#### **PSYCHOLOGY**

Section II

Time-45 minutes

Percent of total grade—33  $\frac{1}{3}$ 

<u>Directions</u>: You have 45 minutes to answer BOTH of the following questions. It is not enough to answer a question by merely listing facts. You should present cogent arguments based on your critical analysis of the question posed.

1. Classical conditioning and operant conditioning are different learning methods.

Their differences lie in

- A. the extent to which reinforcement depends on the behavior of the learner;
- B. the type of behavior to which each method applies.

Their similarities are that they both produce the following basic phenomena.

- A. Acquisition
- B. Extinction
- C. Spontaneous recovery
- D. Generalization
- E. Discrimination

Describe these differences and similarities, giving examples to illustrate your answer.

Grading rubrics for question 1 (conditioning).

This question will be scored in two parts: a maximum of 5 points for part 1, 4 points for part 2.

This question was designed to assess the student's degree of understanding of the operant and classical conditioning paradigms, with a focus on the differences and similarities between the two forms of conditioning. In regard to the question as a whole, the rubrics call for awarding 1 point for a correct statement of the classical conditioning paradgm, 1 point for a correct statement of the operant conditioning paradigm, 3 points for a correct statement (including appropriate examples) of the principle difference between the two paradigms, and four points for correct statements concerning four specified areas of similarity (i.e., extinction, spontaneous recovery, generalization and discrimination). In practice, scoring is facilitated by breaking the answers down into two components, each of which has subcomponents.

#### Part 1.

- 1. The explanation of differences between classical and operant conditioning, as well as the concept of acquisition will be considered part 1. The maximum of five points that can be earned for this section of the answer are broken down as follows:
- A. A clear description of the classical and operant conditioning paradigms will be awarded 2 points, provided appropriate examples have been used. The crucial aspect of this description must include the following:
- 1. The positive or negative reinforcer in operant conditioning comes after (is contingent upon) the emitted response.
- 2. The reinforcer in classical conditioning (UCS or US), which produces an unconditioned response (UCR or UR), is paired or associated with a previously neutral stimulus (CS) and eventually produces a conditioned response (CR).
- B. A clear distinction between the involuntary (reflexive elicited, automatic) nature of classically conditioned responses and the voluntary (non-reflexive, emitted) nature of operantly conditioned responses will be given 3 points, provided at least one appropriate example of both involuntary and voluntary responses has been included in the answer. Generally, the student receives one point for enunciating the distinction, followed by one point for a correct example of an involuntary behavior and one point for a correct example of a voluntary behavior. In some cases, students may not use the precise terminology provided above (reflexive/non-reflexive, etc.) but will use related terms (e.g., active/passive,

unconscious and automatic/actively learned), with appropriate examples and an informed discussion, indicating that they understand the basic distinction. Half points can be awarded where appropriate.

Examples such as salivating, and key pecking are common.

In Part I, credit can be given regarding acquisition in the two forms of conditioning if the process of learning is described accurately within the context of each paradigm---e.g., how a dog comes to salivate to a bell, or how any behavior (brushing teeth, doing homework, pressing a bar) is acquired through reinforcement in operant conditioning. (This credit cannot raise the total number of points awarded in Part I to more than five.)

Sometimes in Part I, the student provides a good example or description of both classical and operant conditioning, but shows no awareness of the differences between the 2 paradigms; this student would receive only 2 points in Part I. More rarely, a student will focus on the distinction between the two paradigms, and mention an axample of each (e.g., salivation, keypeck) but not go into any detail in presenting the paradigms; this student would earn the three points for making the distinction, but not receive the two extra points for explaining/describing the paradigms. If the student makes the distinction and provides good, well-developed examples of the behavior associated with each paradigm, the same examples can earn the student the full five points on Part I.

