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Everything You Need to Know about Anorexia Nervosa: An Overview

Definition of Anorexia Nervosa

How do you know if someone is anorexic? The first indication is physical appearance—a very skinny body, skinny enough to warrant further investigation. As a clinician, I can tell you that when you think someone might be anorexic, you need to follow through on your clinical hunch. Skinniness isn't always an indication of anorexia, but eating disorders are common enough to necessitate additional questioning. The hallmark of anorexia lies in a renouncement of eating that results in abnormally low body weight, prompted by a fear of getting fat and a markedly unrealistic perception of the body. It has been my clinical experience that it is very common for women to have unrealistic critical perceptions of their bodies and dissatisfaction with one thing or another—and, therefore, assessing for an eating disorder is largely within the realm of clinical evaluation. What follows is a composite of the numerous factors that contribute to a definitive diagnosis of anorexia nervosa.

To arrive at a diagnosis of anorexia nervosa, it is necessary to adhere to the criteria of the *Diagnostic and Statistical Manual of Mental Disorders*

(American Psychiatric Association, 2000) (*DSM–IV–TR*) for an Axis I diagnosis as part of a five-axis diagnosis. The *DSM–IV–TR* provides the following diagnostic criteria for anorexia nervosa (307.1):

A. Refusal to maintain body weight at or above a minimally normal weight for age and height (e.g., weight loss leading to maintenance of body weight less than 85% of that expected; or failure to make expected weight gain during period of growth, leading to body weight less than 85% of that expected).
B. Intense fear of gaining weight or becoming fat, even though underweight.
C. Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or denial of the seriousness of the current low body weight.
D. In postmenarcheal females, amenorrhea, i.e., the absence of at least three consecutive menstrual cycles. (A woman is considered to have amenorrhea if her periods occur only following hormone, e.g., estrogen, administration.) (American Psychiatric Association, 2000, p. 589)

In addition to the *DSM–IV–TR* criteria for the diagnosis of anorexia nervosa, it is necessary to consider additional clinical information as part of an overall understanding of the disorder as manifest in the presenting patient.

The word "anorexia" is derived from the Greek *an* (privation, lack of) and *orexia* (appetite) and is a term used to refer to a decrease in appetite or an aversion to food (Bell, 1985). Anorexia is an eating disorder identified by willful weight loss caused by extreme starvation, fear of becoming fat, and a distorted body size and image. It is a "treatment-resistant disorder," distinguished by denial (Hamburg, Herzog, & Brotman, 1996).

> It has been suggested that the actual name "Anorexia Nervosa" means "self-starvation." Its Latin derivation instead implies lack of appetite . . . [but] in fact patients do not lack an appetite but instead are purposeful in suppressing their eating in an attempt to become thin. (Vandereycken & van Deth, 1994, p. 1)

Included in a criteria for anorexia are the following:

> the intense fear of becoming fat, even when underweight; a disturbance in the individual's experience of her own body with respect to size; a refusal to maintain weight that is over the minimum for height and age; the absence of menstruation, a hyperactivity that is paradoxical to the emaciated condition, and odd manners of relating to food. (Vandereycken & van Deth, 1994, pp.1–2)

In 1972, J. P. Feighner and associates developed yet another criteria for anorexia nervosa (as cited in Bell, 1985). The Feighner symptoms are a benchmark for the evaluation and treatment of anorexia and were derived from empirical observation and statistical frequency. Included in the criteria are the following: a lack of appetite that is accompanied by a 25 percent loss of original weight; a distorted attitude toward food, eating, and weight that overrides hunger; a denial of illness, with a failure to recognize nutritional needs; unusual handling or hoarding of food; and an "apparent enjoyment in losing weight with overt manifestation that refusing food is a pleasurable indulgence" (Bell, 1985, p. 2). The weight loss and food refusal must not be attributed to another medical illness or to any other psychiatric disorder. Finally, "at least two of the following manifestations" need be to included: "(*a*) amenorrhea, (*b*) lanugo (soft, fine hair), (*c*) bradycardia (persistent resting pulse of 60 or less), (*d*) periods of overactivity, (*e*) episodes of bulimia (binge eating), and (*f*) vomiting (may be self-induced)" (Bell, 1985, p. 3).

According to Garner (2004), body image disturbance is one of the most common clinical features attributed to anorexia nervosa. Body dissatisfaction and strong concern about physical appearance precede the onset of anorexia, as evidenced in empirical studies. And it is interesting to note that anorexia has been explained in terms of a "fundamental perceptual deficit related to size estimation" and that body image is "multidimentional" and involves perceptual as well as attitudinal characteristics (Garner, 2004 p. 295).

