**Why feeling empathy could lead former drug users to relapse**

Empathy, the awareness of another's feelings and emotions, is a key feature in normal social interactions. But new research from the University of Minnesota suggests that empathy can have detrimental effects on an individual—and can push former drug users to relapse.

A group of researchers, led by Dr. Jonathan Gewirtz, performed a series of experiments to analyze links between empathy, stress, and drug use. First, they used behavioral conditioning to train a group of mice to mimic drug-seeking behavior. The mice were initially placed in a two-sided compartment, where a neutral saline solution was administered on one side and a dose of morphine on the other. When the treatment was repeated over the course of several days, the mice started associating one side with the drug treatment.

Next, the group of mice received only saline injections in either compartment for two weeks to mimic a period of sobriety.

To test the role of empathy on drug relapse, one of these sober mice witnessed another mouse in a fearful state, and then was immediately put back in the dual-sided compartment. Researchers tracked the sober mouse's fear response, as well as whether the mouse displayed a preference for either compartment.

Consistently, the sober mice preferentially selected the compartment that was associated with morphine, demonstrating drug-seeking behavior in response to witnessing a traumatic event.

The researchers treated some of the mice with oxytocin, a hormone that is naturally produced by the body and is important for social bonding. This increased the fear response in the once-sober mice.

They conclude that mice, and potentially people, that witness a stressful event are negatively emotionally affected, which may lead them to seek drugs, even after a period of sobriety. Oxytocin treatment exacerbates this response, indicating that social bonding (and empathy, by extension) is a driving force in this behavior.

The researchers say these findings are the first to demonstrate the direct link between empathy and drug relapse, as well as to suggest oxytocin may play a role in enhancing this response.

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