MDMA RISK ASSESMENT

by

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It is inappropriate to assume that in vitro or in vivo studies using high concentrations of MDMA are an accurate means of estimating effects in humans. The pharmacological profile of a drug may change with concentration, with the drug affecting a greater number of neurotransmitters or receptors as the dose increases. Binding studies (such as Setola et al. 2003 or Simmler et al. 2011) describe a drug's ability to activate or interact with a transporter or receptor at a specific dose, with some receptors requiring a higher concentration of drug than others. Hence a high dose of drug may not produce the same effects as a lower dose.

In vitro studies are unable to address processes occurring in a living organism, including feedback or feedforward processes that might be directly tied to the drug's effect on a seemingly "isolated" area.

The effects of MDMA in humans cannot be predicted from what happens after administering a high dose to rodents or nonhuman primates because higher doses of MDMA produce greater plasma concentrations than predicted by dose alone; this is what is called nonlinear pharmacokinetics. Currently there is data on average plasma MDMA and metabolite concentrations in humans, monkeys and rats. These studies indicate that doses at or above 5 mg/kg produce greater plasma values than seen after 150 mg MDMA in humans.

Pharmacokinetics can only be computed with a repeated assessment of drug concentrations in the blood, and none of this work has been done for methylone in humans. Though it might appear that we could easily estimate those concentrations from in vitro or in vivo studies in other animals, the possibility of nonlinear pharmacology remains. This also means it is not appropriate to estimate the effects of methylone through the use of research on MDMA. Methylone is based around a different structure; it is a cathinone, not a phenethylamine.

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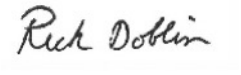
L. (Ilsa) Jerome PhD is the clinical research and information specialist for MAPS Public Benefit Corporation, a wholly-owned subsidiary of MAPS, and Rick Doblin PhD is the executive director of MAPS. Jerome has a doctorate in psychology and has followed psychopharmacology and social neuroscience literature. Doblin has a doctorate in public policy and has written extensively on the evolution of drug regulation within the US Food and Drug Administration in relation to cannabis and psychedelic compounds. They have gained extensive knowledge of the narrative and scientific literature as a result of developing research studies with MDMA in humans. They have consulted with pharmacologists in the US and Europe to prepare documentation for the safety and efficacy of MDMA.



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