EATING, BODY WEIGHT and PERFORMANCE in ATHLETES

Disorders of Modern Society

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Judith Rodin
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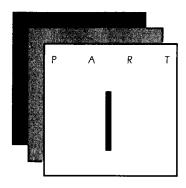
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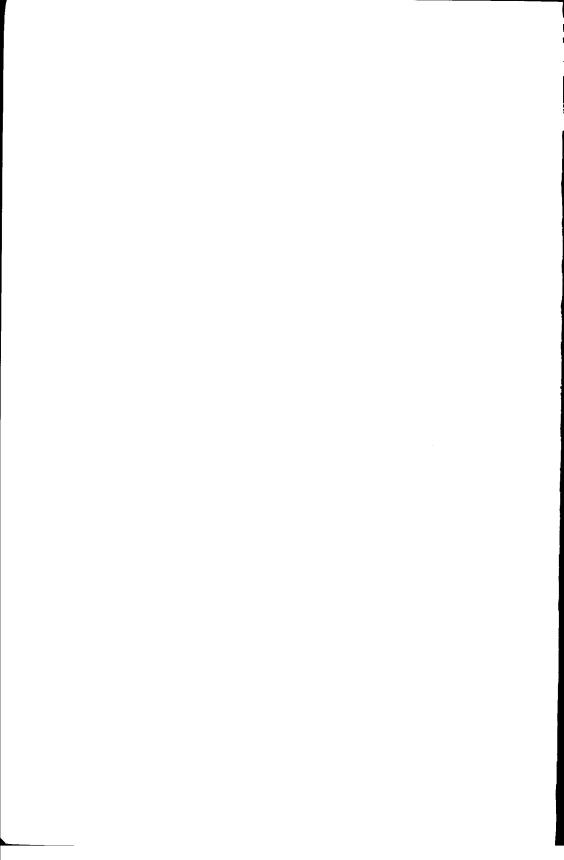
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INTRODUCTION





EATING, BODY WEIGHT, AND PERFORMANCE IN ATHLETES: AN INTRODUCTION

Kelly D. Brownell, Judith Rodin, and Jack H. Wilmore

Eating disturbances, weight preoccupation, and frank eating disorders among athletes are being recognized as important issues. Increasing numbers of studies on these topics are being published in the scientific literature. Articles in magazines and newspapers paint a picture of secrecy and torment among the sufferers. Coaches, parents, athletic administrators, and the athletes themselves ask for information on diagnosis and management. A few athletic departments have established programs and have staff members identified to deal with these issues.

This growing recognition notwithstanding, the response to the problem lags far behind its importance. Athletes are being hospitalized, even attempting suicide, because of psychological problems related to eating and weight. Many with eating problems feel shame and embarrassment and keep the problem hidden. Parents are concerned, but they do not know how to respond. Coaches have many reactions, ranging from fear, guilt, and anger to genuine concern. Some ignore the problem, others refuse to accept responsibility, and still others cooperate with efforts to intervene. Athletic administrators are concerned about the welfare of their athletes, and they are aware of the adverse publicity created when

highly visible athletes have their athletic careers threatened by eating disorders. Teammates often realize that a problem exists but are reluctant to speak with the coach or the afflicted athlete.

The purpose of this book is to integrate, evaluate, and synthesize information on eating and weight problems in athletes. Information is available from many sources, but it has not been assembled into a coherent picture or systematically evaluated. Studies are scattered among the literatures of many disciplines. Practical experience with these problems exists among countless athletes, coaches, and administrators, but it has not been put to paper. Our objective is to collect and integrate this information to identify: (1) the scope of the problem; (2) the genesis of the problem; (3) the effects on health, psychological well-being, and performance, and (4) appropriate methods for prevention and management of the problem.

To lay the foundation for this book, this chapter gives an overview of the field, beginning with examples of how eating and weight issues have drawn increasing attention at many levels. Then we discuss the factors that place athletes at risk for these problems, why the problems are so often hidden, and how the organization of the book is designed to accomplish our objectives.

