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# AP Psychology

## Sample Student Responses and Scoring Commentary

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# AP<sup>®</sup> PSYCHOLOGY

## 2018 SCORING GUIDELINES

### Question 1

Jackie has been chosen for the lead role in the school play. She is both nervous and excited about this opportunity.

#### Part A

Explain how each of the following concepts may help her performance in the play.

- Context-dependent memory
- Acetylcholine
- Kinesthetic sense
- Selective attention

#### Part B

Explain how each of the following concepts may hinder her performance in the play.

- Proactive interference
- Yerkes-Dodson law of arousal
- External locus of control

#### General Considerations

1. Answers should be presented in sentences cogent enough for the meaning of the response to come through. Spelling and grammatical mistakes do not reduce the score of a response, but spelling must be close enough that the reader is convinced of the word.
2. Do not score any notes made on the question section of the booklet. Score only what has been written in the blanks provided in the booklet.
3. Definitions alone will not score, but they may be used to enhance the application.
4. Within a point, a student will not be penalized for misinformation unless it directly contradicts correct information that otherwise would have scored a point. A correct application with an incorrect definition is not considered a direct contradiction and should score the point.
5. Rubric examples provided for each point are not to be considered exhaustive.
6. Responses that simply parrot or repeat the terms from the question will not score.
7. A response can score a point only if it clearly conveys what part of the question is being answered. It may be possible to infer what part of the question is being answered if it is consistent with the order of the question.

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## 2018 SCORING GUIDELINES

### Question 1 (continued)

#### Part A

All responses in Points 1–4 must include a reference to the concept helping Jackie in either her practice for the play OR her actual performance in the play.

#### Point 1: Context-dependent memory

Responses must link Jackie’s use of something external to her as a memory cue to a positive practice-/performance-related outcome.

- Score: “Jackie knows that she should rehearse her role on the stage on which the play will actually take place to do her best in the performance.”
- Score references to dialogue or other elements of the play that are external to Jackie (e.g., another actor), but do NOT score her simply remembering her lines.
- Do NOT score references to circadian rhythm.
- Do NOT score examples of mood-congruent memories or reasons for forgetting (e.g., interference, decay).

#### Point 2: Acetylcholine

Responses must link acetylcholine’s role in memory, learning, muscle movement, emotion, arousal, or calming to a positive practice-/performance-related outcome.

- Score: “Jackie’s acetylcholine allows her to remember when she needs to say particular lines during the play.”
- Score: “Acetylcholine allows Jackie to move easily from one position to another on the stage.”

Note: Responses need not identify ACh as a neurotransmitter or chemical. However, responses that mischaracterize ACh as a drug, hormone, brain part, neuron, etc., do NOT score the point.

#### Point 3: Kinesthetic sense

Responses must link Jackie’s sensation of the movement of her body or the position of her body part(s) to a positive practice-/performance-related outcome.

- Score: “Jackie can dance and wave her arms in the air during the play without having to look for them due to her sense of kinesthesia.”
- Do NOT score vestibular sense or reference to balance alone.
- Do NOT score references to whole-body location in space; (e.g., “Jackie knows where she is on the stage, which makes for a better performance).”
- Do NOT score references to memory (e.g., muscle memory; remembering what movements she’s supposed to make).

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## 2018 SCORING GUIDELINES

### Question 1 (continued)

#### Point 4: Selective attention

Responses must link Jackie’s directing her focus AND her filtering or ignoring other stimuli to a positive practice-/performance-related outcome.

- Score: “Jackie ignores her upset stomach as the play starts so that she can focus on her lines.”
- Do NOT score references to deliberate prioritization or allocation of time; e.g., “Jackie focuses exclusively on her play, ignoring her other classes, and she does a great job in the play.”

#### Part B

All responses in Points 5–7 must include a reference to the concept hindering Jackie in either her practice for the play OR her actual performance in the play.

#### Point 5: Proactive interference

Responses must link an older memory interfering with the learning or retrieval of a newer memory to a negative practice-/performance-related outcome.

- Score: “Jackie forgets her line for the play when she accidentally speaks a line from a play she was in last year.”
- Do NOT score retroactive interference or other reasons for forgetting.

#### Point 6: Yerkes-Dodson law of arousal

Responses must link Jackie’s non-optimal arousal level (excessively high or low) to a negative practice-/performance-related outcome.

- Score: “Because Jackie is extremely nervous as the play starts, she forgets the first few lines of the play.”
- Score: “Jackie’s boredom with her role hindered the quality of her rehearsal for the play.”
- Do NOT score Jackie being at the optimal level of arousal and doing well in the play.

High arousal path: Words such as “nervous,” “aroused,” “anxious,” and so on are insufficient to indicate nonoptimal arousal and must have an amplifying modifier, such as “extremely,” “too,” “high,” “so,” or “overly,” in order to score the point.

