

Prospective and Retrospective Memory Problems in Regular Ecstasy Consumers: Is it Just About the Ecstasy?

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INTRODUCTION

Remembering to do things in the future (prospective memory) and remembering things in our past (retrospective memory) are important everyday memory skills. Several studies suggest an association between use of ecstasy (3,4-methylenedioxymethamphetamine) and impairments in prospective (remembering to remember) and retrospective memory (recollection of past events) [1, 2]. However, some research suggests that other drug use (e.g., cannabis), non drug use factors (e.g., intensive dancing, overheating) and general anxiety levels are more strongly associated with these cognitive deficits [3-5]. The aim of this research was to investigate the contribution of these factors to subjective prospective and retrospective memory errors in a large sample of regular ecstasy consumers.

METHODS

Regular (at least monthly) ecstasy users ($n=100$) were interviewed for the 2009 Ecstasy and Related Drug Reporting System (EDRS) in Tasmania [6]. Memory was assessed using the Prospective and Retrospective Memory Questionnaire (PRMQ) [7]. Hazardous alcohol use and psychological distress were assessed using the Alcohol Use Disorders Identification Test (AUDIT) [8] and the Kessler Psychological Distress Scale (K10) [9] respectively. Sub-groups were identified on the basis of high (>21) and low (≤ 21) PRMQ error scores and step-wise backwards logistic regression was used to examine the significant correlates of high error scores.

RESULTS

Self-reported prospective memory problems were most strongly associated with feeling confused/having trouble concentrating in the days following ecstasy use, hazardous alcohol use (AUDIT score of ≥ 16), and high levels of psychological distress (K10 scores ≥ 22). Self-reported retrospective memory problems were most strongly associated with frequent use of cannabis and high levels of psychological distress.

DISCUSSION

These findings suggest that factors other than frequency and quantity of ecstasy use are more important in predicting prospective memory problems among regular ecstasy users. It is possible that self-reported prospective memory problems are associated with a bias in reporting memory problems experienced in the days following ecstasy use. However, given that the sub-acute effects of ecstasy are a result of individual psychobiological effects of the drug, it is possible that patterns of ecstasy use impact on the cognitive effects of the drug in the days following use. Further research including abstinent ecstasy consumers would be required to explore this hypothesis further.

The relationship between self reported retrospective memory problems and frequent use of cannabis more is consistent with the well documented effects of cannabis on aspects of memory and cognition. High levels of psychological distress were associated with both high prospective and retrospective error scores. This confirms the finding that mood variables such as depression and anxiety are important factors to consider when investigating the effects of ecstasy and other drugs on memory processes [5].

CONCLUSIONS

Prospective memory problems in regular ecstasy users were associated with hazardous alcohol use, psychological distress and feeling confused/having trouble concentrating in the days following use. Retrospective memory problems were largely associated with frequent cannabis use. These are important factors to consider in further research examining the correlates of prospective and retrospective memory errors in this population.

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