

CHAPTER 2: Elicited Behavior, Habituation, and Sensitization

MULTIPLE CHOICE

1. Which of the following is the simplest form of elicited behavior?
 - a. the habituation response
 - b. feedback stimuli
 - c. reflexive behavior
 - d. the sensitization process

ANS: C

REF: Page 33

KEY: Fact

MSC: WWW

2. Which two closely related events constitute a reflex?
 - a. eliciting outcome; corresponding reward
 - b. eliciting stimulus; corresponding response
 - c. eliciting response; corresponding outcome
 - d. eliciting response; corresponding reward

ANS: B

REF: Page 33

KEY: Fact

3. What is the correct pathway of the neural signal in a reflex arc?
 - a. afferent neuron, efferent neuron, interneuron
 - b. efferent neuron, afferent neuron, interneuron
 - c. afferent neuron, sensory neuron, efferent neuron
 - d. afferent neuron, interneuron, efferent neuron

ANS: D

REF: Page 34

KEY: Fact

4. Of the following, which is not a reflexive behavior?
 - a. a baby pulling away when its nose and mouth are covered
 - b. maintaining attention when driving
 - c. turning to the location of a loud noise
 - d. sneezing in response to dust

ANS: B

REF: Page 34

KEY: Concept

5. Which of the following is true regarding the respiratory occlusion reflex?
 - a. It causes humans to hold their breath underwater.
 - b. It is a multistage response to a reduction of airflow.
 - c. It allows nursing to proceed when the nose is covered.
 - d. It causes an infant to orient towards the nipple.

ANS: B

REF: Page 35

KEY: Fact

6. Which of the following is the incorrect statement about reflexive behaviors?
 - a. Most reflexes promote the well-being of the organism.
 - b. Simple reflexes are not influenced by higher nervous system functions.
 - c. Reflexes are the simplest form of elicited behavior.
 - d. The organization of the nervous system determines the specificity of the stimulus/response relationship.

ANS: B

REF: Page 34

KEY: Fact

7. The respiratory occlusion response in babies begins with which of the following?

- a. a swiping motion across the face; then the infant pulls away, then cries
- b. crying; then the infant pulls away, then swipes the face
- c. pulling the head back; then the infant swipes the face, then cries
- d. pulling the head back; then the infant cries, then swipes the face

ANS: C REF: Page 35 KEY: Fact

8. Successful nursing requires practice because the baby normally does which of the following actions?
- a. habituates to the nipple
 - b. becomes sensitized to the nipple
 - c. may have a respiratory occlusion response
 - d. has numerous taxis behaviors

ANS: C REF: Page 35 KEY: Concept

9. Which of the following is true regarding any given modal action pattern?
- a. usually found in many species
 - b. involves species-specific responses
 - c. cannot be elicited by a stimulus found in the organism's usual environment
 - d. involves movement towards or away from a stimulus

ANS: B REF: Page 36 KEY: Fact MSC: WWW

10. Which of the following is not a modal action pattern?
- a. the startle response of rats
 - b. the beak-pecking behavior of herring gull chicks
 - c. the nest building behaviors of male sticklebacks
 - d. the egg-retrieval behavior of herring gulls

ANS: A REF: Pages 36-37 KEY: Fact

11. Which of the following is one of the characteristics of a modal action pattern?
- a. The eliciting stimulus is usually easy to identify.
 - b. They are species-specific response patterns.
 - c. The threshold for eliciting the behavior is relatively invariant.
 - d. The eliciting stimulus will have similar effects over different situations.

ANS: B REF: Page 37 KEY: Fact

12. Which of the following most correctly describes a sign stimulus?
- a. first causes sensitization, then habituation
 - b. first causes habituation, then sensitization
 - c. sufficient for eliciting a modal action pattern
 - d. similar to an instinct

ANS: C REF: Page 37 KEY: Fact

13. Of the following, which is true of sign stimuli?
- a. Sign stimuli release behaviors that are performed in the same way every time.
 - b. Sign stimuli characteristically release the same behavior across several species.
 - c. Researchers are unable to determine which sign stimuli release behaviors.
 - d. The optimal sign stimulus may not occur naturally.

ANS: D REF: Page 40 KEY: Fact

14. Appetitive behaviors are most correctly described by which of the following?

- a. activities that because of their vigor increase hunger
- b. early components of a behavior sequence
- c. activities that satisfy an appetite or drive
- d. end components of an organized sequence of behaviors

ANS: B REF: Page 39 KEY: Fact

15. Behaviors such as foraging for food in animals and cooking food in humans are classified as
- a. consummatory behaviors.
 - b. releasing behaviors.
 - c. appetitive behaviors.
 - d. supranormal behaviors.