Low arousal path: Modifiers may be used to indicate low arousal (e.g., “not aroused enough”), but words indicating the LACK of arousal (e.g., unmotivated, disinterested, inattentive, bored) may score on their own.

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## 2018 SCORING GUIDELINES

### Question 1 (continued)

#### Point 7: External locus of control

Responses must link Jackie's *belief* that outcomes are subject to an *outside factor* (e.g., luck, fate, destiny, other people, circumstances) to a negative practice-/performance-related outcome.

- Score: “Jackie thinks her performance depends on how the rest of the cast does, so she does not rehearse enough.”
- Score: “Jackie believes she is destined to fail, so she doesn’t perform as well.”
- Do NOT score references to her lack of either confidence (e.g., self-efficacy, self-esteem, self-fulfilling prophecy) or sense of control UNLESS they are linked to an outside factor.
- Do NOT score: “Jackie believes she is going to fail, so she doesn’t even try to do a good job in the play,” because there is no outside force.
- Do NOT score: “External locus of control states that outside factors have more of a role in action than internal ones, which could hinder Jackie’s performance,” because there is no indication of a belief on Jackie’s part.

Context-dependent memory describes how one's situation may help or harm their recall of information. If Jackie practices her role for the play in the same setting with the same emotions/mindset, then she will have better recall of her lines during the play. This is because in similar contexts to when information is acquired, recall of said information is quicker and more accurate. Acetylcholine is a neurotransmitter involved in muscle ~~control~~ control and memory. Acetylcholine will be important in Jackie's movements across stage into positions. This is because her muscle memory will be activated by the acetylcholine in her muscles and ~~receptors~~ receptors. Kinesthetic sense refers to the ability of one to determine their location from their surroundings. Through repeated practice, Jackie's ~~kinesthetic~~ kinesthetic sense will heighten, enabling her to move quicker and determine her position on stage more accurately. This is because, over time, Jackie will build a cognitive map of the stage, telling her where she is based on her settings. Finally, selective attention refers to one's ability to focus only on certain details or aspects of a situation. If Jackie obtains stage fright, or fears performing in front of a large crowd, selective attention will aid her performance. This is because she can focus her attention to only a few members

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Question 1 is reprinted for your convenience.

1A  
2 of 3

1. Jackie has been chosen for the lead role in the school play. She is both nervous and excited about this opportunity.

Part A

Explain how each of the following concepts may help her performance in the play.

- Context-dependent memory
- Acetylcholine
- Kinesthetic sense
- Selective attention

Part B

Explain how each of the following concepts may hinder her performance in the play.

- Proactive interference
- Yerkes-Dodson law of arousal
- External locus of control

of the audience, or can focus on solely the stage instead of the many people watching her play. Proactive interference is when previously obtained knowledge prevents the acquisition of new knowledge. If Jackie suffers from proactive interference, she will have trouble memorizing new lines, as other information she has memorized (such as lines from an earlier scene) will prevent her from learning new ones. The Yerkes-Dodson law of arousal describes one's changes in arousal levels based upon their surroundings. During the play, Jackie may be overaroused and active, which would prevent her from focusing and properly playing her role. Finally, an external locus of control is a source of control not from within oneself. For example,

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if Jackie was forced to participate in this play, she may be less motivated to do well, hindering her performance. Additionally, if Jackie believes there is an external locus of control affecting her performance, such as the weather, she may feel helpless and as such lose motivation to perform well.

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Part A: Context-dependent memory - Context dependent memory refers to memory that is strengthened when it is recalled in similar circumstances to when it was learned. If Jackie was drunk when she learned her lines, being drunk on the night of the show will help her to remember her lines.

Acetylcholine - This neurotransmitter will help Jackie to move her body as she performs.

Kinesthetic sense - This sense will help Jackie to understand the layout of the stage and perform ~~well~~ accordingly.

Selective attention - Selective attention is focusing one's mind on one particular thing, and ignoring other stimuli. Jackie can be selectively attentive to her friend in the light booth while ignoring stimuli from the audience, which can help calm her nerves.

Part B: Proactive interference - Proactive interference is when old information conflicts with new information, making the new information harder to remember. If the director changed a few lines in a scene very close to the night of the show, Jackie may have trouble remembering the new lines after <sup>previously</sup> memorizing the old lines because of proactive interference.

Yerkes-Dodson law of arousal - ~~Yerkes-Dodson~~ Yerkes-Dodson states that Jackie will need the optimal level of arousal to perform well. If Jackie is too aroused by the audience and too nervous or not aroused enough

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1 B  
2 of 2

**Question 1** is reprinted for your convenience.

1. Jackie has been chosen for the lead role in the school play. She is both nervous and excited about this opportunity.

Part A

Explain how each of the following concepts may help her performance in the play.

- Context-dependent memory
- Acetylcholine
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Part B

Explain how each of the following concepts may hinder her performance in the play.

