

# AP<sup>®</sup> PSYCHOLOGY

## 2009 SCORING GUIDELINES

### Question 1

Dimitri and Linda are trying to learn a new routine to compete successfully in a dance competition. Give an example of how each of the following could affect their performance. Definitions without application do not score.

- Extrinsic motivation
- Punishment
- Proactive interference
- Endorphins
- Vestibular system
- Divergent thinking
- Introversion

#### ***General Considerations***

1. Answers must be presented in sentences, and sentences must be cogent enough for students' meaning to be apparent. Spelling and grammatical mistakes do not reduce students' scores, but spelling must be close enough so that the reader is convinced of the word intended.
2. Within a point, students will not be penalized for misinformation unless it *directly contradicts* correct information that would otherwise have scored a point.
3. Students can score points only if information is presented in *context*. This means that they must clearly convey which part of the question is being answered.
  - Example: A student who correctly explains that "Dimitri and Linda want to win the dance trophy" but who does not identify this as extrinsic motivation, does not earn the point. (In some cases, however, it is possible to infer context from the structure of the essay.)
4. Definitions without application are not sufficient to score points. A definition may contribute to the answer, but students must also provide a specific example related to some aspect of dance independent of the definition.
  - Example: "The old routine they learned would interfere with their ability to remember the new dance routine." (A specific example is provided: old versus new dance routine.)
  - Do not score: "Old information they have learned could interfere with learning any new information." (No specific example is provided.)
5. Because definitions alone do not score points, if a student provides an incorrect definition but a correct application, score the point based on the application.
6. The application is not limited to the dance "performance" (it could include practice, choreography, judging, audience influence, etc.). However, reference to "Linda and Dimitri," "the duo," or "them" cannot be used as an indicator of dance "performance." There must be a direct application to some aspect of dancing.
7. Examples provided for each of the following points are not exhaustive.

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### Question 1 (continued)

#### **Point 1: Extrinsic motivation**

To earn this point, students must identify, within the context of dancing, an incentive (e.g., receiving rewards, money, trophy, crowd approval, television exposure, winning the competition) **OR** an external source of motivation (e.g., dancing for parents or dance instructor).

#### **Example:**

"Dimitri and Linda may be competing to win a trophy."

#### *Do not score:*

- A discussion of intrinsic motivation or internal motives  
**Example:** "Dimitri and Linda are involved in the competition because they love to dance."
- A mention of "rewarding themselves," unless it is clear that the "reward" is external.

#### **Point 2: Punishment**

To score this point the student must identify

1. a dance-related behavior

**AND**

2. an aversive event **OR** the removal of a pleasant stimulus.

#### **Example:**

"Linda and Dimitri must do push-ups when they make mistakes in the routine."

#### *Do not score:*

- Negative reinforcement (an *increase* in resulting behavior at removal or avoidance of aversive stimuli)  
**Example:** "Dimitri and Linda don't want to get booed, so they work to perfect their performance."
- Absence of a behavior (a failure to do something, "not winning," "not making mistakes," "missing practice," "failing to learn the dance routine")  
**Example:** "Linda and Dimitri will be grounded if they don't win the competition."

#### **Point 3: Proactive interference**

To earn this point, students must establish that information about a previous dance experience (e.g., routines, rules) is preventing the recall of newer dance-related information.

#### **Example:**

"Dimitri and Linda start doing moves from an old routine and forget the moves for the new routine they learned for the competition."

#### *Do not score:*

- Retroactive interference (recently learned material interferes with the ability to recall older information)  
**Example:** "The new dance routine interferes with recall of the old routine."

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### Question 1 (continued)

#### **Point 4: Endorphins**

To earn this point, students must establish, in the context of dancing, that endorphins control pain **OR** produce feelings of pleasure (e.g., "runner's high," boosted mood, positive feelings) **OR** function as a positive reinforcer. (Students must specifically state "positive reinforcer" in their applications.)

#### **Examples:**

"Endorphins can help Linda overcome pain from an injury so she can keep dancing."

"Endorphins would make Dimitri and Linda happy with their performance."

#### **Do not score:**

- Other physiological states (anxiety, relaxation, arousal, excitement, attention)
- Nonspecific description of hormones
- Confusion of endorphins with adrenaline or serotonin
- Drug use or "taking endorphins"

#### **Point 5: Vestibular system**

To earn this point, students must establish that this system influences dancing by providing a sense of balance (e.g., equilibrium, information about position of the head in relation to gravity) **OR** disruption that leads to dizziness.