There are two hypotheses regarding the nature of body image disturbance in anorexia: One is that it represents "a perceptual body size distortion wherein the patient misperceives the actual size of her body"; the second is that it is a "cognitive–evaluative disturbance composed of body dissatisfaction or disparagement" (Garner, 2004, p. 296). It was Hilde

Bruch, 30 years earlier, who identified "distorted body size perception as the main feature of anorexia" (Garner, 2004, p. 296).

Bruch (1973) described three outstanding symptoms that identify the anorexic. The first is a disturbance of "delusional proportions" regarding body image and body concept. "True anorexia" is marked by the stubbornness with which thinness is defended as normal and correct and is a security against the dreaded fat. "The true anorexic is identified with his skeleton-like appearance and denies its abnormality" (Bruch, 1973, p. 252). The second outstanding feature of the anorexic is a "disturbance in the accuracy of the perception or cognitive interpretation of the stimuli arising in the body," leading the anorexic to ignore the signs of hunger and nutritional need (Bruch, 1973, p. 252). There is an absence of awareness of hunger and a marked defensiveness about appetite. In addition to denial and "nonrecognition of hunger pains," a normal awareness of hunger and appetite is absent. The third feature is a "paralyzing sense of ineffectiveness" that overwhelms thinking and behavior, which manifests in patients as feelings of helplessness about themselves—they behave in a stubborn manner, negative and defiant, and respond to the demands of others rather than behaving some way because they really want to. In the treatment of anorexia, it is only when patients have developed trust in the therapist that it is possible for them to verbalize their awareness of bodily sensations such as hunger.

Anorexics are known to fear eating and to not be able to stop eating. The "curtailment of caloric intake" is a clinical symptom of anorexia, as are odd, disorganized eating practices (Bruch, 1973). Anorexics exhibit a nutritional disorganization of eating—that is, both a denial of appetite and an uncontrollable desire to gorge themselves without the awareness of hunger. The gorging is usually followed by induced vomiting and a marked fear of having lost control. When nutritional deprivation is in an advanced state, the body is treated as if it were experiencing a famine.

Anorexics are hyperactive despite their poor nutrition, and they deny a sense of fatigue when exercising to compensate for the minimal amount food they have ingested. They use self-induced vomiting, laxatives, enemas, and diuretics in attempts to get rid of the unwanted food that may have been eaten, and disturbances in the cognitive awareness of body sensations may be responsible for such behaviors (Bruch, 1973).

History of Anorexia Nervosa

The phenomenon of anorexia nervosa in women has been around for a very long time. The history of anorexia began with women using self-imposed starvation as a means of asserting their piety. In fact, the first recorded death from anorexia dates back to 383 A.D., when a Roman aristocrat starved herself to death as a renouncement of the material world. So began the recorded history of women's use of disordered eating as a means of achieving a cultural ideal (Bemporad, 1997).

Many of the first anorexics were saints. During medieval times, female saints and mystics were "miraculously" able to survive without food and appetite (Gamwell & Tomes, 1995). The most famous anorexic saint was Catherine of Siena (1347–1380), who was known to have only eaten herbs and twigs. Columba of Rieti, a 15th-century saint, died of self-starvation by refusing to eat and actually covering her face at the sight of food. In the 17th century, St. Veronica was known to have eaten no food for three days at a time and on Fridays chewed on five orange seeds in memory of the five wounds of Jesus (Brumberg 2000). Religious anorexics of the period relied on prayer and the Christian Eucharist for sustenance.

By the 17th and 18th centuries, physicians became aware of anorexia-like phenomena among religious middle-aged women. These were known as "prodigiosa," or great starvation, and "anorexia mirabilis"—a miraculously inspired loss of appetite.

The earliest medical case of anorexia as described by a physician was cited by Richard Morton in 1686 (Bell, 1985). In his *Phthisiologia: or a Treatise of Consumptions,* Morton narrated his treatment of an anorexic 20-year-old girl, whom he described as looking "like a Skeleton only clad with Skin" (Bell, 1985, pp. 3–4). It was noted that there were no medical symptoms such as fever but a diminishment of appetite, "uneasy digestion, and fainting." The patient refused all medication offered by Morton and expired within three months. Morton was perplexed by the fact that the girl preferred to have starved herself rather than receive medical treatment, indicating that there was an emotional and psychic basis to the nervous disorder.

According to Brumberg (2000), anorexia nervosa was named and identified in the 1870s, and the "birth" of the disease in the Victorian period was reflective of changes in society at that time that had consequences for

women. In Brumberg's view, anorexia is a "historically specific disease" that was the result of an economic and social environment. During the Victorian era, anorexia was a side effect of the fostering of bourgeois values that included gender and class distinctions.

