

A Review of *Solving the Anorexia Puzzle* by W. F. Epling and W. D. Pierce

J. Scott Mizes

Department of Psychiatry  
Case Western Reserve University  
School of Medicine

*Solving the Anorexia Puzzle* provides an overview of biological, psychological, and sociocultural perspectives on anorexia nervosa, as well as advances the authors' perspective regarding the potential existence of a subtype of anorexia they have termed "activity anorexia." A consistent theme in the work is to strongly de-emphasize (and criticize) person variables such as psychodynamic or cognitive perspectives, and to give greater weight to environmental variables. These include sociocultural influences on eating, body weight, and exercise, and most importantly, biological and motivational factors hypothesized to account for the activity anorexia pattern.

The book is organized into three parts. In Part I, the authors review various perspectives on anorexia nervosa, including the medical model and psychoanalysis, the social-cognitive model, and the behavioral model. A basic background is provided regarding the symptoms, physical sequelae, incidence, risk factors, and disease course of anorexia nervosa. Part I concludes with a review of what they classify as "Indirect" treatments for anorexia (i.e., psychoanalysis, insight oriented therapies, family therapy, and cognitive therapy), and "Direct" therapies (i.e., behavior therapy and medical intervention). The designation of "Direct" is bestowed on those therapies which directly effect changes in eating, exercise, and weight.

Part II represents the meat of the book in that it presents their model of activity anorexia. The chapters address the behavioral, motivational, and biological basis of the activity anorexia pattern, as well as the sociocultural conditions which initiate activity anorexia. Briefly, the model postulates that cultural values regarding weight and exercise result in the presence of reinforcement contingencies regarding these variables. The activity anorexia pattern is initiated when pronounced food restriction is combined with substantial increases in physical

AUTHOR'S NOTE:

Correspondence concerning this article should be addressed to the author at the Department of Psychiatry, MetroHealth Medical Center, Case Western Reserve University School of Medicine, Cleveland, OH 44109.

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activity. This situation results in the activation of two biological/motivational processes: marked decreases in food availability result in marked increases in physical activity; this increased physical activity decreases the reinforcement value of food and leads to decreased eating. A "multiplier" effect between these two processes occurs such that a spiral of decreasing eating and increasing physical activity results in severe starvation or death. Biological explanations of these processes are offered, including the evolutionary survival value of increasing physical activity during food scarcity (to find more food), and the effects of exercise and food restriction on endorphins. Via changes in the endorphin system, food becomes less reinforcing, and increasingly high levels of exercise are needed to achieve reinforcement via endorphin release. Several animal studies are reviewed to support these basic hypotheses.

Two general themes of this model merit mention. First, the DSM-III-R diagnostic criteria, as well as theoretical formulations of anorexia nervosa, conceptualize excessive exercise as a secondary characteristic which may occur in some anorectics. In Epling and Pierce's model, excess exercise is an essential component in the initiation and maintenance of activity anorexia. Secondly, the authors consistently attack the view of anorexia nervosa as a psychiatric/psychological condition. They offer the view that anorexia nervosa is due to biological processes "gone awry" after being activated by certain sociocultural conditions.

Part III outlines the application of the activity anorexia model to clinical assessment, treatment, and primary prevention. Guidelines for clinical assessment of activity anorexia are given, with an emphasis on a historical identification of a pattern of concurrent decreased food intake and increased physical exercise. Unfortunately, the authors do not offer a taxonomy of other potential subtypes of anorexia nervosa so that guidelines for differential assessment can be provided. Recommended therapies essentially consist of current medical and behavioral therapies used to increase food intake, decrease exercise, and achieve weight restoration.

The readership of *Behavior and Social Issues* will find much that is attractive about the book and the activity anorexia model. These include the clear de-emphasis of internal, person variable, hypothetical constructs, the emphasis on sociocultural contingencies as having a primary causal role in behavioral pathology, and the clear implication that engineering sociocultural change is needed to impact the incidence of that pathology. All those interested in anorexia nervosa, regardless of theoretical perspective or discipline, will benefit by the authors' analysis of potential biological processes that may be a part of this assuredly multi-determined disorder. Anyone who works clinically with anorectics has a ready perspective on how refractory anorexia nervosa is to rational persuasion and other "psychological"

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interventions, and will acknowledge the strong possibility of powerful biological factors which contribute to keeping the person "locked in" to the anorectic state.

Despite the utility of a biobehavioral perspective, the activity anorexia model and the authors' theoretical vantage point leads to some areas of difficulty. The authors' rehash of the person versus environment arguments is disappointing, especially given the evidence that behavior is best predicted by a combination of person and environmental variables. While one cannot argue with their call for a scientific analysis, all would not agree that key person variables in anorexia nervosa are not amenable to scientific analysis (with the appropriate behavioral referents).

The lack of consideration of person variables leads to several "holes" in their theory. For example, given the pervasive sociocultural pressure for thinness that is presumably present for all women, why do less than 1% develop anorexia nervosa? This question is even more salient given that the vast majority of women in our culture engage in a variety of food restriction and exercise behaviors. While Epling and Pierce might argue that some persons are biologically more susceptible to activity anorexia, this alone seems an insufficient explanation. The role of psychological vulnerabilities also must be considered.

Secondly, why is anorexia nervosa so difficult to treat successfully over the long term despite our ability over the short term to effect refeeding, reduction in exercise, and weight restoration? Epling and Pierce's presentation of the animal studies seems to suggest that restriction on exercise and re-introduction of food consistently "breaks" the animal out of the activity anorexia spiral. Clearly, this is not observed in human anorexia nervosa. Not only do anorectics frequently relapse after weight restoration, but they refuse to eat despite food availability, experience marked negative emotions upon ingestion of forbidden foods, and cling to grossly unrealistic standards of thinness that are not reinforced by the general sociocultural environment or their immediate interpersonal environment. Moreover, they consistently distort their perception of behavioral experiences and social responses to their weight and eating behavior. Fertile ground for seeking explanations of these behaviors would appear to be person variable psychological constructs that are clearly operationalized, whether they be fear of weight gain, dysfunctional cognitive responses, or other possible hypotheses. In short, the most sophisticated model of anorexia nervosa is likely to come, not from a biobehavioral viewpoint, but from a more comprehensive biopsychosocial perspective.

Separate from the particular concerns that some may have regarding the activity anorexia model, the book itself lessens its impact by not appearing clear on who is the intended audience. The book appears to attempt to address both lay readers and students, as well as to offer a comprehensive new theory to the scientific community. By trying to be all of these things, the book does not excel at any of them. Since the research on activity anorexia is in its infancy, the authors may wish to focus on providing evidence to the scientific community of the viability

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of the model before attempting a wider dissemination of their ideas. I for one look forward to further work on the activity anorexia model as one potential avenue for understanding biological variables in this most fascinating disorder.