

**Chapter 2: The Procedure and Phenomenon We Call Pavlovian Conditioning**

1. Manny's favorite video game involves shooting monsters. On each level of this game, there are many small monsters and a few larger, more difficult ones. Shortly before a difficult monster appears, the game's background music always changes. Manny finds that when this change of music occurs, he tenses up immediately. The US in this example would be

- a. the change in music.
- b. the regular background music.
- c. the small, easy monsters.
- \*d. the large, difficult monsters.

Answer location: Identifying the unconditioned stimulus and unconditioned response

Cognitive domain: Analysis

Question type: Multiple Choice

2. Last month, Beth set her iPhone to play a specific ringtone—her favorite song—when her boyfriend Joseph called her. Unfortunately, Beth has since broken up with Joseph, but he keeps calling her anyway. Not only does Beth not appreciate the unwanted calls, but she finds that she no longer likes her former favorite song. Beth's new opinion of that song is probably a(n)

- \*a. conditioned response.
- b. unconditioned response.
- c. conditioned stimulus.
- d. unconditioned stimulus.

Answer location: Identifying the conditioned stimulus and conditioned response

Cognitive domain: Analysis

Question type: Multiple Choice

3. An orienting reflex is best defined as

- a. searching for the predictor of an unconditioned stimulus.
- b. learning to associate a CS with a US.
- c. recognizing that a US is biologically significant.
- \*d. investigating a sudden or novel stimulus.

Answer location: Identifying the conditioned stimulus and conditioned response

Cognitive domain: Comprehension

Question type: Multiple Choice

4. Which of the following is evidence that the CR is not "unlearned" during extinction?

- a. Latent learning
- b. Partial reinforcement
- \*c. Spontaneous recovery
- d. Generalization

Answer location: Can the effects of Pavlovian conditioning be undone?

Cognitive domain: Application

Question type: Multiple Choice

5. Pavlov used the term disinhibition to refer to
- a. habituating to a formerly frightening stimulus.
  - b. relearning a CS-US association.
  - c. forgetting a CS-US association.
  - \*d. the reappearance of a CR when an additional stimulus appears during extinction.

Answer location: Can the effects of Pavlovian conditioning be undone?

Cognitive domain: Knowledge

Question type: Multiple Choice

6. Long after being bitten by a stray dog, Allen found that his fear of dogs seemed to have disappeared. To his surprise, however, when he was recently confronted by a stray dog, he experienced a sudden twinge of anxiety. This sudden anxiety best illustrates
- a. delayed gratification.
  - b. latent learning.
  - \*c. spontaneous recovery.
  - d. internal inhibition.

Answer location: Can the effects of Pavlovian conditioning be undone

Cognitive domain: Application

Question type: Multiple Choice

7. In a trace conditioning procedure
- a. the US is presented while the CS is still present.
  - \*b. the US is not presented until after the CS is gone.
  - c. the US and the CS are presented together at the same time.
  - d. the US comes before the CS.

Answer location: The temporal relationship between the CS and US

Cognitive domain: Comprehension

Question type: Multiple Choice

8. In delay conditioning, the US is presented
- a. after the CS is gone.
  - \*b. while the CS is present.
  - c. at the same time as the CS.
  - d. before the CS is presented.

Answer location: The temporal relationship between the CS and US

Cognitive domain: Comprehension

Question type: Multiple Choice

9. When Pavlov presented his dogs with a black square, many of them salivated, even though the black square had never been paired with food. This illustrates
- a. sign-tracking.
  - b. stimulus generalization.
  - c. instinctive knowledge.
  - \*d. 2nd order conditioning.

Answer location: Second-order conditioning

Cognitive domain: Application

Question type: Multiple Choice

10. After receiving a painful shot from a male nurse in a white uniform, 3-yr-old Miguel experiences fear of any man wearing a white uniform, including his uncle, a naval officer. Miguel's reaction best illustrates
- a. extinction.
  - b. spontaneous recovery.
  - \*c. generalization.
  - d. discrimination.