ANS: C REF: Page 39 KEY: Concept

16. Which of the following is likely to be the most stereotyped response?
- a. a squirrel eating a walnut
 - b. a robin searching for a worm
 - c. a grandmother preparing a pie
 - d. a young man issuing a threatening gesture

ANS: A REF: Page 39 KEY: Concept

17. Which of the following describes the difference between a general search and a focal search?
- a. General searches are localized, while focal searches focus on a larger area.
 - b. General searches occur when an animal does not yet know specifically where to look for food, while focal searches are spatially localized.
 - c. General searches are appetitive while focal searches are consummatory.
 - d. There are no differences; both terms are alternative ways of describing appetitive behavior.

ANS: B REF: Page 39 KEY: Concept

18. Which of the following is most likely to be characterized as an appetitive behavior?
- a. a sparrow manipulating a seed in its beak
 - b. a woman drinking a glass of milk
 - c. a woodchuck chewing on a blade of grass
 - d. a chef preparing a cream pie

ANS: D REF: Page 39 KEY: Concept

19. Which of the following is the correct order in a foraging behavior sequence?
- a. general search, food handling, focal search
 - b. focal search, general search, food handling
 - c. general search, focal search, food handling
 - d. food handling, focal search, general search

ANS: C REF: Page 39 KEY: Fact

20. Elicited behaviors are interesting to researchers studying learning because of which following result?
- a. They are invariant and make good controls.
 - b. They are present in most animals except humans and provide clues to the evolution of behavior.
 - c. They do not occur the same way each time the eliciting stimulus is presented.
 - d. They allow for voluntary behavior in non-human animals.

ANS: C

REF: Page 40

KEY: Concept

21. Your professor is conducting an investigation of visual attention in infants. A relatively complex pattern will be presented to the infants, hopefully eliciting visual attention. What do you predict will happen with repeated presentations of the complex visual stimulus?
- The infants will show uniformly high levels of responding across all trials.
 - The infants will increase, then decrease, responding.
 - The infants will decrease, then increase, responding.
 - The infants will show a high level of responding on the first trial, then decreasing responding on subsequent trials.

ANS: B

REF: Page 40

KEY: Concept

MSC: WWW

22. Which of the following is true of visual attention in human infants?
- All stimuli elicit similar responses across repeated presentations.
 - Infants initially increase responding to repeated presentations of complex stimuli and decrease responding to repeated presentations of simple stimuli.
 - Infants initially increase responding to repeated presentations of simple stimuli and decrease responding to repeated presentations of complex stimuli.
 - Infants increase responding to all stimuli as they become familiar with repeated presentations.

ANS: B

REF: Page 43

KEY: Fact

23. According to one study using lemon and lime juice to investigate the role of familiarity of food and its rated pleasantness, which of the following is correct?
- As we encounter a food over and over, we become familiar with it, and it increases in pleasantness.
 - As we repeatedly encounter a taste, it initially increases then decreases in pleasantness.
 - As we repeatedly encounter a taste, it initially decreases then increases in pleasantness.
 - Overeating may be discouraged by varying the foods that are available.

ANS: B

REF: Page 40

KEY: Fact

24. The stabilimeter measures which of the following?
- startle responses in rats
 - taxes in rats
 - kinesis in rats
 - orientation responses in rats

ANS: A

REF: Page 46

KEY: Fact

25. Which of the following is a true statement about habituation?
- increases responsiveness to a stimulus with repeated presentations
 - decreases responsiveness to a stimulus with repeated presentations
 - either increases or decreases responsiveness to a stimulus with repeated presentations, depending on the background cues
 - both increases and decreases responsiveness to a stimulus with repeated presentations

ANS: B

REF: Page 48

KEY: Fact

26. Repeated presentation of a stimulus will cause which of the following?
- both habituation and sensitization effects
 - either habituation or sensitization effects, depending on the subject's level of arousal
 - only habituation effects or only sensitization effects, regardless of background conditions

d. invariant behavior changes if it is a true eliciting stimulus

ANS: C

REF: Page 51

KEY: Concept

27. Habituation and sensitization effects perform which of the following functions?

- a. Focus attention on all stimuli present.
- b. Direct responses to all stimuli present.
- c. Focus attention on background stimuli.
- d. Focus attention on relevant stimuli.