In this section, a point is given for a correct definition or correct example of each of the four items (extinction, spontaneous recovery, generalization, discrimination). It is not necessary to give both a correct definition and a correct example.

l point for extinction (cessation of learned behavior) as a consequence of not presenting the reinforcer--e.g., in classical conditioning dog stops salivating at sound of bell when presentation of bell has not been followed by presentation of food powder a number of times; in operant conditioning, rat stops pressing bar when bar pressing no longer followed by food.

(N.B., On each of these four items, it is not necessary to give a correct example from both operant and classical conditioning; a correct example from either of the two earns the point.)

l point for spontaneous recovery as long as it is not confused with reacquisition (i.e., behavior reinforced again after extinction). It must be clear from the answer that spontaneous recovery follows extinction.

1 point for generalization, i.e., producing the learned response to stimuli that are similar to those present in acquisition--e.g., dog salivates to different tones of bell in classical conditioning; rat presses bars of different sizes, shapes, or heights in operant conditioning.

l point for discrimination, i.e., learning to respond differentially to different stimuli--e.g., dog salivates to tones that have been followed by food, and doesn't salivate to tones that have not been associated with food (classical conditioning); rat presses bar when light on (because has been reinforced for doing so) but does not press when light is off (operant conditioning).

Half points can be awarded during quantitative rating of answers; this rating should be followed by a qualitative evaluation to make a final determination of the number of points that should be awarded to the full essay; sometimes half points will be rounded up and sometimes down, depending on overall organization and quality of thinking.

## AP PSYCHOLOGY - 1992

# SCORING LEGEND

## Question 1

<u>Sample</u>		•		Score
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Н				7
A				6
С				5
BB				4
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EE				1

SAMPLES: QUESTION 1

(F)

Score: 9

This essay provided excellent examples of operant and classical conditioning in Part I, and of the four similarities in Part II. While the student does not explicitly state the voluntary/involuntary distinction between operant and classical conditioning, the essay is so consistently correct in its description of the two forms of conditioning that the qualitative evaluation compelled a final score of 9.

(D)

Score: 8

This essay received the full 5 points on part 1, lost a point on part 2 because spontanteous recovery was confused with relearning in the examples the student provided. The student makes an error in describing Little Albert case as involving shock therapy, but points are not taken off for incorrect information. All of the required elements needed for points are present except for the correct description of spontaneous recovery.

(H)

Score: 7

This essay received 4 out of 5 points on Part I. The full 3 points were awarded for the voluntary/involuntary description (i.e., credit was given for describing the response in classical conditioning as an "unconscious bodily reaction") and one additional point was awarded for the description of operant conditioning, which includes the notion of contingency between behavior and reward. However, no additional point is given for classical conditioning; the description is not full enough, particularly in regard to the temporal relation between the UCS and CS to warrant the additional point.

(A)

Score: 6

In Pt. 1, the essay was given credit for the distinction between innate and non-innate responses, and the examples of classical and operant conditioning that accompanied the distinction. The paradigms were not described in sufficient detail to warrant two additional points in Pt. I. In Pt. 2, the explanation of each of the following components resulted in the awarding of 1 point: discrimination, generalization, and extinction.

(C)

Score: 5

This essay received two points in Part I, 1 each for the descriptions of the two paradigms. In Part II, it received credit for each of the similarities except spontaneous discovery, which was confused with relearning.

(BB)

Score: 4

This essay received 1 point each for the examples from classical and operant conditioning, although the student does not show clear understanding of the differences between the two paradigms. In Part II, credit was given for generalization; only half credit was given for discrimination; no credit was given for extinction and spontaneous recovery; the final score was rounded up to 5 on the basis of the qualitative evaluation.

(CC)

Score: 3

This essay was awarded two points in Pt. 1--1 each for the descriptions of classical and operant conditioning. In Pt. II, it received just one point, for extinction.

(I)

Score: 2

This essay received 1 point each for the description of classical and operant conditioning. Partial points considered in relation to the Part 2 answers were rounded down on the basis of the qualitative evaluation.

(EE)

Score: 1

This essay received credit only for the description of operant conditioning.

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