

Right place and right time can trigger drinking

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Strong cravings for alcohol can be sparked by the mere sight, smell and taste of a person's favorite drink. Responses to such cues that are associated with the positive effects of drinking are a lead cause of relapse in abstinent alcoholics. Using a behavioral animal model, researchers of a new study, scheduled for publication in the August 1st issue of *Biological Psychiatry*, have found that the physical surroundings where alcohol cues are experienced can greatly influence the ability of those cues to trigger relapse.

Specifically, Chaudhri and colleagues taught rats to learn that a brief tone signaled when a small amount of alcohol would be available in a fluid receptacle for them to drink. This learning occurred in a distinctive environment consisting of a particular appearance, smell, and lighting. They were then put into a second, unique context with a different appearance, smell, and lighting, and were repeatedly exposed to the tone but never given alcohol. After several sessions in this new context, the rats gradually learned that the tone no longer predicted alcohol and consequently stopped checking the fluid receptacle.

However, upon re-exposure to the original context where alcohol was available, presentation of the tone once again caused the rats to immediately check for it. "This finding demonstrates the power of environments to trigger relapse to alcohol-seeking in response to alcohol-predictive cues," said lead author Nadia Chaudhri, Ph. D., with the Ernest Gallo Clinic and Research Center at UCSF. "This effect is highly detrimental to humans who are trying to abstain from drinking."

Additionally, the authors also found that the capacity of an alcohol-associated context to trigger relapse to alcohol cues can be greatly diminished by presenting the cues repeatedly in multiple distinct contexts without alcohol.

If used in the clinic, this technique of extinguishing responses to alcohol cues in multiple contexts could greatly increase the efficacy of current behavioral treatments for alcoholism. John H. Krystal, M.D., Editor of *Biological Psychiatry* and affiliated with both Yale University School of Medicine and the VA Connecticut Healthcare System, further elaborates on this idea, commenting that "it is possible that exposure-based therapies could occur in a broader range of contexts so as to enhance their effectiveness.

These contexts could be real, i.e., visiting bars or liquor stores, could be created using virtual reality techniques, or could simply be recreated by patients as they imagined visiting places that triggered their urges to drink." Additional research will clearly need to be undertaken to determine the effectiveness of such a technique, but these findings indicate that it may a promising addition to addiction therapies.

Source: Elsevier

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