Why did we do this study?

• Psychedelics have always presented an apparent paradox: The immediate experience can be unpleasant (accompanied by altered perception, fear, and paranoia), but the experience can also lead to profound and beneficial changes in well-being.

“When LSD was first distributed by Sandoz pharmaceuticals in 1948, product guidelines stipulated two main applications: (1) analytical psychotherapy and (2) experimental studies on psychoses. The rationale for the former was that LSD could elicit [the] release of repressed material and provide mental relaxation for anxiety and obsessional neuroses, and, for the latter, that it could model aspects of psychosis.” — Albert Hofmann (1980)

• We wanted to know: How the same compound could be both a model of, and yet a treatment for, psychopathology.

What did we do?

• We gave 20 volunteers either LSD (75ug) or placebo (saline) on 2 separate days.

• At the end of each dosing session, subjects completed two questionnaires asking about changes in consciousness and psychosis-like symptoms.

• Two weeks after each session, subjects completed three more questionnaires to measure personality traits (including optimism) and delusional thinking.

About the research team

Amanda Feilding is the founder and director of the Beckley Foundation. She and David Nutt are Co-Directors of the Beckley/Imperial Research Programme. Robin Carhart-Harris is the Programme’s lead investigator.

What did we find?

1. CHANGES IN CONSCIOUSNESS AFTER LSD

• The strongest changes were in visual perception (hallucinations).

• Ratings of ‘Anxiety’ increased the least; the increase in ‘Blissful state’ was far greater than the increase in anxiety.

• Together, this means subject had an overall pleasant experience.

2. PSYCHOSIS-LIKE SYMPTOMS AFTER LSD

• Ratings of psychosis-like symptoms increased after LSD, especially ‘cognitive disorganisation.’

• Overall, scores on the questionnaire were higher than after sleep deprivation, dreaming, cannabis/THC, or ketamine.

• This suggests that LSD causes strong psychosis-like effects.

• NOTE: Although the questionnaire suggests that subjects’ experiences were unpleasant and psychosis-like, the ratings on the consciousness questionnaire show that positive mood and a ‘blissful state’ were more common and pronounced.

3. PERSONALITY CHANGES AT 2-WEEK FOLLOW-UP

• Personality traits ‘Optimism’ and ‘Openness’ were increased 2 weeks after LSD.

• But delusional thinking was not increased (and even showed a slight trend towards a decrease).

• This suggests that the positive effects linger, but the psychosis-like effects do not.

THE PARADOXICAL PSYCHOLOGICAL EFFECTS OF LSD

CARHART-HARRIS RL, KAelen M, FEIDING A, NUTT DJ ET AL.
PUBLISHED IN PSYCHOLOGICAL MEDICINE, 46(7): 379-90

BECKLEY / IMPERIAL RESEARCH PROGRAMME

THE PARADOX CAN BE EXPLAINED BY THE ‘ENTROPIC BRAIN’ THEORY

• Psychedelics are thought to fundamentally change the quality of consciousness towards a more unconstrained, chaotic, ‘entropic’ state. This is hypothesised to be responsible for psychosis-like symptoms and altered perception in the short term.

• However, the same ‘loosening’ of brain networks results in more flexible patterns of thinking, which may improve well-being in the longer term.

• ‘Entropic’ cognition may be a more fundamental characteristic of the psychedelic state than either positive or negative mood.

Why is this important?

The study shows that:

1. The immediate effects of psychedelics can be quite different from their longer-term effects, and

2. The long-term effects are what is clinically relevant.

This adds to the evidence base for the therapeutic potential of LSD in the treatment of mood disorders such as depression.