Such behavior carried over to 19th-century America, where self-induced starvation was met with a public reaction of awe and fascination, and the women were referred to as "fasting girls" (Brumberg, 2000). Neurologists of the time proclaimed their disapproval of such behavior and viewed it as a manifestation of religious fanaticism or hysteria. Gamwell and Tomes (1995) contended that American society's enchantment with starvation seemed to mirror a larger societal association of femininity with madness, spirituality, self-sacrifice, and death. In the later part of the 19th century, medical professionals became aware of a phenomenon among upper-middle-class young women who fasted as a means of expressing control and power over their own lives. Women of those times had little control over their lives, so starvation and fasting became a way of exerting autonomy and, thus, rebelling against parental dictates and patriarchal control.

Before that period, anorexia was viewed as a religious phenomenon, but with industrialization, a shift took place in which it came to be viewed from a medical and pathological perspective. According to Brumberg (2000), there is a distinction between previous forms of "fasting behaviors"—as manifest by medieval saints such as Catherine of Siena—and the current form of anorexia nervosa. The saints did die of starvation, and did so by a willful refusal to eat, but they did so for religious reasons as part of a "penitential program." Brumberg has taken issue with historians who claim that "anorexia mirabilis" and anorexia nervosa were the same thing, saying that although sufferers of both eventually experience an inability to eat, the motivating factors prompting them to get to the point of becoming unable to eat are quite different. The saint or ascetic who stopped eating for spiritual reasons was quite different from the woman who used starving behavior to seek female autonomy from patriarchal societal forces.

In the case of the modern-day manifestation of anorexia, upward of 90 percent of all cases of anorexia nervosa are among girls and women (Vandereycken & van Deth, 1996). Brumberg (2000) stated that 90 to 95 percent of anorexics are young, female, and from middle- or upper-class families. Moreover, among young women and adolescent girls, there is an

ever-increasing number of eating disorders, with as many as 5 to 10 percent affected. On college campuses, possibly 20 percent of female students are affected. Anorexia nervosa in boys and men presents a "different clinical picture" (Brumberg, 2000).

Comorbidity of Anorexia Nervosa with Psychiatric Disorders

Comorbidity with Obsessive–Compulsive Disorder

In addition to being diagnosed with anorexia nervosa, a patient may in fact present with other clinical disorders. As part of a thorough psychiatric evaluation, it is imperative to familiarize yourself with the comorbid disorders that appear along with anorexia. In my clinical experience, obsessive–compulsive disorder (OCD) as a comorbid condition occurs with considerable frequency. OCD is an anxiety disorder characterized by recurring thoughts or impulses that the person is unable to ignore and repetitive behaviors that intrude on functioning. Anorexics consistently manifest obsessive–compulsive behaviors, with particular emphasis on orderliness and control.

The *DSM–IV–TR* criteria for OCD (300.3) are the following:

A. Either obsessions or compulsions:

Obsessions as defined by (1), (2), (3), and (4):

(1) recurrent and persistent thoughts, impulses, or images that are experienced, at some time during the disturbance, as intrusive and inappropriate and that cause marked anxiety or distress

(2) the thoughts, impulse, or images are not simply excessive worries about real-life problems

(3) the person attempts to ignore or suppress such thoughts, impulses, or images, or to neutralize them with some other thought or action

(4) the person recognizes that the obsessional thoughts, impulses, or images are a product of his or her own mind (not imposed from without as in thought insertion)

Compulsions as defined by (1) and (2):

(1) repetitive behaviors (e.g., hand washing, ordering, checking) or mental acts (e.g., praying, counting, repeating words

silently) that the person feels driven to perform in response to an obsession, or according to rules that must be applied rigidly

(2) the behaviors or mental acts are aimed at preventing or reducing distress or preventing some dreaded event or situation; however, these behaviors or mental acts either are not connected in a realistic way with what they are designed to neutralize or prevent or are clearly excessive

B. At some point during the course of the disorder, the person has recognized that the obsessions or compulsions are excessive or unreasonable. Note: This does not apply to children.

C. The obsessions or compulsions cause marked distress, are time consuming (take more than 1 hour a day), or significantly interfere with the person's normal routine, occupational (or academic) functioning, or usual social activities or relationships.

D. If another Axis I disorder is present, the content of the obsessions or compulsions is not restricted to it (e.g., preoccupation with food in the presence of an Eating Disorder; hair pulling in the presence of Trichotillomania; concern with appearance in the presence of Body Dysmorphic Disorder; preoccupation with drugs in the presence of Substance Use Disorder; preoccupation with having serious illness in the presence of Hypochondrias; preoccupation with sexual urges or fantasies in the presence of Paraphillia; or guilty ruminations in the presence of Major Depressive Disorder).

