

# First study into the effects of MDMA on the resting brain

July 24 2012, By David Weston

---



(Medical Xpress) -- Researchers from UCL and Imperial College London are carrying out a neuroscience study to examine for the first time how the resting brain responds to MDMA, the pure form of the Class A drug ecstasy. The study is funded by Channel 4, and recorded footage of it will be shown on two new science programs this autumn, 'Drugs Live: The Ecstasy Trial', alongside a live studio debate to explore issues linked with MDMA.

The research uses functional magnetic resonance imaging (fMRI) to

examine the effects of MDMA in healthy volunteers under laboratory conditions. Volunteers are supervised by medical staff, before undergoing an fMRI [brain](#) scan and a series of cognitive tests to examine MDMA's effects on empathy, trust and memory. In addition to providing fundamental information on how MDMA affects the resting brain, results from the study might also inform future research into whether the drug could be of use as a clinical treatment.

The study has been designed by psychopharmacologists Professor Val Curran from UCL's Department of Clinical, Educational, and Health Psychology and Professor David Nutt from Imperial College London.

Professor Curran said: "Ecstasy has been used as a recreational drug since it hit the rave scene in the late 1980s. In all those years, surprisingly few controlled, scientific studies have analysed its effects upon humans.

"This new study looks at the effects of MDMA on an individual's brain and behavior. How does it affect empathy - our ability to put ourselves in someone else's shoes? And how does it affect the level of trust we place in other people and our socializing with them? This study investigates how people are affected not only immediately after taking MDMA but also during the following days as they deal with the 'come down' effect of the drug leaving their system.

"Giving people balanced, evidence-based information about the effects of drugs is crucial if we want them to make informed personal and political decisions about drug use. These programmes will provide a unique opportunity to share the science of MDMA."

Professor Nutt, the Edmond J. Safra Professor of Neuropsychopharmacology in the Division of Brain Sciences at Imperial College London, said: "Nearly half a million people are believed to take

ecstasy every year in the UK, but there has been very little research into what it does in the brain. This is the first study that will involve brain scans of people taking MDMA while not performing any tasks. Imaging technology has improved enormously recently, so these experiments will give us a much clearer picture of the fundamental effects of MDMA on the resting brain than anyone has been able to get before.

“The context in which people will take MDMA in this study will be very different and much safer than the context in which people use it recreationally, with a controlled dose, a pure sample of the drug, absence of any other drugs or alcohol, and a doctor monitoring their health. This means the study won’t tell us whether it’s safe to take ecstasy in a club, but it will improve our understanding of how MDMA achieves its psychoactive effects. This will help people to make decisions about drug-taking with more information about its potential harms and how to reduce the risks. It could also help inform discussions about potential clinical uses of the drug, which could be tested in later studies.”

The study has received the ethical approval required for research involving healthy volunteers, who were all screened by medics and psychiatrists before giving their fully-informed consent to take part. Professors Curran and Nutt retain control over the research, which they plan to submit for publication in a peer-reviewed scientific journal.

The Channel 4 programs, provisionally titled 'Drugs Live: The Ecstasy Trial', will provide detailed analysis of the neurological and psychological effects of MDMA, the potential risks and consequences of taking the drug both in the short and long-term, and explore the new research into potential therapeutic benefits of MDMA.

The live studio debate to be screened alongside footage from the study will feature people representing a wide range of views on the issues, including scientists, police, politicians and campaigners, as well as

members of the public. The programs will be accompanied by extensive online resources and links to support and advice.

Channel 4 Senior Commissioning Editor, David Glover, said: “The use of controlled drugs, including ecstasy, is a hugely important issue and Britain has been called the ‘drug-taking capital of Europe’. But too often the facts – and particularly the science – can become lost in the heat of the argument.

“These programs will feature a scientific study that aims to demonstrate the effects of using [ecstasy](#) on the brain and behavior alongside a grown-up debate about the issues raised featuring a wide range of views.”

**More information:** The programs, which are being made by Renegade Productions, will be shown this autumn on Channel 4. The executive producer is Alan Hayling and the Program Editor is Liz Foley.

Provided by University College London

Citation: First study into the effects of MDMA on the resting brain (2012, July 24) retrieved 19 April 2024 from <https://medicalxpress.com/news/2012-07-effects-mdma-resting-brain.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.