

Ecstasy could help patients with post-traumatic stress disorder

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Ecstasy may help sufferers of post-traumatic stress learn to deal with their memories more effectively by encouraging a feeling of safety, according to an article in the *Journal of Psychopharmacology* published today by SAGE.

Studies have shown that a type of psychological treatment called [exposure therapy](#) - where the patient repeatedly recalls the traumatic experience or is repeatedly exposed to situations that are safe but still trigger their traumatic feelings - can be effective in relieving stress responses in patients with post-traumatic stress disorder ([PTSD](#)) and other anxious conditions. The therapy works by helping the patient to re-learn the appropriate response to the trigger situation, a process known as extinction learning.

But this approach can take some time, and 40% of patients continue to experience post-traumatic stress even after their treatment. To improve outcomes, scientists have been investigating the use of [drug therapies](#) to enhance the effect of exposure therapy, making the result of exposure to the [fear](#) trigger easier, faster, and more effective. MDMA (the pharmaceutical version of [Ecstasy](#)) is one such drug.

"A goal during exposure therapy for PTSD is to recall distressing experiences while at the same time remaining grounded in the present. Emotional avoidance is the most common obstacle in exposure therapy for PTSD, and high within-session emotional engagement predicts better outcome," explain authors Pål-Årjan Johansen and Teri Krebs, who are

based at the Norwegian University of Science and Technology and supported by the Research Council of Norway.

Psychiatrists that have administered MDMA to anxiety patients have noted that it promotes emotional engagement; strengthens the bond between the patient and doctor, known as the therapeutic alliance; decreases emotional avoidance; and improves tolerance for recall and processing of painful memories.

According to Johansen and Krebs, "MDMA [ecstasy] has a combination of pharmacological effects that...could provide a balance of activating emotions while feeling safe and in control."

They suggest three possible biological reasons why ecstasy could help individuals with PTSD. First, ecstasy is known to increase the release of the hormone oxytocin, which is involved in trust, empathy, and social closeness.

Because people with PTSD often report feeling emotionally disconnected and unable to benefit from the supportive presence of family and friends or therapists - a situation that is likely to contribute to the development and maintenance of the disorder - use of ecstasy might also help ameliorate these symptoms, suggest the authors.

"By increasing oxytocin levels, MDMA may strengthen engagement in the therapeutic alliance and facilitate beneficial exposure to interpersonal closeness and mutual trust," they write.

The second biological explanation for ecstasy's useful effect is that it acts in two brain regions to inhibit the automatic fear response (mediated by the amygdala) and increase emotional control (mediated by the ventromedial prefrontal cortex) and therefore permits bearable revisiting of traumatic memories.

Thirdly, ecstasy increases the release of two other hormones, noradrenaline and cortisol, which are known to be essential to trigger emotional learning, including the process that leads to fear extinction, on which therapy for PTSD relies. But, caution the authors, while these compounds enhance extinction learning they may also temporarily increase anxiety in people with PTSD because the hormones are naturally released as part of the body's response to stress.

Ecstasy combined with psychotherapy is a treatment already being tested in clinical trials to help patients with PTSD. All of these trials have a similar design in which ecstasy or placebo is administered to patients a few times during their therapy sessions as part of a short term course of psychological treatment. According to the Johansen and Krebs, recent preliminary results from two of these randomized controlled trials shows that the therapy might have promise.

"Reduction of avoidance behavior linked to emotions is a common treatment target for all anxiety disorders. MDMA [ecstasy] has a combination of pharmacological effects that, in a therapeutic setting, could provide a balance of activating emotions while feeling safe and in control, as has been described in case reports of MDMA augmented psychotherapy. . . . Future clinical trials could combine MDMA with evidence-based treatment programs for disorders of emotional regulation, such as prolonged exposure therapy for PTSD," conclude the authors.

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