1-1-2003

Memory, cognition, mood and impulsivity in current and former users of MDMA (ecstasy): Testing the serotonergic neurotoxicity deficit hypothesis

Michael Lyvers
Bond University, michael_lyvers@bond.edu.au

B Barker

J Bradnam

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http://epublications.bond.edu.au/hss_pubs/480
Memory, cognition, mood and impulsivity in current and former users of MDMA (ecstasy): testing the serotonergic neurotoxicity deficit hypothesis

Lyvers, M., Barker, B. & Bradnam, J.

Recent evidence suggests that the popular illegal drug MDMA (ecstasy) may act as a serotonergic neurotoxin leading to memory deficits in human ecstasy users. The present report is from an ongoing investigation aiming to overcome limitations of previous research on this issue. Recently abstinent ecstasy users, former users, and ecstasy-naive cannabis/alcohol user controls were matched on age, gender, education, premorbid intelligence estimated by National Adult Reading Test, and alcohol use. Measures included the Wisconsin Card Sorting Test; Wechsler Memory Scale (WMS-III) immediate and delayed tests of visual and verbal memory; Brief Symptom Inventory; Impulsiveness Venturesomeness and Empathy Questionnaire; Everyday Memory Questionnaire; and the Prospective Memory Questionnaire. Preliminary findings indicate that memory scores were significantly worse in ecstasy users than controls.

However, cannabis use was correlated with both memory scores and ecstasy use. When cannabis use was taken into account, the association of ecstasy use with memory impairment disappeared. The results reported here are preliminary (20 per group) and a larger sample is anticipated. Nevertheless, the findings are important because earlier work suggesting MDMA-related memory impairment did not take cannabis use into account; hence, memory deficits attributed to use of ecstasy may actually reflect residual effects of cannabis use.