E. The disturbance is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition.

Specify if:

With Poor Insight: if, for most of the time during the current episode, the person does not recognize that the obsessions and compulsions are excessive or unreasonable (American Psychiatric Association, 2000, pp. 462–463)

It has been my clinical experience that anorexic patients present with symptoms of OCD and demonstrate numerous manifestations of obsessions, which may include the following: constant thinking about the body

in terms of size and thinness; self-reported obsession with what they plan to eat, what they have eaten, and what foods they will avoid; comparing themselves to others (models, famous people, acquaintances, family members); thoughts about clothing size and what pieces of clothing they would wear if only they were thinner; and wearing the same article of clothing over and over again at the exclusion of another choice.

Compulsions, as prevalent in anorexic patients, are manifest in the following examples of repetitive behaviors: weighing oneself over and over again, eating the same foods, carefully excluding specific foods, methodically counting the amount of food (for example, counting out individual peas, pieces of pasta, or beans), and engaging in food preparation and eating rituals.

I had the opportunity to discuss the comorbidity of anorexia nervosa and other psychiatric disorders with Eric Hollander, a psychiatrist well known in the field for his research and practice. Hollander affirmed that OCD and anorexia nervosa are largely comorbid. He stated that for anorexics, there exists a strong need for control and for things to be their way (personal communication, June 8, 2010).

Within the category of OCDs, a "fixity of beliefs" contributes to the treatment-resistant nature of anorexia nervosa (Hollander & Wong, 2000). The symptoms include anorexics' marked preoccupation with the appearance of their bodies and subsequent behaviors that help decrease the anxieties that are prompted by their preoccupations. Anorexia patients are known to manifest an average of 10 obsessive–compulsive concerns that are not related to their weight, image, diet, or food preparation, and they experience an increase in obsessional behavior when they are starving that continues even when they gain some weight.

Comorbidity with Obsessive–Compulsive Personality Disorder

In my clinical experience, anorexia nervosa is also comorbid with obsessive–compulsive personality disorder (OCPD). OCPD differs from OCD insofar as it is an Axis II classification distinguished by "maladaptive personality features" that include a pattern of preoccupation with perfectionism and orderliness (American Psychiatric Association, 2000).

The following are the *DSM–IV–TR* criteria for OCPD (301.4):

A pervasive pattern of preoccupation with orderliness, perfectionism, and mental and interpersonal control, at the expense of flexibility, openness, and efficiency, beginning by early adulthood and present in a variety of contexts, as indicated by four (or more) of the following:

(1) is preoccupied with details, rules, lists, order, organization, or schedules to the extent that the major point of the activity is lost
(2) shows perfectionism that interferes with task completion (e.g., is unable to complete a project because his or her own overly strict standards are not met)
(3) is excessively devoted to work and productivity to the exclusion of leisure activities and friendships (not accounted for by obvious economic necessity)
(4) is overconscientious, scrupulous, and inflexible about matters of morality, ethics, or values (not accounted for by cultural or religious identification)
(5) is unable to discard worn-out or worthless objects even when they have no sentimental value
(6) is reluctant to delegate tasks or to work with others unless they submit to exactly his or her way of doing things
(7) adopts a miserly spending style toward both self and others; money is viewed as something to be hoarded for future catastrophes
(8) shows rigidity and stubbornness (American Psychiatric Association, 2000, p. 729)

In my experience with anorexic patients, many of the characteristics of OCPD occur with frequency—most commonly, preoccupation with perfection (that is, a perfect, skinny body); preoccupation with food in terms of quantity and details; overconscientiousness regarding "skinny" as a value; and manifestation of a rigid, stubborn, and willful disposition toward eating in a disordered manner. According to Hollander (personal communication, June 8, 2010), the comorbidity of anorexia nervosa with OCPD occurs with considerable frequency, manifest in rigidity and a marked need for control.

Comorbidity with Body Dysmorphic Disorder

In my clinical experience, comorbidity of body dysmorphic disorder occurs with considerable frequency in anorexic patients. I have found that in addition to anorexia, patients call attention to something additionally wrong with or imperfect about their bodies—something that is difficult for the clinician to observe but that they insist exists. Body dysmorphic disorder is marked by a preoccupation with an imagined physical defect.

