weight control benefited the wrestler's health. Kapral stated:

Many of our eating habits have been set early in life, therefore, people generally tend to carry more weight than is absolutely necessary or healthy. In fact, it is generally regarded that many 'live to eat' instead of 'eat to live'. Consequently, a realistic approach should be undertaken to reeducate those who intend to compete in wrestling to form wise and sensible eating habits because food does affect health, strength, and vitality.⁵

If properly informed the wrestler obtained information which would assist him in remaining healthy in the future. This was pointed out by Umbach and Johnson when they reported:

Wise coaches will not be content to simply lay down the law as to what foods are to be eaten and what foods are not to be eaten. On the contrary, they will explain why they recommend what they do. If coaches inform themselves of the facts, they will be in a position to give their athletes information which will be of value to them throughout their lives as well as during wrestling season....⁶

The proper diet used in weight control enabled the wrestler to achieve and even surpass his expected potential. Umbach and Johnson again stated, "Proper diet, rest, and exercise can carry a young wrestler with a normal healthy body far beyond his expectation of what he can do physically...."⁷

Weight control was important because through the self-discipline required, the athlete learned valuable lessons of life. Keith revealed:

There is self-discipline required in following

any weight reduction diet. A wrestler becomes better prepared to take his place as a contributing member of society by establishing self-control.⁸

Also, weight control in wrestling was vitally important because the rules of the sport required specific weight levels for participation. Keith told:

Wrestling is one of the few sports where weight control is important. The rules of the game require that each participant weigh an exact amount and not an ounce more. While it is all right to be under weight, no wrestler can be over weight. At the time of the wrestler's weigh-in, the scales balance or they don't. If a 98 pound wrestler weighs 98 pounds, 1/2 ounce, his penalty is match forfeiture.⁹

Although weight control and reduction were vastly important phases of wrestling, they created problems. Weis and Singer warned in their article:

The sharply defined weight-classification system in wrestling is both a considerable asset and a considerable headache.... It is disadvantageous in that it encourages many competitors to reduce to a barely tolerable poundage.¹⁰

Other authorities agreed that weight control presented problems for the coaches and wrestlers. Keith and Freese both reported the same conclusion. Keith said:

Weight control is a problem which occurs in wrestling....The rules of the game require that each participant weigh just so much, not one ounce more.¹¹

Freese wrote:

Weight control...has been a genuine problem in the high school programs for a long time. Believing in the necessity to qualify for the lowest possible weight class, many high school boys have subjected themselves to continuous pre-season and season-long dieting.¹²

The Problem

Statement. The purpose of the paper was to survey the problems involved in a program of weight control and to suggest possible solutions for them. The problems and solutions, then, were to be collected into one study to offer a survey of the area.

Analysis. The author examined several sources and compiled the following problems: 1) improper food intake, 2) undesirable dietary substitutes, 3) harms of crash dieting, 4) lack of desire on the part of the wrestler, and, 5) lack of understanding on the part of the wrestlers' parents.

Solutions to these problems were then sought. They were the following: 1) establish a sound diet based on the four major food groups, with consideration given to the athlete's normal diet, 2) establish weight control charts for each boy by each coach, 3) require weight control cards to be submitted to the school by each coach with reference to each boy's minimum weight, 4) careful instruction to the boy concerning proper diet, 5) establish long range goals and short term plateaus, and, 6) explain the program carefully to each wrestler's parents.

Questions. When beginning research on this subject of weight control, the author had several basic questions in mind. The study was aimed at finding the

answers to these questions. Were there problems faced in weight control? If so, were there any of a physical nature? Were there any problems of a personal nature? Was the body of published literature available to any coach sufficient to support the suggested problems? Were there any areas which needed more study? Were there solutions to the problems if they existed? Were there any programs in existence working on weight control problems?

Delimitations. The subject of weight control covered many varied areas. The purpose of this paper was to survey the possible problems which received a sufficient amount of documentation to be considered valid. The criteria of validity was arbitrarily set at discussion in at least two sources. This number was set to avoid offering just one isolated opinion as sole support for a major point in the study. This report is not an attempt to make an in-depth study of any one problem. It is an attempt to gather the various problems of weight control into one study.

Although adequate coverage was available on the problems of improper food intake and the harms of crash dieting, the author discovered that others did not receive such detailed coverage. As a result, some problems were more sufficiently documented than others. The problem areas of undesirable dietary substitutes, lack of desire on the part of the wrestler with relation to weight control,

and the lack of understanding on the part of the parents did not receive as much coverage as the two previously mentioned.

The books used were texts and guides for wrestling. They were geared to cover all phases of the program from promoting the wrestling program to techniques of various holds. This may be the reason for the sketchy coverage some problem areas received in these sources. The periodicals were just the opposite. They concentrated on one specific idea and touched on nothing else. This provided a thorough coverage of one area, but isolated other problems from discussion. (The resumé of literature in this paper provides a detailed discussion of the material covered by each source.)

Original consideration of the problem began in 1967 when the author became the head wrestling coach at Fort Scott Senior High School, Unified District 234, Fort Scott, Kansas. Certain problems developed in his weight control program and the author became curious to know if other coaches faced similar difficulties. Articles and books were read regarding wrestling. The situation was discussed with other coaches and with athletic trainers at Kansas colleges and universities. Thus, the background for this study was established. The actual research for this paper was conducted over a period of one year. It began in the summer of 1969 and concluded the following summer in 1970.

Weight control can include discussion of weight reduction, maintaining weight at a specified level, and increasing weight. This study covered only the area of weight reduction and the maintenance of that desired level once it is attained.

It must be clearly understood that this is in no way an attempt to say these are the only problems which a wrestler faces in weight control. They are, however, the ones most frequently mentioned in the published literature discussed by this author.

Theoretical Framework

Basic assumptions. This study is based on five assumptions. First, it was assumed that problems in weight control did exist. Second, in order to warrant such a study, it was assumed that these problems were of major importance. Specifically, they had to be problems which were experienced by most or all wrestling programs and have a direct correlation to the success or failure of a wrestler's performance. Third, it was assumed that once the problems were defined, solutions could be found to them. Since the second half of this study was based on these solutions, this assumption was a very important one. Fourth, it was assumed that it was possible to establish a successful weight control program. If the first and third assumptions were correct, one had to assume that there was evidence of these problems being

met by solutions. Finally, the author had to assume that documentation could be found to support his assumptions and answer his questions.

Definitions. In order that this study could begin on a common ground, there are a few terms which merited definition.

Weight control - the maintainance of weight at a specified number of pounds.

Weight reduction - the loss of pounds from one's body weight.

