



AP[®] Psychology 2002 Scoring Guidelines

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Question 1

The human organism displays various reactions that are characterized by opposing tendencies. Use a specific physiological or psychological mechanism to explain how both aspects of opposing processes apply to EACH of the following.

- Appetite
- Autonomic nervous system
- Color vision
- Drug use
- Nerve firing

Scoring Rubric

Several points can be earned by multiple pathways, as indicated by lettered, numbered, or bulleted lists under the appropriate point. Lists of pathways represent the most common ways for students to score the point, and only one such pathway must be followed to earn the point. Answers must be presented in sentences, and sentences must be cogent enough for the student's meaning to come through. Spelling and grammatical mistakes do not reduce a student's score, but spelling must be close enough so that the reader is convinced of the word in question.

Appetite

Point 1. The student establishes how *opposing processes* relate to appetite by at least implying a *regulated tension* between

- A. The two opposing factors of hunger (accept alternative descriptions like “being empty” or “start eating”) and satiety (accept alternative descriptions like “fullness,” “satisfied,” or “stop eating”). Do not score single continuum responses like less hungry/ hungry or not hungry/hungry.
- B. Two parts of the hypothalamus (the unabbreviated word “hypothalamus” must be used, but the parts may be unidentified or misidentified). The mention of the two parts is enough to score the point with no further explanation.
- C. Weight moving away from and being drawn back to a set point.
- D. Metabolic rate increasing and decreasing in response to physiological conditions.
- E. Being hungry or not hungry—*only in the context of drive reduction theory* or the use of language that clearly implies drive reduction theory, like “reducing a drive.”
- F. The level of glucose, insulin, leptin, CCK or other appropriate chemicals rising or falling in relation to changing levels of appetite or hunger.

Do not award the point if a student provides *voluntary* eating choices a person might engage in (for example, a depressed person might choose to starve or overindulge).

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Question 1 (cont'd.)

Point 2. The student identifies a specific mechanism for regulating the opposing tendencies. *Point 2 cannot be awarded unless the opposing process is established and Point 1 is awarded.* Appropriate mechanisms include:

- A. The role of the brain. The general phrase “The brain controls appetite” is sufficient if Point 1 has been awarded, but do not score the point if the student refers to clearly inappropriate regions of the brain (for example, the cerebellum or the cortex). The point should be awarded if the student makes mistakes in regard to the hypothalamus (for example, the “preventricular nucleus of the hypothalamus”).
- B. Set point/metabolism.
- C. Homeostasis or negative feedback system.
- D. Drive reduction theory.
- E. Glucose, insulin, leptin, CCK, or other endogenous chemicals related to appetite or hunger.

Do not award the point for stomach contractions.

Autonomic Nervous System

For these two points, the student must understand that the sympathetic nervous system arouses and the parasympathetic nervous system calms. This can be established with parallel essay structure (for example, “The autonomic nervous system has sympathetic and parasympathetic divisions which are responsible for arousing and calming”).

Point 3. Sympathetic nervous system—term *and* some example or description required.

- A. Arouses.
- B. Fight or flight.

Point 4. Parasympathetic nervous system—term *and* some example or description required.

- A. Calms.
- B. Counteracts the effect of the sympathetic nervous system.
- C. Returns the body to normal.

Color Vision

Point 5. Term “opponent process theory” *or* “opponent color theory” (not “opposing process,” because it is a phrase that parrots the question) *or* “Hering’s theory.”

Point 6. Explanation *or* example that establishes opposition.

- A. Cells oppose each other for particular colors.
- B. Reference to color pairings (even if specific colors pairs are not mentioned or are wrong).
- C. Color afterimages as an example to establish the negative, opposing, complementary, or different color nature of the afterimage (even if the specific color pairs are wrong).
- D. Color blindness as an example of the opposing or complementary aspect of color deficiencies (even if specific color pairs are wrong).

Do not award the point for rods and cones.

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Question 1 (cont'd.)

