

## PSYCHIATRY

Behavioral Addictions Debut in Proposed *DSM-V*

In psychiatry, the only disorders that have been considered addictions are those involving alcohol or other drugs. Now, proposed revisions for the American Psychiatric Association's (APA's) *Diagnostic and Statistical Manual of Mental Disorders (DSM)* include for the first time "behavioral addictions"—a change some say is long overdue and others say is still premature (*Science*, 12 February, p. 770).

So far, only one behavior has made the cut: gambling, which under the new proposal would join substance-use disorders as a full-fledged addiction. *DSM* has recognized pathological gambling for decades, but it has been consigned to a grab bag of "impulse control disorders not otherwise specified" along with kleptomania, hair-pulling, and fire-setting. Many scientists have long believed that compulsive gamblers closely resemble alcoholics, not only from the outside—destroying jobs, finances, and relationships in pursuit of their obsession—but, increasingly, on the inside as well. Brain imaging and neurochemical tests have made a "pretty strong case that [gambling] activates the reward system in much the same way that a drug does," says psychiatrist Charles O'Brien of the University of Pennsylvania and chair of the addictions work group for *DSM-V*. Gamblers report craving and highs in response to their stimulus of choice; gambling also runs along with other addictions in the same families.

Psychologist Gerhard Meyer of the University of Bremen in Germany says he's been arguing since 1982 that pathological gambling should be classified as a behavioral addiction. Research by his group has shown that problem casino gamblers show increases in heart rate and salivary stress hormones as well as blood levels of norepinephrine compared with non-

problem gamblers. The former also show increases in dopamine, the key player in the brain's "reward circuit." Marc Potenza, a psychiatrist and gambling researcher at Yale University, says his group's brain-imaging studies show that when exposed to gambling videos, problem gamblers' brains show "important similarities" to changes in the brains of cocaine addicts when viewing a video about cocaine.

Other behaviors may eventually follow gambling into *DSM* as addictions, as more is revealed about their neurobiology and genetics. The top contender at present is "Internet addiction," which now has its foot in the *DSM* door; it will be listed in the appendix, a catch-all category for disorders that don't meet criteria for a full-fledged diagnosis. Some researchers have argued that people whose Internet use seems to be out of control show many hallmarks of addiction such as tolerance and withdrawal. But there is still no consensus on what constitutes so-called Internet addiction. Some argue that it is not the computer that's the issue but the content—mainly sex, gambling, and games—and that people hooked on the Internet suffer primarily from afflictions such as depression, personality disorders, and substance addictions.

Some researchers say a case could be made for classifying some eating disorders, bulimia in particular, as addictions. Family studies show that bulimia clusters with alcoholism and drug abuse. "Binge eating disorder," pulled out of the *DSM-IV* appendix and now proposed as a diagnosis in the eating disorders category, similarly has much in common

with binge drinking. Columbia University physician Timothy Walsh, chair of the eating disorders work group, says he suspects "we'll discover underlying abnormalities in brain pathways" shared by addictions and some eating disorders. But as yet, diagnoses in his field are "still really descriptive" as opposed to biology-based.

"Sex addiction" has received a lot of press lately, but O'Brien says his work group found "no scientific evidence" that sex qualifies. APA psychiatrist Darrel Regier, co-chair of the *DSM* task force, says "it's not clear that

reward circuitry is operative in the same way as in addictive areas." Nonetheless, a near equivalent may make it into the sexual disorders section of *DSM*: That work group is proposing a controversial new diagnosis of "hypersexual disorder."

The *DSM* teams have also tussled with the often-blurry line between addictions and compulsions. "I used to think [addictions] overlapped with OCD [obsessive-compulsive disorder]," says O'Brien. But new data from both brain-imaging and treatment studies suggest "more dissimilarities than similarities."

In another major change, O'Brien's group recommends dropping categories of "abuse" and "dependence" and labeling all problems major and minor as substance "use disorders" (or "disordered gambling"). Since the late 1980s, says O'Brien, "numerous large population studies" have shown there's no "breakpoint" where "abuse" becomes something more serious. He also says the term "dependence" only implies physiological dependence, which is not the same as the psychological obsession of addiction.

Some longtime addiction researchers, such as psychiatrist Victor Hesselbrock of the University of Connecticut, Farmington, have qualms about the direction *DSM* is moving. Hesselbrock believes behavioral addictions are dicey territory and prefers to limit the term "addiction" to substances, which are "pathogens we can identify." He also objects to fusing all drinking problems into "alcohol use disorder." Hesselbrock says he and others think there are proven subcategories of alcoholism that would aid both in treatment and discovering causes. "When you do a one-size-fits-all type of classification system," he says, "that will fit a lot of people but not so well."

—CONSTANCE HOLDEN