Crash dieting - (As defined by Blyth and Lovingood)

The rapid and extreme weight loss in athletes before participating or competing in a lower weight class, accomplished by a severe restriction of either food or water or a combination of the two.¹³

Calorie - "the unit of measure used to describe the amount of heat or energy released when food is digested".¹⁴

Nutrients - the complex substances of protein, carbohydrates, fat, minerals, vitamins and fluids necessary for a well balanced diet.¹⁵

Diet - "a daily food intake, not a special food plan of gaining or losing weight".¹⁶

Endurance - the ability to wrestle hard for an extended period of time.¹⁷

Improper food intake - the eating of high calorie foods as substitutes for a well balanced diet containing basic nutrients.

Dietary substitutes - substances used as replacements for foods high in nutrients or calories.

Lack of desire - the lack of willingness on the part of the wrestler to control his weight.

Resume of Literature

In the writing of this paper, various resource materials have been used to gain knowledge of the problems in question. Five books and five periodicals were used to define the problems and to discover some solutions to them.

Books. John P. Dratz, Manly Johnson, Terry McCann Winning Wrestling, Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1966.

John P. Dratz is a professor and head of the Department of Health and Physical Education at the University of Tulsa. Mr. Dratz is a former college athlete and coach.

Manly Johnson is a Professor of English at the University of Tulsa and also has wrestled interscholastically for many years.

Terry McCann, Executive Secretary of the Wheaties Sports Federation, has gained much skill and knowledge of wrestling through his wrestling career. He was a state champion while in high school, the NCAA and a class championship at the Rome Olympics.

This book covered nearly all phases of the

wrestling programs. Much emphasis was placed on the Olympic style of wrestling. It contained information on conditioning of the athlete, both physical and mental. Valuable appendices included discussion of exercise designed for wrestling training, analysis of weight control, and a list of weight control standards.

The special area of interest for this paper was concerning weight control. This was covered in the discussion of strength, nutrition and diet, planning the wrestler's diet, a balanced diet, and weight control for wrestlers (pulling weight).

Lt. Frank S. Kapral, Coach's Illustrated Guide to Championship Wrestling, Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1964.

Lt. Frank S. Kapral, wrestling coach, United States Coast Guard Academy, is one of the nation's outstanding wrestling coaches. He has compiled a record of forty-three wins, eleven losses, and four ties in dual meets. A graduate of Michigan State University, he received his varsity experience in the heavyweight division for three years. He also gained All-American honors while playing guard on the football team in 1951.

This book covered the basic maneuvers in most wrestling situations. It described drills that were used in developing good techniques in all phases of wrestling. A chapter on the why's of a wrestling program and what it does for the individual was included.

Nutritional factors of the wrestler's diet were discussed. Such phases as a diet program, controlling eating habits and a section on a recommended diet for weight reduction were useful to this author in writing this report.

Art Keith, Complete Guide to Championship Wrestling: Illustrated Coaching Methods and Techniques, West Nyork, New York: Parker Publishing Co., Inc., 1968.

Art Keith, wrestling coach, University of Oregon, has been outstanding throughout his high school and college career in both coaching and competing. Twice president of the Oregon Wrestling Coaches Association, runner-up for College Rookie Coach of the Year in 1966, Coach Keith guided Oregon University's first two NCAA All-American wrestlers.

Mr. Keith's book included all areas of the wrestling program from equipment purchase and care to words about coaching a champion. Pictorial descriptions of individual maneuvers form the basic to the more advanced were explained.

Benefits from wrestling, the wrestling coach as a teacher, conduct of matches and tournaments are four of the areas enclosed in the chapters.

Areas of the publication of special interest to this paper were the coach's role in promotion of wrestling and weight control, the heart of the wrestling program. Promotion of wrestling dealt with the coach's

problems and the importance of establishing a wrestling program. Materials presented on the weight control of wrestlers included basic diets, the Oregon weight control plan and the Metro League Weight control plan.

Ken Rawlinson, Modern Athletic Training, Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1964.

Ken Rawlinson is the head trainer at the University of Oklahoma. He has trained a number of conference champions and two national champs. He received the Knute Rockne Trainer of the Year Award in 1959. He has conducted clinics all over the United States as well as in Europe and Mexico. A former Chairman of the Board of the National Athletic Trainers Association, he was a trainer for the U.S. team in the 1960 Olympic Games.

This book gave detailed information on the treatment and care of athletes and their injuries. Much importance was placed on keeping the athlete fit for competition through proper physical conditioning. Also, emphasis was placed on the athlete's diet. Information was given on diet facts, suggestions for losing weight, and a two week reducing diet.

Arnold W. Umbach and Warren R. Johnson, Successful Wrestling: Its Basis and Problems, Dubuque, Iowa: Wm. C. Brown Company Publishers, 1960.

Arnold W. Umbach is the head professor of the Men's Physical Education Department and wrestling

coach at Alabama Polytechnic Institute.

Warren R. Johnson is a professor of Health and Physical Education at the University of Maryland. He was formerly the varsity wrestling coach at Boston University.

Successful Wrestling was a book compiling pictorial diagrams of wrestling holds and counter-holds. This book also emphasized the emotional onsets of wrestlers before, during and after the matches. It also took into account the emotional stresses that occurred among coaches. Methods of teaching, coaching, and administering wrestling was covered.

Conditioning of the wrestler was covered in detail. Portions of this report were taken from this discussion. Among those topics used were "Foods and Conditions", "Foods to be Avoided", and "Strength and Endurance Variances in Accordance With Food Intake".

Periodicals. Carl S. Blyth and Bill W. Lovingood, "Harmful Effects of Crash Dieting", The Athletic Journal.

Carl S. Blyth was the Director of the Laboratory of Applied Physiology at the University of North Carolina. He holds his doctor's degree from the same institution. Dr. Blyth was a member of the NCAA Committee on Sports Injury and Safety and a member of the North Carolina Medical Society Committee on the Medical Aspects of Sports.

Bill W. Lovingood is a research associate of Dr. Blyth's. He was an instructor in the Department of Physical Education at the University of North Carolina. He has completed his requirements for his doctor's degree.

This article on crash dieting pointed out the hazards of crash dieting, what it was and what must be done to prevent it. In this documented article the ill effects of crash dieting were pointed out. The authors obtained statements from physicians that had handled actual cases of crash dieters and showed what had actually happened to the individuals. Many examples were given which pointed out people who had been injured both physically and mentally by crash diets.

In most of these documents and case studies the author tried to point out the problems involved in crash dieting. He also pointed out that possibly this problem could have been handled through the athletic, trainers, and medical associations.

Gene Freese, "A New Approach to Weight Control for Wrestling", The Athletic Journal, XLV, 6, (February, 1965) 10-11 and 49-50.

Gene Freese was the Director of Athletics at Beaverton, Oregon, School District No. 48, since 1953 and was instrumental in establishing a weight control program for the Oregon School Activities Association. He graduated from the University of North Dakota and

received his masters degree at Oregon University.