ANS: D

REF: Page 51

KEY: Fact

28. A loud tone is repeatedly presented to a group of rats. Initially, there is a large startle response that decreases across trials. The response decrease across trials may be due to

- a. habituation.
- b. fatigue.
- c. sensory adaptation.
- d. All of the above

ANS: D

REF: Page 52

KEY: Concept

29. Repeated presentations of a tactile stimulus make the skin receptors less sensitive, and responding decreases across trials. This is an example of

- a. response fatigue.
- b. sensory adaptation.
- c. habituation.
- d. sensitization.

ANS: B

REF: Page 52

KEY: Fact

30. Response fatigue occurs during which of the following conditions?

- a. Repeated actions cause muscles to temporarily weaken.
- b. Changes in the nervous system hinder transmission of neural impulses.
- c. Neurophysiological changes alter sense organs.
- d. All of the above

ANS: A

REF: Page 52

KEY: Fact

31. Sensory adaptation occurs in which of the following physiological areas?

- a. the nervous system
- b. the sense organ
- c. the muscle tissue
- d. the interneuron

ANS: B

REF: Page 52

KEY: Fact

32. Fatigue occurs in which of the following physiological areas?

- a. the nervous system
- b. the sense organ
- c. the muscle tissue
- d. the interneuron

ANS: C

REF: Page 52

KEY: Fact

33. To rule out response fatigue as the cause for the decreased responding that occurs over repeated presentations of a stimulus, the researcher should

- a. determine if the subject can still sense the stimulus.
- b. determine if the subject is responding to the stimulus in other ways.
- c. present a new stimulus that elicits a similar response.
- d. present a new stimulus that elicits an unrelated response.

ANS: C REF: Page 53 KEY: Concept

34. A bright light causes a startle response. The second presentation of the light elicits less of a response because the subject was temporarily blinded by the first light flash. This is an example of
- a. habituation.
 - b. sensitization.
 - c. sensory adaptation.
 - d. habituation.

ANS: C REF: Page 52 KEY: Concept

35. Sensory adaptation refers to changes in responses that occur due to which of the following?
- a. changes in the nervous system that hinder transmission from sensory to motor neurons
 - b. changes in the nervous system that facilitate transmission from sensory to motor neurons
 - c. changes in the sensory receptors
 - d. changes in the muscles

ANS: C REF: Page 52 KEY: Fact MSC: WWW

36. The dual-process theory assumes which of the following?
- a. One neural process is responsible for increases and decreases in responsiveness to stimulation.
 - b. Different types of neural mechanisms are responsible for increases and decreases in responsiveness to stimulation.
 - c. Habituation and sensitization effects are essentially the same.
 - d. Habituation is due to fatigue; sensitization is due to learning.

ANS: B REF: Page 53 KEY: Fact

37. Which of the following is not true of the dual-process theory?
- a. Different processes are assumed to underlie increases and decreases in responsiveness to stimulation.
 - b. The habituation and sensitization processes are mutually exclusive.
 - c. The habituation effect is not a direct reflection of the habituation process.
 - d. The sensitization effect is not a direct reflection of the sensitization process.

ANS: B REF: Pages 53-54 KEY: Fact

38. According to Groves and Thompson (1970), which of the following is true?
- a. Habituation and sensitization processes occur in different parts of the nervous system.
 - b. Habituation is similar to fatigue; sensitization is similar to adaptation.
 - c. Habituation is similar to adaptation; sensitization is similar to fatigue.
 - d. Both habituation and sensitization occur at the level of the sensory receptors.

ANS: A REF: Pages 53-54 KEY: Fact

39. Habituation processes occur in the _____ system. Sensitization processes occur in the _____ system.
- a. state; sensory
 - b. S-R; S-S
 - c. S-R; state
 - d. state; S-S

ANS: C REF: Page 54 KEY: Fact

40. Habituation is to sensitization as
- motor is to sensory.
 - S-R is to state.
 - S-S is to S-R.
 - state is to S-S.

ANS: B REF: Page 54 KEY: Concept MSC: WWW

41. The dual-process theory suggests which of the following?
- Habituation processes occur in parts of the nervous system that determine the organism's general level of responsiveness.
 - Habituation processes occur in the shortest neural path between sense organs and muscles.
 - Habituation and sensitization processes occur in the parts of the nervous system that determine the organism's general level of responsiveness.
 - Habituation and sensitization processes determine the animal's general readiness to respond.

ANS: B REF: Page 55 KEY: Concept

42. According to the dual-process theory, when rats were tested with a relatively quiet background noise, their response to a startling tone
- habituated because the state system was already responding to auditory stimuli.
 - habituated because only the S-R system was activated.
 - sensitized because the state system was responding to the background tone.
 - sensitized because both the state and S-R systems were activated.