The *DSM–IV–TR* provides the following criteria for body dysmorphic disorder (300.7):

A. Preoccupation with an imagined defect in appearance. If a sight physical anomaly is present, the person's concern is markedly excessive.
B. The preoccupation causes clinically significant distress or impairment in social, occupational, or other important areas or functioning.
C. The preoccupation is not better accounted for by another mental disorder (e.g., dissatisfaction with body shape and size in Anorexia Nervosa). (American Psychiatric Association, 2000, p. 510)

Patients suffering with body dysmorphic disorder are tormented by their preoccupation with and doubt about their appearance. As early as 1891, Enrico Morselli, an early psychopathologist, noted a relationship between body dysmorphic disorder and OCD (Phillips, 2000). He observed an obsessive preoccupation with deformity and a compulsiveness to behaviors such as checking one's appearance in the mirror.

In my clinical experience, patients with anorexia nervosa consistently have a distorted body image and a preoccupation with imagined or exaggerated deformity. At the very least, they are convinced that they are fat, see themselves as fat, and refuse to accept any questioning of the validity of their perceptions. There is no convincing them otherwise. In addition, there are perceived imperfections that are either exacerbated in their descriptions or do not exist at all. It is not unusual to witness perfectly normal, attractive women describe themselves as inordinately ugly, pointing

out features that are the source of their distress. Subjectivity aside, they are convinced that the abnormalities exist and are angered by any disputing of these "facts."

Disturbed body image is a basic integrant in eating disorders as well as body dysmorphic disorder. Many times, anorexic patients think of themselves as fat even though they are extremely thin and obsess about their distorted body image. Eating disorders are known to manifest distortion of perception and, more frequently, body dissatisfaction. The similarity between body dysmorphic disorder and anorexia nervosa is that both have pronounced obsessive and compulsive features that are part of an obsessive–compulsive "spectrum" (Allen & Hollander, 2004).

These findings validate my clinical experience, in which obsessive–compulsive and body dysmorphic tendencies have been consistently manifest in anorexic patients. The obsessions of my eating-disordered patients have included apprehension about getting fat; preoccupation with and pronounced focus on their dissatisfaction with their weight and the shape of their body; and distress about managing their perceived flaws through diet, food management, exercise, or purging (Allen & Hollander, 2004). Even after substantial remission of their anorexia nervosa, obsessive and compulsive traits remain in patients. The obsessions manifest themselves in the form of eating rituals, exercise, or purging. Allen and Hollander (2004) have also noted that insightfulness or deluded perceptions affect treatment and are manifest in patients having either a distorted sense of their bodies or magnified beliefs about their appearance, such as the belief that others are hyperaware of their physical imperfections.

Research has found that psychotropic therapy with selective serotonin reuptake inhibitors (SSRIs) has been helpful in the treatment by reducing body image disturbances and, thus, reducing the time patients devote to and are distressed by obsessions and compulsions. In severely underweight patients, medication is not the best treatment and at times does not work because it does not help to increase weight, nor does it help in the treatment of the comorbid depression or obsessive–compulsive behaviors. In fact, the use of medication to address obsessive–compulsive symptoms and treat depression should occur only after the medical and nutritional crisis has been stabilized (Allen & Hollander, 2004).

Anorexic patients manifest an overestimation of body size that may be caused by "visual misperception," a theory purported by Garner (2004). In anorexics, size misrepresentation is based on "particular thoughts and feelings" and is a function of memory, not perception. Thus, smaller sizes are "inherently harder to estimate accurately," as in the example of how much more difficult estimating the width of a pencil is than estimating the width of a desk; in addition, body size overestimation may be an "information-processing bias that reflects a cognitive judgment rather than a perceptual event" (Garner, 2004, p. 298).

Comorbidity with Depression and Anxiety

My experience has also attested that depressive and anxiety disorders are at times comorbid with anorexia nervosa. Patients present with additional symptoms, such as those consistent with a depressive disorder or an anxiety disorder, that warrant treatment. When present, they exacerbate each other, creating a dual focus that makes treatment more difficult.

Under the heading of "mood disorders," the *DSM–IV–TR* categorizes depressive disorders, Axis I conditions, of which major depressive disorder, single episode and major depression, recurrent have the following criteria in common:

A. Five (or more) of the following symptoms have been present during the same 2-week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood or (2) loss of interest or pleasure.
   Note: Do not include symptoms that are clearly due to a general medical condition, or mood-incongruent delusions or hallucinations.
   (1) depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad or empty) or observation made by others (e.g., appears tearful).
   Note: In children and adolescents, can be irritable mood.
   (2) markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation made by others)