The article deals with the problems faced by wrestling coaches around the world. The Oregon weight control program was started as an experiment in the Beaverton School District. Its purpose was to establish a basis for setting weights for wrestlers in the district. Oregon's School Activity Association was interested in the experiment and allowed to be conducted in an experimental state for the 1963-64 wrestling season. This later was used by the state of Oregon as a state wide weight control program.

The weight charts were set up by a group of interested physicians. They established charts which were used as a tool for weight evaluation. Wrestlers, wrestling coaches, parents and physicians were brought into the picture of weight control. By bringing into view the evaluation of the weight control program, they were able to avoid the weight reduction and weight control situation which have been cause for much concern in wrestling programs.

Robert N. Singer and Steven A. Weiss, "Effects of Weight Reduction on Selected Anthropometric, Physical, and Performance Measures of Wrestlers", The Research Quarterly, XXXIX, 2 (May, 1968) 361-369.

Robert N. Singer and Steven A. Weiss did their research at Illinois State University, Normal, Illinois.

Ten members of the Illinois State University wrestling team served as subjects. Each of these subjects was submitted to a total of eighteen anthropometric, physical and performance measures each day for five consecutive days. The three types of tests used were explained. Anthropometric measures consisted of body weight, girth measurements (upper arm girth, chest girth, abdominal girth, thigh girth, calf girth), skinfold measurements (cheek, chest, subscapular, abdominal, suprailiac, front thigh). Physical measures consisted of cable tension strength measures and cardiovascular endurance measures. Performance measure consisted of a sit-out maneuver performed from a referee's position. A sound stimulus initiated the maneuver when the subject's leg broke a light beam which stopped a timing device. From these tests conclusions were reached. It was concluded that a wrestler may lose up to seven per cent of his body weight without adversely effecting factors of good performance related to wrestling. Response time was faster in the subjects tested. Also, strength and cardiovascular endurance were not effected significantly.

Dr. William A. Tomaras, "Promoting Wrestling on the School and Community Levels", Scholastic Coach, XXVIII (October, 1958) 24.

Dr. Tomaras is the varsity wrestling coach at Washington State College. His teams have won or tied

the Pacific Coast Conference championship five times and placed second twice in the past nine years at the time of the article's publication. He has been instrumental in starting a number of new wrestling programs and working with many clinics and state high school wrestling tournaments.

This article was primarily based on the establishing of a wrestling program and keeping it going. His idea was to sell the public on the values of a wrestling program. This was done by pointing out the benefits of wrestling. This had to be shown to the community, the parents or wrestlers, and school administrators. Suggestions were given as to the ways of bringing the people mentioned above to support a wrestling program.

The area of interest for this paper was the coaches role in bringing out the facts of wrestling to the wrestlers and their parents. Areas covered about the coach's role were used in the solution to the problems presented in this paper.

Steven A. Weiss and Robert N. Singer, "Weight Reduction and Wrestling", Scholastic Coach, XXXVI (February, 1967) 24-25.

Steven A. Weiss and Robert N. Singer of Illinois State University in Normal, Illinois presented their research article in a more informal approach, summarizing

the results. They again stressed the point of the fact that weight control programs were problems to wrestling. Stated in the article were several well known associations which recognize this problem. The 1961 AAHPER Convention on competitive wrestling saw the seriousness of the weight control program. The American Medical Association condemned those programs which condoned the use of extreme weight loss. Many coaches around the country objected strongly to excessive loss of weight. In this article it was pointed out that an average of seven per cent of the body weight could be lost without harming the individual. The authors pointed out there were still areas that needed research in this portion of the wrestling program.

Design of the Investigation

Methods and techniques of research. The methods and techniques involved several steps. First, the author obtained copies of five of the books on the subject of wrestling which were highly recommended by various coaches in the field. These were purchased by the author so notations could be made in the margins. Then the Educational Reader's Guide was consulted for articles written over the last ten years. Next these articles and books were carefully read by the author. Upon completion of the first reading, the author proceeded to read them again. This time notes were taken and put aside for

for organization into the study.

Exact data needed. The data needed to prove the author's assumptions and answer his questions consisted of four types of support. First, opinions based on fact offered by various experts in the field were sought. While not all opinions are valid, it was the intention to secure only those based on experiments, studies, or vast experience in the areas of wrestling and athletics. Second, facts were needed to establish the various avenues of his study. The points could not rest upon opinion alone. Statistics and/or examples were necessary. Third, conclusions were drawn from studies previously made by others. An explanation of the studies and the results were needed. Finally, charts, tables and figures were needed to illustrate vividly the points the author made. The author purposely used books and periodicals readily available to any coach as part of the purpose of this study was to determine how extensive this type of literature was.

Techniques for gathering and analyzing the data. Notes from the literature were divided into three areas. These were introduction, problems, and solutions. Then these areas were broken down into specific sections of the paper. The introductory material was separated into support for the validity, importance, and definitions. The notes on various problems of weight control were then

divided into specific problems. A list of nine problems was made. These then were checked to see if any of them received support from only one source. There was one such problem so this one was eliminated on the arbitrary basis of invalidity set by this author. The remaining problems were analyzed to determine if any of them were subordinate to each other. It was found that three of these points were actually related to other problems listed. These were shifted to the role of support for major problems rather than being considered major problems themselves. Then the solutions were divided into solutions relating back to specific problems. A list of solutions was made. It was checked to see if each solution was an answer to a specific problem. Then the list was analyzed to determine if any solution would meet more than one problem. Also, the problems were again checked to discover if they could be met by more than one solution. After this procedure was completed, the actual writing of the paper occurred.

RESULTS AND DISCUSSION

THE PROBLEMS OF WEIGHT CONTROL

Weight control presented many difficulties for the athletes and for the coaches. Several of the problems were easy to understand but were still important obstacles in the success of a weight control program.

Improper Food Intake

The most sensible way for a boy to lose weight for wrestling was to control his eating habits. However, this was not always easy to do. One explanation was the confusion which resulted from his lack of distinction between a calorie and a nutrient. As earlier defined in this study, they are two very opposite entities. Diet choice should not depend upon calorie count. Instead, the amount of calories taken in depends on the demands of the body for basic nutrients.¹⁸ The following example best illustrated one way that calories are misunderstood:

A wrestler skips breakfast, but at 10:00 a.m. he is faint from hunger so he eats a candy bar 'just to tide him over till lunch'. At lunch time in the school cafeteria he leaves his roll and cooked carrots because 'they are fattening'. By wrestling time he is hungry. It is three hours until dinner and he has a hard workout ahead--he 'needs something for quick energy' so he eats another candy bar.¹⁹

In this case the wrestler was defeating his purpose. A candy bar, 150 calories, was substituted for a good breakfast-poached egg, half of grapefruit, and a glass of two per cent milk-amounting to 211 calories. By skipping the carrots and his roll he saved 110 calories, but ate a 150 calorie candy bar instead. If he had eaten the balanced breakfast and all of his dinner, he would have consumed 320 calories. While eating two candy bars, his calorie intake was 300--twenty calories different. This is not enough for the individual to substitute calorie intake for basic nutrients.²⁰

The obvious problem was that, in attempt to lose weight, the wrestler was substituting high caloric value foods for basic nutrients. These nutrients were vital to the growth and vitality of a growing boy. So he has created an undesirable situation from a health stand point and he was not achieving his original goal: loss of weight.

