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THE EFFECTS OF A "DANGEROUS" STIMULI ON THE OPTIMAL FORAGING THEORY

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According to the optimal foraging theory, an organism will choose the most efficient method for gathering food while expending the least amount of energy. However, it seems logical that an organism would opt for a less efficient method of gathering food in order to avoid a "dangerous" or frightening stimulus. The present experiment examines if the presentation of a "dangerous" or frightening stimulus will result in the subject choosing a less efficient method of food gathering in order to avoid the "dangerous" stimuli.

Four Long Evans rats were conditioned to bar press on two bars within a Skinner box. A concurrent fixed ratio, fixed ratio schedule was introduced on the two bars. One bar yielded a reinforcement after fifteen bar presses and the other yielded a reinforcement after thirty bar presses. The optimal foraging theory would correctly predict that the lower ratio bar would eventually be chosen exclusively as a method of gathering food. Next, a "dangerous" or frightening stimulus is introduced on the lower ratio bar. The "dangerous" stimulus consists of a loud beeping tone with three colored, flashing lights over the lower ratio bar when the lower ratio bar is pressed. A single bar press to the higher ratio bar extinguishes the "dangerous" stimulus.

It is hypothesized that the subjects will chose the higher ratio bar in order to avoid the "dangerous" or frightening stimulus even though it is the less efficient method of gathering food.