

Mystical and insightful psychedelic experience may improve mental health

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A more mystical and insightful psychedelic drug experience may be linked to an enduring reduction in anxiety and depression symptoms, according to a new study.

Researchers conducted a machine learning analysis of data from nearly 1,000 respondents to a survey about their previous non-clinical experiences with [psychedelic drugs](#). The analysis suggests that individuals who scored the highest on questionnaires assessing the mystical and insightful nature of their experiences consistently reported improvements in their anxiety and [depression symptoms](#).

The analysis also suggests that a challenging experience while on these substances, one that feels frightening or destabilizing, can have beneficial results, especially in the context of mystical and insightful experiences. This could be helpful for practitioners to know as they guide patients through [clinical trials](#) testing psychedelics' therapeutic potential.

"Sometimes the challenge arises because it's an intensely mystical and insightful experience that can, in and of itself, be challenging," said senior author Alan Davis, assistant professor and director of the Center for Psychedelic Drug Research and Education in The Ohio State University College of Social Work.

"In the clinical research setting, folks are doing everything they can to create a safe and supportive environment. But when challenges do come up, it's important to better understand that challenging experiences can actually be related to [positive outcomes](#)."

The research was published online recently in the *Journal of Affective Disorders*.

The study is the first to characterize subtypes of the subjective [psychedelic](#) experience and link them to mental health outcomes. The data came from previous work Davis led consisting of an anonymous internet-based survey of people who reported having a moderate to strong psychedelic experience in the past and resulting changes to their

symptoms of anxiety and depression—regardless of the level of those symptoms before the psychedelic experience.

The 985 participants whose responses were analyzed in this study described substances they had used and completed questionnaires evaluating the extent to which their psychedelic experience was mystical (evoking a sense of pure awareness, positive mood and/or transcendence of time and space that is difficult to describe in words), psychologically insightful (eliciting acute insight into memories, emotions, relationships, behaviors or beliefs), or challenging.

Outcomes assessed in the survey included depression and anxiety symptom levels and ratings of satisfaction with life and psychological flexibility—one's capacity to act in ways that are consistent with their values regardless of whatever internal or external experience they might have—before and after using the psychedelic.

The sample included users of psilocybin (magic mushrooms), LSD, Ayahuasca, mescaline, peyote cactus and 5-MeO-DMT, the natural psychedelic substance in the venom of the Colorado River toad, with the estimated dose level of the single drug use they recalled.

The data analysis yielded three distinct subtypes of psychedelic experiences:

- High scoring, combining high scores on the mystical and insightful assessments with moderate scores on the challenging assessment.
- Low scoring, with low to moderate scores on mystical and insightful experiences and low scores on the challenging scale.
- Positive scoring, with high scores for mystical and insightful experiences and low scores on the challenging assessment.

"The group that had the highest insightful and mystical experiences and low challenging experiences showed the most benefit in terms of remission of anxiety and depression symptoms and other longer lasting benefits to their life," said first author Aki Nikolaidis, an affiliate of Ohio State's Center for Psychedelic Drug Research and Education (CPDRE) and a research scientist in the Center for the Developing Brain at the Child Mind Institute.

When the researchers analyzed only data from participants who had used psilocybin and LSD, the same patterns emerged: Three distinct subtypes that were associated with the same outcomes, including benefits to mental health even after a challenging experience. That replication speaks to the importance of the subjective experience for psychedelics users, Nikolaidis said.

"Identifying subtypes that exist regardless of which psychedelic you take answers an interesting question," he said. "But the fact that we found that they're associated with specific outcomes, and replicated that finding, really shows why it's important to understand the powerful nature of what is happening subjectively and its potential to yield a beneficial outcome."

A few trends also stood out: The positive scoring group whose experience could be considered optimal—[high scores](#) on mysticism and insight and low scores on challenges—tended to be younger than participants in the other groups.

Among individuals who scored highest on challenging experiences, there was a higher proportion of people who had taken large doses of the psychedelic drugs. And the low scoring subtype had lower psychological flexibility, anxiety and depression scores before the psychedelic experience, and lower improvements in those symptoms and satisfaction with life than the other two subtypes.

Davis said he will be watching to see if these subtypes of experiences apply in the clinical setting, where psilocybin-assisted therapy is being studied at Ohio State for the treatment of post-traumatic stress disorder among military veterans.

"Finding the variety of other outcomes that these subtypes might be related to is an interesting next step," he said. "These could include adaptive or functional outcomes in people's quality of life or well-being, or a better understanding of their life's purpose or relationships."

More information: Aki Nikolaidis et al, Subtypes of the psychedelic experience have reproducible and predictable effects on depression and anxiety symptoms, *Journal of Affective Disorders* (2022). [DOI: 10.1016/j.jad.2022.12.042](https://doi.org/10.1016/j.jad.2022.12.042)

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