

Cocaine or ecstasy consumption during adolescence increases risk of addiction

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Cocaine or ecstasy consumption during adolescence increases risk of addiction. Credit: SINC

Exposure to ecstasy or cocaine during adolescence increases the "reinforcing effects" that make people vulnerable to developing an addiction. This is the main conclusion of a research team from the University of Valencia (UV), which has shown for the first time how these changes persist into adulthood.

"Although MDMA and [cocaine](#) are psychoactive substances frequently used by teenagers, very few studies have been done to analyse the short and long-term consequences of joint exposure to these drugs", José Miñarro, lead author of the study and coordinator of the Psychobiology of Drug Addiction group at the UV, tells SINC.

The study, published in the journal [Addiction Biology](#), shows for the first time that exposure to these drugs during adolescence leads to long-lasting changes that increase the reinforcing power of ecstasy or MDMA, and which last until [adulthood](#).

Miñarro's team studied the joint consumption of different drugs in order to carry out an in-depth examination into the effects of this interaction. The scientists administered MDMA, cocaine and saline

solution to mice over an eight-day period. "The animals exhibited an increase in vulnerability to re-establishing behaviour (relapse), showing a preference for certain environments previously associated with the pleasant effects of the drug", explains Miñarro.

The results highlight that the so-called "reinforcing effects" are greater in adult mice treated with ecstasy or cocaine during adolescence than in adolescent mice not exposed to these drugs. "Adolescence is a critical stage in development, during which time drug consumption affects plastic cerebral processes in ways that cause changes that persist right through to adulthood", adds the scientist.

Adolescence - the kingdom of polyconsumption

The results of various surveys, both national and international, show that one of the most common patterns of drug use is polyconsumption. Ecstasy is regularly consumed alongside other drugs such as alcohol, cannabis and cocaine. These same surveys show that 44% of cocaine users in Spain also take ecstasy, and this consumption takes place primarily during adolescence.

The State Study on Drug Use among Secondary School Students (ESTUDES 2007, Government Delegation for the National Plan on Drugs), showed that more than 75% of secondary school students who reported taking MDMA also said they used cocaine, while only 44.3% of cocaine users said they took [ecstasy](#).

More information: Manuel Daza-Losada, Marta Rodríguez-Arias, María A. Aguilar & José Miñarro. "Acquisition and reinstatement of MDMA-induced conditioned place preference in mice pre-treated with MDMA or cocaine during adolescence". *Addiction Biology* 14, 447-456, Oct 2009.

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