(3) significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day.
Note: In children consider failure to make expected weight gains.
(4) insomnia or hypersomnia nearly every day
(5) psychomotor agitation or retardation nearly every day (observed by others, not merely subjective feelings of restlessness or being slowed down)
(6) fatigue of loss of energy nearly every day
(7) feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick)
(8) diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others)
(9) recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide. (American Psychiatric Association, 2000, p. 356)

If a patient fits the criteria for a depressive disorder, it is necessary for the patient to be evaluated by a psychiatrist to determine whether hospitalization or psychopharmacological outpatient treatment is warranted to treat the depression. Any suicidal ideation, plan, or attempt is in fact a crisis that warrants immediate hospitalization without compromise. When the patient is eventually released from the hospital and is no longer in crisis, it is necessary to work very closely with the treating psychiatrist if outpatient treatment for depression as a combination of medication management and psychotherapy is indicated. Compliance regarding taking medication can be an issue with anorexic patients, exacerbated by their fear of weight gain as a side effect of certain psychotropic medications. It is imperative to enlist the support of family when patients are treated on an outpatient basis, because willful noncompliance with medical treatment is a possibility to be taken seriously.

According to the *DSM–IV–TR* (American Psychiatric Association, 2000, see pp. 429–484), anxiety disorders are specific categories of mental disorder that include the following: panic disorder without and with agoraphobia, agoraphobia without history of panic disorder, specific phobia, social phobia, OCD, posttraumatic stress disorder, acute stress disorder, generalized anxiety disorder, anxiety disorder due to a general medical condition, substance-induced anxiety disorder, and anxiety disorder not otherwise specified.

In the treatment of anorexia, the symptoms of anxiety and depression are separate, coexisting conditions that reinforce the negativity of the symptoms of anorexia and, thus, contribute to the difficulty of treatment. In anxiety disorders, there is a marked hypervigilance toward information that is perceived as a threat and, without awareness, the anticipation of future negative occurrences. Depression, alternatively, is characterized by a memory selectivity that recalls negative experiences, anticipates negative experiences, and results in a decrease in positive anticipations. Both comorbid conditions can be managed with psychopharmacological intervention and the use of psychotropic medication in conjunction with psychotherapeutic treatment (Stein & Hollander, 2002).

Some Explanations of the Causes of Anorexia Nervosa

The Psychological Model as an Explanation of Anorexia Nervosa

There are a multitude of explanations of anorexia, one of which is the psychological model. Within the psychological model are psychoanalytic theory and family systems theory, in which anorexia is viewed as an adolescent pathological response to development. Starvation is a manifestation of autonomy, individuation, and sexual development (Brumberg, 2000).

From a psychoanalytic perspective, according to Sigmund Freud, an anorexic girl is afraid of becoming a woman and afraid of heterosexuality. Freud saw anorexia as melancholia with underdeveloped sexuality. Eating and appetite are both expressions of libido and sexual drive (Brumberg, 2000). In another explanation, anorexia is viewed as the inability to cope with the psychological and social consequences of adulthood in addition

to sexuality and a sense of anxiety about identity. Controlling what one can or cannot eat becomes a substitute for control over the seemingly uncontrollable life tasks of adolescence (Bruch, 1973).

Additional research indicates that body image development in adolescence is critical to later self-esteem and affects the likelihood of body dissatisfaction that leads to eating disorders. Girls gain about 50 additional pounds during puberty, appearing on their hips, thighs, buttocks, and waist. Research suggests that because the weight of that normal gain is not consistent with what is considered a cultural ideal, girls experience an increase in dissatisfaction and, thus, pursue thinness. What is interesting is that although it is normal for adolescents to be dissatisfied with their bodies as they are evolving and growing, boys who are equally dissatisfied instead tend to gain weight by means of exercising to increase the size of their arms, chests, and shoulders, unlike girls, who are focused on losing weight (Levine & Smolak, 2004).

It has been found that after puberty, many girls experience dissatisfaction with their bodies even though they are of normal or less-than-normal weight, particularly because of their beliefs about the importance of body shape and weight. Furthermore, body image is the most important factor in self-esteem, and negative body perceptions are associated with low self-esteem, depression, anxiety, and obsessive–compulsive behaviors. For adolescent girls, dieting and purging behaviors are the result of dissatisfaction with their body weight and/or shape. Adolescent girls across cultures attribute blame to a "market-driven mass media" that causes the "internalization of a slender beauty ideal" (Levine & Smolak, 2004, p. 79). It is, therefore, fashion magazines, the entertainment press, and situation comedies that influence young girls with their images of thinness, a widely held ideal that contradicts what is happening to their bodies naturally. These girls are further confused by messages that encourage the consumption of unhealthy foods and unhealthy drinks, even though they are expected to be thin. Adolescent girls experience a constant struggle with the cultural standards of thinness and endless comparisons to women on television and in magazines while they are confused and dissatisfied with their own bodies on the basis of a confused sense of themselves.

