Dynamics of Cue Utilization as the Result of Experience in Rats

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Previous research has demonstrated that rats utilize distal or proximal cues to navigate in their environment (Morris, 1981). Utilization of these cues can be examined using a water maze paradigm, in which rats learn to swim to a visible or hidden platform. A previous study (Sava et al., 2002) demonstrated that males and female rats utilize environmental cues differently, and that this difference is dependent on cue configuration. A second study (Tropp and Markus, 2001) further showed that changes in cue utilization are the result of experience, in an open field and plus-maze task. The current study was designed to show that rats use cues differently as the result of practice employing a water navigation task to a visible escape platform. The animals were examined for use of cues during either early day training (4 trials) or after extended training (12 trials). Two weeks later, the same rats were trained to swim to a hidden platform. Again, cue utilization was examined during early day training (8 trials) or after extended training period (24 trials). Findings indicating changes in the use of cues with training will enhance our understanding of navigation in rodents.