

Can tiny doses of magic mushrooms unlock creativity?

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The use of minute doses of magic mushrooms and truffles containing psychedelic substances could induce a state of unconstrained thought that may produce more new, creative ideas. "Microdosing" in this way may allow people to experience the creative benefits of psychedelic drugs without the risk of the so-called "bad trips" that often come with high doses of such substances. This is according to a new study in the Springer-branded journal *Psychopharmacology* which is the official journal of the European Behavioural Pharmacology Society (EBPS). The research was led by Luisa Prochazkova of Leiden University in The Netherlands and is the first study of its kind to experimentally investigate the cognitive-enhancing effects of microdosing on a person's brain function within a natural setting.

Taking a tiny fraction of a normal dose of [psychedelic substances](#) is becoming a trend in some professional circles because this is thought to stimulate [brain function](#) and enhance mental flexibility and creativity. However, experimental research that moves away from anecdotal evidence is still rare.

In this study, Prochazkova and her colleagues investigated how a microdose of a psychedelic substance affected the cognitive brain function of 36 people who were present at an event organized by the Psychedelic Society of The Netherlands. During the experimental phase, participants were set three tasks before and after they consumed on average 0.37 grams of dried truffles. The tests assessed their convergent thinking (the identification of a single solution to a problem), their fluid

intelligence (the capacity to reason and solve new problems) and their [divergent thinking](#) (the ability to recognize many possible solutions). Afterwards, the researchers analyzed the active substances present in the truffles consumed by participants.

After taking the microdose of truffles, the researchers found that participants' convergent thinking abilities were improved. Participants also had more ideas about how to solve a presented task, and were more fluent, flexible and original in the possibilities they came up with. Microdosing with [psychedelic substances](#) therefore improved both the divergent and convergent thinking of participants.

These findings are in line with earlier studies that found high doses of psychedelics can enhance creative performance. The fact that participants' intelligence scores and general analytical abilities did not change suggests that the effect of the truffles is rather selective, and more to the benefit of a person's creative domain.

"Taken together, our results suggest that consuming a microdose of truffles allowed participants to create more out-of-the-box alternative solutions for a problem, thus providing preliminary support for the assumption that microdosing improves divergent thinking," explains Prochazkova. "Moreover, we also observed an improvement in convergent thinking, that is, increased performance on a task that requires the convergence on one single correct or best solution."

Prochazkova hopes that these findings will stimulate further research into the beneficial effects of microdosing psychedelics. "Apart from its benefits as a potential cognitive enhancement technique, microdosing could be further investigated for its therapeutic efficacy to help individuals who suffer from rigid thought patterns or behavior such as individuals with depression or obsessive-compulsive disorder," she explains.

More information: Luisa Prochazkova et al, Exploring the effect of microdosing psychedelics on creativity in an open-label natural setting, *Psychopharmacology* (2018). [DOI: 10.1007/s00213-018-5049-7](https://doi.org/10.1007/s00213-018-5049-7)

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