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# Key Trouble Spots

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AP Psychology courses include a large number of difficult and easily confused terms and theories. As experienced teachers, AP Psychology test writers are very familiar with the concepts and theories that cause students the most trouble. This chapter is designed to help you by identifying and clarifying 14 of the most troublesome trouble spots. The vivid examples and carefully targeted memory tips should help you store each concept and theory in your long-term memory, so that you can easily access it during the AP Psychology exam!

## 1. DIFFERENTIATING BETWEEN THE INDEPENDENT VARIABLE AND THE DEPENDENT VARIABLE

- ▶ A significant number of multiple-choice and free-response questions are designed to test your ability to understand the difference between independent and dependent variables. An independent variable is the factor that is manipulated or controlled by the experimenter. A dependent variable is the factor that is measured by the experimenter.
- ▶ One way to remember how the Independent Variable works is to compare it to the IV medicine doctors inject into a patient. In the experimental method, the researcher “injects” subjects with an independent variable to see how it affects their behavior.
- ▶ For example, a researcher randomly assigned boys and girls to one of two groups. One group played a violent video game while the other group played a nonviolent video game. The researcher then recorded incidents of aggressive behavior for each group during a subsequent play period. In this experiment, the independent variable is

the type of video game played and the dependent variable is the incidence of aggressive behavior.

## 2. REMEMBERING KEY PARTS OF THE BRAIN

- ▶ Many students feel overwhelmed by complex diagrams depicting the various parts of the brain. Relax, AP Psychology test writers will not ask you to label a diagram of the brain. However, you should know the function of key parts of the brain such as the hippocampus, the hypothalamus, and the left cerebral hemisphere.
- ▶ Fortunately there are good mnemonic tips that can help you remember the functions of these three often-tested parts of the brain:
  1. *The “hippocampus” is involved in forming and retrieving memories. Notice, that the word hippocampus ends with the word “campus.” A college campus is, of course, a place where you will soon form life-long memories that will be stored in your hippocampus.*
  2. *The word “hypothalamus” also contains a good memory clue. The hypothalamus governs hunger and thirst. So, all you have to do is link the letters h and t in hypothalamus to “hunger” and “thirst.” That was easy!*
  3. *Finally, in order to remember that the left cerebral hemisphere specializes in language functions, link the l in “left” with the l in “language.”*

## 3. REMEMBERING THE DIFFERENCE BETWEEN CONES AND RODS

- ▶ Modern AP Psychology textbooks contain impressive color diagrams depicting each part of the eye. Do not spend valuable study time trying to memorize these diagrams. Your AP Psychology exam will not ask you to label a diagram of the eye.
- ▶ While you will not have to label a diagram of the eye, you will be expected to understand the functions of cones and rods. Cones are responsible for color vision while rods detect shades of gray. One way to remember the difference between cones and rods is to keep in mind that both the words “cone” and “color” begin with the letter

"c." Fans of the classic science fiction TV series *Twilight Zone*, will recall that it was produced in black and white and written by Rod Serling!

#### 4. REMEMBERING KEY POINTS ABOUT REM SLEEP

- ▶ The sleep cycle and especially REM sleep generate a significant number of multiple-choice questions.
- ▶ Here are four key points you should remember about REM sleep:
  1. *REM sleep does not begin immediately. The initial four NREM (non-rapid-eye movement) stages typically last about an hour. After completing Stage 4, the sleeper reverses back thru Stages 3 and 2 and then, instead of reentering Stage 1, the sleeper enters REM sleep.*
  2. *REM sleep is highly correlated with dreams.*
  3. *REM sleep is often called "paradoxical sleep" because it is simultaneously characterized by active eye movements AND the loss of muscle movement.*
  4. *The amount of REM sleep changes during our life span. Infants spend about 40 percent of their sleep in REM.*

#### 5. UNDERSTANDING NEGATIVE REINFORCEMENT

- ▶ Negative reinforcement can be a difficult concept to understand and apply. The key to mastering this concept is to understand the meaning of the words "negative" and "reinforcement." A reinforcement increases the probability that the behavior or response will be repeated. As used by Skinner, the word "negative" does not mean "bad" or "undesirable." Instead, Skinner used "negative" to indicate that a response is strengthened because something is subtracted or removed.
- ▶ It is helpful to remember that negative reinforcement typically enables you to avoid an aversive stimulus before it occurs. For example, you clean up your room to avoid the aversive stimulus of your mother's repeated scolding.
- ▶ Negative reinforcement can also be used to escape an existing aversive stimulus. For example, you take an aspirin to relieve a headache.