It has been also suggested that the family affects an adolescent girl's sense of herself; the way parents behave and their attitudes about their

own bodies influence and correlate with the body images of their adolescent daughters. Levine and Smolak (2004) indicated that teasing by family members, and specifically by brothers, has a negative effect on girls' body dissatisfaction, regardless of whether actual thinness is an issue.

Peers also have an effect on self-esteem, with girls engaging in "fat-talk" discussions in which they verbalize anxiety about gaining weight, reinforcing their sense of peer contempt. To that end, girls are known to associate with girls who have similar perceptions about their own bodies and voice similar subsequent complaints. In sum, young women are preparing themselves for a lifetime of comparisons because their bodies are meant to be "looked at, evaluated, possessed by men and, in general, treated as . . . object[s]" (Levine & Smolak, 2004, p. 81).

There is a phenomenon described by Rodin and colleagues (as cited in Striegel-Moore & Franko, 2004) called "normative discontent," in which women and girls alike regard their bodies negatively. Rodin and colleagues also found that "body image concerns" and disturbances in the perceptions, attitudes, and feelings that women have about their bodies can cause long-term psychological problems. Given that weight gain is a normal part of puberty, negative preoccupation with appearance is largely a result of internalization of thinness as a beauty ideal by the culture and, therefore, in a comparative process, girls seldom feel that they measure up to the ideal and become dissatisfied with themselves. This seems to be true despite the fact that attaining an ideal body is possible for only a few, and the greater the weight of the girl, the more likely she will experience dissatisfaction with her body even when her weight is actually within the normal range. Further, researchers have found that concern over one's body appearance actually contributes to weight increase because a cycle of dieting and purging usually follows in an attempt to control body weight (Striegel-Moore & Franko, 2004).

Evolution plays a part in explaining why women experience weight preoccupations. Beautiful women are associated with health and part of the natural selection that secures the survival of the species. Cultures that have a limited food supply prefer women who have larger bodies, yet the Western ideal of beauty is thinness. Sociocultural issues contribute to the thin ideal and present three factors: (1) the stigma of obesity, (2) the cultural idealization of thinness, and (3) the fact that physical appearance is the

fundamental component of femininity. It is thinness that is held as the hallmark of current cultural beauty standards. Further, obesity is viewed as a character flaw, because it is "voluntary" and caused by a woman's failure to control her own urges. Yet there are rising cultural factors that make it more difficult for women to achieve thinness: decreases in physical activity due to increases in sedentary "leisure activities" and increases in fast food consumption and portion sizes (Striegel-Moore & Franko, 2004).

Losing weight not only alters the size of the body but—in addition, and more important—affects social status from an economic perspective and an interpersonal perspective. In response, more drastic means of altering the body, such as cosmetic surgery and similar procedures, are widely accepted because the body is perceived as "malleable" and predisposed to such alteration (Striegel-Moore & Franko, 2004). Girls learn quickly that cultural ideals are the expected standard, and "self-monitoring" and improvement behaviors are considered the norm (Striegel-Moore & Franko, 2004). The issue of body image problems for women continues throughout the lifespan and is manifest during pregnancy and the postpartum period and then again during the period of menopause. Anorexia and eating disorders are a logical consequence of the pressures placed on women to conform to cultural ideals.

The phenomenon of viewing ourselves according to the feedback we receive from others and the evaluative significance we place on the opinions of others contributes to anorexia. "Interpersonal processes" affect the process of body image development that includes a "reflected appraisal," "feedback on physical appearance," and "social comparison" (Tantleff-Dunn & Gokee, 2004, p. 109). It is the judgment of others that affects the way we perceive ourselves. Research has demonstrated that women who compare themselves with others by means of "social comparison" experience more pronounced body dissatisfaction (Tantleff-Dunn & Gokee, 2004). In particular, a predisposition to compare oneself with others is a critical factor in body image problems. Further, the more one is dissatisfied with one's own body, the less one experiences satisfaction in relationships. Anorexia and eating disorders are a logical consequence when esteem is based on the perceptions of others. The perceived opinions of strangers have an impact on body image because women conceive of how they should look according to an imagined ideal based on sociocultural directives, and these lead

to increased eating disorders. In sum, body image is affected by the assessment and judgment of others and is, therefore, negatively influenced and a precipitant to image disturbances that lead to eating disorders (Tantleff-Dunn & Gokee, 2004).