Another aspect of improper food intake was found in the misconception that some foods were strictly taboo. Some people thought that fats and starches should be eliminated. This is untrue. The human body needs some fats. Starches become the faster burning fuel of the body; fats the slower burning ones. Fats are stored in various parts of the body where it functions as insulation against shock and temperature.²¹ The problem, then was

Our problem, then, is not of avoiding fats all together, but selecting them wisely. A reasonable amount of butter, for example, is an excellent source of digestable fat and also includes valuable vitamin A.²²

Inadequate Dietary Substitutes

Frequently, when a young athlete was trying to control or reduce his weight, he would use a dietary substitute in place of a well-balanced meal. Liquid reducing formulas have become a remedy for all weight loss problems. Unfortunately, there are a number of drawbacks. Cans of liquid diet foods contain approximately 300 calories and are balanced nutritionally, but, they lack texture and variety. Any attempt to make these types of food a total diet becomes something like eating lukewarm milkshakes three times daily. This type of diet is too much to ask of the most dedicated wrestler.²³

Also, the idea of substitutes has led to a fantastic array of miracle or super foods being offered on the commercial market. These are in the form of "protein tablets, quick energy pills or 'jelly from the queen bee'".²⁴ The coach and athlete should beware of these gimmicks. There is no substitute for a balanced well planned diet for providing for energy.

There is no good evidence that any super foods exist that will demonstrably enhance physical performance or make-up for nutritional inadequacies due to an insufficient or poorly balanced diet.²⁵

It was also felt that sugar (glucose) and blood alkalizers could be used for quick energy. However, a study recently conducted at the University of Maryland seems to have created doubts as to the validity of this idea. In a study called "The Relative Effects of Certain Blood Alkalizers and Glucose Upon Competitive Endurance Performance" was conducted. The subjects were given a blood alkalizer, glucose or blood sugar, a combination of an alkalizer and glucose or a capsule which contained nothing of significance.²⁶ Umbach and Johnson summarized:

The results of this study showed that it made no difference whether the athlete took the alkalizers, the sugar, the combination or nothing at all. It should be kept in mind that the athletes in question had the advantage of a well-balanced, natural diet...²⁷

Artificial stimulants, such as amphetamines and adrenalin, provide quick energy. These are completely unsatisfactory for several reasons. For one thing, the use of them did not accomplish the stated goal. Performance was not improved. Dratz, Johnson and McCann stated:

It has not been proven that they enhance performance. Recently reported research in which work was done with alcohol, hypnosis, adrenalin and amphetamines supports the thesis that in every voluntarily executed, maximal effort, psychological rather than physiological factors determine the limits of performance.²⁸

Another reason these were not desirable dietary substitutes was the extreme danger resulting from usage. These drugs were addictive and can lead to use of stronger drugs as the body develops its tolerance for these lesser

ones.²⁹ Also, a deep depression could have set in following the use of artificial stimulants.³⁰

In short, the dietary substitutes were too dangerous to risk regardless of any advantage one might have thought he would have received. Umbach and Johnson stated, "Nature provides the healthy young athlete with whatever fuels and physiological balances he needs in sports. Super foods, it would seem are not really needed".³¹

Harms of Crash Dieting

Another problem of controlling weight was found in the crash diets followed by many athletes and encouraged by many coaches. The crash diet was used in an attempt to shed pounds quickly. It was discovered that there were two diametrically opposing schools of thought on this subject. One group favored rapid weight loss to a certain level. Robert N. Singer and Steven A. Weiss of Illinois State University conducted a study which represented the basis for this thinking. The purpose was to determine the effects of one week's weight reduction on selected anthropometric, physical and performance measures of college wrestlers. Ten members of the Illinois State University wrestling team served as subjects.

Each subject was tested for five consecutive days on a total of eighteen anthropometric, physical and performance measures. During this period, held in wrestling season, the subjects used the traditional methods normally followed in reducing their body weight in preparation for a forthcoming meet.³²

The subjects were tested each day in order to determine at what percentages of body weight loss the measures became significantly affected. The daily weight loss for five consecutive days also simulated weight losses that would occur in preparing for a wrestling meet or tournament during the season.³³

The following conclusions were reached:

It may be concluded from the results of this study and for the ten subjects studied that a wrestler may lose up to seven per cent of his body weight without adversely affecting the factors measured in this study, factors which are apparently related to wrestling performance.³⁴

The opposite view was based on the idea that crash dieting to any extent was bad. The proponents of this school were represented by the National Federation of State High School Athletic Associations and the Committee on the Medical Aspects of Sports of the American Medical Association. Dratz, Johnson, and McCann quoted these groups as saying:

From a health stand point, crash diets designed to produce rapid or extreme weight loss are to be condemned. Disturbing the fluid balance of the body by drying out also has serious health hazards. These dangers are intensified in the immature organisms of the growing adolescent athlete. They are further intensified by periodic weigh-ins, which encourage the athlete to resort to such practices at frequent intervals during the season.³⁵

Damage resulting from acute and semistarvation states include a reduction in maximal oxygen intake,³⁶ reduction in cardiovascular efficiency, liver damage,³⁷ and increased susceptibility to infection.

Dehydration sometimes occurred during a period

of crash dieting. For example, a wrestler from the University of Oklahoma attempted to lose seventeen pounds in ten days. His diet consisted of black coffee and orange juice. He fainted prior to the match and was admitted to the hospital confused and semiconscious. The diagnosis upon admittance was exhaustion and dehydration.³⁸

When the acute and semistarvation states were coupled with dehydration, there was a reduction in blood volume, cardiac output, and velocity of blood flow.³⁹ Also, evidence indicates that a shortage of water in the system was harmful to the kidneys.⁴⁰

For example, Blyth and Lovingood cited:

A fourteen-year-old boy dieted severely for six weeks, dropping from 152 pounds to 126 pounds. Although he was urged to discontinue his fasting, he flatly refused to do so saying the coach wanted him down to 123 pounds. An analysis of the boy's diet by the hospital dietician revealed that he was subsisting on 800cc of water and 491 calories per day, the diet recommended by his coach. The boy was hospitalized for two weeks and was completely incapacitated for two more weeks at his home. His diagnosis upon hospital admittance was related to kidney dysfunction.⁴¹

Another severe result of crash dieting was acute pancreatitis. Blyth and Lovingood referred to a report made by McDermott when they cited the example of an eighteen year old boy who gained ten extra pounds over Christmas vacation. He wished to lose this extra weight which he did accomplish at the end of a twelve

day period. They reported:

Thirty minutes after excessive realimentation the young man was stricken with severe abdominal pain. Thirty hours later he was admitted to the hospital with a diagnosis of acute pancreatitis. This disorder required ten days of medical and hospital treatment.⁴²

Aside from the evidence of physical harm, the people who were against crash dieting cite the loss of endurance in correlation with rapid loss of weight. Umbach and Johnson stated:

When a wrestler comes to the mat in first class shape for a match, he has confidence in himself because he realizes what he can do at full strength. On the other hand, one who comes to the mat after losing considerable weight cannot be sure how long his strength will last.⁴³

Medical research indicates that there was a deterioration of endurance and ability to perform physical work in acute or semistarvation states.⁴⁴ Dratz, Johnson and McCann stated:

Reduction of calorie intake to starvation levels, particularly when fluids are withheld or sharply limited, reduces energy drastically and impairs physical performance.... Starvation results in dehydration, even if water is allowed freely. When these conditions are created experimentally in human subjects, endurance is decreased, speed deteriorates, and hand-eye coordination is impaired. Not only do the subjects complain of fatigue, muscle soreness, and weakness but if physical activity is continued, neurologic disturbances and complete collapse may result.⁴⁵

Crash dieting then, does cause some very serious physical and emotional problems.

Lack of Desire on the Part of the Wrestler

The problems of a weight control program were

not entirely dietary. Lists of proper diets or inspiring talks from a coach can mean very little if the athlete, himself, lacks the desire to control his weight. He must be truly dedicated to the proposition of weight control.

Keith commented:

A boy must dedicate himself to accomplishment of his goal. The higher he sets his sights, the more dedication will be required to achieve satisfaction. An understanding of the importance of little decisions will become evident in their relationship to successfully accomplishing the task. A small letdown in training procedures: 'Come on, Joe, one more donut won't hurt you', can delay satisfaction.⁴⁶

Kapral summarized this point of desire when he stated:

What are these rigid demands? What do you need to become successful in athletics? In my wide experience as an athlete, I have heard many statements on the subject, but the one that 'strikes to me most' is what 'Biggie' Munn, my football coach at Michigan State used to tell us from time to time: 'It takes HEART, DESIRE, and ABILITY'. Although Biggie didn't go into detail and analyze the meaning of each word, I have a feeling he meant that only twenty per cent of playing was ability, .. and eighty per cent was heart and desire.⁴⁷

Parental Objections

Another major problem in weight control is, oddly enough, not with the wrestler. Opposition may arise from outside sources. Many parents will feel uneasy about a weight control program if it is not properly explained. They may feel that their son is losing too much weight too rapidly. This is particularly

true of the parents of the light weight wrestlers. The mother of a lightweight has been worrying for years because her son was smaller than the rest of the children. The fact that the boy is getting ready to earn his first varsity letter makes little if any difference in her feelings. After all, she has probably seen some wrestling on television and is somewhat unsure about this sport in which her son is participating.⁴⁸

Without the understanding and cooperation of the boy and his parents, the weight control program is doomed to failure.

SOLUTIONS TO THE PROBLEMS OF WEIGHT CONTROL

The solutions to the problems of weight control were not difficult to ascertain. They required willingness on the part of the coach to make them work. In the end result, however, no problem which was studied was without a possible solution.

Establishment of a Sound Diet Plan

A wrestler's diet should be no different from that used by any other athlete. The basic nutrients of protein, carbohydrates, fat, minerals, vitamins, and fluids should all be present. Keith recommends:

A diet which contains generous amounts of lean meat, eggs, and milk; moderate quantities of carbohydrate foods such as breads, potatoes, and cereals; moderate amounts of fruits; very limited amounts of sweets such as candy, soft drinks, or pastries, will provide the necessary balance of basic nutrients.⁴⁹

The Four Broad Food Groups designed by the Bureau of Home Economics of the United States Department of Agriculture provided a foundation for a nutritionally sound diet. Group one is the milk group. This included all varieties of milk, cheese, and ice cream. The recommended amount from this group was four eight ounce servings. Group two was the meat group. This group includes all types of meats, poultry and products, fish

peas, beans and bean families, peanut butter, and nuts. Amount recommended are two or more servings of the following: meat, poultry and fish - three ounces, lean, no bones; two eggs; one cup cooked peas, beans, or lentils; four tablespoons peanut butter. The third group consisted of all fruits and vegetables. Varying amounts of the group were suggested. These included: one-half cup fruit or vegetables, one medium sized apple, one banana, orange, or potato, one-half grapefruit or cantaloupe. Breads and cereals made up the fourth group. All breads and cereals were whole grained. As all the groups were proportioned in amounts, this one was no exception. Four or more of the following servings were to be eaten: one slice of bread, one ounce dry cereal, 1/2 to 3/4 cup cooked cereal, corn meal, grits, macaroni, rice, spaghetti, or noodles. (Figure 1, page 33)⁵⁰

The coach should have given the athlete a sample menu as an example from which to work. The menu suggested by the Oregon School Activities Association was helpful in the area. For breakfast the wrestler could eat a serving of fruit, one egg and one glass of skimmed milk. For lunch in the school cafeteria he was allowed one small serving of the main dish, vegetable, an extra small dessert, one slice of bread and milk. For lunch brought from home, the boy could have had one sandwich, one egg, cheese or canned fruit, and one glass

1. MILK GROUP

Foods:

Milk-fluid whole, skim, evaporated, dry buttermilk;
all or part of the milk may be derived from
sources other than fluid milk.

Cheese-cottage, cream, cheddar, or process types.
(1 oz. cheese = 1 cup milk)

Ice Cream - may replace part of milk depending on
equivalent calcium content.

Amounts recommended: Four eight ounce servings (1 qt.)
for teenage athletes. Can be more if desired.

2. MEAT GROUP

Foods:

Beef, veal, pork, lamb, mutton, liver, heart,
kidney, and other variety meats.

Poultry and eggs.

Fish and shellfish.

Dry peas, dry beans, nuts, lentils, and peanut butter.

Amounts recommended: Two or more of the following
standard servings daily:

3 ounces lean cooked meat-edible portion-no bone

3 ounces poultry or fish-no bone

2 eggs

1 cup cooked dry peas, beans, or lentils

4 tablespoons peanut butter

3. VEGETABLE-FRUIT GROUP

Foods:

All fruits and vegetables: especially orange, grapefruit,
tangerine, cantaloupe, honeydew, watermelon, strawberries,
apricots, tomatoes, asparagus, broccoli, brussels sprouts,
raw cabbage, carrots, chard, collards, cress, kale,
pumpkin, spinach, sweet potatoes, dark greens, and
winter squash.