ANS: B REF: Page 48 KEY: Fact

43. Why would the same tone result in habituation for rats exposed to a low level background noise and sensitization for rats exposed to high level background noise?
- Only the high level background noise masked the tone.
 - Only the low level background noise masked the tone.
 - The low level background noise and tone combination activated the state and S-R system.
 - The high level background noise and tone combination activated the state and S-R system.

ANS: D REF: Page 48 KEY: Concept

44. According to the dual-process theory, each presentation of a given stimulus activates
- both the state and S-R systems.
 - the state system and may activate the S-R system.
 - the S-R system.
 - the state system.

ANS: C REF: Page 55 KEY: Fact

45. The time course of sensitization is determined by
- the S-R system.
 - the intensity of the stimulus.
 - the long-term mechanism.
 - None of the above; sensitization effects are all short-term.

ANS: B REF: Page 49 KEY: Fact

46. The dual-process theory can account for qualitative differences
- a. between short-term and long-term habituation.
 - b. between sensitization and long-term habituation.
 - c. between sensitization and short-term habituation.
 - d. among sensitization, short-term habituation, and long-term habituation.

ANS: C REF: Page 51 KEY: Fact

47. Repeated presentations of a stimulus
- a. result in short-term and long-term habituation effects.
 - b. result in long-term habituation effects only.
 - c. result in spontaneous recovery if enough time passes.
 - d. None of these

ANS: D REF: Page 51 KEY: Fact

48. After you habituate to the sound of one clock's chime, you may not respond to the chime of another clock. This is due to
- a. stimulus specificity.
 - b. stimulus generalization.
 - c. long-term habituation effects.
 - d. spontaneous recovery.

ANS: B REF: Page 51 KEY: Concept

49. Spontaneous recovery from habituation occurs
- a. after time passes.
 - b. after a strong extraneous stimulus is presented.
 - c. after a weak extraneous stimulus is presented.
 - d. All of the above

ANS: A REF: Page 51 KEY: Fact

50. The stimulus specificity of sensitization is _____ that of habituation.
- a. less than
 - b. greater than
 - c. either less than or greater than (depending on the stimulus)
 - d. equal to

ANS: A REF: Page 51 KEY: Fact

51. Pain caused by foot-shock sensitizes rats to
- a. auditory cues only.
 - b. visual cues only.
 - c. auditory and visual cues.
 - d. all cues.

ANS: C REF: Page 55 KEY: Concept

52. In *Aplysia*, habituation of the gill withdrawal effect due to stimulation of the siphon
- a. has no effect on the response to stimulation of the mantle.
 - b. increases the effect of stimulating the mantle.
 - c. decreases the effect of stimulating the mantle.
 - d. completely attenuates responding to stimulation of the mantle.

ANS: A REF: Pages 56-57 KEY: Fact

53. Applying a shock to the tail of the *Aplysia*
- has no effect on the responses to stimulation of the siphon or mantle.
 - increases responding to stimulation of the mantle but not the siphon.
 - increases responding to stimulation of the siphon but not the mantle.
 - increases responding to stimulation of both the siphon and mantle.

ANS: D REF: Pages 56-57 KEY: Fact

54. In *Aplysia*, the role of the facilitory interneuron is to
- increase sensitivity of the motor neuron.
 - increase the release of neurotransmitter from the sensory neuron.
 - decrease the sensitivity of the motor neuron.
 - decrease the release of neurotransmitter from the motor neuron.

ANS: B REF: Pages 56-57 KEY: Fact

55. Habituation in the *Aplysia* occurs due to
- changes in the facilitory interneuron.
 - changes in the sensitivity of the motor neuron.
 - changes in the amount of neurotransmitter released by the sensory neuron.
 - changes in the action potential of the sensory neuron.

ANS: C REF: Pages 56-57 KEY: Fact

56. Sensitization in the *Aplysia* occurs due to
- engagement of the facilitory interneuron.
 - changes in the sensitivity of the motor neuron.
 - changes in the sensitivity of the sensory neuron
 - changes in the action potential of the sensory neuron.

ANS: A REF: Pages 56-57 KEY: Fact

57. The opponent-process theory assumes
 - a. the a process is inefficient.
 - b. the b process is inefficient.
 - c. the a and b processes are inefficient.
 - d. the a and b processes are independent.

ANS: B **REF:** Page 60 **KEY:** Fact

58. An emotion-arousing stimulus elicits
- emotion after-effects directly.
 - the *a* process directly.
 - the *b* process directly.
 - the *a* and *b* processes directly.