CASE EXAMPLES

Liz Natale, a former Division I All-American in track, while recovering from anorexia nervosa, participated in a conference on eating disorders in athletes.¹ The report from the conference represents an interesting case history:

Liz brought the audience to tears as she explained the psychological pressure that contributed to her eating disorder. She explained that her coach felt she would never be successful if she didn't lose weight. Liz also felt threatened that she could lose her grant-in-aid. She told of the physical and emotional strain of starving during the season and "blimping out" during the off season. Today, she said, she still suffers from the medical and psychological consequences of her disordered eating behavior.

When Liz first played organized soccer as a youngster, she was the fastest player on the team. Her teammates and coaches were impressed that she would always be the first one to the ball. She said she internalized the message that people would like her only if she was fast.

With this thinking as a foundation, she entered college. She weighed 132 pounds, with 10% body fat. She was told that this was way too much weight for a runner. Nobody ever had told her to lose weight or even commented about her body. It was at this point that she became self-conscious of her diet, and her problems began.

At the end of her freshman year, Liz qualified for the Division I outdoor track championships and advanced to the semifinals, an outstanding accomplishment for a first year runner. But she did not make the finals. As the runners were lining up for the final, her coach told her she was not running because she was not as skinny as the finalists.

When she returned home for the summer, her mother was moved to tears because some of Liz's hair had fallen out, a direct result of her eating disorder. While at home that summer, Liz ate normally and gained weight. But when she began school in the fall, she stopped eating again.

Liz noticed that her personality began to change, and she didn't socialize at all. All she cared about was how much she weighed and how she trained.¹

This example shows how preoccupation with eating and weight can affect the health, psychological functioning, and performance of the athlete. It also highlights how a problem can be caused, or at least supported, by demands of the coach, the intense competition of modern athletics, and the personality of the athlete.

These issues are also highlighted in the second case example, this time with a swimmer. One of us (KDB) interviewed an Olympic swimmer and found that weight was a major issue for her and her coach. She was a muscular college senior favored to win her event in the 1988 Olympics in Seoul, South Korea. She competed for a college team with a coach notorious for a hard-line stance on weight. Knowing that she was so successful, I predicted that her coach would not be concerned with her weight. Quite the contrary occurred. The interview went something like this:

KDB: You must feel good about your body and your weight, con-

sidering how well you have done athletically.

Athlete: I do feel good, and at my current weight, I feel I have never

trained better.

KDB: What do you weigh?

Athlete: 162 pounds, but my coach wants me to weigh 154.

KDB: I thought you had never trained better. Why the 154 pounds? Athlete: Because that's what I weighed last year when I set the world

record.

KDB: What does the coach do?

Athlete: He reminds me of my weight a lot, and I have to train dif-

ferently than I would like.

KDB: How so?

Athlete: After our afternoon workout, which lasts about 2 hours, most

people on the team work out in the weight room. This is what I feel I need. Instead, I have to run to lose the weight.

KDB: How hard is it to lose the weight?

Athlete: It's very hard. No matter how hard I train and how much I

run, my body stays at a higher weight.

These case examples cannot be used to define the nature and extent of these problems with athletes in general. They do show the pressure some athletes feel and how this can be manifested in concerns with eating and weight. In some cases, these concerns translate into healthy habits that improve performance and the general well-being of the athlete. In other cases, behaviors and attitudes are not healthy, and major problems develop.

PRESS ACCOUNTS

On August 3, 1989, the Associated Press carried a story about eating disorders among female athletes at the University of Texas in Austin and the pressure exerted by coaches to reduce weight. The release stated that "an alarming number of women athletes at the University of Texas in Austin have eating disorders" and that the problem had been particularly severe among members of swimming teams produced by one former coach.

According to the AP release, the Austin American-Statesman had reported that in the previous 18 months one of every 10 female athletes—a total of 12—at UT had been diagnosed as having a serious eating disorder. In a series of stories compiled from university records and interviews, the American Statesman said that virtually all the cases had been traced to the pressure and training methods of their coaches. Another 20 to 30% of the UT women athletes had shown symptoms of an eating disorder, and 50 to 60% had expressed "tremendous concern" about their weight, according to a survey of female athletes at UT.

The release stated that, according to the *American-Statesman*, the eating disorders had been most prevalent among members of one coach's nationally ranked swimming teams. The coach, who led the swimming team "to five NCAA championships in 6 years, emphasized weight in training and competition and insisted that swimmers remain under maximum weight limits. Those who failed to do so were required to participate in special workouts."

