

A single cocaine dose lowers perceptions of sadness and anger

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A single dose of cocaine can interfere with the ability to recognise negative emotions, according to new research presented at the ECNP conference in Amsterdam.

In a placebo-controlled within subject study, researchers from the Netherlands and Germany took 24 students (aged 19 to 27) with light to moderate cocaine use, and gave them either 300mg of oral cocaine, or a placebo.

After 1 to 2 hours, each participant was then subject to a series of biochemical tests, as well as the facial emotion recognition test to measure response to a series of [basic emotions](#), such as fear, anger, disgust, sadness, and happiness.

They found that in comparison with placebo, a single dose of cocaine caused an increased heart rate, as well as increased levels of the [stress hormone cortisol](#). In addition, the researchers found that the subjects who took cocaine found it more difficult to recognise negative emotions.

They also found that the subjects who showed a larger cortisol response after taking cocaine had a less marked impairment of negative emotions. When they were intoxicated with cocaine, their performance was 10% worse compared to their performance during [placebo](#), in recognising sadness and anger".

As lead researcher, Dr Kim Kuypers (Maastricht University, The

Netherlands) said: "This is the first study to look at the short-term effect of cocaine on emotions. It shows that a single dose of cocaine interferes with a person's ability to recognise negative emotions, such as anger and sadness. This might hinder the ability to interact in social situations, but it may also help explain why cocaine-users report higher levels of sociability when intoxicated - simply because they can't recognise the negative emotions".

Commenting for the ECNP, Dr Michael Bloomfield (University College, London) said: "There are many mental illnesses in which our brains' ability to recognise the emotions of others are impaired and this new study shows that cocaine may interfere with this process too. Since cocaine changes the level of the brain chemical dopamine, this new study may have implications for other mental illnesses such as depression and schizophrenia - where dopamine may also be involved in how we recognise emotions. We know that cocaine is a powerful and addictive drug and an important question remains: does cocaine mess up this process so that when [cocaine](#) users are off the drug they feel like other people have more [negative emotions](#)?"

Provided by European College of Neuropsychopharmacology

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