## CHAPTER 2: Research Methods

**Test Bank for Chapter 2**

**Basic Terms and Definitions:**

**Independent and Dependent Variables**

1. A(n) \_\_\_\_\_ is any characteristic of a person, place, or thing that can change over time or across situations.
   1. stimulus
   2. response
   3. operation
   4. variable

Answer: D

Page number: 51

Feedback: A variable is a characteristic of a person, place, or thing that can change (vary) over time or from one situation to another.

1. Temperature, height, and hair color are all:
   1. behaviors.
   2. operations.
   3. variables.
   4. Both a and b are correct.

Answer: C

Page number: 51

Feedback: Temperature is an example of a variable; temperature varies from day to day, season to season, and place to place. Height and weight are also examples of variables—people come in many different sizes and shapes.

1. The \_\_\_\_\_ variable is that factor that varies across the different conditions in an experiment.
   1. dependent
   2. independent
   3. extraneous
   4. nondependent

Answer: B

Page number: 52

Feedback: The independent variable is the aspect of an experiment that is made to systematically vary across the different conditions in the experiment.

1. The \_\_\_\_\_ variable is the outcome that is measured in an experiment.
   1. dependent
   2. independent
   3. extraneous
   4. confounding

Answer: A

Page number: 52

Feedback: The dependent variable is the aspect of an experiment that is allowed to vary freely to see if it is affected by changes in the independent variable. In other words, the dependent variable is what is measured in an experiment.

1. Cause is to effect as \_\_\_\_\_ variable is to \_\_\_\_\_ variable.
   1. extraneous; dependent
   2. dependent; extraneous
   3. dependent; independent
   4. independent; dependent

Answer: D

Page number: 52

Feedback: Changes in the dependent variable are dependent upon changes in the independent variable.

1. The outcome or effect in an experiment is the \_\_\_\_\_variable.
   1. independent
   2. dependent
   3. extraneous
   4. confounding

Answer: B

Page number: 52

Feedback: The dependent variable is the aspect of an experiment that is allowed to vary freely to see if it is affected by changes in the independent variable.

QZ

1. In an experiment concerning the effect of food deprivation on activity level, food deprivation is the \_\_\_\_\_ variable.
   1. dependent
   2. confounding
   3. independent
   4. extraneous

Answer: C

Page number: 52

Feedback: Food deprivation is the independent variable in the experiment.

MD

1. In an experiment concerning the effect of food deprivation on activity level, activity level is the \_\_\_\_\_ variable.
   1. dependent
   2. confounding
   3. independent
   4. extraneous

Answer: A

Page number: 52

Feedback: In the experiment concerning the effect of food deprivation on activity level, activity level is the dependent variable.

1. In the experiment with the rats and the goal box, the \_\_\_\_\_ is the independent variable.
   1. level of activity
   2. food
   3. goal box
   4. rat

Answer: B

Page number: 52

Feedback: In the experiment with the rats and the goal box, depending on the “experimental condition” to which rats have been randomly assigned, they receive one, two, or three pellets of food each time they reach the goal box. Thus, the independent variable in this experiment is the number of food pellets the rats in each group receive when they reach the goal box.

1. Suppose you are experimenting with the effects of sleep deprivation on memory. In this case, sleep deprivation is a(n):
   1. extraneous variable.
   2. dependent variable.
   3. independent variable.
   4. mediating variable.

Answer: C

Page number: 52

Feedback: If you are experimenting with the effects of sleep deprivation on memory, sleep deprivation is an independent variable. The independent variable is the aspect of an experiment that is made to systematically vary across the different conditions in the experiment. In other words, the independent variable is what is manipulated in an experiment.

1. In the experiment with the rats and the goal box, the \_\_\_\_\_ is the dependent variable.
   1. rat
   2. goal box
   3. level of activity
   4. food

Answer: C

Page number: 52

Feedback: In the rat experiment, the dependent variable could be the total number of errors (i.e., number of wrong turns) the rat makes while trying to find its way to the goal box. Alternatively, the speed with which the rat reaches the goal box is also the dependent variable in the experiment.

1. In the experiment with the rats and the goal box, the number of food pellets given when the rats reach the goal box is the:
   1. extraneous variable.
   2. confounding variable.
   3. dependent variable.
   4. independent variable.

Answer: D

Page number: 52

Feedback: The independent variable in this experiment is the number of food pellets the rats in each group receive when they reach the goal box.

WWW

**Functional Relationships**

1. The relationship between changes in an independent variable and changes in a dependent variable is known as a(n) \_\_\_\_\_ relationship.
   1. operational
   2. variable
   3. mechanistic
   4. functional

Answer: D

Page number: 52

Feedback: The relationship between changes in an independent variable and changes in a dependent variable is known as a functional relationship.

1. If a certain diet affects the extent to which one is likely to acquire a certain disease, then there is a(n) \_\_\_\_\_ relationship between the diet and the disease.
   1. operational
   2. mechanistic
   3. functional
   4. independent

Answer: C

Page number: 52

Feedback: If a certain diet affects the extent to which one is likely to acquire a certain disease, then there is a functional relationship between the diet and the disease. The relationship between changes in an independent variable and changes in a dependent variable is known as a functional relationship.

FN

1. A cause-and-effect relationship could also be called a(n) \_\_\_\_\_ relationship.
   1. independent
   2. functional
   3. derivative
   4. mechanistic

Answer: B

Page number: 53

Feedback: A functional relationship can also be thought of as a cause-and-effect relationship, with changes in the independent variable being the cause and changes in the dependent variable being the effect.

1. Every time Randy watches a horror movie, he has a nightmare that same evening. If he never has a nightmare except when he watches a horror movie, it would indicate a(n) \_\_\_\_\_ between watching horror movies and having nightmares.
   1. spurious relationship
   2. functional relationship
   3. establishing operation
   4. operational relationship

Answer: B

Page number: 52–53

Feedback: If Randy never has a nightmare except when he watches a horror movie, it would indicate a functional relationship between watching horror movies and having nightmares. A functional relationship can also be thought of as a cause-and-effect relationship, with changes in the independent variable being the cause and changes in the dependent variable being the effect. Behaviorists are typically interested in discovering functional relationships between changes in environmental events and changes in behavior.

QZ

1. Mosquito repellents that contain the chemical agent DEET are significantly more effective than those that do not contain DEET. In other words, there is a \_\_\_\_\_ relationship between the presence of DEET and the number of mosquito bites.
   1. formational
   2. nonformational
   3. functional
   4. nonfunctional

Answer: C

Page number: 52

Feedback: There is a functional relationship between the presence of DEET and the number of mosquito bites. The relationship between changes in an independent variable and changes in a dependent variable is known as a functional relationship.

**Stimulus and Response**

1. A stimulus is any event that can:
   1. potentially influence behavior.
   2. be transformed into a behavior.
   3. be measured.
   4. be detected.

Answer: A

Page number: 53

Feedback: A stimulus is any event that can potentially influence behavior.

1. A flashing light, a loud bang, and a bad smell are all:
   1. extraneous variables.
   2. stimuli.
   3. confounding variables.
   4. responses.

Answer: B

Page number: 53

Feedback: A stimulus is any event that can potentially influence behavior. Light, sound, and odor are examples of stimuli.

1. The sound of a door slam causes your cat to jump off the couch. The sound of the door slamming is a(n):
   1. confounding variable.
   2. stimulus.
   3. extraneous variable.
   4. reaction.

Answer: B

Page number: 53

Feedback: The sound of door slamming is a stimulus. A stimulus is any event that can potentially influence behavior. Light, sound, and odor are examples of stimuli.

1. A \_\_\_\_\_ is a specific instance of behavior.
   1. stimulus
   2. releaser
   3. response
   4. operation

Answer: C

Page number: 53

Feedback: A response is a particular instance of a behavior.

1. With respect to a rat’s behavior of pressing a lever for food, a single lever press is an example of a(n):
   1. operation.
   2. stimulus.
   3. independent variable.
   4. response.

Answer: D

Page number: 53

Feedback: A stimulus is any event that can potentially influence behavior, and a response is a particular instance of a behavior. With respect to a rat’s behavior of pressing a lever for food, a single lever press is an example of a response.

1. Jan winks at Tyler. The wink is an example of a(n) \_\_\_\_\_ by Jan and a \_\_\_\_\_ for Tyler.
   1. response; stimulus
   2. stimulus; response
   3. operation; dependent variable
   4. response; response

Answer: A

Page number: 53

Feedback: A stimulus is any event that can potentially influence behavior, and a response is a particular instance of a behavior. The wink is an example of a response by Jan and a stimulus for Tyler.

**Overt and Covert Behavior**

1. The term \_\_\_\_\_ behavior refers to any behavior that has the potential for being directly observed by another individual.
   1. covert
   2. dependent
   3. overt
   4. independent

Answer: C

Page number: 54

Feedback: Overt behavior is behavior that can potentially be observed by an individual other than the one performing the behavior.

1. The push-ups that I did this morning are best described as an example of a(n):
   1. extraneous behavior.
   2. impulsive behavior.
   3. covert behavior.
   4. overt behavior.

Answer: D

Page number: 54

Feedback: The push-ups that I did this morning are best described as an example of an overt behavior. Overt behavior is behavior that can potentially be observed by an individual other than the one performing the behavior.

QZ

1. The term \_\_\_\_\_ behavior refers to any behavior that can be subjectively perceived only by the person performing the behavior.
   1. covert
   2. extraneous
   3. overt
   4. implosive

Answer: A

Page number: 54

Feedback: Covert behavior is behavior that can be perceived only by the person performing the behavior.

1. The dream I had last night is best described as an example of a(n):
   1. extraneous behavior.
   2. establishing operation.
   3. covert behavior.
   4. overt behavior.

Answer: C

Page number: 54

Feedback: The dream I had last night is best described as an example of a covert behavior. Covert behavior is behavior that can be perceived only by the person performing the behavior.