Current and former members of the swimming team said the pressure to meet the coach's guidelines was "so intense that many routinely fasted, induced vomiting, used laxatives and diuretics, or exercised in addition to workouts. They did not want to be relegated to a group they called 'the fat club.' " One two-time Olympic medal swimmer said her fear of reporting to workouts while over the weight guidelines led her into a bulimic cycle of binges and purges that finally made it necessary for her to be hospitalized for 9 weeks. The former coach, according to the release, said he didn't recall when he first learned of the swimmer's problem and that he wasn't aware of it "until toward the end."

This account is interesting for several reasons. First, it shows the tendency to blame athletic programs for fostering and then hiding these serious problems. This is justified in some cases but not in others. The University of Texas, for example, was one of the first to establish a

program to deal with eating problems (see Chapter 22). This open attitude might have made the problems of their athletes more visible to the press. Second, it highlights the perceived pressure exerted by some coaches to control the weights of their athletes. Again, this might be justified in some cases, but it points to the need for involvement of coaches in any program designed to identify and remedy eating problems in athletes.

ATTENTION AT THE NATIONAL LEVEL

The National Collegiate Athletic Association (NCAA) launched an educational program on eating disorders in 1989 entitled "Nutrition and Eating Disorders in College Athletics." The program included a series of videotapes on eating and its disorders for athletes, coaches, trainers, and others involved in collegiate sports. Accompanying these tapes were written materials, articles, and posters (Fig. 1–1).

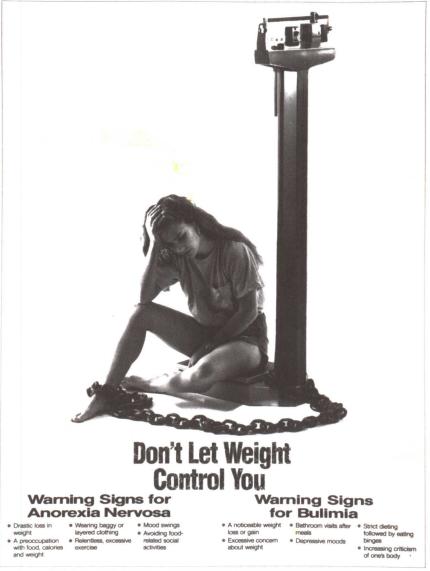
We believe the NCAA effort is both justified and necessary. Such a group has credibility and can assemble the expertise needed to recommend a comprehensive program. Even at the college level, many schools are not likely to have the necessary expertise or resources to mount a program. Even less is available at the junior high and high school levels. Having national organizations take the lead should generate considerable visibility and sensitivity to the problems, and we hope lead to the development of concrete programs for dealing with athletes.

FACTORS THAT MAY PREDISPOSE ATHLETES TO EATING DISORDERS

If athletes are at increased risk for eating and weight problems, it is important to identify the factors that place them at risk. The development of eating and weight problems in athletes has cultural, psychological, and physiological bases. These issues are covered in detail in Chapters 8 through 12 and in Chapter 18, but we would like to provide some background information in this chapter.

CULTURAL FACTORS

Young people, especially women, are faced with enormous pressure to be thin and to have an aesthetically pleasing body shape (see Chapter 10). Having the perfect body symbolizes self-control, mastery, acceptance, and other factors our society values. ^{2,3} The ideal has become increasingly lean and physically fit, since the 1950s, so athletes face the pressure that exists in society in general to conform to the esthetic ideal. The underlying concept is that the body is infinitely malleable—that with the right diet and exercise, it can be shaped and molded as one



Note: The presence of one or two of these signs does not necessarily indicate an eating disorder.

Absolute diagnosis should be done by appropriate health professionals.

Fig. 1–1. Poster distributed to member colleges by the National Collegiate Athletic Association. The poster portrays how the athlete's life can be controlled by weight concerns and lists the warning signs for anorexia and bulimia.

wishes.^{2,4} This ignores, of course, the considerable literature suggesting that there are biological limits to how much the body can change (see Chapters 2, 3, and 6).