Drug Use

Point 7

- A. The student refers to tolerance or withdrawal without describing an opposing or compensatory mechanism. Do not accept “addiction” or “dependence” here, because they are less precise psychological terms.
- B. The student indicates that a drug (an outside, ingested agent rather than an endogenous chemical such as a neurotransmitter) produces a response. Do not score the point if the student:
 - Makes a value judgment or describes a general consequence (for example, “drug use is harmful”) rather than describing a drug response.
 - Describes a cause of taking drugs rather than an effect (for example, “I take drugs because of peer pressure”).

Point 8. The student *describes* or *explains* how an initial drug process triggers an opposing or compensatory consequence. This can be done by

- A. Defining
 - Tolerance (needing more of a drug over time to achieve the same effect).
 - Withdrawal (getting sick or developing symptoms when a drug is discontinued).
 - Addiction/dependence (developing a need for a drug).
- B. Describing how the body produces an opponent response to drugs (for example, “the body compensates for a euphoria-producing drug by attempting to bring you back down [dysphoria]”).
- C. Explaining how a person may counter the effect of one drug by taking a drug with an opposite effect (for example, “a person can take caffeine to counteract the effects of barbiturates”).

Nerve Firing

Point 9. The student *explains*

- A. How a neuron fires through a process of depolarization, an inrush of ions, *or* an action potential. There may be some confusion of language (for example, by mixing the terms polarization and depolarization or by having the wrong charge on a particular ion) but as long as the *process* of a neuron firing is described in some way, award the point. Do not score for “firing” alone because it parrots language in the question.
- B. The effect of excitatory neurotransmitters (accept “messages” or “signals”) across the synapse *or* the release of neurotransmitters from the presynaptic neuron.

Point 10. The student *explains*

- A. A neuron’s response to firing through polarization (or repolarization), ions being pumped out, establishment of a resting potential, *or* refraction (or refractory period).
- B. The effect of inhibitory neurotransmitters or reuptake at the synapse.

Do not award the point for the all-or-none principle.

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Question 2

Five-year-old Jessie went to a fire station with her kindergarten class. When she got home, Jessie, who is in the preoperational stage of cognitive development, eagerly told the story of her adventure to her older brother. Describe how the following factors might have influenced the story she told. Be sure to define and provide an appropriate example of EACH factor.

- Egocentrism
- Observational learning
- Overregularization or overgeneralization in language
- Reconstructive memory
- Schema

General Considerations

1. No circular definitions (e.g., can't use the concepts to define themselves).
2. Robust examples not related to the fire station story can serve as definition.
3. Example points must pertain to Jessie's visit to fire house or Jessie telling her story.
4. The context of telling the story can be established in the first part of the essay and presumed to carry forward to rest of essay.
5. Watch out for perseveration of a prior concept that muddles clarity of next concept.

General Trap

Question doesn't ask for information about Piaget or preoperational stage of cognitive development.

Egocentrism

Point 1. Definition must involve a **perspective** not a personality trait. (The presumption is that a cognitive perspective is present unless a personality trait clearly is mentioned.)

- Inability to understand, explain, or share the perspective (point of view) of another.
- Difficulty putting oneself in another's place
- Assumption that others know what the child knows
- A child's belief that everything focuses on or revolves around the child
- A child not having a theory of mind

HINT: A definition by example is the sister/brother problem (i.e., a girl is asked "do you have a brother" and says yes, but says no to "does your brother have a sister?").

TRAPS: Don't score when child's personality clearly is being defined:

- Child is selfish, self-centered (circular definition), arrogant, inconsiderate, overconfident, or wants to impress
- Child's ego is large

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Question 2 (cont'd.)

- Point 2.** Example must relate to Jessie's egocentric perspective, not to her personality
- Tells of events that happened to all kids as though they happened only to Jessie
 - Action in story depends upon Jessie's presence or actions
 - May not explain story in detail or clearly because Jessie can't place self in brother's position
 - Ignores interest or questions from brother to pursue egocentric perspective

TRAP: Jessie cannot fabricate details to capture more attention (e.g., tells her brother that she got to turn on the siren when she didn't. This is lying, not egocentrism.)

