

Are Eating Disorder Genetic?

Phenotypic Traits and the Psychotherapeutic Treatment of Eating Disorders

Contributed by Emmett R. Bishop, Jr., MD

A question I frequently hear in eating-disorders treatment settings is, “Why do some people develop eating disorders while others don’t?” Not understanding the possibilities that lie within the answers to this question is a source of great pain for many patients (and their families) who suffer from eating disorders, and it can leave behind destructive emotions and feelings of self-doubt that run deep.

The answer to that frequently asked question is, at least in part, related to genetic factors. Because research in this area is only beginning to elucidate the connection between genes and eating disorders, there is still much to understand. What we do know is that eating disorders *are* highly heritable. But what, exactly, is inherited?

The answer may lie in the ability to identify phenotypic traits of the personality, such as cognitive style, temperament and character. Substantial evidence exists to support the theory that phenotypic traits are the result of expression of genes under environmental influence.

Words and phrases used to describe individuals with eating disorders often include *perfectionism*, *negative emotions*, *obsessive thinking*, *anxiety proneness* and *compulsive behaviors*. *Impulsivity* is an added descriptor for bulimic persons. Interestingly, there is always evidence that these traits were present in the individual prior to the onset of an eating disorder, and the traits persist still after recovery.

Take for example that an estimated 40 percent of individuals with anorexia or bulimia demonstrated symptoms of anxiety before the onset of their eating disorder, and women who are recovered from anorexia or bulimia still display temperament and character traits that distinguish them from a control group of women who haven’t suffered from eating disorders. In the latter, even though the disordered eating behavior had gone, personal vulnerabilities that could continue to stifle existence remained.

When we consider studies on the treatment of all types of eating disorders, we see a trend of relatively high relapse rates at longer-term follow-up regardless of the employed therapeutic strategy (i.e., cognitive behavioral therapy, interpersonal psychotherapy or other, etc.); at 12 months follow-up, relapse rates can be greater than 40 percent.

Based on my own personal research and clinical experience, I believe that high relapse rates are related to at least two significant factors: 1) unregulated emotional drives emanating from extremes of temperament, and 2) low levels of character development, especially in self-directedness.

There is considerable research around the Temperament Character Inventory (TCI), an instrument that measures four dimensions of temperament and three dimensions of character. Temperament dimensions are: novelty seeking, harm avoidance, reward dependence and persistence. Character dimensions are: self-directedness, cooperativeness and self-transcendence. The TCI and its predecessor, the Tridimensional Personality Questionnaire (TPQ), have been used for extensive study in eating-disordered patients.

These studies show that those with eating disorders display an increased harm avoidance temperament—they overestimate the risk of hurt and overreact to cues of dangers such as “unsafe” foods or weight gains. Restrictive anorexia and bulimic individuals typically sort along the continuum of low to high novelty seeking, with bulimic persons having higher novelty seeking scores.

Novelty seeking scores reflect individual differences in attraction to unfamiliar stimuli and the activation of approach behavior. Reward dependence, an indicator of social sensitivity, is not consistently associated

with eating-disorder diagnoses except that it is low in male anorexics. However, it can significantly impact treatment issues such as therapeutic alliance. Anorexic individuals may show high persistence (i.e., perseverance in the face of frustration), which may interfere with their shifting mental sets or acting flexibly when a different orientation is more appropriate—healthier.

Temperament differences among people are determined by individual variations in perception of physical sensations as well as individual variations in processes of selective attention and emotional salience. This means that, in a sense, two people with differing temperaments see the world through two different lenses.

Temperament is the manifestation of heritable biases in the brain that determine the importance of incoming sensory information; importance is based on whether or not information is deemed as relevant to the self. Individuals have different responses to what is learned outside conscious awareness, pre-conceptually or implicitly, and habits are formed along the several dimensions describing temperament—novelty seeking, harm avoidance, reward dependence and persistence. “Temperament describes what grabs our attention and how intensely we respond” (Cloninger, 2004).

Character dimensions shown by the TCI can explain many of the treatment challenges and personality problems encountered by those suffering from eating disorder. Different personality disorders have unique permutations of temperament dimensions, but temperament has little to do with maturity level or personality disorder.