#### **Examples:**

"The vestibular system helps us keep our balance, which is necessary for Linda and Dimitri as they do different dance moves."

"Overstimulation of the vestibular system can cause Linda to feel dizzy after Dimitri spins her during the performance."

#### **Do not score:**

- Discussion of kinesthesia (information about the location of body parts in relation to one another)
- Discussion of the cerebellum without reference to the function of the vestibular system
- Discussion of the inner ear in relation to hearing rather than balance

#### **Point 6: Divergent thinking**

To earn this point, students must demonstrate that such thinking, which allows a person to consider many possible solutions, influences some aspect of dancing **OR** creativity in dance performance.

#### **Examples:**

"Divergent thinking can affect the dance routine by helping Linda and Dimitri think outside the box for new and better dance routines."

"The dance performance includes new and creative steps never seen by the judges before."

#### **Do not score:**

- Discussion of convergent thinking (limiting one's choices, looking for the "right" answer)
- Distractions ("thinking about something else")
- Differing "opinions" between individuals

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## 2009 SCORING GUIDELINES

### Question 1 (continued)

#### **Point 7: Introversion**

To earn this point, students must describe how having an introverted personality (e.g., reserved, less sociable, withdrawn, quiet, solitary, needs time alone to recharge, concerned with own thoughts and experiences, more shy, anxious, reactive nervous system) may affect factors related to dancing or the dancer.

#### **Examples:**

"Dimitri struggles with shyness that makes it hard to be in front of people, so he is reluctant to perform in public."

"Raised anxiety levels for introverts will hamper the quality of the public performance."

"If Linda is an introvert, she might feel intimidated by all the people who are watching her every move."

"Dimitri might be introverted, which would make dancing more difficult because Linda would not be getting any feedback."

#### *Do not score:*

- Discussion of extraverted personalities (e.g., outgoing, enjoy social situations)
- "Introspection" alone

Extrinsic motivation is doing a task to receive external rewards such as praise or money. In order to motivate Dimitri and Linda to learn a new dance routine Dimitri and Linda could plan to perform this new routine in front of family and friends. Hoping to receive praise from their family and friends Dimitri and Linda would learn a new dance. Punishment is the act of taking away a privilege to extinguish before. To learn a new dance Dimitri and Linda could delete other activities from their calendar as a punishment until they learn their new dance. Proactive interference is old information interfering with new information which may cause memory problems. Old dance moves ~~may~~ may make it difficult for Linda and Dimitri to remember the new dance moves which may cause problems during their performance. They may forget the new moves and do old dance moves instead. Endorphins are neurotransmitters which block feelings of pain. Endorphins could help Linda and Dimitri during their performance. If Dimitri happened to step on Linda's foot, endorphins would be released, so Linda could continue dancing without pain. Vestibular ~~system~~ system

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controls your sense of balance. It would be very important for Linda and Dimitri to have a sense of balance while dancing, ~~or~~ otherwise they might fall over. Divergent thinking is expanding ideas or thoughts. This could ~~be~~ make Linda and Dimitri's dance very unique if they could think of several different moves to put into their routine. They could use current moves and divergent thinking to expand those moves or create new ones because of them. Introversion is a personality characteristic of being very secluded and shy. Introverted people aren't willing to try new things or like being out and about. This could hinder Dimitri and Linda's performance. If one of them ~~is~~ is introverted, they may not want to try new dance moves. And they would not want to perform in front of other people at a competition.

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Extrinsic motivation is motivation caused by the desire for something that can only help yourself on the outside, such as money. The dance competition may offer a prize to the winners, which would extrinsically motivate Dimitri and Linda to do well in the competition. Punishment is adding a bad thing or taking away a good thing. Dimitri and Linda's parents may threaten to punish them if they don't do well. Proactive interference is when something that you have previously learned begins to be confused with something you are currently attempting to learn. This could affect Dimitri and/or Linda if they had previously learned another dance routine. The older dance routine could become confused with the new dance routine while they are attempting to perform it. Endorphins are hormones that make you feel upbeat, and can be generated through exercise. If Linda and Dimitri have exercised before performing, they would be more positive and upbeat, which would add to their likability factor in the judge's eyes. The Vestibular system is a system of

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bones in your ears that make you sensitive to sounds. IF Dimitri and Linda had strong vestibular systems, they would be able to pick up the beats of the music more effectively, boosting their performance.