## 6. IDENTIFYING EXAMPLES OF FUNCTIONAL FIXEDNESS

- ▶ Functional fixedness is an easy concept to overlook and a hard concept to remember. AP Psychology test writers know this and have written a number of multiple-choice questions designed to test this concept.
- ▶ Functional fixedness is a bias that limits a person to using an object only in the way it is traditionally used. Functional fixedness thus impedes innovation by preventing people from seeing the full range of ways in which an object can be used. For example, when two children use sofa cushions to build a fort, or a young couple on a picnic uses the plastic tablecloth to protect them from a sudden downpour, they have both successfully overcome functional fixedness.

## 7. UNDERSTANDING THE DIFFERENCE BETWEEN THE AVAILABILITY HEURISTIC AND THE REPRESENTATIVE HEURISTIC

- ▶ The availability heuristic and the representative heuristic are easily confused and often tested. The availability heuristic refers to a heuristic or problem-solving strategy in which you judge the likelihood of an event based on how readily available other instances of the event are in your memory. The key word is “available.” For example, 266 airline passengers were killed in the four hijacked planes on September 11, 2001. These shocking and highly-publicized terrorist attacks convinced many people to cancel their plane reservations and drive instead. These decisions were based upon the use of an availability heuristic.
- ▶ The representative heuristic refers to a heuristic or problem-solving strategy in which you judge the likelihood of an event by finding a comparable known event and assuming that the probabilities will be similar. The key word is “similar.” For example, if you meet three students from a nearby high school and they are all very good in calculus, you will assume that their high school has an excellent math program, and that most of the other students will also be excellent in math. This judgment is based upon the use of a representative heuristic.

## 8. COMPARING THE JAMES-LANGE THEORY OF EMOTION WITH THE SCHACHTER-SINGER TWO-FACTOR THEORY OF EMOTION

- ▶ It is very easy to confuse the James-Lange theory of emotion and the Schachter-Singer two-factor theory of emotion. The following example will help illustrate the similarities and the differences between these two theories.
- ▶ Both theories begin with an emotional stimulus. For example, let's say that you have a boyfriend who is a freshman in a college located in another state. On Saturday morning your front door bell rings and, when you look out the window, you see your boyfriend holding a bouquet of flowers! Your boyfriend is the emotional stimulus. According to both theories, seeing your boyfriend triggers an emotional arousal. You raise your eyebrows, open your eyelids, drop your jaw and, at the same time, your heart "skips a beat."
- ▶ At this point, both theories are the same. First, you perceive a stimulus (the unexpected arrival of your boyfriend) and, second, the stimulus triggers physiological arousal (your heart skips a beat). According to the James-Lange theory, you then subjectively interpret your facial expressions and heart skipping a beat as surprise. According to the Schachter-Singer two-factor theory, the stimulus of seeing your boyfriend simultaneously triggers both physiological arousal and a cognitive label that makes sense of the arousal. In this example, you make cognitive sense of your boyfriend's sudden appearance by thinking, "my raised eyebrows and my heart skipping a beat are caused by surprise—I'm surprised!"
- ▶ It is important to remember that the Schachter-Singer two-factor theory of emotion includes a component *not* discussed in the James-Lange theory. And what is that component? The correct answer is cognitive labeling.

## 9. REMEMBERING THE KEY CHARACTERISTICS OF THE STAGES IN PIAGET'S THEORY OF COGNITIVE DEVELOPMENT

- ▶ Piaget's theory of cognitive development is complex, challenging, and important. While you will not have to write a detailed stage-by-stage description of

Piaget's theory, you will be expected to know the key characteristics of each of his four stages of cognitive development. The following chart is designed to help you identify and remember the key characteristics of each stage:

STAGE	KEY CHARACTERISTICS	MEMORY TIP
Sensorimotor (0–2 years)	Lacks object permanence	Link the three Os in <i>sensorimotor</i> with the O in <i>object</i> permanence.
Pre-operational (2–7 years)	Develops language skills, but cannot perform operations on concrete objects; is egocentric and animistic.	Remember, egocentric does not mean selfish.
Concrete Operational (7–11 years)	Can perform operations on concrete objects and understand conservation; but, cannot think abstractly or hypothetically.	Link the C in <i>concrete</i> to the C in <i>conservation</i> .
Formal Operational (Age 11 and up)	Can think abstractly and hypothetically.	This is <i>your</i> stage of development!