1. Whenever Mehmed listens to a lecture by Dr. Dull, he begins to daydream. From Mehmed’s perspective, the daydreaming is a(n) \_\_\_\_\_, while the lecture by Dr. Dull is a \_\_\_\_\_.
   1. overt response; covert response
   2. stimulus; covert response
   3. overt response; stimulus
   4. covert response; stimulus

Answer: D

Page number: 53–54

Feedback: From Mehmed’s perspective, the daydreaming is a covert response, while the lecture by Dr. Dull is a stimulus. A stimulus is any event that can potentially influence behavior, and a response is a particular instance of a behavior. Covert behavior is behavior that can be perceived only by the person performing the behavior.

WWW

1. Overt behavior is to \_\_\_\_\_ as covert behavior is to \_\_\_\_\_.
   1. talking; daydreaming
   2. thinking; acting
   3. establishing; reacting
   4. dreaming; thinking

Answer: A

Page number: 54

Feedback: Overt behavior is to talking as covert behavior is to daydreaming. Overt behavior is behavior that can potentially be observed by an individual other than the one performing the behavior. Covert behavior is behavior that can be perceived only by the person performing the behavior.

**Appetitive and Aversive Stimuli**

1. A(n) \_\_\_\_\_ stimulus is one that an organism will move toward.
   1. functional
   2. adversive
   3. appetitive
   4. aversive

Answer: C

Page number: 54

Feedback: An appetitive stimulus is an event that an organism will seek out.

1. A(n) \_\_\_\_\_ stimulus is one that an animal will move away from.
   1. functional
   2. aversive
   3. appetitive
   4. imperative

Answer: B

Page number: 54

Feedback: An aversive stimulus is an event that an organism will avoid.

1. Pleasant is to \_\_\_\_\_ as unpleasant is to \_\_\_\_\_.
   1. functional; imperative
   2. imperative; adversive
   3. adversive; appetitive
   4. appetitive; aversive

Answer: D

Page number: 54

Feedback: Pleasant is to appetitive as unpleasant is to aversive. An appetitive stimulus is an event that an organism will seek out. An aversive stimulus is an event that an organism will avoid.

1. For most children, a bee sting is to \_\_\_\_\_ as candy is to \_\_\_\_\_.
   1. adversive; imperative
   2. appetitive; aversive
   3. aversive; appetitive
   4. adversive; appetitive

Answer: C

Page number: 54

Feedback: For most children, a bee sting is to aversive as candy is to appetitive. An appetitive stimulus is an event that an organism will seek out. An aversive stimulus is an event that an organism will avoid.

1. If someone goes “looking for a fight,” then fighting must be a(n) \_\_\_\_\_ stimulus for that individual.
   1. aversive
   2. appositive
   3. appetitive
   4. nonfunctional

Answer: C

Page number: 54

Feedback: If someone goes “looking for a fight,” then fighting must be an appetitive stimulus for that individual. An appetitive stimulus is an event that an organism will seek out.

**Motivating Operations**

1. Depriving an animal of food is an example of a(n):
   1. functional operation.
   2. establishing operation.
   3. establishing response.
   4. stimulus operation.

Answer: B

Page number: 56

Feedback: Depriving an animal of food is an example of an establishing operation. An establishing operation is a procedure that increases the appetitiveness or aversiveness of an event.

1. A procedure that increases the appetitiveness or aversiveness of a stimulus is called a(n):
   1. establishing procedure.
   2. establishing operation.
   3. consequence strengthening procedure.
   4. consequence strengthening operation.

Answer: B

Page number: 56

Feedback: An establishing operation is a procedure that increases the appetitiveness or aversiveness of an event.

1. Jared got sick after eating too much cake. From then onward, he could no longer eat cake. The act of eating too much cake functioned as a(n) \_\_\_\_\_ with respect to the subsequent likelihood of again eating cake.
   1. establishing response
   2. dependent variable
   3. extraneous operation
   4. establishing operation

Answer: D

Page number: 56

Feedback: Jared getting sick after eating too much cake is an example of an establishing operation. An establishing operation is a procedure that increases the appetitiveness or aversiveness of an event.

MD

1. Joanna does not feed her dog during the day to ensure that he eats all of his dinner that evening. This is an example of:
   1. shaping.
   2. negative punishment.
   3. extinction.
   4. an establishing operation.

Answer: D

Page number: 56

Feedback: Joanna feeding her dog only in the evening to ensure he eats all his dinner illustrates an establishing operation. An establishing operation is a procedure that increases the appetitiveness or aversiveness of an event.

FN

1. A(n) \_\_\_\_\_ is a procedure that decreases the appetitiveness or aversiveness of an event.
   1. deprivation procedure
   2. establishing operation
   3. abolishing operation
   4. extinction procedure

Answer: C

Page number: 56

Feedback: An abolishing operation is a procedure that decreases the appetitiveness or aversiveness of an event.

1. Too much is to very little as \_\_\_\_\_ is to \_\_\_\_\_.
   1. divestiture ; deprivation
   2. deprivation; divestiture
   3. satiation; deprivation
   4. deprivation; satiation

Answer: C

Page number: 56

Feedback: Too much is to very little as satiation is to deprivation. Deprivation is the prolonged absence of an event, and satiation is the prolonged exposure to or consumption of an event.

1. Deprivation usually \_\_\_\_\_ the \_\_\_\_\_ of an event.
   1. decreases; appetitiveness
   2. increases; appetitiveness
   3. decreases; adversiveness
   4. increases; imperativeness

Answer: B

Page number: 56

Feedback: Deprivation is an establishing operation that increases the appetitiveness of an event.

1. After eating a dozen hot dogs in one sitting, chances are that you would feel quite:
   1. deprived.
   2. famished.
   3. satiated.
   4. deviated.

Answer: C

Page number: 56

Feedback: After eating a dozen hot dogs in one sitting, chances are that you would feel quite satiated. Satiation is the prolonged exposure to or consumption of an event.

QZ

1. Satiation usually \_\_\_\_\_ the \_\_\_\_\_ of an event.
   1. decreases; appetitiveness
   2. decreases; aversiveness
   3. decreases; imperativeness
   4. increases; appetitiveness

Answer: A

Page number: 56

Feedback: Satiation is the prolonged exposure to or consumption of an event that results in decrease in the appetitiveness of an event.

**Contiguity and Contingency**

1. Closeness is to \_\_\_\_\_ as prediction is to \_\_\_\_\_.
   1. functionality; contiguity
   2. contingency; functionality
   3. contingency; contiguity
   4. contiguity; contingency

Answer: D

Page number: 56–57

Feedback: Closeness is to contiguity as prediction is to contingency. Contiguity means “closeness or nearness,” while contingency is a predictive (or functional) relationship between two events.

1. Prediction is to nearness as:
   1. contingent is to noncontingent.
   2. noncontingent is to contingent.
   3. contiguous is to contingent.
   4. contingent is to contiguous.

Answer: D

Page number: 56–57

Feedback: Prediction is to nearness as contingent is to contiguous. Contiguity means “closeness or nearness,” while contingency is a predictive (or functional) relationship between two events.

1. The term \_\_\_\_\_ refers to the extent to which events occur close together in time.
   1. temporal contiguity
   2. spatial contiguity
   3. temporal contingency
   4. spatial contingency

Answer: A

Page number: 56

Feedback: Temporal contiguity is the extent to which events occur close together in time.

1. The term \_\_\_\_\_ refers to the extent to which events occur in close physical proximity to each other.
   1. temporal contiguity
   2. spatial contiguity
   3. temporal contingency
   4. spatial contingency

Answer: B

Page number: 57

Feedback: Spatial contiguity is the extent to which events are situated close to each other in space.

1. In a residence, students are often most likely to date those who live in units that are relatively near to their own. In other words, \_\_\_\_\_ seems to be an important factor in the formation of relationships.
   1. spatial contiguity
   2. temporal contiguity
   3. temporal contingency
   4. spatial contingency

Answer: A

Page number: 57

Feedback: In the residence, spatial contiguity seems to be an important factor in the formation of relationships. Spatial contiguity is the extent to which events are situated close to each other in space.

1. At the sound of the starter’s pistol, the sprinters quickly start running. Thus, the sound of the pistol and the start of running are:
   1. temporally conjunctive.
   2. spatially contiguous.
   3. temporally contiguous.
   4. spatially contingent.

Answer: C

Page number: 56

Feedback: The sound of the pistol and the start of running are temporally contiguous. Temporal contiguity is the extent to which events occur close together in time.

1. A chair and a table are side by side. This means that they are:
   1. temporally contingent.
   2. temporally contiguous.
   3. spatially contingent.
   4. spatially contiguous.

Answer: D

Page number: 57

Feedback: The chair and the table are spatially contiguous. Spatial contiguity is the extent to which events are situated close to each other in space.

WWW

1. The term \_\_\_\_\_ refers to a predictive relationship between two events.
   1. covariance
   2. contiguity
   3. contingency
   4. correlation

Answer: C

Page number: 57

Feedback: A contingency is a predictive (or functional) relationship between two events, such that the occurrence of one event predicts the probable occurrence of another.

1. Debbie suffers from insomnia whenever she drinks coffee in the evening. In other words, her insomnia is \_\_\_\_\_ upon coffee drinking.
   1. spatially contiguous
   2. contingent
   3. covariable
   4. functionally contiguous

Answer: B

Page number: 57

Feedback: Debbie’s insomnia is contingent upon coffee drinking. A contingency is a predictive (or functional) relationship between two events, such that the occurrence of one event predicts the probable occurrence of another.

FN

1. If there exists a causal relationship between event A and outcome B, then:
   1. A is contingent on B.
   2. B is contingent on A.
   3. A is spatially contiguous with B.
   4. B is spatially contiguous with A.

Answer: B

Page number: 57

Feedback: If there exists a causal relationship between event A and outcome B, then B is contingent on A. A contingency is a predictive (or functional) relationship between two events, such that the occurrence of one event predicts the probable occurrence of another.