Answer location: Conditioned fear (Little Albert)

Cognitive domain: Analysis

Question type: Multiple Choice

11. Little Albert's reaction to a Santa Claus mask worn by Watson is an example of
- a. spontaneous recovery.
  - b. discrimination.
  - \*c. generalization.
  - d. extinction.

Answer location: Conditioned fear (Little Albert)

Cognitive domain: Comprehension

Question type: Multiple Choice

12. It's easier to condition young children to fear snakes and spiders than to fear flowers and basketballs. This best illustrates the importance of \_\_\_ in learning.
- \*a. biological predispositions
  - b. generalization
  - c. discrimination
  - d. spontaneous recovery

Answer location: Natural selection and conditioned fear

Cognitive domain: Comprehension

Question type: Multiple Choice

13. A suppression ratio is calculated by dividing the rate of behavior in the absence of a CS by the rate of behavior
- a. in the presence of an aversive US.
  - b. during extinction.
  - c. in the presence of the CS.
  - \*d. in the presence of the CS + the rate of behavior in the absence of the CS.

Answer location: Conditioned suppression as a measure of conditioned fear

Cognitive domain: Knowledge

Question type: Multiple Choice

14. The greatest amount of fear is indicated by a suppression ratio of \_\_\_\_\_, whereas no fear is indicated by a ratio of \_\_\_\_\_.

- \*a. 0.0; 0.5
- b. 0.5; 0.0
- c. 1.0; 0.0
- d. 0.0; 1.0

Answer location: Conditioned suppression as a measure of conditioned fear

Cognitive domain: Comprehension

Question type: Multiple Choice

15. Suppose a rat was exposed to a flashing light followed by electric shock for 3 days. On the fourth day, the rat is placed in an operant chamber where it can press a lever for food pellets. If the rat makes 40 responses per minute when no flashing light is present but only 20 responses per minute in the presence of a flashing light, the suppression ratio would be

- \*a. .33.
- b. .50.
- c. .66.
- d. .20.

Answer location: Conditioned suppression as a measure of conditioned fear

Cognitive domain: Analysis

Question type: Multiple Choice

16. One possible explanation for why conditioned suppression occurs in rats is that

- a. they attempt to run away when presented with a signal for shock.
- \*b. they freeze when presented with a signal for shock.
- c. they develop an aversion to food pellets paired with shock.
- d. they attack the signal that predicts shock.

Answer location: Why fear produces suppression of ongoing behaviors

Cognitive domain: Application

Question type: Multiple Choice

17. In experiments by Ader and colleagues, when rats received a saccharin solution that had previously been paired with an immunosuppressive drug, they

- a. exhibited an enhanced immune response to foreign blood cells.
- \*b. exhibited a suppressed immune response to foreign blood cells.
- c. exhibited no change in immune system functioning.
- d. exhibited more severe symptoms of an autoimmune disease.

Answer location: Conditioned drug reactions that mimic the drug effect

Cognitive domain: Comprehension

Question type: Multiple Choice

18. Ader (1985, 1997) suggested that placebo effects may result from Pavlovian conditioning. Assuming he was correct, the CS in such a case would be

- a. a "real" medicine, such as aspirin.

- b. the relief one feels after taking medicine containing an actual drug.
- \*c. the events surrounding taking medicine (e.g., opening a bottle, taking out a pill, etc.).
- d. the relief one feels after taking a placebo.

Answer location: Placebo effects

Cognitive domain: Application

Question type: Multiple Choice

19. Suppose a heroin user generally shoots up alone at 3:30 p.m. in his house. This time, however, he decides to do it at a late-night party with some friends. According to Pavlovian conditioning, which of the following is most likely to occur?

- a. The usual dose will not be as effective.
- \*b. The usual dose will produce a stronger, perhaps dangerous effect.
- c. The drug should produce the same effect as usual.
- d. The drug will have the opposite of its normal effect.

Answer location: Conditioned drug reactions that mirror the drug effect

Cognitive domain: Analysis

Question type: Multiple Choice

20. With a drug as a US, conditioned responses sometimes \_\_\_\_\_, or produce similar effects to the drug itself and sometimes \_\_\_\_\_, or produce effects opposite that of the drug.