## 10. MAKING SURE YOU CAN IDENTIFY EXAMPLES OF PROJECTION AND REACTION FORMATION

- ▶ Most AP Psychology exams contain a multiple-choice question (or two) testing your knowledge of Freud's defense mechanisms. These questions typically ask you to identify the defense mechanism that is best exemplified in an everyday situation.
- ▶ Students often have difficulty identifying examples of projection and reaction formation. Projection is when you transfer your own unacceptable thoughts, motives, or personal qualities to someone else. For example, you feel hostility and anger toward your AP Biology lab partner, Bryan. When Bryan text messages you that he can't make

it to a study session, you hit “delete” on your cell phone, and loudly accuse Bryan of being hostile toward you.

- ▶ In contrast, a reaction formation is when you think or behave in a way that is the opposite of your own unacceptable thoughts and feelings. For example, although you actually dislike Bryan, you text back saying, “OK, no problem” and tell everyone that Bryan is a great lab partner who is always willing to help.

## 11. UNDERSTANDING THE DIFFERENCE BETWEEN RELIABILITY AND VALIDITY

- ▶ Reliability and validity are two key principles of test construction. They are also two of the most frequently tested concepts on the AP Psychology Exam.
- ▶ Reliability means that a test must produce consistent results when it is administered on repeated occasions. (Remember to link the “r” in “reliability” with the “r” in “repeat”). For example, if you take the SAT or the ACT two or more times, your scores should be similar.
- ▶ Validity means that a test actually measures what it was designed to measure. One way to establish the validity of a test is by demonstrating its predictive value. For example, the SAT is designed to predict academic success during a student’s freshman year in college. Students who receive a high SAT score should therefore have a high grade point average (GPA) at the end of their freshman year. It is important to point out that a test can be reliable without being valid. For example, you can take the SAT several times and receive similar scores. However, your high SAT score may not be followed by a high freshman GPA.

## 12. REMEMBERING KEY POINTS ABOUT SCHIZOPHRENIA

- ▶ Schizophrenia is the most frequently tested form of abnormal behavior.
- ▶ Here are four key points you should remember about schizophrenia:
  1. *Schizophrenia typically begins in late adolescence or early adulthood. It rarely emerges prior to adolescence or after age 45.*

2. *The characteristic symptoms of schizophrenia include delusional beliefs, hallucinations, and disorganized speech and thought. Incoherent speech is often called word salad.*
3. *The lifetime risk of developing schizophrenia increases with genetic similarity.*
4. *According to the dopamine hypothesis, overactivity of certain dopamine neurons in the brain may contribute to some forms of schizophrenia. Drugs that block dopamine activity can reduce or eliminate some symptoms of schizophrenia.*

### 13. COMPARING THE PSYCHOANALYTIC, COGNITIVE, HUMANIST, AND BEHAVIORIAL APPROACHES TO THERAPY

- ▶ The psychoanalytic, cognitive, humanist, and behavioral approaches offer very different ways of treating abnormal behavior. AP Psychology test writers expect you to be able to identify the focus and major techniques of each of these four approaches.
- ▶ The following chart is designed to help you compare and contrast the focus and techniques of these four therapeutic approaches.

APPROACH	FOCUS	MAJOR TECHNIQUES
Psychoanalytic	Unconscious conflicts that usually date back to childhood experiences	Uses free association, dream analysis, transference, and interpretation.
Cognitive	Faulty thought processes and beliefs	Rational examination of irrational beliefs
Humanist	Removing obstacles that block personal growth and potential	Empathy, unconditional positive regard, genuineness, and active listening
Behavioral	Relationships between past learning and the occurrence of a behavioral problem	Systematic desensitization and aversion therapy



#### 14. UNDERSTANDING THE DIFFERENCE BETWEEN THE FUNDAMENTAL ATTRIBUTION ERROR AND THE SELF-SERVING BIAS

- ▶ The fundamental attribution error and the self-serving bias are both frequently tested and easily confused.
- ▶ The fundamental attribution error is the tendency to overemphasize dispositional factors and to underestimate situational factors when making attributions about the cause of another person's behavior. For example, you break up with your girlfriend and are late for work. Your boss makes the fundamental attribution error by interpreting your tardy arrival as yet another example of your lack of motivation and discipline. The fundamental attribution error explains how others interpret your behavior.
- ▶ In contrast, the self-serving bias explains how you interpret your own behavior. According to the self-serving bias, most people take credit for their success while at the same time attributing their failure to external factors beyond their control. For example, since you are aware of the situational factor that caused you to be late for work, you blame your ex-girlfriend and remind your boss of all the customers who like you.