Divergent thinking is thinking together with your partner. IF Linda and Dimitri mastered this, they would be much more synchronized. Introversion is where someone is very withdrawn and quiet. IF Dimitri and Linda were introverts, they would feel very anxious about performing in front of a crowd, disabling them from performing well.



Extrinsic motivation is a reward, something external that motivates you, like money, food, and so on.

Dimitri and Linda may be extrinsically motivated to do well in this dance competition for money or maybe even a trophy.

Punishment is an act to decrease an undesirable behavior, by taking something away or using negative reinforcement.

Dimitri and Linda might get punished if they do bad in the competition, they may have an object taken away or receive physical punishment (like pushups, etc.)

Proactive interference is a distraction (interference) with someone who isn't involved.

Dimitri and Linda may experience proactive interference when a friend or family member yells their name, causing them to mix up the routine.

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Endorphins are neurotransmitters that you get with exercise that can make you feel aroused. Dimitri and Linda will most likely get their endorphins flowing while they are dancing, it may cause them to dance better.

The Vestibular sense is the sense of movement. Dimitri and Linda are dancing, if we didn't have this sense, Dimitri and Linda wouldn't be in this competition, the vestibular sense coordinates our movement.

Divergent thinking is thinking differently. Dimitri and Linda need to use divergent thinking when they are creating the dance choreography.

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## 2009 SCORING COMMENTARY

### Question 1

#### Overview

This question reflected the intention of the Psychology Development Committee to require critical analysis and application of concepts across multiple subfields within psychology. Thus the question (about a couple learning a new dance routine) required students to go beyond definition of terms to analysis of potential application of concepts from the areas of motivation, learning, memory, biological psychology, sensation/perception, cognition, and personality.

#### Sample: 1AA

**Score: 6**

The essay earned point 1 when the student describes "praise" as an extrinsic motivator. Although the student provides an accurate definition of punishment, the question required application of the concepts. The essay did not earn point 2 because the student describes an increase (rather than the requisite decrease) in behavior when a desired activity is removed. The essay earned point 3 when the student describes how "[o]ld dance moves" interfere with learning new moves. The essay earned point 4 when the student describes how endorphins could reduce pain if Linda is hurt while dancing. The essay earned point 5 because the student indicates that balance, which is controlled by the vestibular system, is necessary for dancing. Point 6 was earned because the student applies the concept of divergent thinking to the creation of new dance moves. The essay earned point 7 when the student describes introversion as a lack of desire to be "out and about" and notes how shyness may hinder a dance performance.

#### Sample: 1BB

**Score: 4**

The essay earned point 1 when the student identifies "a prize" as an extrinsic motivator. The essay did not earn point 2 because the student merely specifies that punishment will be administered; in addition, the student suggests that punishment will be administered in the absence (rather than the presence) of behavior. The essay earned point 3 when the student describes how an "older dance routine" may interfere with learning a new routine. The essay earned point 4 because the student indicates that endorphins create a feeling of well-being that might improve the dance performance. The essay did not earn point 5 because the student does not identify balance or dizziness as linked to the vestibular system. The essay did not earn point 6 because the student does not correctly describe divergent thinking and how it could be applied to dancing. The essay did earn point 7 when the student describes how an introverted dancer "would feel very anxious about performing in front of a crowd."

#### Sample: 1CC

**Score: 2**

The essay earned point 1 because "money" is identified as an external motivator for performing. The essay earned point 2 because the student indicates that a desirable object may be "taken away" if Dimitri and Linda perform poorly in the competition. The essay did not earn point 3 because the student describes "distraction" rather than proactive interference. The essay did not earn point 4 because the student indicates that endorphins create a sense of arousal rather than control pain or produce feelings of pleasure. The essay did not earn point 5 because the student indicates that the vestibular system coordinates movement—in order to earn the point for describing the vestibular system, a specific reference to balance was required. The essay did not earn point 6 because divergent thinking is incorrectly described as a divergence of opinion ("thinking differently") rather than creative thinking that would influence Dimitri and Linda's dance performance. The essay did not earn point 7 because the student does not attempt a description of introversion.