**Measurement of Behavior**

**Behavioral Definitions**

1. A good behavioral definition should refer to some \_\_\_\_\_ aspect of the behavior.
   1. subjective
   2. covert
   3. abstract
   4. observable

Answer: D

Page number: 58

Feedback: Good behavioral definitions should be objective in the sense that they refer to some observable aspect of an individual’s behavior.

1. A good behavioral definition should be:
   1. objective and ambiguous.
   2. subjective and abstract.
   3. objective and unambiguous.
   4. unambiguous and abstract.

Answer: C

Page number: 58

Feedback: Good behavioral definitions should be objective in the sense that they refer to some observable aspect of an individual’s behavior.

1. Which of the following would constitute the most important aspect of a good behavioral definition of shyness?
   1. Avoidance of groups of individuals
   2. Feelings of shyness
   3. Thoughts of shyness
   4. Both b and c are correct.

Answer: A

Page number: 58

Feedback: Avoidance of groups of individuals would constitute the most important aspect of a good behavioral definition of shyness. Good behavioral definitions should be objective in the sense that they refer to some observable aspect of an individual’s behavior.

**Recording Methods**

1. A(n) \_\_\_\_\_ measure of behavior is the frequency with which a behavior occurs in a set period of time.
   1. duration
   2. interval
   3. latency
   4. rate

Answer: D

Page number: 59

Feedback: Rate of response is the frequency with which a response occurs in a certain period of time.

1. A useful device for measuring the \_\_\_\_\_ of a behavior is a cumulative recorder.
   1. topography
   2. rate
   3. latency
   4. intensity

Answer: B

Page number: 59–60

Feedback: Rate of response is the frequency with which a response occurs in a certain period of time. A cumulative recorder is a classic device that measures the total number of responses over time and provides a graphic depiction of the rate of behavior.

1. Rate of response is a favorite measure of behavior for some researchers because it is:
   1. a very salient measure of behavior.
   2. a very sensitive measure of behavior.
   3. a very robust measure of behavior.
   4. a very subjective measure of behavior.

Answer: B

Page number: 59

Feedback: Rate is a particularly favored measure among some behaviorists, because it tends to be highly sensitive to the influence of other variables.

1. If I wish to measure the effect of slight changes in caffeine level on a rat’s behavior, I would need a sensitive measure of behavior. I should consider using a(n) \_\_\_\_\_ measure of response.
   1. interval
   2. latency
   3. rate
   4. topography

Answer: C

Page number: 59

Feedback: Rate is a particularly favored measure among some behaviorists, because it tends to be highly sensitive to the influence of other variables.

1. If I wish to test the effects of minor sleep deprivation on a rat’s behavior, it would probably be wise to use a \_\_\_\_\_ measure of behavior, because it is very sensitive.
   1. duration
   2. rate
   3. speed
   4. topographical

Answer: B

Page number: 59

Feedback: Rate is a particularly favored measure among some behaviorists, because it tends to be highly sensitive to the influence of other variables.

WWW

1. On a cumulative record, a \_\_\_\_\_ indicates a \_\_\_\_\_ of response.
   1. flat line; high rate
   2. steep line; low rate
   3. shallow line; high rate
   4. None of these are correct.

Answer: D

Page number: 60

Feedback: On a cumulative record, a low rate of response produces a line that slopes upward at a shallow angle (because the pen is slowly moving upward while the paper passes beneath it), whereas a high rate of response produces a line that slopes upward at a steep angle.

1. On a cumulative record, a \_\_\_\_\_ indicates a \_\_\_\_\_ of response.
   1. flat line; lack of
   2. steep line; low rate
   3. shallow line: high rate
   4. All of these are correct.

Answer: A

Page number: 60

Feedback: On a cumulative record, if there are no responses for a period of time, the pen remains stationary while the paper unrolls beneath it. This results in a flat, horizontal line along the paper, with longer lines indicating longer periods of no responding.

QZ

1. On a cumulative record, a \_\_\_\_\_ indicates a \_\_\_\_\_ of response.
   1. flat line; high rate
   2. steep line; high rate
   3. shallow line; low rate
   4. Both b and c are correct.

Answer: D

Page number: 60

Feedback: On a cumulative record, a low rate of response produces a line that slopes upward at a shallow angle (because the pen is slowly moving upward while the paper passes beneath it), whereas a high rate of response produces a line that slopes upward at a steep angle.

MD

1. On a cumulative record, a \_\_\_\_\_ indicates a \_\_\_\_\_ of response.
   1. flat line; high rate
   2. steep line; lack of
   3. shallow line; low rate
   4. Both b and c are correct.

Answer: C

Page number: 60

Feedback: On a cumulative record, a low rate of response produces a line that slopes upward at a shallow angle (because the pen is slowly moving upward while the paper passes beneath it), whereas a high rate of response produces a line that slopes upward at a steep angle.

FN

1. On a cumulative record, a \_\_\_\_\_ line indicates a period of \_\_\_\_\_ response.
   1. vertical; no
   2. shallow; rapid
   3. steep; slow
   4. horizontal; no

Answer: D

Page number: 60

Feedback: On a cumulative record, if there are no responses for a period of time, the pen remains stationary while the paper unrolls beneath it. This results in a flat, horizontal line along the paper, with longer lines indicating longer periods of no responding.

WWW

1. The \_\_\_\_\_ of a behavior is its force or magnitude.
   1. topography
   2. latency
   3. intensity
   4. rate

Answer: C

Page number: 60

Feedback: The intensity of a behavior is the force or magnitude of the behavior.

1. The loudness of my voice when I am in a stressful situation would be a(n) \_\_\_\_\_ measure of my stress level.
   1. topography
   2. latency
   3. duration
   4. intensity

Answer: D

Page number: 60

Feedback: The loudness of my voice when I am in a stressful situation would be an intensity measure of my stress level. The intensity of a behavior is the force or magnitude of the behavior.

1. The number of hours that I clean house each week is a \_\_\_\_\_ measure of behavior, while the length of time that I procrastinate before starting to clean house on a particular evening is a \_\_\_\_\_ measure of behavior.
   1. latency; speed
   2. duration; latency
   3. speed; latency
   4. duration; speed

Answer: B

Page number: 61–62

Feedback: The number of hours that I clean house each week is a duration measure of behavior, while the length of time that I procrastinate before starting to clean house on a particular evening is a latency measure of behavior. Duration is the length of time that an individual repeatedly or continuously performs a behavior. The latency of a behavior is the length of time required for a behavior to begin.

1. The amount of time that I spend driving my car each week is an example of a \_\_\_\_\_ measure of behavior.
   1. speed
   2. duration
   3. latency
   4. rate

Answer: B

Page number: 61

Feedback: The amount of time that I spend driving my car each week is an example of a duration measure of behavior. Duration is the length of time that an individual repeatedly or continuously performs a behavior.

WWW

1. Jonah’s piano teacher is trying to get him to shorten the time it takes for him to learn to play a Beethoven sonata. The appropriate behavioral measure is therefore:
   1. duration.
   2. latency.
   3. topography.
   4. speed.

Answer: D

Page number: 61

Feedback: The appropriate behavioral measure in Jonah’s case is speed. Speed is the length of time it takes for an episode of behavior to occur from start to finish.

1. In assessing a person’s sleep patterns, you include a measure of how long it takes before the person falls asleep after he or she goes to bed. This would be regarded as a(n) \_\_\_\_\_ measure of his or her sleep behavior.
   1. speed
   2. intensity
   3. topography
   4. latency

Answer: D

Page number: 62

Feedback: The length of time it takes before a person falls asleep after he or she goes to bed would be regarded as a latency measure of his or her sleep behavior. The latency of a behavior is the length of time required for a behavior to begin.

FN

1. The length of time it takes me to finish cleaning my apartment, from start to finish, is a \_\_\_\_\_ measure of behavior.
   1. duration
   2. latency
   3. speed
   4. interval

Answer: C

Page number: 61

Feedback: Speed is the length of time it takes for an episode of behavior to occur from start to finish.

1. The amount of time it takes before I get out of bed in the morning is an example of \_\_\_\_\_; the amount of time it takes me to finish shaving is an example of \_\_\_\_\_.
   1. latency; speed
   2. duration; latency
   3. speed; duration
   4. latency; duration

Answer: A

Page number: 61–62

Feedback: The amount of time it takes before I get out of bed in the morning is an example of latency; the amount of time it takes me to finish shaving is an example of speed. The latency of a behavior is the length of time required for a behavior to begin. Speed is the length of time it takes for an episode of behavior to occur from start to finish.

QZ

1. As I watch television for four hours one evening, I make a record of whether there occurred at least one example of sexual humor during each half-hour segment. This is an example of a(n) \_\_\_\_\_ method of recording.
   1. time-sample
   2. duration
   3. interval
   4. rate

Answer: C

Page number: 62

Feedback: The scenario is an example of an interval method of recording. Interval recording is the measurement of whether or not a behavior occurs during each interval within a series of continuous intervals.

1. Laura is concerned that her little daughter is watching too much television, and would, therefore, like to measure the occurrence of this behavior. Given that Laura has a lot of other things to do each evening, her best bet would be to use:
   1. a rate measure.
   2. interval recording.
   3. time-sample recording.
   4. a topographical procedure.

Answer: C

Page number: 63

Feedback: Since Laura has a lot of other things to do each evening, her best bet would be to use time-sample recording. In time-sample recording, one measures whether or not a behavior occurs during each interval within a series of discontinuous intervals.

WWW

1. As I watch television for a four-hour stretch one evening, I record the *number* of aggressive incidents that occur during *each* one-hour period. I am taking a(n) \_\_\_\_\_ measure of the behavior.
   1. time-sample
   2. interval
   3. rate
   4. duration

Answer: B

Page number: 62

Feedback: Interval recording is the measurement of whether or not a behavior occurs during each interval within a series of continuous intervals.

