A Reevaluation of Capaldi and Miller's "Counting in Rats: Its Functional Significance and the Independent Cognitive Processes That Constitute It"

Malory Wodka
Illinois Wesleyan University

James Dougan, Faculty Advisor
Illinois Wesleyan University

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

Part of the Psychiatry and Psychology Commons


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.
A REEVALUATION OF CAPALDI AND MILLER’S “COUNTING IN RATS: ITS FUNCTIONAL SIGNIFICANCE AND THE INDEPENDENT COGNITIVE PROCESSES THAT CONSTITUTE IT”

Malory Wodka and James Dougan*
Psychology Department, Illinois Wesleyan University

In 1988, Capaldi and Miller ran a series of runway experiments investigating how rats count reinforcing events by using two randomly alternating sequences of trials in which a rat can potentially predict that a nonreinforced trial will always follow after two consecutive reinforced trials. Capaldi measured the time a rat took to reach the goal box of the runway to determine whether the rat expected to be reinforced upon reaching the goal box. The present study attempts to replicate, and hopefully improve upon, Capaldi and Miller’s first of seven sub-experiments within their study. To eliminate potential error caused by differences in handling the rats prior to reinforced trials compared to nonreinforced trials, the present study utilized a closed circuit runway in which rats are not handled between trials. Furthermore, to make the previous study’s results clearer, the original runway design was adapted to a y-maze which provided a greater potential number of reinforcers to be delivered per sequence of trials.