Amounts recommended: Four or more of the following
standard servings daily:

1/2 cup fruit or vegetable (1 serving)

1 medium sized apple (1 serving)

1 banana, orange, or potato (1 serving)

1/2 grapefruit or cantaloupe

4. BREAD-CEREAL GROUP

Foods:

All breads and cereals that are whole grained,
enriched, or restored: especially breads, cooked
cereals, dry cereals, corn meal, cracker, grits, rice,
macaroni, noodles, spaghetti, rolled oats, and flour.

Amounts recommended: Four or more of the following
standard servings daily:

1 slice bread

1 ounce dry cereal

1/2 to 3/4 cup cooked cereal, corn meal, grits,
macaroni, rice, spaghetti, or noodles.

Fig. 1 The Four Basic Food Groups

of milk. For supper, he was allowed one serving of broiled meat, potatoes, salad, dessert, one slice of bread, one glass skimmed milk. For a snack, he was allotted one of the following per day: one glass milk or one apple, orange, or banana or a dish of fruit or a nickle scoop of ice cream. Per week he was able to eat one package of peanuts or one candy bar. (Figure 2, page 35)⁵¹

It was noted that wrestlers should eat foods they are accustomed to eating. It was better for the coach to list the nutritional foods and let the boy pick his own. Some foods, such as fried, fatty, or greasy food; others, such as heavy starches and pastries, are condemned by most coaches. Even these foods should not be stopped all together, but they can be limited to the right proportions.

Many outstanding athletes, prior to peak performances, have eaten foods that were thought to be taboo before competition.

Bill Nieder, first man to put the 16 pound shot 65 feet, had the following meal prior to his historic 65'7" throw: 7:00 a.m.-extra large steak, 3 eggs, 3 strips of bacon, 2 large glasses of orange juice, half pint of milk. At 10:00 a.m. he had a second large steak and a piece of pie.

J.D. Martins, Oklahoma's fine pole vaulter, prefers a small, rare steak, toast, honey, and hot tea about three and one-half hours before competing.

The Finnish Olympic Cross-Country Skiing team, following a normal breakfast, drink large quantities of eggnog (with a half dozen or more raw eggs) prior to starting on the cross-country event. Along the course, they have 'snack stations'. There they

Breakfast

- A. 1/2 cup orange, grapefruit, or tomato juice or
1 small serving of fruit or 1 orange
- B. 1 egg--poached, boiled, scrambled, or fried and
1 slice toast (easy on the butter and jelly) or
1 cup dry cereal or 3/4 cup cooked cereal
- C. 1 glass skim milk

LunchCafeteria

- A. Small serving of main
dish, vegetable, and
extra-small dessert.
(1 hot dog or hamburger)
- B. 1 slice bread or 1 roll
- C. 1 milk

Sack Lunch

- A. 1 sandwich
(2 slices of bread)
- B. Boiled egg, cheese
or canned fruit
- C. Carrot sticks,
apple or orange
- D. Milk, 1 glass, skim

Supper

- A. Meat (lean) broiled or roasted--1 serving
- B. Vegetable--1/2 serving
- C. Potatoes--1 small one baked or boiled--easy on
butter and gravy (try a little milk and salt and
pepper)
- D. Salad greens or fruit--easy on the dressing
(1 tablespoon has 100 calories and scarcely any
other food value)
- E. Dessert--fruit or jello (pie, cake, or cookies
twice a week and then a small serving)
- F. 1 slice bread except when having pastries
- G. 1 glass skim milk

Snacks (this is the place where you can really cut down)

- A. per day--1 glass milk or apple, orange, or a
dish of fruit or a nickle scoop of ice cream
- B. 1 package of peanuts (nickle size) or one candy
bar per week.

Fig. 2 A Sample Recommended Diet for One Day

pause long enough to pick up a cup of quick energy. The Finns quick energy concoction is Mustikakeits... blueberries, heated in water with sugar added... Herb Elliott, great miler from Australia, has for a training diet, oats, nuts, raisins, dried fruits, and diced bananas.⁵²

All these were exceptional individual athletes. Each had his own particular type of diet to which he was accustomed. Not only did these great athletes have their own diets, but many of the individuals who were coaches, also, have their own diets.

By using a well planned diet, based on the four major food groups with allocations made for the athletes own peculiar eating habits three of the problems discussed could be on the road to solution. Kapral stated when in talking about the starting of a weight control program by the wrestler, "I highly recommend that a wrestler talk the situation over with his coach before he takes on a weight control program".⁵³

It was suggested that the coach post in the locker room recommendations for correctly losing weight. In Ken Rawlinson's book, Modern Athletic Training, he makes suggestions for losing weight.

- Reduce only under medical supervision.
- Do not skip meals.
- Eat a large breakfast, a moderate lunch and a light dinner. Food eaten at breakfast is absorbed by the body during the day and is not stored as fat, as with the evening meal.
- Eat nothing between meals or before bedtime.
- Continue with daily activity-exercise.
- Use sacchrine (no calories) instead of sugar.
- Do not drink large amounts of water with meals.
- Try to hold the fluid intake to not more than one

quart per day (average is eight glasses).

Use a minimum of salt because it helps retain water.

Weigh yourself the same time each day, preferably upon rising.

Eat high protein foods, vegetables, and salads.

Substitute lemon juice or vinegar for salad dressing.

There is only one miracle drug--self denial.⁵⁴

If the athletes were instructed carefully on the importance of following these guidelines, the problems of improper food intake, use of undesirable dietary substitutes and crash dieting were partially solved.

Checking Upon the Boy and the Coach

Coaches all over America, regardless of the level of competition, should be keenly aware of his participant's diet because the youngster is still growing. A word of advice to both coaches and wrestlers; a competitor in the growth stage should be trying to build his body up instead of breaking it down.⁵⁵

These words served as a caution to both the athletes and coaches. Both were likely to violate the advice in an attempt to reach the desired weight level. Both could be subject to checks when the next two suggestions were followed.

The coach could check the boy to be sure he did not lose too much too rapidly by compiling a weight chart for each boy. The chart contained a list of the weight classes with recommended weights for each class for each day of the week. If the master chart was posted and then individual charts were kept on each boy, the

coach would be able to check his athletes weight losses. (Figure 3, page 39)⁵⁶

The school could check on the coach and athlete by following the example set by the Oregon School Activities Association. The lowest weight at which a boy may wrestle was listed on the cards. This card was signed by the persons most concerned about his weight and most knowledgeable of his physical condition- the wrestler, his coach, his parents, and a physician. (Figure 4, page 40)⁵⁷

By using this card, unhealthy crash dieting was avoided.

Another plan for checking the weight reduction process was suggested by the American Medical Associations Committee on the Medical Aspects of Sport and the National Federation of State High School Athletic Associations.

