

# Micro-dosing rats with psilocybin who have autism-like FXS found to improve symptoms

December 14 2022, by Bob Yirka

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A combined team of researchers from University Roma Tre and Nova Mentis Life Science Corp. has found that administering microdoses of psilocybin to rats with fragile X syndrome (FXS), an autism-like disease, improves some aspects of cognitive performance.

In their paper published in the journal *Psychopharmacology*, the group describes feeding different doses of psilocybin (the [active ingredient](#) in magic mushrooms) to test rats and then tested their [cognitive abilities](#).

Some anecdotal evidence has suggested that people consuming multiple microdoses of psilocybin over a period of time experience improvements in certain cognitive functions. These stories have led scientists to conduct studies of the impact of the drug on both people with normal brains and those with impairments such as depression or PTSD.

Testing has not yet led to any definitive conclusions, however, so more research is required. In this new effort, the researchers wondered whether giving microdoses of psilocybin to people on the [autism spectrum](#) might help with some of their symptoms.

Rather than ask people on the spectrum to come to their lab for testing, the researchers chose to start by testing the impact of psilocybin microdoses on rats with FXS, an autism-like disease. They took two approaches. In the first, they gave test rats a single large dose of psilocybin and then tested any changes to their cognitive abilities, finding some slight improvements. They also found that doing the same with rats that did not have FXS led to reductions in cognitive performance.

The researchers next gave another group of test rats microdoses over five days, and also gave them cognition tests each day. They found that all of the rats improved to the point that their cognition results were

nearly identical to [rats](#) that did not have FXS. After running the experiment again, this time for two weeks, they found identical results.

More testing is required to ensure that micro-dosing for such lengths of time does not cause [negative side effects](#), and also to find out if the improvements in symptoms are lasting. After that, the group will turn its attention to [human patients](#).

**More information:** Valeria Buzzelli et al, Psilocybin mitigates the cognitive deficits observed in a rat model of Fragile X syndrome, *Psychopharmacology* (2022). [DOI: 10.1007/s00213-022-06286-3](https://doi.org/10.1007/s00213-022-06286-3)

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Citation: Micro-dosing rats with psilocybin who have autism-like FXS found to improve symptoms (2022, December 14) retrieved 28 April 2024 from <https://medicalxpress.com/news/2022-12-micro-dosing-rats-psilocybin-autism-like-fxs.html>

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