Another interesting explanation for anorexia is that childhood experiences affect the ability to discern physical and emotional states. It is in childhood that one learns self-reflection and the ability to communicate feelings and experience the body through a caregiver's ability to be in tune with and respond with empathy to the child. Problems occur later in life if the child cannot develop an accurate sense of body due an inability to think in an abstract manner and is "self-referential" rather than "self-reflective." This translates into a later state of disorganization that leads to a focus on the body that manifests in eating disorders (Krueger, 2004).

In a study conducted in Australia, Mussap (2007) researched what he deemed the "motivational processes" that underlie unhealthy body changes as manifest in eating disorders among women. His findings revealed that there was an underlying sensitivity to punishment rather than to reward that motivated the desire to be thin. The manifestation of a "fear of fatness" contributed to unhealthy "body change attitudes and behaviours" (Mussap, 2007, p. 423). Mussap found that women who were fearful and risk averse were more likely to behave in an unhealthy way with respect to their bodies to avoid the negativity associated with "fatness."

Some Biomedical Explanations of Anorexia Nervosa

In researching possible biomedical causes of anorexia nervosa, I had the opportunity to ask Eric Hollander what he believed to be the cause of the disorder (personal communication, June 17, 2010). He explained that in anorexia nervosa, there is a dysfunction of the serotonin system—a deregulation of the serotonin receptors that, in his words, "are out of whack in some people with compulsive behaviors." He went on to explain that there is a possible causative link between strep infections in childhood and anorexia. He said that some of the research indicates that following a strep infection, excessive amounts of antibodies affect some areas of the brain that can later be manifest in compulsivity, as is the case with eating disorders. Such syndromes are known as pediatric autoimmune neuropsychiatric disorders associated with strep and are the subject of ongoing research.

According to Hollander, the use of SSRIs in treating OCDs, as present in anorexia, has had positive results.

Another biomedical explanation purports that anorexia is the result of deviance in biological processes generated by an organic cause referred to as "somatogenesis." In addition, endocrinological and neurological abnormalities such as hormonal imbalances, dysfunction in the satiety center of the hypothalamus, lesions in the limbic system of the brain, and irregular output of vasopressin and gonadotropin have also been found to exist in anorexic patients (Brumberg, 2000).

According to Brumberg (2000), the National Institutes of Health have reported research that found that patients with anorexia oversecreted CRH, a corticotropin-releasing hormone produced in the hypothalamus that travels first to the pituitary and then to the adrenals to make cortisol. The excess production of cortisol occurs as a response to fear and stress. Brumberg (2000) concluded that there is no "definitive answer" to the "puzzle of anorexia" but that anorexia is associated with organic abnormality, with the hypothalamus being "the most plausible site for the origin of the dysfunction" (p. 27). The hypothalamus controls homeostatic processes such as circulation, respiration, food and water intake, digestion, metabolism, and body temperature. It is sensitive to "cultural patterning," and environmental stress can result in "emotional arousal and neuroendocrine changes" and may lead to pathologic changes in the organism (Brumberg, 2002). The cause of anorexia is unclear, but three possibilities exist: (1) Starvation may damage the hypothalamus, (2) psychic stress may interfere with hypothalamus functioning, or (3) the manifestations of anorexia may be independent expressions of a "primary hypothalamic defect of unknown etiology" (Mecklenburg et.al., as cited in Brumberg, 2002, p. 27).

Somatic conditions "from blockages in the alimentary system to hormonal imbalances" cause aversion to food (Bell, 1985, p. 2). The hypothalamus controls such things as appetite, fatigue, pain, and sexual desire, and anorexics do not necessarily suffer a "loss of appetite," but they do not eat enough to be healthy (Bell, 1985).

Swedish researchers have found that female sex hormones in the womb may have something to do with the fact that anorexia is 10 times as common in women as it is in men (Procopio & Marriott, 2007). The study was

conducted with 4,226 pairs of female twins, 4,451 pairs of male twins, and 4,478 pairs of opposite-sex twins born form 1935 to 1958 and found 51 cases of anorexia among the female twins, three among the male twins, and 36 among the opposite-sex pairs. The interesting finding was that in the opposite-sex pairs, 16 cases of anorexia were found among men, reflecting no difference statistically from the risk for women. The study indicated that the "shared intrauterine environment" was what led to the increased risk for male twins. Female sex hormones may influence neurodevelopment and later risk for anorexia, and males in that uterine environment would be similarly affected (Procopio & Marriott, 2007). The lead author of the study, Marco Procopio, a research fellow at the University of Sussex in Brighton, England, has warned about the dangers of anorexia and stressed that it is necessary to be aware of its early signs.