

# THE EFFECTS OF LSD MICRODOSING ON MOOD, COGNITION AND BRAIN FUNCTION



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## Why do we want to do this study?

In the last few years, the world has been waking up to the power of LSD microdosing. Extensive anecdotal reports suggest that microdosing can improve **mood**, enhance **cognition**, increase **productivity**, and boost **creativity**. But so far, no scientific research has been done to confirm these effects in a controlled laboratory setting.

## What is the study about?

This is the world's first scientific study on the effects of microdosing on mood, cognition and brain function. We will use brain imaging, together with a range of both new and validated tests and questionnaires.

## What is microdosing?

A microdose of LSD is normally around 1/10<sup>th</sup> of a standard recreational dose (about 10-15 µg). A common procedure in the microdosing community consists of dosing once every 3 days (twice a week) over one or two months.

## Study design

This study will have a double-blind, placebo-controlled, between-subjects design. Participation will include eight dosing days and a follow-up visit. Individuals will be randomly assigned to either the placebo (n=24) or LSD group (n=24), each will follow a dosing scheme in which they will receive either placebo or 15 µg of LSD twice a week for four consecutive weeks. Mood, cognition and brain function will be assessed before and after the four weeks as well as during the dosing days.

## Hypotheses

We predict that, by the end of the 4-week microdosing intervention, most participants will have demonstrated measurable improvements relative to baseline in mood, well-being and creative thinking, as well as improved Go game performance, compared to the 4-week placebo intervention.

## Funding

This study is conducted as part of the *Beckley/Imperial Research Programme*, which relies almost entirely on donations for its funding.

## Go: a novel measurement

In addition to well-established measures of cognitive function and mood, we are using a new method to capture the unique type of cognitive enhancement that microdosing is reported to produce: **insight**. We will measure this faculty using the ancient Chinese game of Go, as performance in this game relies largely on **intuitive pattern recognition**.



## Brain imaging

Our previous research has revealed that psychedelics enhance the diversity of brain activity patterns, which is the neural signature of an altered state of consciousness. One hypothesis is that this complexification of neural activity underlies a more fluid style of cognition and increased novelty of thought.

In this study, participants will undergo electroencephalography (EEG) so we can see whether similar neural patterns as the ones we have observed with larger doses can be observed with lower ones.

Brain activity will be recorded both at rest and during some of the tasks, including Go, so we can examine neural changes underlying cognitive performance, and seek to identify the neural correlate of enhanced creativity and insight that may occur with microdosing.

