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Incentive and Behavioral Contrasts: A Comparative Analysis

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INCENTIVE AND BEHAVIORAL CONTRASTS: A COMPARATIVE ANALYSIS

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This study has been designed to reconcile two divergent literatures: Crespi's 1942 study on incentive contrast and G.S. Reynolds' 1961 study on behavioral contrast. These two phenomena seem to be related, but have never been explicitly reconciled. The hypothesis is that it should be possible to simultaneously obtain both results if viewed from the correct perspectives.

A pilot study was done using a small sample of rats on a radial arm maze. Each rat was initially trained to run to the end of each arm for a reinforcement of 16 pellets. The number of pellets was then decreased to 4 in half of the arms. Results supported the hypothesis that the rats would run faster in the unshifted arms (behavioral contrast), and slower in the shifted arms (incentive contrast).

The current study has been designed to further investigate the relationship between incentive and behavioral contrasts using an operant box with variable interval schedules. Using colored lights as discriminative stimuli, the rats initially pressed a bar for food on two alternating reinforcement schedules where both components were the same, as were both halves of the radial arm maze. Then, in the second phase, one component was reduced so that the rat would receive less food for pressing the bar, similar to the decrease in half of the arms of the radial arm maze. Results are predicted to support those previously obtained. That is, the rats will press the bar more in the unshifted component (behavioral contrast), and less in the shifted component (incentive contrast).