



Illinois Wesleyan University
Digital Commons @ IWU

John Wesley Powell Student Research
Conference

1991, 2nd Annual JWP Conference

Apr 27th, 12:00 PM - 4:30 PM

The Effects of Repeated Administration of Varying Doses of MDMA on the Expression of Sexual Behavior in the Male Rat

William M. Struthers
Illinois Wesleyan University

Wayne Dornan, Faculty Advisor
Illinois Wesleyan University

Follow this and additional works at: <https://digitalcommons.iwu.edu/jwprc>

Struthers, William M. and Dornan, Faculty Advisor, Wayne, "The Effects of Repeated Administration of Varying Doses of MDMA on the Expression of Sexual Behavior in the Male Rat" (1991). *John Wesley Powell Student Research Conference*. 45.
<https://digitalcommons.iwu.edu/jwprc/1991/posters/45>

This Event is protected by copyright and/or related rights. It has been brought to you by Digital Commons @ IWU with permission from the rights-holder(s). You are free to use this material in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s) directly, unless additional rights are indicated by a Creative Commons license in the record and/ or on the work itself. This material has been accepted for inclusion by faculty at Illinois Wesleyan University. For more information, please contact digitalcommons@iwu.edu.

©Copyright is owned by the author of this document.

THE EFFECTS OF REPEATED ADMINISTRATION OF VARYING DOSES OF MDMA ON THE EXPRESSION OF SEXUAL BEHAVIOR IN THE MALE RAT.

William M. Struthers, Dept. of Psychology, IWU, Wayne Dornan*

3,4 Metylenedioxymethamphetamine (MDMA, "Ecstasy") is a potent neurotoxin which preferentially produces 5-HT nerve terminal degeneration in the CNS in both rodents and primates. There are, at present, no published reports which have systematically examined the effects of acute or chronic treatment of MDMA on animal sexual behavior. A previous study measured the effects of repeated systemic administration of MDMA on a variety of parameters of male sexual behavior in sexually vigorous male rats. Subcutaneous injections of MDMA (40mg/kg) or saline (1ml/kg) were administered every 12 hours for 4 consecutive days. Neurochemical assessments of brain 5-HT and 5-HIAA depletion following repeated MDMA treatment were then conducted using reverse phase liquid chromatography. The results of this study revealed that repeated systemic administration of MDMA to sexually vigorous male rats produced a transient disruption in the expression of male copulatory behavior. In males that did display copulatory behavior, both the ejaculation latency and the post-ejaculatory latency were dramatically lengthened when compared to saline controls. Surprisingly, one week after the first behavioral test, copulatory behavior in MDMA treated rats appeared unaffected despite a marked depletion of 5-HT and 5-HIAA content in the striatum and hippocampus. In a follow up study, repeated systemic injections of different doses of MDMA (20mg/kg and 40mg/kg) or saline were administered to 11 sexually vigorous male Long Evans rats every 12 hours for 4 consecutive days. A variety of parameters of male sexual behavior were assessed 7 and 14 days following the first injections of MDMA or saline. It is expected that there will be a dose dependent relationship between increased doses of MDMA and an abolishment of male sexual behavior, with lower doses showing less of an inhibitory effect.