

PSYCHOLOGY

Chairman: KENNETH M. MICHELS, Purdue University

GEORGE LOVELL, Wabash College, was elected chairman for 1958

ABSTRACTS

Strength of Secondary Reinforcement as a Function of the Quality of Food Reward. K. M. MICHELS and G. W. LEWIS, Purdue University.—Three groups of hooded rats were given eight days of training under each of two different reward conditions. One group received a highly preferred food in a black feeding box and a less highly preferred food in a white box. A second group received the highly preferred food in a white box and the less highly preferred food in a black box. The third group received both foods in a black and white striped box.

Following the training period the animals were run on a black-white discrimination problem using a Y-maze with a water incentive. Half the members of each group were run with the white alley correct and half with the black alley correct.

Significant differences were obtained between the subgroups run to the color previously associated with the preferred food and the subgroups run to the color previously associated with the nonpreferred food.

The results appear to support the hypothesis that the strength of secondary reinforcement varies as a function of the quality of food reward.

The Effect of Hue, Brightness and Saturation on Color Preference Considering Various Contexts. E. J. MCCORMICK, R. E. BLANCHARD and G. G. KARAS, Purdue University.—Twenty-four white male subjects were asked to express their preferences for 73 colors for each of four "contexts", namely for a sport shirt, den wall paint, an automobile, and in the "abstract." The judgments were obtained by having the subjects sort the 73 colors into a seven-interval Thurstone-type scale. An analysis of variance design was employed to test the effects of hue, saturation, and brightness as characteristics affecting color preference for the four contexts.

It was found that hue, brightness, and saturation had a significant effect upon color preferences. Agreement indices were computed on the subjects' color preferences which revealed a certain amount of consistency between the preferences of the subjects.

The Effect of Decrease in Size of Reward on Runway Latency Scores in the Hooded Rat. ROBERT H. WRIGHT, Purdue University.—The effect on runway latency scores of a decrease in size of reward was studied under two periods of deprivation. It was found that decrease in size of reward resulted in an increase in the time hooded rats spent in

crossing a runway. This increase was found to be transitory, however, and after ten trials the period of deprivation appeared to be the main factor influencing runway crossing time. The results are discussed with respect to the results of previous investigators and theoretical implications.

Visual Discrimination of Small Objects by Raccoons. JOHN I. JOHNSON, JR., Marquette University.—As a further investigation of the visual acuity of raccoons (*Procyon lotor*) in laboratory testing situations, this study is concerned with their ability to distinguish very small three-dimensional objects. After learning to discriminate between two objects of 1 inch in all three dimensions, nine animals were required to discriminate between smaller and smaller replications of these objects in order to secure a food reward. All nine raccoons discriminated objects of $\frac{1}{2}$ inch, $\frac{1}{4}$ inch, and $\frac{1}{8}$ inch in all three dimensions (i.e., $\frac{1}{4}$, $\frac{1}{16}$, and $\frac{1}{64}$ cubic inches, respectively), with equal facility. It can be concluded that raccoons can discriminate objects of the smallest sizes practicable for testing purposes. In addition, discrimination of the small sized objects improved from one set of replicated objects to another, regardless of the particular set of objects involved, indicating that such discrimination, or acuity, improves with practice.

Gastrointestinal Activity in Hunger and After Food: the Question of Hunger Pangs. LORAZE GARAFOLO and R. C. DAVIS, Indiana University.—By a new method the activity of the stomach and intestinal tract was recorded without the insertion of any foreign object into the stomach or other parts. Records were made on 8 Ss after at least eight hours without food and after their consumption of a light breakfast. Records were measured so that amplitude and frequency of waves may be compared.

Characteristic rhythms of stomach and intestinal tract are observed. These are generally quite small or absent before the food and increase significantly in all four quadrants of the abdomen after eating. There is a significant intercorrelation in the increase in the several locations.

The results cast doubt on the common belief that during hunger there are pangs associated with large slow contractions of the stomach. These may be induced by the balloon introduced into the stomach as a recording device.

Aggression and Avoidance in the C57BL Mouse. VICTOR H. DENENBERG and ROBERT W. BELL, Purdue University.—Investigations of aggression in the C57BL mouse have been previously concerned mainly with the elicitation of competitive and fighting behavior, inter-strain differences in aggression, and individual differences. Some social correlates of aggression have been isolated, notably early competitive experience, maternal influences, amount of sexual activity, and formation of dominance-submission hierarchies.

The present study was an attempt to relate aggression and avoidance learning. The experimenters hypothesized that both aggressive behavior and learning are adaptive functions, aiding the organism in survival.

Four indices of aggression were compared with two measures of learning to avoid shock. A positive relationship was found to exist between some of the measures of aggression and learning as measured in this experiment.

Differences Between Normals and Psychotics in the Perception of Serially Diffused Visual Stimuli. LIONEL W. MOSING, Purdue University.—To objectively determine whether individuals from behaviorally deviant groups, i.e., psychotics and normals, differ in the perception of visual stimuli of varying degrees of ambiguity, a perceptual recognition test, Form Emergence Series (FES), was developed. FES consists of twenty sequences of optically blurred photographs of common animals and objects presented seriatim to the subject at five levels of diffusion, from a very blurred to a clear representation of the object. The subject's task was to attempt identification of the object at each level of ambiguity. Response time and the verbatim responses of each subject were recorded for every item.

The FES was administered to 100 college students and 50 institutionalized psychotics of comparable age, sex, and intelligence. As hypothesized, analyses of variance indicated that the psychotics required significantly greater stimulus clarity for recognition, significantly more time to respond, and produced fewer prerecognition responses than did the normal group.

Adequate concurrent validity was indicated by a significant point biserial correlation of .83 between FES total score and the normal-psychotic dichotomy. Total score internal consistency was .98. For the psychotic group a significant quadraserial correlation of .73 was found between total score and prognosis rating by the clinical staff.