1. At the end of every 30-minute period, Sarah records whether her baby had cried at least once during that 30 minute period. She is using the method of \_\_\_\_\_ to assess the baby’s tendency to cry.
   1. duration recording
   2. interval recording
   3. time-sample recording
   4. latency recording

Answer: B

Page number: 62

Feedback: Sarah is using the method of interval recording to assess the baby’s tendency to cry. Interval recording is the measurement of whether or not a behavior occurs during each interval within a series of continuous intervals.

1. In an interval recording procedure, instances of noncompliant behavior are recorded within 4 of the 12 intervals; no instances of noncompliant behavior are recorded within 8 of the 12 intervals. As a result, the level of noncompliant behavior calculated is:
   1. 33.3%.
   2. 50%.
   3. 66.7%.
   4. This cannot be calculated without knowing the number of noncompliant behaviors within each interval.

Answer: A

Page number: 62

Feedback: The level of noncompliant behavior calculated is 33.3%. The percentage of intervals during which at least one incident occurred is our overall measure of the behavior.

MD

1. The number of incidents of swearing occurring in each of ten 5-minute intervals is 2, 4, 0, 1, 1, 3, 2, 2, 5, 0. Using an *interval* recording procedure, the overall level of swearing calculated is:
   1. 2%.
   2. 20%.
   3. 8%.
   4. 80%.

Answer: D

Page number: 62

Feedback: The overall level of swearing calculated is 80%. The percentage of intervals during which at least one incident occurred is our overall measure of the behavior.

1. In a series of twenty intervals, John bites his nails the following number of times: 2, 0, 1, 2, 0, 1, 1, 1, 0, 1, 0, 2, 1, 1, 1, 2, 2, 1, 1, 0. Using an *interval* recording procedure, the overall level of nail-biting calculated is:
   1. 1%.
   2. 20%.
   3. 100%.
   4. 75%.

Answer: D

Page number: 62

Feedback: The overall level of nail-biting calculated is 75%. The percentage of intervals during which at least one incident occurred is our overall measure of the behavior.

FN

1. I watch television for several one-hour periods randomly dispersed throughout the month. Each time I watch it, I also make a note of whether at least one murder was depicted during that period of time. This is best described as a(n) \_\_\_\_\_ method of determining the overall depiction of homicide on television.
   1. time-sample
   2. duration
   3. interval
   4. rate

Answer: A

Page number: 63

Feedback: The scenario illustrates a time-sample method of determining the overall depiction of homicide on television. In time-sample recording, one measures whether or not a behavior occurs during each interval within a series of discontinuous intervals.

1. The judges at a high diving competition are mostly concerned with the \_\_\_\_\_ of the behavior.
   1. intensity
   2. rate
   3. duration
   4. topography

Answer: D

Page number: 63

Feedback: The judges at a high diving competition are mostly concerned with the topography of the behavior. The topography of a behavior is the physical form of the behavior.

1. Learning how to write neatly is an example of a change in:
   1. rate.
   2. speed.
   3. latency.
   4. topography.

Answer: D

Page number: 63

Feedback: Learning how to write neatly is an example of a change in topography. The topography of a behavior is the physical form of the behavior.

1. The topography of a behavior is the:
   1. physical intensity of the behavior.
   2. physical form of the behavior.
   3. amount of time it takes to complete a behavioral episode.
   4. amount of time it takes to begin a behavioral episode.

Answer: B

Page number: 63

Feedback: The topography of a behavior is the physical form of the behavior.

1. In a dance competition, the judges are mostly concerned with the \_\_\_\_\_ of the behavior.
   1. topography
   2. latency
   3. duration
   4. intensity

Answer: A

Page number: 63

Feedback: In a dance competition, the judges are mostly concerned with the topography of the behavior. The topography of a behavior is the physical form of the behavior.

1. If a dog trainer determines whether a dog is correctly performing a complicated trick by examining the physical form of the behavior, she is measuring the behavior’s \_\_\_\_\_, but if she records the number of times the dog makes a mistake, then she is measuring \_\_\_\_\_.
   1. topography; intensity
   2. intensity; rate
   3. topography; error rate
   4. interval; error rate

Answer: C

Page number: 63

Feedback: The topography of a behavior is the physical form of the behavior. Any behavior in which responses can be categorized as right or wrong can be assessed in terms of the number of errors.

1. A restaurant manager keeps track of the number of incorrect orders sent back to the kitchen. In this scenario, the manager records the:
   1. fault ratio.
   2. error rate.
   3. interval recording.
   4. topography.

Answer: B

Page number: 63

Feedback: In the given scenario, the manager records the error rate. Any behavior in which responses can be categorized as right or wrong can be assessed in terms of the number of errors.

**Assessing Reliability**

1. Which of the following is an acceptable rate of interobserver reliability?
   1. 10%
   2. 25%
   3. 50%
   4. 80%

Answer: D

Page number: 64

Feedback: 80% is often regarded as the minimum acceptable level of interobserver reliability and 90% as the preferred level.

1. Two researchers have watched the same video in order to determine if incidents of aggression occurred during various intervals of time during a single day in a daycare. One researcher saw incidents of aggression in 8 out of 10 intervals, and the second researcher saw incidents of aggression in 7 out of 10 intervals. They disagreed on 1 out of the 10 intervals. What is being measured in this example?
   1. Fault ratio
   2. Error rate
   3. Interobserver reliability
   4. Topography

Answer: C

Page number: 63–64

Feedback: Interobserver reliability is being measured in this example. This is an important issue when the data is being gathered by observers who might vary widely in their judgments as to whether or not a particular behavior has occurred.

**Research Designs**

**Descriptive Research**

1. The \_\_\_\_\_ methods of research do not involve the manipulation of variables.
   1. single-subject
   2. experimental
   3. control group
   4. descriptive

Answer: D

Page number: 65

Feedback: Descriptive research involves gathering information about a behavior and the circumstances within which it occurs. It does not involve the manipulation of any variables.

1. Bird-watching is most similar to what type of research?
   1. Case study
   2. Naturalistic observation
   3. Descriptive research
   4. Both b and c are correct.

Answer: D

Page number: 65

Feedback: Bird watching is similar to both naturalistic observation and descriptive research. Descriptive research involves gathering information about a behavior and the circumstances within which it occurs. Naturalistic observation is one in which one systematically observes and records the occurrence of a behavior in its natural environment.

1. Innate patterns of behavior in animals are often studied using the:
   1. naturalistic observation approach.
   2. case study approach.
   3. control group design.
   4. single-subject design.

Answer: A

Page number: 66

Feedback: Naturalistic observation is one in which one systematically observes and records the occurrence of a behavior in its natural environment. It is a commonly used approach in ethology (or behavioral ecology), a branch of zoology that focuses on the study of inherited behavior patterns in animals.

1. Descriptive research methods include:
   1. single-subject designs and case studies.
   2. the case study approach and the survey approach.
   3. naturalistic observation and single-subject designs.
   4. control group designs and single-subject designs.

Answer: B

Page number: 65

Feedback: Descriptive methods include the survey approach, in which individuals answer a series of questions, and the case study approach, which involves the intensive study of a single individual.

1. A rare type of psychiatric disorder is most likely to be studied using the:
   1. naturalistic observation approach.
   2. case study approach.
   3. control group design.
   4. comparative design.

Answer: B

Page number: 65

Feedback: A rare type of psychiatric disorder is most likely to be studied using the case study approach. The case study approach involves the intensive study of a single individual.

1. The intensive examination of a person’s life both prior to and after they have experienced an unpredictable traumatic event is an example of the:
   1. naturalistic approach.
   2. case study approach.
   3. simple comparison design.
   4. reversal design.

Answer: B

Page number: 65

Feedback: The intensive examination of a person’s life both prior to and after they have experienced an unpredictable traumatic event is an example of the case study approach. The case study approach involves the intensive study of a single individual.

1. Problems with the descriptive research approach include:
   1. the possibility of oversimplifying the behavior pattern.
   2. the inability to determine cause-and-effect relationships.
   3. the need for sophisticated statistical analysis of the results.
   4. Both b and c are correct.

Answer: B

Page number: 66

Feedback: The main problem with descriptive research is that it often leaves us uncertain as to which variables affect the occurrence of a behavior; in other words, it is difficult to determine cause-and-effect (or functional) relationships.

**Experimental Research**

1. The main advantage of experimental research over descriptive research is the ability to:
   1. discover salient variables.
   2. apply statistical procedures to the results.
   3. discover cause-and-effect relationships.
   4. study the influence of dependent variables.

Answer: C

Page number: 67

Feedback: In their quest to discover functional relationships between environmental events and behavior, behavioral researchers have a strong preference for the experimental approach to research. In experimental research, one or more independent variables are systematically varied to determine their effect on a dependent variable. Any differences in behavior across the different conditions of the experiment are presumed to be caused by the differences in the independent variable.

1. The \_\_\_\_\_ research approach is distinguished by the \_\_\_\_\_ of variables.
   1. experimental; manipulation
   2. experimental; systematic observation
   3. descriptive; elimination
   4. descriptive; manipulation

Answer: A

Page number: 67

Feedback: In experimental research, one or more independent variables are systematically varied to determine their effect on a dependent variable.

1. If we wish to discover functional relationships, we are likely to use the \_\_\_\_\_ research approach.
   1. descriptive
   2. experimental
   3. naturalistic
   4. deterministic

Answer: B

Page number: 67

Feedback: In order to discover functional relationships between environmental events and behavior, behavioral researchers have a strong preference for the experimental approach to research.

**Group Designs**

101. A common control procedure in a group design is:

* 1. random assignment of subjects to groups.
  2. alternating assignment of subjects to groups.
  3. recording a 1-week baseline period.
  4. recording a 2-week baseline period.

Answer: A

Page number: 67

Feedback: In a simple control group design, individuals are randomly assigned to either an experimental (or treatment) group or a control group.

102. In a simple group experiment on the effects of food deprivation on activity level, the control group would:

* 1. show increased activity level.
  2. show decreased activity level.
  3. be subjected to food deprivation.
  4. eat normally.

