# New study finds no cognitive impairment among ecstasy users

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The drug known as ecstasy has been used by 12 million people in the United States alone and millions more worldwide. Past research has suggested that ecstasy users perform worse than nonusers on some tests of mental ability.
But there are concerns that the methods used to conduct that research were flawed, and the experiments overstated the cognitive differences between ecstasy users and nonusers.

In response to those concerns, a team of researchers has conducted one of the largest studies ever undertaken to re-examine the cognitive effects of ecstasy, funded by a $1.8 million grant from the National Institute on Drug Abuse (NIDA) and published today in the journal *Addiction*. The study was specifically designed to minimize the methodological limitations of earlier research.

In contrast to many prior studies, ecstasy users in the new study showed no signs of cognitive impairment attributable to drug use: ecstasy use did not decrease mental ability.

Lead author John Halpern is quick to point out that this group of researchers is not the first to identify limitations in prior studies of ecstasy users. "Researchers have known for a long time that earlier studies of ecstasy use had problems that later studies should try to correct. When NIDA decided to fund this project, we saw an opportunity to design a better experiment and advance our knowledge of this drug."

The researchers fixed four problems in earlier research on ecstasy. First, the non-users in the experiment were members of the "rave" subculture and thus repeatedly exposed to sleep and fluid deprivation from all-night dancing -- factors that themselves can produce long-lasting cognitive effects.

Second, participants were screened for drug and alcohol use on the day of cognitive testing, to make sure all participants were tested while 'clean'.

Third, the study chose ecstasy users who did not habitually use other drugs that might themselves contribute to cognitive impairment.

Finally, the experiment corrected for the possibility that any cognitive impairment shown by ecstasy users might have been in place before they started using the drug.

The resulting experiment whittled 1500 potential participants down to 52 carefully chosen ecstasy users, whose cognitive function was compared against 59 closely-matched non-users, with tests administered at several stages to make sure participants were telling the truth about their drug and alcohol use.

So does this mean that ecstasy really is the risk-free, hangover-free, miracle drug that lets young ravers and gamers party all weekend without having to pay the price?

Says Halpern, "No. Ecstasy consumption is dangerous: illegally-made pills can contain harmful contaminants, there are no warning labels, there is no medical supervision, and in rare cases people are physically harmed and even die from overdosing. It is important for drug-abuse information to be accurate, and we hope our report will help upgrade public health messages. But while we found no ominous, concerning

risks to cognitive performance, that is quite different from concluding that ecstasy use is 'risk-free'."

Provided by Wiley