A plan for classification of athletes is therefore recommended that calls for only one weighing-in at the start of the season, with this to take place at an unannounced time. It is also recommended that the number of weight classes be increased when necessary, in order to further discourage undesirable practices in weight reduction. While no plan of classification is infallible, it is believed that these recommendations provide the best guarantee of equitable competition with a healthful experience for the participants.⁵⁸

To avoid cutting an athletes weight incorrectly, a physician was consulted. A coach must take no chances. In his desire to wrestle, a boy may not be entirely truthful about how he feels. A regular, periodic check

WEIGHT CLASSES	MONDAY	TUESDAY	WEDNES- DAY	THURSDAY	FRIDAY	MATCH SATURDAY
123 Lb. class	128	127	126	124 1/2	123	123
130 Lb. class	135	134	133	131 1/2	130	130
137 Lb. class	142	141	140	138 1/2	137	137
147 Lb. class	152	151	150	148 1/2	147	147
157 Lb. class	162	161	160	158 1/2	157	157
167 Lb. class	172	171	170	168 1/2	167	167
177 Lb. class	182	181	180	178 1/2	177	177
Heavyweight class		EAT NORMALLY				HW

Fig. 3 Weight Schedule for Checking a Wrestler's Weight

Oregon School Activities Association
OFFICIAL WEIGHT PERMIT CARD--WRESTLING

Name of School _____

The below signed individuals agree that _____
(Student)

may wrestle no lower than ____ lbs. during the 19__-19__
season.

1. _____
(Signature of Wrestler) Date _____

2. _____
(Signature of Coach) Date _____

3. _____
(Signature of Parent) Date _____

4. _____
(Signature of Doctor) Date _____

Before signing, please read other side. (front)

SIGNED

1. To be valid, this card must be signed by all four individuals.

ON FILE

2. This card must be on file at the school. The OSAA may request this card at any time they see fit.

HIGHER WEIGHT

3. In case one of the four signers desires the wrestler's minimum weight to be higher, he shall make such desire known to the Principal or Athletic Director and the weight will be automatically raised. The coach will be notified and the change will become effective immediately.

LOWER WEIGHT

4. In case any of the four signers desires the wrestler's weight to be lowered, a new card must be signed by all four.

VAST CARD VALID

5. The last dated card on file will be valid. (back)

Fig. 4 Weight Control Card

with a physician during the conditioning program will remove all doubts.⁵⁹

When all these steps were taken the result was positive weight loss. Oregon's plan of weight control utilized these procedures. Freese reports:

By taking advantage of professional advice in weight control and by giving full information on the objectives of the program to parents, we have been able to avoid the weight cutting and weight control situations which have caused a great deal of criticism of high school wrestling.⁶⁰

Setting of Goals

Every wrestling coach faced the problem of how to instill in his athlete the desire to control his weight. The key to the solution was to prepare the boy mentally for what lies ahead. He should have instructed the boy on the importance of weight control.⁶¹ He should have provided adequate information on the proper diet for an athlete desiring to control his weight.⁶² The coach should have helped the wrestler set goals for himself. Long range goals should be established in order to give direction to the striving. Every boy should "hitch his wagon to a star"; however, short term steps or plateaus are necessary. The coach should have encouraged his wrestlers along the way; otherwise the ideal may be too difficult to reach.⁶³

The long term goal of weight control was eventually attaining the desired weight. Short term goals should be gradual, week by week levels of loss.

The coach should have reminded his athlete of the necessary requirements of a successful wrestler. As a part of the athlete's mental conditioning, the following qualities and applications were posted in one training room.

C-oncentration
H-eart
A-ttitude
M-odesty
P-ractice
S-acrifice⁶⁴

Instruction of Parents

Once the wrestler was convinced that he must control his weight, the coach next approached the boy's parents. The coach should begin with a conference with the parents of all his wrestlers. This might take the forms suggested by Tomaras.

Invite students, parents, press, and townspeople to an open house or fan clinic at your workout room. This could be a part of an activity night where several lesser known sports are explained and demonstrated and in which a great many students participate, thus encouraging large parental attendance....⁶⁵

Many high schools have introduced wrestling through a smoker with special invitations to the dads of the students. This program may be composed of the intramural finals or a series of well-matched contestants....⁶⁶

Keith said, "If you can convey the reasons for weight control to the parents, opposition to weight control practices can be reduced".⁶⁷ If the coach took the time to consult with the parents, he could have ended any criticism of his program before it started. Keith cited

the Oregon Weight Control Plan as an example.

The Oregon Weight Control Plan has reduced the criticism of wrestling to a whisper. Now the decision regarding maximum weight loss is a cooperative program involving the medical profession, the home, the school, and the boy....⁶⁸

Facing of Responsibilities

The responsibility for the success of each of these solutions falls upon the shoulders of the coach. If he does not carry out his duties to the athletes, their parents, and the wrestling program, the problems will remain unsolved. Every coach, then, should be well informed. He should study, read and question. He must make every attempt to keep abreast of the expanding information in his field. The coach should take an interest in each of his wrestlers as individuals. The diet that is just right for each boy should be employed. The coach must encourage, instruct and persuade. When the boy has given his talents, his interests and his respect to this man, his coach, they must not be abused.

IMPROVEMENT OF RELEVANT PRACTICES

It is suggested that relevant practices could be improved in the following three ways:

- 1) All states should employ a weight control program similar to the one conducted in Oregon,
- 2) All coaches should be encouraged to properly inform themselves, the

wrestlers and their parents of the basics of a sound weight control program, and 3) physicians should be consulted on all weight reduction plans carried out by the coach and wrestler.

AREAS FOR FURTHER STUDY

This author would recommend further study in four areas. First, the argument between the two schools of thought concerning the harms of crash dieting should be more closely resolved. Second, the attitudes of the parents with regard to weight control in wrestling should be studied. Third, study of the extent to which the lack of desire on the part of the wrestler affects the success of the program. Fourth, methods for stimulating that desire should be surveyed more extensively.

SUMMARY

This study found that weight control was an important aspect of the wrestling program. This was true for several reasons. The very nature of the activity of the sport demanded control of weight. It was also established that weight control benefited the wrestler's health; not only during the time he was engaged in wrestling, but in the future as well. If the wrestler followed his weight control program and coupled diet with rest and exercise, he would reach his potential or perhaps exceed it. The demands made by weight control were found to instill in the boy a self-discipline which will help prepare him for future life. Finally, weight control is vital to wrestling because the rigid rules of the sport require that each participant weigh an exact amount and not an ounce more.

Even though weight control was a very important phase of conditioning, it presented several problems. In an attempt to make weight, the athletes tended to eat the wrong foods. This resulted in the improper intake of food. Some wrestlers decided to substitute a commercial replacement or so called "miracle food or drug" for the proper food. This caused reliance on undesirable dietary

substitutes. Some boys tried to pull down their weight quickly and tried to eliminate eating anything to a great extent. This practice brought about many physical difficulties as well as adversely affected their endurance. The programs of weight control could be only as successful as the athletes wished to make them. The lack of desire on their parts could wreck the program completely. The parents, also, created problems. They did not understand the reasons for weight control nor had they been given instructions on the basics of a sound diet. Without their approval, the program is doomed to failure.