- \*a. mimic; mirror
- b. mirror; mimic
- c. mimic; mimic
- d. mirror; mirror

Answer location: Conditioned drug reactions that mirror the drug effect

Cognitive domain: Comprehension

Question type: Multiple Choice

21. For drug addicts, the location in which a drug is frequently taken, for instance, a particular room, is likely to become a

- \*a. CS.
- b. US.
- c. CR.
- d. UR.

Answer location: Conditioned drug reactions that mirror the drug effect

Cognitive domain: Application

Question type: Multiple Choice

22. All other factors being equal, a person is most likely to become intoxicated by consuming

- \*a. a new, different drink.
- b. whatever beverage one normally drinks.
- c. a carbonated drink, such as beer or champagne.
- d. a mixed drink containing caffeine.

Answer location: Conditioned drug reactions that mirror the drug effect

Cognitive domain: Application  
Question type: Multiple Choice

23. Drugs that produce tolerance are those to which the CR is
- a. mimicking.
  - \*b. mirroring.
  - c. influenced by heredity.
  - d. the same as the UR.

Answer location: Conditioned drug reactions that mirror the drug effect  
Cognitive domain: Comprehension  
Question type: Multiple Choice

24. Oliver recently celebrated his 21st birthday, drank too many tequila shots, and got sick. Ever since his birthday party, the mere smell of tequila makes Oliver feel ill. What is the unconditioned response in this example?
- \*a. Getting sick after drinking a lot of tequila
  - b. Feeling sick when merely smelling tequila
  - c. Drinking tequila
  - d. The tequila itself

Answer location: Conditioned taste aversions in humans  
Cognitive domain: Application  
Question type: Multiple Choice

25. In Bernstein's study with chemotherapy patients, she found that patients developed an aversion to a flavor of ice cream they consumed before treatment. This is probably because the ice cream became a
- a. US.
  - \*b. CS.
  - c. UR.
  - d. CR.

Answer location: Conditioned taste aversions in humans  
Cognitive domain: Application  
Question type: Multiple Choice

26. Conditioned taste aversions are unique in that
- a. they extinguish more quickly than any other type of conditioning.
  - \*b. they can be obtained even with a very long CS-US interval.
  - c. they occur more readily with a familiar CS.
  - d. they are not influenced by instincts.

Answer location: Conditioned taste aversions in rats  
Cognitive domain: Comprehension  
Question type: Multiple Choice

27. In Garcia and Koelling's (1966) experiment, rats given electric shock during training later avoided \_\_\_\_\_ water.

- a. flavored
- \*b. bright-noisy
- c. plain
- d. all

Answer location: Conditioned taste aversions in rats

Cognitive domain: Comprehension

Question type: Multiple Choice

28. In Garcia and Koelling's (1966) experiment, rats given lithium chloride during training later avoided \_\_\_\_\_ water.

- \*a. flavored
- b. bright-noisy
- c. plain
- d. all

Answer location: Conditioned taste aversions in rats

Cognitive domain: Comprehension

Question type: Multiple Choice

29. Which of the following, experienced after food, does NOT readily lead to a taste aversion?

- a. Exercise
- b. Lithium Chloride
- c. Radiation
- \*d. Electric Shock

Answer location: Conditioned taste aversions in rats

Cognitive domain: Application

Question type: Multiple Choice

30. Which of the following best describes Batesian mimicry?

- a. An insect evolved with a very bad taste, so that birds will spit it out.
- b. Insects that taste bad evolved with bright colors, so birds will remember not to eat them.
- \*c. Some insects evolved to look like bad-tasting or poisonous insects.
- d. Birds developed an innate dislike of bitter tastes, to prevent them from being poisoned.

Answer location: Conditioned taste aversions in other species

Cognitive domain: Application

Question type: Multiple Choice

31. If a sweet food that has been paired with illness is forced into a rat's mouth, the rat will make \_\_\_\_\_ responses to that food.

- a. ingestive
- \*b. aversive
- c. fearful
- d. no noticeable

Answer location: What is the conditioned response in conditioned taste aversions?