PSYCHOLOGICAL FACTORS

A number of the psychological risk factors for eating disorders are common in athletes. Examples are a compulsive, driven quality about exercise and weight control, perfectionistic attitudes, competitiveness, and intense concern with performance. These qualities might lead to excellence in athletic performance, but they also place an individual at risk for eating disorders. Distinguishing the beneficial from the pathologic can be difficult.

One can see some qualities of athletes even in the descriptions of the psychological aspects of severe eating disorders. In a review of psychological aspects of anorexia nervosa, Strober noted that different diagnostic criteria have been used over time but that several discriminating features emerge consistently:⁵

- 1. Self-inflicted weight loss accompanied thereafter by a sustained avoidance of mature body shape, which cannot be directly ascribed to other identifiable causes
- 2. A morbid and persistent dread of fat
- 3. The manipulation of body weight through dietary restraint, self-induced vomiting, abuse or purgatives, or excessive exercise
- **4.** Disturbances in body image, manifest in misrepresentation of actual body dimensions or extreme loathing of bodily functions
- 5. Amenorrhea and the development of other behavioral-physiological sequelae of starvation

Overlap exists in both the behavior and the attitudes of people with eating disorders and some athletes. The issue of cause and effect, however, as well as merely coincidental overlap in character types, needs to be considered. It is possible that individuals with personality and behaviors characteristic of the eating disorders gravitate toward athletics. The competitiveness, perfectionism, intensive exercise, and ability to restrict food intake might predispose a person to success in athletics.

The reverse side of the cause and effect picture suggests that some individuals at risk enter sports and that the training, pressure, and demands of the sport create eating and weight problems. Finally, it is possible that there are merely surface similarities between the eating and weight concerns of athletes and of people with eating disorders, and that these similar profiles are created by different underlying causes. Each of these hypotheses is considered in detail in this book. We believe that participation in modern athletics increases risk for eating and weight problems, including clinical eating disorders. Whether this occurs only in individuals who are susceptible when they enter sports is less clear.

BIOLOGICAL FACTORS

Another issue that must be considered is developmental biology. In young women particularly, with training and competition occurring at younger ages, the fight to control eating and weight occurs at a time when important biological changes can be exerting pressure in the opposite direction. During adolescence, body fat increases dramatically in females, presumably in preparation for reproduction. The athlete who challenges the body by restricting food intake and lowering weight confronts a natural biological process. We can only speculate at this point about the psychological and physiological effects created when the body fights back.

Menstrual function is an example of where sports and biology collide. Some athletes consider menstrual cycles a nuisance, or even a major barrier to performance. The cessation of menses, or in younger athletes, the delay of menarche, is frequently considered a blessing. Amenorrhea is a significant problem in some sports (see Chapter 15 by Warren), and too little is known about its psychosocial and health effects or about its

long-term effects on fertility.

If the body responds to dieting and weight loss as a threat, lowering energy requirements can be a natural response. In fact, a number of studies point to surprisingly low calorie intakes in highly-trained female athletes in particular. In three such studies, for example, the average daily intake for female runners was 1,759 calories, but the mean intake was 1,541 calories for amenorrheic runners and 1977 calories for eumenorrheic runners. This suggests that there is a relationship between menstrual function and low energy intake.

The data indicate that many athletes exist on low levels of calories. Given their low body fat and high levels of exercise, one would expect that they might need and be able to support a much higher intake. Yet many athletes claim they cannot eat more without gaining weight. Without prospective studies, it is not possible to determine whether the exercise and restricted weight cause low calorie needs or whether the finding is merely correlational. However, the fact that calorie requirements are low in many athletes creates what we believe is a biological risk factor for eating disorders. An individual who must exist on so few calories must greatly increase the degree of dietary restraint necessary to control intake. This sets the stage for the attitudes (e.g., preoccupation with eating and weight) and behaviors (e.g., binge eating) that predispose an individual to eating disorders. The use of dangerous dieting practices such as fasting, vomiting, diuretics, and fluid restriction is the likely consequence.

FACTORS SPECIFIC TO ATHLETICS

The pressure to perform and the level of competition in modern athletics have never been greater. With more television exposure and the large amounts of money involved in professional sports, athletes are eager to attempt any measure to give them an advantage. In sports in which winners are distinguished from losers by hundredths of a second or by small differences in judges' ratings, it is easy to see how losing an extra few pounds or eating in the proper manner might be thought to provide a competitive edge.

