



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

LED BY AMANDA FEILDING

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.

This study will generate the first scientific knowledge of this novel approach to taking psychedelics and will pave the way for future research exploring the diversity of its application.

What is microdosing?

Microdosing involves taking tiny doses of LSD (or an other psychedelic compound) - typically around 1/10th of a standard recreational dose (about 10 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

Amanda, together with the team, designed this double-blind controlled study to explore the physiological and psychological effects of repeated microdosing. Two groups of 25 participants each will receive either a microdose of LSD, or a placebo, twice a week for four weeks. Changes in brain activity will be measured using EEG, and the effects of microdosing on mood, cognitive flexibility, creativity, and both emotional and intellectual insights will be assessed before and after the four weeks, as well as during the dosing days.

Assessing Neuroplasticity

Previous work on brain cells and animals clearly demonstrates the ability of psychedelics – and LSD in particular – to promote neuroplasticity, the neural process underlying learning and adaptability.

To investigate whether microdoses of LSD can enhance brain plasticity in humans, we are using electro-encephalography (EEG), a reliable technique for exploring brain functional activity that is sensitive to changes in neural plasticity.

Using this technique, we are also investigating whether microdosing produces an increase in the diversity of brain activity patterns similar to what we previously observed with a higher dose of LSD. One hypothesis is that this complexification of neural activity underlies a more fluid style of cognition and increases novelty of thought.

We will also measure whether LSD microdosing causes changes in blood levels of Brain-Derived Neurotrophic Factor (BDNF). BDNF plays a key role in modulating synaptic plasticity by promoting neuronal survival and differentiation, and is essential for learning and memory consolidation.

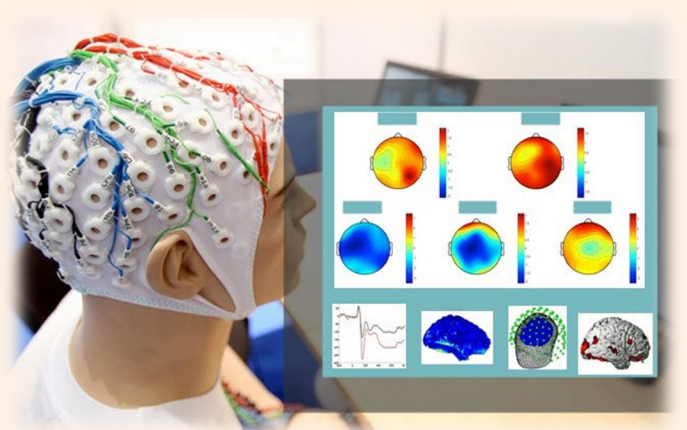
Learning and Intuitive decision-making

The 5HT_{2A} receptor – which is activated by LSD and other psychedelics – has been associated with increased adaptability and ability to learn, although this has never been directly investigated in humans. In addition to well-established measures of cognitive function, we are using the ancient Chinese game of *Go* to investigate the effects of LSD microdosing on learning and insight-based problem solving.



Why Go?

Many of the advocates of LSD microdosing – especially those working in artistic and technological fields – are most attracted by its positive impact on creativity and insight. But capturing and measuring a moment of insight in real time, rather than relying on self-reported judgments, presents a challenge. In facing this challenge, Amanda was inspired by her personal experience as a *Go* player, a unique board game for which success requires not just logical thinking, but also intuitive pattern recognition and creative insight.



Funding

This study is conducted as part of the *Beckley LSD Research Programme*, which relies almost entirely on donations for its funding. We are very grateful for your support:

beckleyfoundation.org/support-psychedelic-research/