Cognitive domain: Comprehension

Question type: Multiple Choice

32. Taste aversions are most likely to form when the CS is

- a. a familiar, easily recognized food.
- \*b. a novel food.
- c. consumed on an empty stomach.
- d. consumed along with other foods.

Answer location: Taste Aversions as an adaptive specialization

Cognitive domain: Comprehension

Question type: Multiple Choice

33. In a typical sign-tracking (autoshaping) experiment, pigeons will peck a lighted disk because

- a. they are reinforced with food.
- b. pigeons automatically peck at small round objects.
- \*c. they learn that the lighted disk predicts food.
- d. this is a trick question; pigeons generally do not peck in autoshaping studies.

Answer location: Is it Pavlovian conditioning or instrumental conditioning?

Cognitive domain: Application

Question type: Multiple Choice

34. What is the CS in a typical sign-tracking experiment?

- a. Food
- b. Water
- \*c. An illuminated response key
- d. Deprivation of food or water

Answer location: Sign-tracking

Cognitive domain: Comprehension

Question type: Multiple Choice

35. Which of the following provides the best evidence that sign-tracking does not involve operant conditioning?

- a. Pigeons peck differently depending on whether the US is food or water.
- b. Pigeons withdraw from a light that signals the absence of food.
- c. Rats will lick and gnaw a bar that signals the delivery of food.
- \*d. Pigeons will continue to peck at a signal for food, even if this causes them to lose food.

Answer location: Is it Pavlovian conditioning or instrumental conditioning?

Cognitive domain: Application

Question type: Multiple Choice

36. Does the phenomenon of sign-tracking appear to be adaptive?

- a. No, because it can cause subjects to lose food.
- b. No, because it occurs only in the laboratory.
- \*c. Yes, because in nature signals for food are located close to food.
- d. Yes, because pigeons rapidly learn to ignore the stimulus and go straight to the food.



Answer location: Is sign-tracking adaptive?

Cognitive domain: Comprehension

Question type: Multiple Choice

37. What happens in a sign-tracking experiment if a key light predicts the absence of food?

- a. No response is elicited in pigeons.
- b. Pigeons peck the key anyway.
- c. Pigeons peck the key, but less vigorously.
- \*d. Pigeons move away from the key.

Answer location: Characteristics of the conditioned response in sign-tracking in pigeons

Cognitive domain: Comprehension

Question type: Multiple Choice

38. Does omission training ever decrease key-pecking in a sign-tracking experiment?

- a. No, because the situation never occurs in nature.
- b. Yes, but only with intelligent subjects like dogs or primates.
- \*c. Yes, if pigeons are provided with a second key to peck without losing food.
- d. No, because the effects of Pavlovian conditioning cannot be undone.

Answer location: Characteristics of the conditioned response in sign-tracking in pigeons

Cognitive domain: Comprehension

Question type: Multiple Choice

39. Your textbook author's dog rings a bell to go outside. What is the CR in this example?

- \*a. Contacting the bell
- b. Going outside
- c. Needing to go outside
- d. Opening the door

Answer location: My dog rings a bell to go out

Cognitive domain: Comprehension

Question type: Multiple Choice

40. Why is it generally easy to teach a dog to ring a bell when it wants to go outside?

- \*a. The bell starts out as a CS, and contacting it is reinforced.
- b. The bell starts out as a US.
- c. The bell resembles many dog toys, so most dogs will try to play with it.
- d. The sound of a bell ringing is a reinforcer to many animals.

Answer location: My dog rings a bell to go out

Cognitive domain: Application

Question type: Multiple Choice

41. The music in the movie *Jaws* serves as an unconditioned stimulus to movie viewers.

- a. True
- \*b. False

Answer location: *Jaws*: How They Get You in Horror Films

Cognitive domain: Application  
Question type: True/false

42. The phenomenon of Pavlovian conditioning involves two events that occur in some relationship to each other.

- a. True
- \*b. False

Answer location: Procedures, Phenomena, and Processes

Cognitive domain: Comprehension

Question type: True/false

43. The procedure of Pavlovian conditioning involves two events that occur in some relationship to each other.

- \*a. True
- b. False

Answer location: Procedures, Phenomena, and Processes

Cognitive domain: Knowledge

Question type: True/false

44. An event that usually serves as an unconditioned stimulus (US) can serve as a conditioned stimulus if it precedes another biologically important event.