Answer: D

Page number: 67

Feedback: In a simple control group design, individuals are randomly assigned to either an experimental (or treatment) group or a control group; the experimental group is then exposed to a certain manipulation or treatment, while the control group is not.

1. In a simple group experiment on the effects of punishment on response suppression in rats, the experimental group would:
   1. show decreased responding.
   2. show increased responding.
   3. be subjected to punishment.
   4. not be subjected to punishment.

Answer: C

Page number: 67

Feedback: In a simple control group design, individuals are randomly assigned to either an experimental (or treatment) group or a control group; the experimental group is then exposed to a certain manipulation or treatment, while the control group is not.

QZ

1. In a 2 x 3 factorial group design, there are:
   1. 3 treatment groups and 4 control groups.
   2. 3 dependent variables and 4 independent variables.
   3. two independent variables.
   4. two dependent variables.

Answer: C

Page number: 68

Feedback: In a 2 x 3 factorial design, there are two independent variables, the first of which has two levels and the second of which has three levels.

1. In a 2 x 2 factorial group design, there are:
   1. 2 treatment groups.
   2. 2 independent variables and 2 dependent variables.
   3. 2 independent variables.
   4. 2 dependent variables.

Answer: C

Page number: 69

Feedback: In a 2x2 factorial control group design, there are two independent variables, each of which has two levels.

1. A new teaching method is being tested on students. Three age groups of students will receive either the new method, or a standard (control) method. If the new method is only effective on the youngest age group of students, you would say that there is \_\_\_\_\_between the effects of the teaching method and the effects of age.
   1. no relationship
   2. an interaction
   3. a partial effect
   4. a control effect

Answer: B

Page number: 68

Feedback: Since the new teaching method is found effective only on the youngest age group of students, it would imply an interaction between the effects of the teaching method and the effects of age.

1. A(n) \_\_\_\_\_is a type of group design in which the species of animals within the study constitutes one of the independent variables.
   1. evolutionary design
   2. comparative design
   3. no-treatment design
   4. 2 x 2 design

Answer: B

Page number: 68

Feedback: A comparative design is a type of group design in which different species constitute one of the independent variables.

1. In which of the following studies would you expect to find a control group?
   1. Case study
   2. Survey
   3. A factorial design
   4. Naturalistic observation

Answer: C

Page number: 67–68

Feedback: One would expect to find a control group in a factorial design. In a factorial design, one examines the effects of two or more independent variables (or factors) across groups of subjects.

1. In which of the following designs would you NOT expect to have random assignment to groups?
   1. A simple-comparison design
   2. A factorial design
   3. A comparative design
   4. None of these are correct.

Answer: C

Page number: 68

Feedback: A comparative design is a type of group design in which different species constitute one of the independent variables.

1. Limitations of group designs include:
   1. the need for a large number of subjects.
   2. an overly strong focus on individual results.
   3. an inability to measure interaction effects.
   4. All of these are correct.

Answer: A

Page number: 69

Feedback: Group designs usually require a large number of subjects. For statistical reasons, the larger the number of subjects in a group, the more trustworthy the results.

1. Limitations of group designs include:
   1. little attention given to the behavior of individual subjects.
   2. the need for a large number of subjects.
   3. the fact that results are often interpreted only at the end of a study.
   4. All of these are correct.

Answer: D

Page number: 69–70

Feedback: Group designs usually require a large number of subjects; they typically focus on the average performance of all subjects in each group; the results are often analyzed and interpreted only at the end of an experiment, rather than during the experiment.

1. Control group designs are useful for studying:
   1. the behavior of one individual.
   2. the average effect of a variable on a large number of individuals.
   3. changing patterns of behavior throughout an experiment.
   4. Both a and c are correct.

Answer: B

Page number: 69

Feedback: Group designs are excellent for assessing the average effects of certain variables. Cause-and-effect conclusions are possible due to the strict control over the environment that allows an experimenter to rule out alternative explanations.

1. Which of the following designs requires the largest number of subjects?
   1. A simple-comparison design
   2. A control group design
   3. A reversal design
   4. A multiple baseline design

Answer: B

Page number: 69

Feedback: A control group design requires the largest number of subjects. Group designs usually require a large number of subjects. For statistical reasons, the larger the number of subjects in a group, the more trustworthy the results.

WWW

**Single-Subject Designs**

1. Single-subject designs are research designs that require:
   1. random assignment of subjects to groups.
   2. sophisticated statistical analysis.
   3. only one or a few subjects.
   4. Both b and c are correct.

Answer: C

Page number: 70

Feedback: Single-subject designs require only one or a few subjects to conduct an entire experiment.

**Simple-Comparison Design**

1. In a simple-comparison design, one compares the level of behavior in a(n) \_\_\_\_\_ with the level of behavior in a \_\_\_\_\_.
   1. experimental group; control group
   2. control group; baseline group
   3. baseline group; treatment group
   4. baseline condition; treatment condition

Answer: D

Page number: 70

Feedback: In a simple-comparison design, behavior in a baseline condition is compared to behavior in a treatment condition.

1. Which of the following is a disadvantage of the single-comparison design?
   1. It requires constant monitoring of a subject’s behavior throughout the experiment.
   2. It requires a large numbers of subjects to conduct an entire experiment.
   3. It requires sophisticated statistical analysis.
   4. It does not clearly demonstrate a functional relationship between the independent variable and the dependent variable.

Answer: D

Page number: 72

Feedback: The major problem with the simple-comparison design is that it does not control for the possibility that some other event occurred at the same time that a treatment was implemented, and it was this other event that caused the change in the behavior. The simple-comparison design does not allow us to assess this possibility and thus constitutes a poor experimental design. In other words, it does not clearly demonstrate a functional relationship between the independent variable and the dependent variable.

1. We measure a child’s homework completion during a week, in which he is consistently rewarded for doing his homework; versus the following week when he is completely ignored while doing his homework. This is an example of a \_\_\_\_\_ design.
   1. reversal
   2. simple-comparison
   3. multiple-baseline-across-time
   4. changing-criterion

Answer: B

Page number: 70

Feedback: In a simple-comparison design, behavior in a baseline condition is compared to behavior in a treatment condition. The condition where the child is consistently rewarded for homework completion is the baseline condition, and the condition where he is ignored while doing his homework is the treatment condition.

1. The baseline of a behavior is the:
   1. normal frequency of that behavior following an intervention.
   2. enhanced frequency of that behavior following an intervention.
   3. normal frequency of that behavior prior to an intervention.
   4. suppressed frequency of that behavior prior to an intervention.

Answer: C

Page number: 71

Feedback: The baseline of a behavior is the normal frequency of the behavior that occurs before some type of intervention.

1. Murielle has been feeling a lot better these past few weeks after she started avoiding caffeine. The procedure that Murielle has used to test the effects of caffeine is most similar to the \_\_\_\_\_ design, which is \_\_\_\_\_ for drawing firm conclusions about the effects of caffeine.
   1. simple-comparison; inadequate
   2. reversal; inadequate
   3. multiple-baseline; excellent
   4. simple-comparison; excellent

Answer: A

Page number: 70

Feedback: Murielle uses the simple-comparison design, which is inadequate for drawing firm conclusions about the effects of caffeine. In a simple-comparison design, behavior in a baseline condition is compared to behavior in a treatment condition.

MD

1. The problem with a simple-comparison design is that:
   1. it does not fully control for the influence of other variables.
   2. it is insufficient for demonstrating a clear functional relationship.
   3. the independent variable cannot be manipulated.
   4. Both a and b are correct.

Answer: D

Page number: 72

Feedback: The major problem with the simple-comparison design is that it does not control for the possibility that some other event occurred at the same time that the treatment was implemented, and it was this other event that caused the change in the behavior. In other words, it does not clearly demonstrate a functional relationship between the independent variable and the dependent variable.

**Reversal Design**

1. A(n) \_\_\_\_\_ design involves repeated alternations between a baseline condition and a treatment condition.
   1. multiple-baseline
   2. ABAB
   3. changing-criterion
   4. Both b and c are correct.

Answer: B

Page number: 73

Feedback: A reversal design, or ABAB design, consists of repeated alternations between a baseline phase and a treatment phase.

1. A reversal design is sometimes also called an:
   1. AB design
   2. ABA design
   3. ABAB design
   4. Both b and c are correct.

Answer: D

Page number: 73

Feedback: A reversal design, sometimes also called an ABA or ABAB design, consists of repeated alternations between a baseline phase and a treatment phase.

1. If I want to convince someone that his habit of watching exciting television shows each evening is causing his insomnia, it would be best to use which type of experimental design?
   1. A changing-criterion design
   2. A reversal design
   3. A Multiple-baseline across-persons design
   4. A simple-comparison design

Answer: B

Page number: 73

Feedback: A reversal design consists of repeated alternations between a baseline phase and a treatment phase. If the behavior systematically changes each time the treatment is instituted and later withdrawn, then a functional relationship has been demonstrated between the treatment and the behavior.

QZ

1. For a reversal design to clearly demonstrate the effectiveness of a certain treatment, the behavior must:
   1. return to its original baseline level during the second baseline phase.
   2. remain at the treatment level during the second baseline phase.
   3. remain at the baseline level during the treatment phase.
   4. Both b and c are correct.

Answer: A

Page number: 73

Feedback: If the behavior systematically changes each time the treatment is instituted and later withdrawn, then a functional relationship has been demonstrated between the treatment and the behavior.

FN

1. In a reversal design, the level of behavior in the first A phase needs to be \_\_\_\_\_ the level of behavior in the second A phase in order to prove that the treatment is effective.
   1. greater than
   2. less than
   3. the same as
   4. supplementary to

Answer: C

Page number: 73

Feedback: In a reversal design, the level of behavior in the first A phase needs to be the same as the level of behavior in the second A phase in order to prove that the treatment is effective. A reversal design consists of repeated alternations between a baseline phase and a treatment phase.