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- External locus of control

and too bored, Jackie will not perform her role well.  
External locus of control - External locus of control means feeling that one's life and successes are determined by the environment, and not by one's self. If Jackie has an external locus of control, she may believe that her success is totally up to the director, and not up to her.

Context-dependent memory is when your memory depends on things you have learned from the situation. If Jackie memorizes the script but works hard to practice, so when it's time to audition she can ~~remember the content~~ remember the content of what she practiced to get the part.

Acetylcholine is a neurotransmitter that helps with stress. ~~and~~ with the acetylcholine being released she will have the confidence to perform under pressure.

Kinesthetic sense is the way your body functions. Since Jackie is auditioning for a play she will need to use her kinesthetic sense in order to perform the dance that goes along with the play.

Selective attention is what you choose to pay attention to. For Jackie, she has to pay attention to the song, ~~the~~ the other actors, and remember what she practiced or she does not fail. She uses her selective attention to only focus on what's important, not what's going on with the crowd or the outside world.

Proactive interference is when new information interferes with what you're focusing on. For example if all of a sudden the director tells Jackie there has been a change with the dance, that now interferes with what she has been practicing.

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1c  
2 of 2

Question 1 is reprinted for your convenience.

1. Jackie has been chosen for the lead role in the school play. She is both nervous and excited about this opportunity.

Part A

Explain how each of the following concepts may help her performance in the play.

- Context-dependent memory
- Acetylcholine
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Part B

Explain how each of the following concepts may hinder her performance in the play.

- Proactive interference
- Yerkes-Dodson law of arousal
- External locus of control

Yerkes-Dodson law of arousal can hinder Jackie's performance by her getting aroused by something other than the play making her mind think about something else separate from the play making her mess up.

External locus of control can affect Jackie by emphasizing control on something other than what she needs to perform well in the play.

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## 2018 SCORING COMMENTARY

### Question 1

#### Overview

The responses were expected to demonstrate an understanding of various cognitive, biological, and sensory concepts in the context of helping or hindering the performance of Jackie, a student who has been chosen for the lead in a play. The responses needed to illustrate the relationship between physiological processes and behavior. In addition, the responses needed to demonstrate an understanding of the principles that underlie the construction of memory as well as the role of other cognitive processes on behavior. Specifically the responses needed to explain how context-dependent memory, acetylcholine, the kinesthetic sense, and selective attention play a role in helping Jackie practice for or perform in the play. In addition, the responses needed to explain how proactive interference, the Yerkes-Dodson law of arousal, and an external locus of control might hinder Jackie's experience in the play.

#### Sample: 1A

##### Score: 6

The response earned point 1 because it notes that if Jackie practices in the same setting in which she performs the play, she will recall her lines better than in another context. The response earned point 2 because it correctly identifies acetylcholine's role in helping Jackie with her muscle movements across the stage. The response did not earn point 3 because it refers strictly to Jackie's understanding of her body's location, but not its movement or the position of her body parts. The response earned point 4 because it contains references to both Jackie's focus on the stage and her tuning out members of the audience through selective attention. The response earned point 5 because it shows how proactive interference could impair Jackie's memory of her new lines through the persistence of her memory of earlier lines. The response earned point 6 because it refers to Jackie's overarousal impairing her focus while performing the play. The response earned point 7 because it describes how Jackie's belief that an outside factor, such as the weather, will determine her performance and could hamper her motivation.

#### Sample: 1B

##### Score: 4

The response did not earn point 1 because it refers to state-dependent memory, rather than context-dependent memory. The response earned point 2 because it correctly identifies acetylcholine as a neurotransmitter involved in body movement and applies it to Jackie's play performance. The response did not earn point 3 because it does not identify kinesthetic sense's role in Jackie's awareness of her body's movement. The response earned point 4 because it describes Jackie attending to her friend and ignoring the audience, with a positive effect on her nerves. The response earned point 5 because it illustrates how an old memory may interfere with new memories, to the detriment of the play. The response earned point 6 because it discusses how under or overarousal can hurt the quality of Jackie's performance. The response did not earn point 7 because it does not include a mention of how external locus of control would hinder Jackie's performance in the play.

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**2018 SCORING COMMENTARY**

**Question 1 (continued)**

**Sample: 1C**

**Score: 2**

The response did not earn point 1 because it does not identify a context cue that would help Jackie in her work with the play. The response earned point 2 because it correctly identifies acetylcholine as a neurotransmitter that could help Jackie with the play by reducing her stress. The response did not earn point 3 because it describes kinesthetic sense as producing, rather than sensing, movement. The response earned point 4 because it identifies what Jackie focuses on (“the song, the other actors”) and what she filters out (“what’s going on with the crowd or the outside world”). The response did not earn point 5 because it does not clearly establish proactive interference as older memories interfering with newer ones. The response did not earn point 6 because it describes the negative effects of distraction rather than insufficient or excessive levels of arousal. The response did not earn point 7 because it does not refer to Jackie’s belief that outcomes are beyond her control.