- \*a. True
- b. False

Answer location: Identifying the conditioned stimulus and conditioned response

Cognitive domain: Comprehension

Question type: True/false

45. The conditioned response can be the opposite of the unconditioned response.

- \*a. True
- b. False

Answer location: Identifying the conditioned stimulus and conditioned response

Cognitive domain: Comprehension

Question type: True/false

46. The effects of Pavlovian conditioning can be undone with experimental extinction.

- a. True
- \*b. False

Answer location: Can the effects of Pavlovian conditioning be undone?

Cognitive domain: Comprehension

Question type: True/false

47. In delay conditioning, the US is not presented until after the CS is gone.

- a. True
- \*b. False

Answer location: The temporal relationship between the CS and the US

Cognitive domain: Comprehension  
Question type: True/false

48. In a backward conditioning procedure, the US comes before the CS.

- \*a. True
- b. False

Answer location: The temporal relationship between the CS and the US

Cognitive domain: Comprehension

Question type: True/false

49. A conditioned suppression ratio of 0.5 indicates moderate fear in a subject.

- a. True
- \*b. False

Answer location: Conditioned suppression as a measure of conditioned fear

Cognitive domain: Knowledge

Question type: True/false

50. A conditioned suppression ratio of 0 indicates no fear in a subject.

- a. True
- \*b. False

Answer location: Conditioned suppression as a measure of conditioned fear

Cognitive domain: Knowledge

Question type: True/false

51. Although Watson and Rayner presented their work with little Albert as a demonstration of Pavlovian conditioning, sensitization could also have explained his withdrawing from many of the stimuli they presented to him.

- \*a. True
- b. False

Answer location: Criticisms of Watson and Rayner's demonstration

Cognitive domain: Application

Question type: True/false

52. Cancer patients may develop conditioned taste aversions because chemotherapy drugs can act as unconditioned stimuli (USs).

- \*a. True
- b. False

Answer location: Conditioned taste aversions in humans

Cognitive domain: Comprehension

Question type: True/false

53. Rats' facial expressions suggest that flavors previously paired with lithium chloride taste bad to them.

- \*a. True
- b. False

Frieman and Reilly  
*Learning: A Behavioral, Cognitive, and Evolutionary Synthesis*

Instructor Resource  
Chapter 2

Answer location: What is the conditioned response in conditioned taste aversions

Cognitive domain: Application

Question type: True/false

54. Auto-shaping is another term for sign-tracking.

\*a. True

b. False

Answer location: Sign-tracking

Cognitive domain: Knowledge

Question type: True/false

55. Pigeons will not sign-track if doing so results in a loss of food.

a. True

\*b. False

Answer location: Sign-tracking

Cognitive domain: Comprehension

Question type: True/false

56. Susan watched a television commercial in which choosing a particular brand of coffee caused the actress in the commercial to meet the man of her dreams. The next day at the supermarket, Susan found herself wanting to buy that brand of coffee. Identify the CS, US, CR, and UR in this example. For each of these, state why you think this is the case.

Cognitive domain: Analysis

Question type: Essay

57. Describe a first-order and then a second-order Pavlovian conditioning experiment. Identify the CS, CR, US, and UR in each situation.

Cognitive domain: Analysis

Question type: Essay

58. Sometimes people will feel light-headed after consuming a diet drink on an empty stomach. This effect can be attributed to Pavlovian conditioning. In nature, sweet-tasting things contain sugars, and our bodies secrete insulin to break down sugars in the bloodstream. Feeling light-headed can occur when there is too much insulin in the bloodstream. In this situation, feeling light-headed is an indication that conditioning occurred; it is not the CR or UR. The Pavlovian conditioning occurred before the individual consumed the diet soda. Describe the Pavlovian conditioning that produces this effect. What are the CS, CR, US, and UR? Why in each case?

Cognitive domain: Analysis

Question type: Essay