1. A reversal design that is conducted across four different subjects:
   1. constitutes four separate experiments.
   2. constitutes only one experiment.
   3. constitutes two separate experiments.
   4. is inadequate in the absence of a control group.

Answer: A

Page number: 74

Feedback: Since each subject in the study constitutes an entire experiment, each additional subject constitutes a replication of that experiment.

MD

1. Dr. Alvarez is treating Marcus for a behavioral problem. First, she records a baseline level of the behavior for several days. The rate of the behavior is quite high. Next, she implements a behavior modification program based on punishment. When that approach has little success in reducing the behavior, she tries a second program based on reinforcement. The second treatment appears to work and the behavior is dramatically reduced. She then goes back to baseline and the behavior reverts back to pre-treatment levels. When Dr. Alvarez once again implements the second treatment method, the behavior goes away. This is an example of:
   1. an ABBAB design.
   2. an ABCAC design.
   3. an unsuccessful simple comparison design.
   4. a multiple-baseline design.

Answer: B

Page number: 74

Feedback: It is also possible to use a reversal design to assess the effectiveness of more than one treatment. This would then be called an ABCAC design.

1. A reversal design may be inappropriate when:
   1. the behavior is expected to change quickly.
   2. the change in behavior may be irreversible.
   3. Both a and b are correct.
   4. Neither a nor b is correct.

Answer: B

Page number: 74

Feedback: A reversal design may be inappropriate if the behavior does not revert to its original baseline level when the treatment is withdrawn.

1. In treating a child for a tendency to attack other children, the most ethically problematic design to test the effectiveness of treatment would be a(n) \_\_\_\_\_ design.
   1. multiple-baseline across behaviors
   2. multiple-baseline across settings
   3. simple-comparison
   4. ABAB

Answer: D

Page number: 76

Feedback: A disadvantage with a reversal design (ABAB design) is that it may be ethically inappropriate to remove a treatment once some improvement has been obtained. An ABAB design consists of repeated alternations between a baseline phase and a treatment phase, and would therefore be ethically problematic in this scenario.

1. Which would be the most ethically problematic design for assessing a treatment procedure that seems to suppress Bob’s tendency to attack other patients on the ward?
   1. An ABAB design
   2. A simple-comparison design
   3. A multiple-baseline-across-persons design
   4. A multiple-baseline-across-behaviors design

Answer: A

Page number: 76

Feedback: A disadvantage with a reversal design (ABAB design) is that it may be ethically inappropriate to remove a treatment once some improvement has been obtained. An ABAB design consists of repeated alternations between a baseline phase and a treatment phase, and would therefore be ethically problematic in this scenario.

WWW

**Multiple-Baseline Designs**

1. In a multiple-baseline design, the treatment is implemented at different points in times across different:
   1. behaviors.
   2. situations.
   3. persons.
   4. All of these are correct.

Answer: D

Page number: 76

Feedback: In a multiple-baseline design, a treatment is instituted at successive points in time for two or more persons, settings, or behaviors.

1. Ivan creates a treatment program to alter his family’s tendency to swear at him. He first applies the program to his sister, then to his mother, and finally to his father. What type of research design is he employing to measure his family’s improvement?
   1. A multiple-baseline-across-behaviors design
   2. A multiple-baseline-across-persons design
   3. A reversal design across settings
   4. A reversal design across behaviors

Answer: B

Page number: 76–77

Feedback: Ivan employs a multiple-baseline-across-persons design across the three individuals. The treatment is implemented at different points in time. If the improvement in behavior coincides with the implementation of the treatment for each individual, then a functional relationship between the treatment and the improvement in behavior has been demonstrated.

1. If you were testing a behavioral treatment for eliminating a severe addiction in a small group of patients, the most appropriate and ethical design would be a(n) \_\_\_\_\_ design.
   1. multiple-baseline-across-persons
   2. control group
   3. ABAB
   4. ABA

Answer: A

Page number: 77

Feedback: In a multiple-baseline-across-persons design, a treatment is implemented at different points in time. If the improvement in behavior coincides with the implementation of the treatment for each individual, then a functional relationship between the treatment and the improvement in behavior has been demonstrated.

1. Jonathan decides to reduce his tendency to crack his knuckles, first at home and then at school. What type of research design is he employing to measure his improvement?
   1. A multiple-baseline-across-behaviors design
   2. A multiple-baseline-across-settings design
   3. A reversal design across settings
   4. A reversal design across behaviors

Answer: B

Page number: 77

Feedback: Jonathan is using a multiple-baseline-across-settings design, since he first tries to reduce his tendency to crack his knuckles at home and then at school.

1. Bruce decides to first reduce his tendency to smack his lips, then his tendency to spit on the road, and then finally his tendency to swear. What type of research design is he employing to measure his improvement?
   1. A multiple-baseline-across-behaviors design
   2. A multiple-baseline-across-settings design
   3. A simple-comparison design
   4. A changing-criterion design

Answer: A

Page number: 77

Feedback: Bruce uses a multiple-baseline-across-behaviors design. The treatment is implemented at different times for each behavior. If each behavior shows improvement only when the treatment is implemented, it shows a functional relationship between the treatment and behavior.

**Changing-Criterion Design**

1. In a changing-criterion design, one looks to see whether the behavior:
   1. matches a particular standard that is being systematically altered.
   2. fluctuates between alternating baseline and treatment conditions.
   3. changes as the treatment is applied to some other behavior.
   4. is in some manner irreversible.

Answer: A

Page number: 79

Feedback: A changing-criterion design is one in which the effect of the treatment is demonstrated by how closely the behavior matches a criterion that is being systematically altered.

1. What single-subject design can establish the existence of a cause-and-effect relationship and does not require a reversal to baseline?
   1. A simple comparison design
   2. A multiple-baseline-across-persons design
   3. A changing-criterion design
   4. Both b and c are correct.

Answer: D

Page number: 77–79

Feedback: The multiple-baseline-across-persons design and the changing criterion design can help establish the existence of a cause-and-effect relationship, and do not require a reversal to baseline.

MD

1. If the intent of your program is to gradually increase the amount of weight you lift each day, the most appropriate design for measuring your improvement would probably be a \_\_\_\_\_ design.
   1. multiple-baseline
   2. simple comparison
   3. changing-criterion
   4. reversal

Answer: C

Page number: 79

Feedback: A changing-criterion design is one in which the effect of the treatment is demonstrated by how closely the behavior matches a criterion that is being systematically altered.

1. The most appropriate design for slowly increasing the amount of running that you do each day would be a:
   1. changing-criterion design.
   2. simple-comparison design.
   3. multiple-baseline design.
   4. reversal design.

Answer: A

Page number: 79

Feedback: A changing-criterion design is one in which the effect of the treatment is demonstrated by how closely the behavior matches a criterion that is being systematically altered.

1. A \_\_\_\_\_ design is most appropriate for situations in which a behavior is expected to change gradually.
   1. multiple-baseline-across-persons
   2. reversal
   3. simple-comparison
   4. changing-criterion

Answer: D

Page number: 79

Feedback: A changing-criterion design is one in which the effect of the treatment is demonstrated by how closely the behavior matches a criterion that is being systematically altered.

QZ

1. Youcef sets up an exercise program in which he will try to gradually increase the number of push-ups he does each day. The most appropriate design for assessing the effectiveness of his program would be a:
   1. multiple-baseline design.
   2. changing-criterion design.
   3. reversal design.
   4. simple-comparison design.

Answer: B

Page number: 79

Feedback: The most appropriate design for assessing the effectiveness of Youcef’s program would be a changing-criterion design. A changing-criterion design is one in which the effect of the treatment is demonstrated by how closely the behavior matches a criterion that is being systematically altered.

WWW

**Use of Animals in Behavioral Research**

1. Advantages of using animals in behavioral research include the ability to:
   1. control genetic differences.
   2. control learning history.
   3. control the experimental environment.
   4. All of these are correct.

Answer: D

Page number: 82

Feedback: Advantages of using animals in research are the ability to control their genetic makeup and their learning history, and the possibility of more strictly controlling the experimental environment for animals than for humans.

1. Which of the following is a reason for researchers choosing to conduct behavioral research on animals?
   1. To control the experimental environment
   2. To control learning history
   3. To control genetic differences
   4. All of these are correct.

Answer: D

Page number: 82

Feedback: Advantages of using animals in research are the ability to control their genetic makeup and their learning history, and the possibility of more strictly controlling the experimental environment for animals than for humans.

1. Which of the following is a criticism against using animals in psychological research?
   1. Learning history is more difficult to control in animals than in humans.
   2. Animals are too different from humans for the research to be of much relevance.
   3. Neither a nor b is correct.
   4. Both a and b are correct.

Answer: B

Page number: 82

Feedback: One criticism against using animals in psychological research is that because animals are not humans, the findings from animal research necessarily have limited applicability to humans.

1. The most fundamental criticism against animal research is that:
   1. it is difficult to assess the animals’ learning history.
   2. research with animals has little or no applicability to humans.
   3. it is morally wrong.
   4. Both a and b are correct.

Answer: C

Page number: 83

Feedback: The most fundamental criticism of animal research is that it is morally wrong and that animals have rights similar to humans.

MD

**And Furthermore: Cruel Starvation or a Healthy Diet: The Ethics of Food Deprivation**

1. During conditioning experiments involving food rewards, pigeons are often food deprived to the point where they are at:
   1. 80-85% of their free-feeding weight.
   2. 90-95% of their natural weight.
   3. 80-85% of their natural weight.
   4. 90-95% of their free-feeding weight.

Answer: A

Page number: 84

Feedback: Pigeons are typically placed on a diet until their weight is about 80 to 85% of their free-feeding weight, which is the amount they weigh when food is constantly available.

1. To ensure that pigeons are strongly motivated to respond for food, they are generally:
   1. food deprived for at least 12 hours prior to each session.
   2. kept at starvation level.
   3. kept at 80-85% of their free-feeding weight.
   4. Both b and c are correct.