The problems of weight control could be eliminated or at least lessened if the coach would shoulder the task. A sound diet based on the four major food groups should have been established. Consideration should be given to the athlete's normal diet. The coach should have made weight control charts on each boy for his own use. This way it was possible to keep careful, daily checks on the boy's progress. The coach also, should have filed a weight control card with the school. This card stated the lowest possible weight at which the athlete may compete. This prevented the coaches from encouraging rapid weight loss. The coach should have talked with the boy concerning his proper diet. A physician should also have been consulted. This helped determine what diet each particular wrestler should follow.

The coach should have encouraged, instructed and persuaded his wrestler. He should have helped the boy set long range goals and short term plateaus. The coach should have done all in his power to give the boy a desire to control his weight. The parents should have been contacted and the elements of weight control should have been explained. If the parents were made to understand the program, most objections became arguments of the past.

Research Methodology

Research on this paper began with the author's procurement of five recommended books on wrestling. Periodicals were also checked for pertinent articles. These materials were read twice: the first time for general information, the second time for specific details. The author took notes on his reading. These notes were divided into three groups. Introductory material was separated into support of the validity of the problem, importance of the problem and definitions of terms used in the text. The material covering the problems was divided into areas. A list of problems was made. The author checked to determine if two or more pieces of support was available on each problem. Then the list was analyzed to determine if any of the problems given were subordinate to each other. The result was the list of five problems previously covered in this report.⁶⁹ The same procedure was followed on the solutions. The

material was divided. A list of possible solutions made and an evaluation was made. The final result is discussed in other phases of this paper.⁷⁰

Findings of This Study

The findings of this study can best be seen by referring back to the original questions posed by this author.⁷¹

Question: Were there problems of weight control?

Finding: Yes. The problems of weight control were five in number.

Question: Were there any problems of a physical nature?

Finding: Yes. The problems of improper food intake, use of undesirable dietary substitutes and the practice of crash dieting were all problems of a physical nature.

Question: Were there any problems of a personal nature?

Finding: Yes. The problems of lack of desire on the part of the wrestler and lack of understanding on the part of the parents were problems of a personal nature.

Question: Was the body of published literature available to all coaches sufficient to support the suggested problems?

Finding: Yes and no. All the problems could be supported but some more extensively than others.

Question: Are there any areas which need more study?

Finding: Yes. There were four areas which could merit

from further study. The argument between the two schools of thought concerning the harms of crash dieting should be more closely resolved. The attitudes of the parents with regard to weight control in wrestling should be studied. The extent to which the lack of desire on the part of the wrestler affects the success of the program should be studied. The methods for stimulating that desire should be surveyed more extensively.

Question: Were there any solutions to the problems of weight control, if those problems existed?

Finding: Yes. The solutions were six in number. The coach should establish a sound diet based on the four major food groups, with consideration given to the athlete's normal diet. The coach should establish weight control charts for each boy. The coach should be required by the school to file a weight control card on each boy in the school office. The coach should carefully instruct the boys concerning the basics of proper diet. The coach should help the wrestler establish long range goals and short term plateaus. The coach should explain the program carefully to each wrestler's parents.

Question: Were there any weight control in existence today that appeared to be solving the problems?

Finding: Yes. The weight control program used by the Oregon State School Activities Association appeared to be a successful one. ⁷²

Conclusions Drawn From This Study

The conclusions drawn from this study were as follows:

1. There are problems in weight control in high school wrestling. The importance of these is discussed earlier in this paper.⁷³
2. Once the problems were defined, answers to them could be found. These solutions were discussed earlier in this paper.⁷⁴
3. It is possible to establish a successful weight control program. The Oregon State School Activities Association has done so.⁷⁵
4. Some documentation could be found to answer the questions and prove the assumptions. Some areas could be more thoroughly documented than others, however.

The final conclusion of this study is, then: There are five problems of weight control which are of major importance. Solutions can be found with the cooperation of the coach, wrestler, parents and a physician. The best example of a successful program is the Oregon State Weight Control Plan. While some documentation is available on all the problems and solutions, more is needed in specific areas.

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FOOTNOTES

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¹⁴Keith, loc.cit.

¹⁵Ibid.

¹⁶Ibid.

- ¹⁷Umbach and Johnson, op.cit., p. 34.
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- ¹⁹Ibid.
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- ²⁵Ibid.
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- ²⁸Dratz, Johnson, and McCann, op.cit., p. 15.
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- ⁵⁹Ibid., p. 9.
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A SURVEY OF THE PROBLEMS AND SOLUTIONS OF
WEIGHT CONTROL IN HIGH SCHOOL WRESTLING

by

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The purpose of this paper was to survey the problems involved in a program of weight control and to suggest possible solutions for them, as revealed in material readily available to any high school wrestling coach. The problems and solutions, then, were to be collected into one study to offer a survey of the area offered under one cover.

Research on this paper began with the author's procurement of five recommended books on wrestling. Periodicals were also checked for pertinent articles. The author took notes on his reading. These notes were divided into three groups. Introductory material was separated into support of the validity of the problem, importance of the problem area and definitions of terms used in the text. The material covering the problems was divided into areas. A list of problems was made. The author checked to determine if two or more pieces of support was available on each problem. Then the list was analyzed to determine if any of the problems given were subordinate to each other. The same procedure was followed on the solutions. The material was divided. A list of possible solutions was made and an evaluation was conducted.

This study resulted in the discovery of five basic problems in weight control. Improper food intake presented difficulties. Inadequate dietary substitutes were used in some diet programs. Crash dieting was found to have harmful effects on most wrestlers who tried to use this method of weight control. Lack of desire on the part of the wrestler to control his weight was another problem. Parental objections also presented a barrier in some cases.

The study also discovered five solutions to these problems. They included: 1) establishment of a sound diet program, 2) checking upon the

wrestler and the coach, 3) establishment of goals in weight control, 4) instruction of parents, and 5) facing responsibilities by the coach.

This study found some areas in which weight control programs might be improved. These were three in number. First, all states should employ a weight control program similiar to the one conducted in Oregon. All coaches should be encouraged to properly inform themselves, the wrestlers and their parents of the basics of a sound weight control program. Third, physicians should be consulted on all weight reduction plans carried out by the coach and wrestler.

This paper found four areas for further study. First, the argument between the two schools of thought concerning the harms of crash dieting should be more closely resolved. Second, the attitudes of the parents with regard to weight control in wrestling should be studied. Third, study of the extent to which the lack of desire on the part of the wrestler effects the success of the program. Fourth, methods for stimulating that desire should be surveyed more extensively.

The final conclusions of this study are, then: There are five problems of weight control which are of major importance. Solutions can be found with the cooperation of the coach, wrestler, parents and a physician. The best example of a successful program is the Oregon State Weight Control Plan. While some documentation is available on all of the problems and solutions, more is needed in the specific areas mentioned above.