ANS: B **REF:** Page 60 **KEY:** Fact

59. According to the opponent-process theory, drug tolerance develops because
- the a process weakens.
 - the b process weakens.
 - the a process strengthens.
 - the b process strengthens.

ANS: D REF: Page 61 KEY: Concept

60. The opponent-process theory predicts that couples who have spent many years together
- become bored and enjoy time apart.
 - become increasingly affectionate.
 - become resentful if the other partner leaves, even for a short time.
 - will show few overt signs of affection.

ANS: D REF: Pages 62-63 KEY: Fact

61. The opponent-process theory suggests that alcoholics continue drinking to
- avoid opponent after-effects.
 - increase opponent after-effects.
 - enjoy the primary pleasurable effects.
 - enjoy the secondary pleasurable effects.

ANS: A REF: Pages 62-63 KEY: Concept

62. Your friend is surprised by his grandmother's reaction to the unfortunate passing of her husband. Although for years she had shown her husband no overt signs of affection, his death has left her devastated. You explain to your friend that according to the opponent-process theory this change is due to
- a new *a* process activated by the funeral.
 - a new *b* process activated by the funeral.
 - the removal of the *a* process associated with her husband.
 - the removal of the *b* process associated with her husband.

ANS: C REF: Pages 61-63 KEY: Concept

63. Goal-directed behavior that brings about a desirable outcome
- is considered largely immune from habituation and sensitization effects.
 - will show habituation, but not sensitization effects.
 - will show sensitization, but not habituation effects.
 - will show many of the properties common to habituation and sensitization.

ANS: D REF: Pages 63-64 KEY: Fact

SHORT ANSWER

1. Explain how the same reflex can both promote and interfere with the well being of an organism.

ANS:

Answer not provided

2. What factors influence the elicitation of a modal action pattern?

ANS:

Answer not provided

3. What is the difference between a modal action pattern and a simple general reflex? Provide an example of each.

ANS:

Answer not provided

4. Describe how a researcher can determine which stimulus features elicit modal action patterns.

ANS:

Answer not provided

5. Discuss the importance of behavioral sequences. What role do appetitive and consummatory behaviors play in organizing behavior? How do general search, focal search, and consummatory behaviors differ? Provide examples of each.

ANS:

Answer not provided

6. Compare and contrast habituation and sensitization effects. Include descriptions of the time course and stimulus specificity of each.

ANS:

Answer not provided

7. How does the dual-process theory account for habituation effects? Sensitization effects?

ANS:

Answer not provided

8. Explain why repeated presentations of the same stimulus can elicit responses that decrease in one group of subjects and increase in another group of subjects.

ANS:

Answer not provided

9. Describe how researchers ensure that fatigue and sensory adaptation are not the cause of response decrements in experiments investigating habituation.

ANS:

Answer not provided

10. Explain the role of the S-R and state systems in elicited behaviors.

ANS:

Answer not provided

11. How can a response that has decreased through habituation to the eliciting stimulus be reinstated? Describe two methods.

ANS:

Answer not provided

12. What is the biphasic pattern of emotional responses? Apply this concept in the description of a common human experience.

ANS:

Answer not provided

13. Compare the dual-process theory to the opponent-process theory of motivation. What is the goal of each theory? What similarities do you notice in the mechanisms? Differences? How does each account for habituation effects?

ANS:

Answer not provided

14. Describe the opponent-process theory of motivation. Using an example from common human experience, demonstrate how the mechanisms of the theory account for an overt response.

ANS:

Answer not provided

15. How does the opponent-process theory of motivation explain drug tolerance and addictive behaviors? What is the evidence for the underlying mechanisms?

ANS:

Answer not provided

16. Describe how elicited behavior can be involved in complex social interactions, like breast feeding.

ANS:

Answer not provided

17. Describe sign stimuli involved in the control of human behavior.

ANS:

Answer not provided

18. Compare and contrast appetitive and consummatory behavior, and describe how these are related to general search, focal search, and food handling.

ANS:

Answer not provided

19. Describe components of the startle response and how the startle response may undergo sensitization.

ANS:

Answer not provided

20. Describe the distinction between habituation, sensory adaptation, and fatigue.

ANS:

Answer not provided

21. Describe the two processes of the dual-process theory of habituation and sensitization and the differences between these processes.

ANS:

Answer not provided

22. Describe how habituation and sensitization are involved in emotion regulation and drug addiction.

ANS:

Answer not provided