Answer: C

Page number: 84

Feedback: Animals are typically food deprived to ensure that they are well motivated to work for food. Pigeons, for example, are typically placed on a diet until their weight is about 80 to 85% of their free-feeding weight, which is the amount they weigh when food is constantly available.

1. Regarding the extent to which food deprivation of pigeons is ethical versus unethical, it is argued that:
   1. their deprived weights are actually close to their natural weights.
   2. food restriction appears to increase an animal’s sensitivity to pain.
   3. a certain degree of food restriction is actually healthy.
   4. Both a and c are correct.

Answer: D

Page number: 84

Feedback: Free food is an unnatural state of affairs for a pigeon, which in its natural environment must constantly forage for food. The result is that the weight of a pigeon on free food is well beyond its natural weight.

QZ

1. Regarding the extent to which food deprivation of pigeons is ethical versus unethical, it is argued that:
   1. their deprived weights are much less than their natural weights.
   2. food restriction is a natural state of affairs for most pigeons.
   3. food restriction is typically unhealthy.
   4. Both a and c are correct.

Answer: B

Page number: 84

Feedback: Free food is an unnatural state of affairs for a pigeon, which in its natural environment must constantly forage for food.

**Fill-in-the-Blank Items**

Most of these items are taken from or are very similar to the end-of-chapter test items in the text; the items at the end that are marked WWW are posted on the student resource website.

1. Any characteristic of a person, place, or thing that can change can be called a(n) \_\_\_\_\_\_\_\_\_.

Answer: variable

Page number: 51

Feedback: A variable is a characteristic of a person, place, or thing that can change (vary) over time or from one situation to another.

1. In a classical conditioning experiment, one group of dogs first hears a tone and then receives food, while another group of dogs receives food and then hears a tone. Following this, the researcher measures how much the dogs in each group salivate when they simply hear the tone. In this experiment, the order in which tone and food are presented is the \_\_\_\_\_\_\_\_\_ variable, while the amount of salivation to the tone is the \_\_\_\_\_\_\_\_\_ variable.

Answer: independent; dependent

Page number: 52

Feedback: In this experiment, the order in which tone and food are presented is the independent variable, while the amount of salivation to the tone is the dependent variable. The independent variable is the aspect of an experiment that is made to systematically vary across the different conditions in the experiment. The dependent variable is the aspect of an experiment that is allowed to vary freely to see if it is affected by changes in the independent variable.

1. Each time it rains, I see an increased number of umbrellas on the street. There appears to be a(n) \_\_\_\_\_\_\_\_\_ relationship between the weather and the appearance of umbrellas.

Answer: functional

Page number: 53

Feedback: There appears to be a functional relationship between the weather and the appearance of umbrellas. A functional relationship can be thought of as a cause-and-effect relationship, with changes in the independent variable being the cause and changes in the dependent variable being the effect.

1. A knife and spoon are placed side by side in a dinner setting creating spatial \_\_\_\_\_\_\_\_\_ between the two utensils.

Answer: contiguity

Page number: 57

Feedback: A knife and spoon are placed side by side in a dinner setting creating spatial contiguity between the two utensils. Spatial contiguity is the extent to which events are situated close to each other in space.

1. You have just eaten a very large pizza. It is likely that the reward value of eating a pizza has now (increased/decreased) \_\_\_\_\_\_\_\_\_ as a function of \_\_\_\_\_\_\_\_\_.

Answer: decreased; satiation

Page number: 56

Feedback: It is likely that the reward value of eating a pizza has now decreased as a function of satiation. The general rule is that deprivation increases the appetitiveness of an event and satiation decreases its appetitiveness.

1. Robbie is afraid of spiders while Naseem finds them interesting. A spider is a(n) \_\_\_\_\_\_\_\_\_ stimulus to Robbie, and a(n) \_\_\_\_\_\_\_\_\_ stimulus to Naseem.

Answer: aversive; appetitive

Page number: 54

Feedback: A spider is an aversive stimulus to Robbie, and an appetitive stimulus to Naseem.

1. The number of cigarettes smoked each week is a(n) \_\_\_\_\_\_\_\_\_ measure of smoking.

Answer: rate

Page number: 59

Feedback: The number of cigarettes smoked each week is a rate measure of smoking. Rate of response is the frequency with which a response occurs in a certain period of time.

1. Using a(n) \_\_\_\_\_\_\_\_\_ recording procedure, a school psychologist drops into a classroom for a 10-minute period four times each day and notes whether some type of disruption occurs during the time that he is there.

Answer: time-sample

Page number: 63

Feedback: The school psychologist uses a time-sample recording procedure. In time-sample recording, one measures whether or not a behavior occurs during each interval within a series of discontinuous intervals.

1. An ABCAC design is a type of \_\_\_\_\_\_\_\_\_ design.

Answer: reversal

Page number: 74

Feedback: A reversal design consists of repeated alternations between a baseline phase and a treatment phase. When a reversal design assesses more than one treatment method, it is also called an ABCAC design.

1. The reversal design is also known as a(n) \_\_\_\_\_\_\_\_\_ design.

Answer: ABAB

Page number: 73

Feedback: The reversal design is sometimes also called an ABA or ABAB design.

1. After Trish told Jennifer that Lorne was the most popular guy in school, Jennifer became extremely interested in him. Trish’s statement about Lorne apparently functioned as a(n) \_\_\_\_\_\_\_\_\_ that increased Lorne’s value as a(n) \_\_\_\_\_\_\_\_\_ stimulus.

Answer: establishing operation; appetitive

Page number: 56

Feedback: Trish’s statement about Lorne apparently functioned as an establishing operation that increased Lorne’s value as an appetitive stimulus. An establishing operation is a procedure that increases the appetitiveness or aversiveness of an event.

1. On a cumulative recorder, a gradually sloping line indicates a(n) \_\_\_\_\_\_\_\_\_ rate of response while a steep line indicates a(n) \_\_\_\_\_\_\_\_\_ rate of response. By contrast, a(n) \_\_\_\_\_\_\_\_\_ line indicates no response.

Answer: low; high; flat

Page number: 60

Feedback: A low rate of response produces a line that slopes upward at a shallow angle (because the pen is slowly moving upward while the paper passes beneath it),whereas a high rate of response produces a line that slopes upward at a steep angle.

1. The amount of time it takes Zak to read a chapter is a(n) \_\_\_\_\_\_\_\_\_ measure of behavior, while the amount of time it took him to begin reading the chapter is a(n) \_\_\_\_\_\_\_\_\_ measure of behavior. By contrast, the total amount of time he spends reading each day is a(n) \_\_\_\_\_\_\_\_\_ measure of behavior.

Answer: speed; latency; duration

Page number: 61–62

Feedback: Duration is the length of time that an individual repeatedly or continuously performs a behavior. Speed is the length of time it takes for an episode of behavior to occur from start to finish. The latency of a behavior is the length of time required for a behavior to begin.

1. I wish to test a new drug which I believe will permanently remove the symptoms of a rare neurological disorder. Unfortunately, only three patients who suffer from the disorder have volunteered to take the drug. In this scenario, \_\_\_\_\_\_\_\_\_ design would be the most effective at demonstrating the effectiveness of this drug.

Answer: multiple-baseline (across persons) design

Page number: 76

Feedback: A multiple-baseline design would be the most effective at demonstrating the effectiveness of the drug. In a multiple-baseline design, a treatment is instituted at successive points in time for two or more persons, settings, or behaviors.

1. Being quite addicted to computer games, Jules decides to implement a program to gradually reduce the amount of time that he spends playing these games. A useful design for determining if his program is successful would be a(n) \_\_\_\_\_\_\_\_\_ design.

Answer: changing-criterion

Page number: 79

Feedback: A useful design for determining if Jules’ program is successful would be a changing-criterion design. In a changing-criterion design, the effect of a treatment is demonstrated by how closely the behavior matches a criterion that is being systematically altered.

1. We easily associate a table and a chair because there is often close spatial \_\_\_\_\_\_\_\_\_ between the two items.

Answer: contiguity

Page number: 57

Feedback: We easily associate a table and a chair because there is often close spatial contiguity between the two items. Spatial contiguity is the extent to which events are situated close to each other in space.

WWW

1. The number of fish caught each hour during a fishing trip each week would constitute a(n) \_\_\_\_\_\_\_\_\_ measure of catching fish.

Answer: rate

Page number: 59

Feedback: The number of fish caught each hour during a fishing trip each week would constitute a rate measure of catching fish. Rate of response is the frequency with which a response occurs in a certain period of time.

WWW

1. Nina loves beans; Jana hates beans. Beans are a(n) \_\_\_\_\_\_\_\_\_ stimulus to Nina, and a(n) \_\_\_\_\_\_\_\_\_ stimulus to Jana.

Answer: appetitive; aversive

Page number: 54

Feedback: Beans are an appetitive stimulus to Nina and an aversive stimulus to Jana.

WWW

**Short-Answer Items**

Most of these items are end-of-chapter study questions from the text; those marked WWW are additional items from the student resource website.

1. Distinguish between independent and dependent variables. What is a functional relationship?

Answer: The *independent variable* is that aspect of an experiment that systematically varies across the different conditions in the experiment. The *dependent variable* is that aspect of an experiment that is allowed to freely vary to see if it is affected by changes in the independent variable. A *functional relationship* is the relationship between changes in an independent variable and changes in a dependent variable.

Page number: 52

1. Define stimulus and response. Differentiate between the terms *stimulus* and *stimuli*.

Answer: A *stimulus* is any event that can potentially influence behavior, while a *response* is a particular instance of a behavior. The term *stimuli* is the plural form of *stimulus*.

Page number: 53

1. Distinguish between overt and covert behavior. Distinguish between appetitive and aversive stimuli.

Answer: *Overt behavior* is behavior that has the potential for being directly observed by an individual other than the one performing the behavior. *Covert behavior* is behavior that can be subjectively perceived only by the person performing the behavior. An *appetitive stimulus* is an event that an organism will seek out. An *aversive stimulus* is an event that an organism will avoid.

