

People with body-image disorders process 'big picture' visual information abnormally

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People suffering from body dysmorphic disorder, or BDD — a severe mental illness characterized by debilitating misperceptions that one appears disfigured and ugly — process visual information abnormally, even when looking at inanimate objects, according to a new UCLA study.

First author Dr. Jamie Feusner, a UCLA assistant professor of psychiatry, and colleagues found that patients with the disorder have less brain activity when processing holistic visual elements that provide the "big picture," regardless of whether that picture is a face or an object.

The research appears in the current online edition of the journal [Psychological Medicine](#).

"No study until this one has investigated the brain's activity for visually processing objects in people with BDD," said Feusner, director of the Obsessive-Compulsive Disorder Intensive Treatment Program at UCLA. "This is an important step to figuring out what's going wrong in the brains of people with BDD so we can develop treatments to change their perceptions of themselves."

People with BDD tend to fixate on minute details, such as a single blemish or a slight crook to the nose, rather than viewing their face as a whole. The impact of the disorder can be debilitating. Sufferers think obsessively about their appearance and engage in repetitive, time-consuming behaviors, such as checking their appearance in the mirror.

Many are too embarrassed to leave the house, some have repeated and unnecessary plastic surgeries, and still others can become suicidal. BDD affects an estimated 2 percent of the population and is thought to be especially common in people with obsessive-compulsive disorder.

The study compared 14 BDD patients, both men and women, with 14 healthy controls. Researchers used a type of brain scan called functional MRI (fMRI) to scan subjects while they viewed digital photographs of houses that were either unaltered or altered in ways to parse out different elements of [visual processing](#). One altered set of images included very fine details, such as the shingles on the roof. The other altered images had very little detail and just showed things "holistically," such as the general shape of the house and the doors and windows.

The researchers found that the BDD patients had abnormal brain activation patterns when viewing pictures of the less-detailed houses: The regions of their brains that process these visual elements showed less activation than the healthy controls. In addition, the more severe their BDD symptoms, the lower the brain activity in the areas responsible for processing the image holistically.

"The study suggests that BDD patients have general abnormalities in visual processing," Feusner said. "But we haven't yet determined whether abnormal visual processing contributes as a cause to developing BDD or is the effect of having BDD. So it's the chicken-or-the-egg phenomenon.

"Many psychological researchers have long believed that people with body-image problems such as eating disorders only have distorted thoughts about their appearance, rather than having problems in the visual cortex, which precedes conscious thought. This study, along with our previous ones, shows that people with BDD have imbalances in the way they see details versus the big picture when viewing themselves, others and even inanimate objects."

Thirty percent of people with BDD also suffer from eating disorders, which are also linked to having a distorted self-image. Feusner is now enrolling anorexia nervosa patients to study whether they have abnormalities in the way they process [visual information](#), to compare them with BDD patients. He plans to use this information to develop treatments to help people reconfigure the way they perceive themselves.

Provided by University of California - Los Angeles

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