Treatment challenges largely relate to the character dimensions of personality, as that determines how a person manages the emotional drives emanating from temperament dimensions. In general, the maturity level of an individual can be measured by the sum of the self-directedness and cooperativeness scores in the TCI. However, most personality disorders have low self-directedness in common. Thus, low self-directedness is associated with both personality and eating disorders. Low cooperativeness is also frequently encountered in those who are considered personality disordered. Eating disorders are often accompanied by lower self-transcendence scores, which reflect a pervasive disconnectedness from other persons and the surrounding world.

Newer therapies address some of the stickier issues of modern affective neuroscience. As genetic research informs us that temperament and even character dimensions have significant heritable components, psychotherapy is forced to take a different slant. Therapies that aim to change mental content are less useful and less efficient. On the other hand, newer therapies that focus on functional analysis, acceptance and self-transcendence, and facilitate awareness of one’s true nature, can move rapidly beyond mental content struggles.

Rather than changing the contents of the mind, the aim is to find coherence and, simultaneously, wellbeing. Coherence is obtained by recognizing and releasing our resistance to the natural order of things and letting go of struggles we have with our own nature (e.g., the genetic hand we were dealt or our prior conditioning).

To transcend the automaticity of our genetically biased outlook and conceptualized self, we must see ourselves with our core values as we are in reality. The self is often defined as what is enveloped by the skin, or it’s considered roughly what is subsumed under ego identity. A simpler way of describing the self is how we conceptualize ourselves by our prior conditioning and autobiographical memory.

This conceptualized self can be contrasted to the self-as-process and the self-as-context. Most adults relate more to the conceptualized self—especially those with eating disorders. It is the conceptualized self that torments us with idealized images of who we should be. The conceptualized self, when it is so discrepant from our true nature, is essentially a “false self.”

With the self-as-context, one identifies with one's self-awareness as the observer of one's mental contents, not the mental contents themselves. It is the understanding that thoughts are not external reality but products of the mind, which may or may not have some quasi-survival purpose. As such, thoughts are not our identity but rather just content of the mind, and they may or may not be useful in terms of serving our valued life goals and purposes. Identifying with the self-as-context might be considered to be an act of self-transcendence or mindfulness.

Most people with eating disorders lack mindfulness and are marked by incoherence; both lead to increasing distress levels. Life becomes increasingly about managing emotions—escaping from negative feelings and pursuing the promise of positive ones. These individuals have increasing wishful thoughts about becoming someone they can never be—given their genetic endowment—without paying a tremendous price, which at times is even death.

An increasing spiral of self-centeredness ensues. Increased emotional arousal results in cognitive narrowing so that thoughts about shape, weight and food dominate consciousness. Constant conflicts over wants and desires are reflective of this incoherent state. Individuals struggle with these conflicts by trying to control the uncontrollable: their own emotions and thoughts, which arise spontaneously in their minds. Their understanding of themselves and their relationships remains shallow and superficial. Self-directedness becomes increasingly impaired as avoidance of internal experience progressively displaces cognizance of core values, which orient and direct behavior.

At the Eating Recovery Center in Denver, Colo., the incoherent state of eating disorders is addressed through valued directions, connectedness, and mindsight. Remaining cognizant of these “pillars of recover” helps us function in a self-directed manner despite predisposed behaviors dictated by genetic makeup; regardless of genetic biases, we all can find coherence and wellbeing in the pursuit of our valued directions.

Author's note: This article is intended to explore theories of how understanding phenotypic traits can impact the psychotherapeutic treatment of eating disorders; it does not cover psychopharmacological implications that should also be considered.

About Dr. Bishop:

With more than 25 years of experience in the treatment of eating disorders, Emmett R. Bishop, Jr., MD, is a founding partner and the director of research and outpatient services for the Eating Recovery Center in Denver, Colo. He is a certified eating disorders specialist and an approved supervisor with the International Association of Eating Disorders Professionals.

Dr. Bishop has served on the board of directors for the International Association of Eating Disorders Professionals since 1993 and is a past board president. He has also been a member of the Academy for Eating Disorders since 1993 and he sits on the editorial board of *Eating Disorders: The Journal of Treatment and Prevention*.