Page number: 54

1. Define a motivating operation. Name and describe two types of motivating operations.

Answer: A *motivating operation* is a procedure that affects the appetitiveness or aversiveness of an event. There are two types of motivating operations: establishing operations and abolishing operations. An establishing operation is a procedure that increases the appetitiveness or aversiveness of an event, and an abolishing operation is a procedure that decreases the appetitiveness or aversiveness of an event.

Page number: 56

1. Distinguish between contiguity and contingency. Name and define two types of contiguity.

Answer: Contiguity means closeness or nearness. A *contingency* is a dependent relationship between two events; that is, the occurrence of one event is dependent on another. *Temporal contiguity* is the extent to which events occur close together in time. *Spatial contiguity* is the extent to which events are situated close to each other in space.

Page number: 56–57

1. Define rate of response. Why is rate of response a particularly favored measure of behavior among radical behaviorists (include an example)?

Answer: *Rate of response* is the frequency with which a response occurs in a certain period of time. Rate is a very sensitive measure of behavior, and is thus highly favored by some behaviorists (especially radical behaviorists). The number of words written in a one-hour writing session is an example of rate measure of behavior.

Page number: 59

1. How does one distinguish a high rate of response versus a low rate of response versus a period of no response on a cumulative record?

Answer: A steep line indicates a high rate of response, a shallow line indicates a low rate of response, and a flat line indicates a period of time with no response.

Page number: 59–60

1. Define speed, duration, and latency measures of behavior, and give a clear example of each.

Answer: *Speed* is the amount of time required to perform a complete episode of a behavior from start to finish. For example, the length of time it takes for a rat to run through a maze from the start box to the goal box is a measure of speed. *Duration* is the length of time that an individual repeatedly or continuously performs a certain behavior. For example, this measure is appropriate when a student attempts to increase the amount of time he spends studying each week, as well as decrease the amount of time spent watching television. The *latency* of a behavior is the length of time required for the behavior to begin. The number of days it takes for a student to begin working on a term paper after it has been assigned is an example of latency measure.

Page number: 61–62

1. Define the intensity and topography of a behavior, and give a clear example of each.

Answer: The *intensity* of a behavior is the force or magnitude of the behavior. For example, in Pavlov’s classical conditioning procedure with dogs, the strength of conditioning was typically measured as the amount (magnitude) of saliva produced whenever the tone was presented by itself. *Topography* is the exact physical form of a behavior. For example, it is the topography of a behavior that is measured when one teaches a child how to dress appropriately, write neatly, and brush his teeth properly.

Page number: 60, 63

1. Define interval recording and time-sample recording, and give a clear example of each. Specify how the overall measure of behavior is calculated.

Answer: In *interval recording*, one measures whether or not a behavior occurs during each interval within a series of *continuous* intervals. For example, if we wish to measure the amount of aggressive behavior in a classroom, we might make a video record of several hours of class time. We would then have observers view the video and note whether or not an aggressive incident occurred within each successive 10- minute interval. In *time-sample recording*, one measures whether or not a behavior occurs during each interval within a series of *discontinuous* intervals. For example, to assess the level of aggression in a classroom, we might have an observer unobtrusively enter the classroom for a 10-minute interval at the start of each half hour and record whether at least one aggressive incident occurred during that interval. The overall measure of behavior is calculated as the percentage of intervals within which the behavior occurred.

Page number: 62–63

1. How does one calculate the reliability of observations conducted with an interval recording procedure? Illustrate your answer with an example.

Answer: To ensure the reliability of observations conducted with an interval recording procedure, two or more individuals independently observe the behavior being studied. Interobserver reliability is then calculated as the number of intervals during which the observers agree divided by the total number of intervals that were observed. For example, in an interval recording procedure in which two observers independently record the occurrence of aggression in each of 12 consecutive intervals, they may agree on whether or not an incident occurred in 10 of the intervals and disagree in 2 of the intervals. In this case, interobserver reliability will be 10/12 = 83.3%.

Page number: 64

1. Name and describe two types of descriptive research methods. What is a major limitation of descriptive research methods?

Answer: *Naturalistic observation* involves the systematic observation and recording of behavior in its natural environment. The *case study approach* involves the intensive examination of one or a few individuals.

Although descriptive research methods often provide detailed information about behavior, they usually do not allow us to draw firm conclusions about the causes of a behavior. (64-66; Note: For the second part of this question, some students might instead mention the problem of researcher bias which tends to stand out in the discussion of the case study approach.)

Page number: 65–66

1. Describe the simplest form of a control group design. How are subjects assigned to the different conditions, and why is this done?

Answer: In a *control group design*, subjects are assigned to either an experimental (or treatment) group or a control group. Subjects assigned to the experimental group are exposed to a certain manipulation or treatment while those assigned to the control group are not. Subjects are often *randomly* assigned to each condition to ensure that different characteristics of the subjects are likely to be evenly distributed across the experimental and control conditions.

Page number: 67–69

1. What is a comparative design and, when is it used?

Answer: A comparative design is a type of control group design in which the species of animal used is one of the independent variables. It is often used to test an evolutionary hypothesis regarding the differences in selective pressures for a particular trait between species.

Page number: 68

1. What are three limitations of control group designs?

Answer: Control group designs have three main limitations. They require a large number of subjects, they focus on the average performance of all subjects (and thus ignore the performance of individuals), and results are often analyzed and interpreted only at the end of an experiment rather than throughout the study.

Page number: 69–70

1. What are single-subject designs? Describe a simple-comparison design. In what sense is it a “flawed” design?

Answer: Single-subject designs are research designs that require only one or a few subjects to conduct an entire experiment. In a simple-comparison design, behavior in a baseline condition is compared to behavior in a treatment condition. The major problem with the simple-comparison design is that it does not control for the possibility that some other event occurred at the same time that the treatment was implemented, and it was this other event that caused the change in a behavior.

Page number: 70–72

1. Describe a reversal design. What are three disadvantages with this type of design?

Answer: A *reversal design* is a type of single-subject design that involves repeated alternations between a baseline period and a treatment period.

The first disadvantage is that the design requires that behavior must revert to its original baseline frequency when the treatment is withdrawn; otherwise, it will be impossible to determine if the treatment has had an effect. Second, a reversal design would not be appropriate for assessing the effect of an intervention that is intended to have permanent effects. Third, it may be ethically inappropriate to remove a treatment (during a reversal phase) once some improvement has been obtained.

Page number: 73–76

1. Describe a multiple-baseline design. What are the two limitations of this type of design?

Answer: In a *multiple-baseline design*, a treatment is instituted at successive points in time for two or more persons, settings, or behaviors.

This design is limited in that we need to have more than one person, setting, or behavior to which the treatment can be applied. The treatment effect might also generalize across behaviors or settings prior to the treatment being instituted in those behaviors or settings, which would make it difficult to interpret treatment effectiveness.

Page number: 76–77

1. Describe a changing-criterion design. How can it be strengthened? For what types of situations is this design appropriate?

Answer: In a c*hanging-criterion design*, the effect of a treatment is demonstrated by the extent to which a behavior matches a criterion that is systematically altered. It can be strengthened by including periods in which the criterion suddenly changes in the opposite direction. The design is most appropriate for situations in which the behavior is intended to change gradually by some specified amount.

Page number: 79–81

WWW

1. List four advantages and two disadvantages of using animals as subjects in behavioral research.

Answer: Two advantages of using animals in research are the ability to control their genetic make-up and their learning history. A third advantage to using animals as subjects is that researchers are often able to more strictly control the experimental environment for animals than for humans. A fourth reason for using animals in behavioral research has to do with the fact that some research cannot ethically be conducted with humans.

One criticism is that because animals are not humans, the findings from animal research necessarily have limited applicability to humans. Perhaps the most fundamental criticism of animal research is that it is morally wrong, and that animals have “rights” similar to humans.

Page number: 81–83

1. Give examples of rate, latency, and speed measures for the behavior of studying?

Answer: A rate measure of studying could involve the number of math problems solved, the number of pages read, or the number of pages of study notes taken per hour. A latency measure of studying could involve how long it takes one to begin studying each evening or how long it takes one to return to studying following a break (which may be a particular problem for some students). A speed measure of studying could be the time it takes one to complete, say, five math problems or to read 20 pages in the text.

Page number: 59–62

WWW

22. Imagine that you are carrying out a study, using a 2 x 2 factorial design that looks at the effect of a vitamin C supplement on hyperactive behavior in both male and female children. Specify the dependent and independent variables, and the number of groups needed. Create a table similar to Table 2.1 in the text that outlines the various experimental conditions. What would be an example of an interaction effect in such a study?

Answer: Hyperactivity is the dependent variable, while vitamin C and gender are the independent variables. There will be four groups of subjects needed. The design can be tabled as follows:

Male Female

Vitamin C VCM VCF

No Vitamin C NVCM NVCF

where VC =vitamin C; NVC-no vitamin C; M=male; F=female

An example of an interaction effect would be if vitamin C has an effect on female children only.

Page number: 68–69

23. Describe a two-treatment reversal design involving the effect of drug X and drug Y on hyperactivity. Include a graph of some hypothetical results for such an experiment. What would be the specific label for your design (in terms of ABCs)?

Answer: To use an example similar to that given in the text, following a baseline period, the drug X treatment is implemented. When this proves ineffective in reducing the level of hyperactivity, drug Y treatment is implemented. When this does prove effective, drug Y is later withdrawn in the return to baseline and then reinstituted in the return to treatment. This would then be called an ABCAC design. The graph for this design would look similar to Figure 2.5 in the text. (But other designs are also possible. For example, one could conduct an ABCBCA design in which the two drugs are alternated back and forth between each other. This would be useful if both drugs are effective and we wish to determine whether one is more effective than the other. A graph for this study would, of course, have six different phases involving alternations between the two drugs and the two treatments).

Page number: 73–75

WWW