Observational learning

- Point 3.** Definition: Seeing someone act, and modeling or imitating the observed behavior (or knowing how to do what was observed)

HINTS:

- Common example used to define concept: Bandura's bobo doll study
- Must observe behavior and incorporate learning into own behavioral repertoire
- Species-specific modeling is acceptable as a definition by example (e.g., baby chimp imitating mother's behavior)

WARNING:

- Do not accept a simple restatement of definition (e.g., "observational learning occurs through observation"); however, accept definitions that use the terms if they are elaborated to include social and behavioral dimensions: "Observational learning is learning done by observing others." "Others" provides the social context and "learning done by" implies observing the overt behavior of another person.
- "Watching the world around us" is too vague—it does not specify a social learning situation or a behavioral outcome.

- Point 4.** Example: Example of an action or ability to act due to social learning.
- Jessie describes how she went down a fire pole after seeing a firefighter do it; stop-drop-and-roll, etc.
 - Tells story in a way (e.g., with a mannerism) that was acquired through observation of another telling a story

TRAPS:

- Example that provides details from visit (e.g., fire trucks are red) not acquired through social learning
- Confusing observational learning with visual learning style (e.g., visual learning is better remembered)

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Question 2 (cont'd.)

Overregularization or overgeneralization in language

Point 5. Definition: The misapplication of a rule of grammar or syntax in language use.

HINT: An incomplete definition often is followed by an example (e.g., regularizing an irregular past tense or an irregular plural)

DO NOT COUNT

- Inadequate or an overextended vocabulary (e.g., saying “Hi doggie” to a sheep)

Point 6. Example: Misapplication of a grammar rule by creating a regular past tense for an irregular verb, creating a regular plural for an irregular noun, or adding the superlative “est” to an irregular adjective.

- Jessie said: “The *funnest* thing was watching the *firemans* who *slided* down the pole.”

Reconstructive memory

Point 7. Definition: Memory retrieval is not perfect. Retrieval failures or leading questions (framing) can induce additions or distortions to memory.

Two-part definition is required: 1) an origin (retrieval failure or framing) and 2) an outcome (addition to memory or an addition resulting in a distortion of memory).

HINTS:

- The deficit in memory must be replaced by the reconstructed memory.
- “Filling-the-gap” is sufficient to score the point. The origin is the gap in memory, which is filled by the reconstructed memory.
- “Remembering events that did not occur” is sufficient to score the point.

DON'T SCORE:

- Examples of selective attention, or forgetting without a later addition to memory.

Point 8. Example where the child accidentally introduces new elements or distorts what was actually witnessed.

- “Parts of Jessie’s story may not have occurred, but were created by her mind to fill the memory gap.”
- “Jessie’s brother asks her if it was fun to ring the bell, leading her to falsely remember doing it.”

TRAP:

Merely retelling the story out of chronological sequence is not a distortion of memory that is “reconstructed” by the addition of new information.

DON'T SCORE:

- Omission of elements of story (forgetting). New element must be inserted into story to “fill a gap.”
- Examples of explicit lies or fabricated elements of story, e.g., Jessie lied to make herself look good.

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Question 2 (cont'd.)

Schema

Point 9. Definition: A framework used to organize information.

A two-part answer is required: 1) a concept related to schema and 2) a process or application of the concept

- 1) Concept established by terms such as framework, mental set, prototype, stereotype, blueprint
- 2) Process/application established by terms such as organizing, categorizing, interpreting.

TRAPS:

- “A stereotype is a schema” does not score because it doesn’t provide a process or application.
- “A way to organize information” does not score because “way” does not refer to a psychological concept. Watch for an elaboration that may earn the point (e.g., “way of thinking that organizes information”).
- “Schemas organize events” does not score because it doesn’t provide a concept.

Point 10. Example: An existing schema is used in Jessie’s story or an example of how a schema is modified by Jessie’s experiences at fire station.

- “Jessie’s schema of firefighters is that they only fight fires—they don’t help in accidents.”
- “Jessie used to think all firefighters were men, but after seeing a woman firefighter, she changed her schema.”

HINT: An example of an existing schema that is resistant to change is scored.