The intense competition among today's athletes places an enormous burden on the individual athlete. Many athletes train or compete yearround, so few have the opportunity to pursue other interests. It is common to hear of athletes who have been groomed by parents and coaches from an early age to be elite performers; by the time such athletes reach their peak, they essentially have no life outside the sport. Given the pivotal role their sport plays in their life, it is not surprising that the pressure to gain any competitive edge is intense. Weight and eating patterns can often become the lightning rod for this pressure.

Athletes have many roles to fulfill (see Chapter 18). The days are numbered for the student-athletes who are students in name only. Colleges are under increasing scrutiny with respect to admissions standards, required curriculum, and graduation rates for athletes. Athletes, therefore, must function as students in addition to excelling at their sports.

ARE ATHLETES AT HIGH RISK?

The definitive answer to this question can only come from longitudinal studies in which athletes and nonathletes are followed for considerable periods of time. Such studies do not exist, as discussed in the chapter on the prevalence of eating disorders (Chapter 9). Therefore we must use other, less direct methods of answering this question.

Evidence from three sources converges to indicate that athletes are at increased risk for eating disturbances. First, given the known risk factors for eating disorders (as discussed above), athletes should be at increased risk. They exist in a highly competitive culture in which the manipulation of eating and weight is thought to be essential for both performance and appearance. The psychological characteristics associated with eating disorders, including perfectionistic standards, might be the very factors that drive some athletes to be as good as they are. Biological changes resulting from weight restriction can also interact with eating behavior to place a person at risk.

Existing studies on eating problems in athletes comprise the second source of information on this topic. These studies are discussed in detail in Chapter 9. Some studies show fewer problems or the same number of problems among athletes as in control groups, but more evidence shows significant problems. The precise prevalence of eating disturbances in athletes in various sports cannot be determined from existing data. The general picture one develops from reviewing the literature is that a problem does exist.

The third source of information is from the world of athletics. There is a growing consensus among those involved with athletics that there

is a problem. College athletics departments have begun establishing programs to identify and aid athletes with these problems. As mentioned above, the NCAA has launched an educational program on the eating disorders aimed at coaches, athletes, and athletic administrators.

For these reasons, it appears that athletes are at high risk. The chapters in this book discuss the sources of this risk, how risk becomes reality in specific individuals, the effects of these problems on behavior, health, and performance, and how the problems can be managed.

THE HIDDEN NATURE OF THE PROBLEM

Chapter 9 in this book integrates the literature on the prevalence of eating disturbances in athletes. The chapter shows that estimates of prevalence vary widely and that much of the necessary research has not been done. We would like briefly to present two of our own research experiences that illustrate how secret these problems can be.

In a study of female athletes, we administered a questionnaire to 110 elite athletes representing 7 different sports. Of the 87 respondents, none scored in the disordered eating range with a standardized questionnaire measure. Within 2 years following the study, 18 of the athletes had to receive either inpatient or outpatient treatment for eating disorders.

In the course of a similar study, this time with 9 amenorrheic and 5 eumenorrheic nationally ranked distance runners, 3 were identified with a standardized, validated questionnaire to have "possible" problems but did not have clearly diagnosable eating disorders based on their responses to the questions. Four of the 9 amenorrheic runners were subsequently diagnosed with anorexia nervosa, 2 with bulimia nervosa, and 1 with both. None of the 5 eumenorrheic runners was later diagnosed with eating disorders.

These experiences, although admittedly anecdotal, point to one of the central features of eating disturbances. All people who suffer from disordered eating are secretive. Athletes in particular might be reluctant to admit problems and might not respond truthfully to questionnaires. They carry the shame, guilt, and embarrassment of anyone with an eating disorder, but they are also extremely concerned that they will be discovered by coaches and teammates. They fear that discovery will lead to recrimination, troubled relationships with others, and even removal from competition. With increasing attention to, and concern about eating disorders among athletes, this secrecy could escalate.

A concerted effort is necessary to discover who has eating problems and how the problems affect the emotional and physical life of the athlete. Establishing an environment where athletes perceive a sensitivity to these secrecy issues and where they feel safe discussing their problems is one key to identification. Chapter 22 presents a series of methods to help athletes be open and to share their difficulties in a supportive context.