Apr 25th, 10:30 AM - 4:30 PM

The Effects of a Complex Environment on Spatial Memory in Rats as Measured by the Radial Arm Maze

Susan Tamblyn
Illinois Wesleyan University

James Dougan, Faculty Advisor
Illinois Wesleyan University

THE EFFECTS OF A COMPLEX ENVIRONMENT ON SPATIAL MEMORY IN RATS AS MEASURED BY THE RADIAL ARM MAZE

Susan Tamblyn, Department of Psychology, IWU, Dr. James Dougan*

Previous research has demonstrated the superiority of rats raised in a complex environment in problem solving traits. The complex environment consists of multiple climbing toys, tunnels, and in this case, an exercise wheel. The focus of the present study was to compare spatial memory abilities between rats raised in a complex environment and rats raised in a normal laboratory environment. Spatial memory is the ability of a rat to organize and relate its surroundings according to its relative position in the environment. This is measured by performance standards on the radial arm maze. Rats are placed on a center platform and has eight arms to choose from, all of which are baited. The rat then uses its spatial memory capabilities to orient itself and "remember" which arms it has previously visited and which arms it has not. Eight male liter mates were weaned at approximately 28 days, with 4 being reared in the complex environment and 4 placed in the normal laboratory environment. At approximately 66 days, rats were tested on the 8-arm maze. It is believed that those rats raised in the complex environment will display superior memorization skills, as opposed to those raised in the normal laboratory environment.