

Addicts' cravings have different roots in men and women

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When it comes to addiction, sex matters.

A new brain imaging study by Yale School of Medicine researchers suggests stress robustly activates areas of the brain associated with craving in cocaine-dependent women, while drug cues activate similar [brain regions](#) in cocaine-dependent men. The study, expected to be published online Jan. 31 in the [American Journal of Psychiatry](#), suggests men and women with [cocaine dependence](#) might benefit more from different treatment options.

"There are differences in treatment outcomes for people with addictions who experience stress-induced drug cravings and those whose cravings are induced by drug cues," said Marc Potenza, professor of psychiatry, child study, and neurobiology and first author of the study. "It is important to understand the biologic mechanisms that underlie these cravings."

The researchers conducted [functional magnetic resonance imaging](#) scans of 30 cocaine-dependent individuals and 36 control subjects who were recreational drinkers. While undergoing brain scans, researchers then presented subjects with personalized cues (situations or events) the participants had indicated were personally stressful and other cues involving cocaine or alcohol.

As expected, cocaine-dependent individuals showed greater activation in broad regions of the brain linked to addiction and motivation than the

control subjects. Patterns of activation between the groups, however, differed markedly in men and women when presented with stress or drug cues.

Potenza said the findings suggest that women with cocaine dependence might benefit from stress-reduction therapies that specifically target these cravings. Men, on the other hand, might derive more benefit from elements of [cognitive behavioral therapy](#) or 12-step programs based on the principles of Alcoholics Anonymous.

Provided by Yale University

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