

AP[®] PSYCHOLOGY

2012 SCORING GUIDELINES

Question 2

For each of the following pairs of terms, explain how the placement or location of the first influences the process indicated by the second.

- Rods, peripheral vision
- A list of unrelated words, word recall
- Serotonin, reduction of depression
- Retinal disparity, depth perception
- Motor cortex, body movement
- Presence of others, performance
- Proximity, perception

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 sufficiently accurate for the reader to be convinced of the intended word.
2. Do not score students' notes made in the question section of the booklet. Score only what has been written in the blanks provided.
3. Within a point, students will not be penalized for misinformation unless it *directly contradicts* correct information that would otherwise have scored a point.

Point 1: Rods, peripheral vision

Rods are located away from the center of the retina (the term “retina” is not required) and are responsible for peripheral vision.

Notes

- Students must specify the placement of rods *in the eye*. They may not simply say rods are “in the periphery” without referring to the periphery of the eye or retina.
- Students must use the term “peripheral vision” or describe peripheral vision (e.g., “outer edges of the visual field”). It is not enough merely to say that rods allow us to detect movement and form or to see in dim light or in black and white, because the question specifies peripheral vision.

Examples

Score

“Rods on the side of the eye produce peripheral vision.”

Do not score

“Rods on the edge of the pupil allow for peripheral vision.” (Rods are not located in the pupil.)

Point 2: A list of unrelated words, word recall

Any of the following are acceptable responses:

- A. Description of how primacy, recency, or serial position influences word recall (these precise terms are not required).
- B. Description of a strategy (e.g., mnemonic device) to mentally rearrange, relocate, or manipulate unrelated words to enhance recall. Or, students can address the inability to rearrange or manipulate unrelated words, which will reduce recall.
- C. Explanation of the location of a word in a list of unrelated words in working/short-term memory or in long-term memory and how this influences recall.

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Question 2 (continued)

Examples

Score

“The serial-position effect is demonstrated when people remember words at the beginning of the list.”

Do not score

“Unrelated words can’t be recalled.” (No cognitive manipulation is explained.)

Point 3: Serotonin, reduction of depression

Increased serotonin in the brain (any part of the brain, even if inaccurate) or in neuron-related locations (synapses, receptors, neurons, neural pathways, or the nervous system) reduces depression.

Notes

- Students must indicate that the increase of serotonin reduces depression.
- Students may say that this theory has been questioned by recent research, but the original theory must be explained.
- References to “reuptake” can score only if an acceptable location for this process is also offered within the answer.
- Students may NOT indicate that serotonin is a substance originating outside of the body.

Examples

Score

“More brain serotonin leads to less depression.”

Do not score

“More serotonin in the body reduces depression.” (No acceptable location has been identified.)

Point 4: Retinal disparity, depth perception

Any of the following are acceptable responses:

- A. Each eye sees a slightly different view, which facilitates perception of depth, distance, or three dimensions.
- B. Location/separation of the two eyes (or retinas) facilitates depth perception.
- C. Two slightly different images of an object facilitate depth perception.
- D. Retinal disparity provides a binocular cue that facilitates depth perception.

Examples

Score

“Distance between the eyes creates two different images needed for good depth perception.”

Do not score

“Retinal disparity, which helps depth perception, occurs in the brain.” (The response does not refer to the eye.)

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Question 2 (continued)

Point 5: Motor cortex, body movement

Any of the following are acceptable responses:

- A. The motor cortex is *in the frontal lobe* and controls movement.
- B. Adjacent parts of the brain can compensate for damage in the motor cortex, allowing body movement (plasticity).
- C. The brain (or any part of the brain, even if inaccurate) is directly linked with movement in a specific part of the body or a specific voluntary action. Specificity can be established by one of the following:
 - i. Identifying a body part that moves (such as the legs) or specific action (such as walking).
 - ii. Saying that a “particular muscle” moves.
- D. The brain (or any part of the brain) corresponds to specific areas of the body. A link can be established by one of the following:
 - i. A “map” of the body (or homunculus) represented in the brain.
 - ii. Crossing over to the opposite side (contralateral control).

Note for options C and D: Students MUST identify the motor cortex as a brain area. The use of “motor cortex” alone repeats a term from the question without offering a location.

Examples

Score

“The brain controls the leg.”

Do not score

“The motor cortex is what allows the body to move.” (The brain — or specific brain area other than the motor cortex — has not been mentioned.)

Point 6: Presence of others, performance

Students must *name and accurately describe* a psychological concept tied to how the presence of others can affect performance. Examples include, but are not limited to, the following:

- Social facilitation
- Social loafing
- Bystander effect
- Conformity

Note: Students must clearly connect the psychological concept to the presence of others.

Examples

Score

“Social loafing affects performance. Leah works hard on a project when she has to do it herself, but if she’s involved in a group project, she lets the others do most of the work.”

Do not score

“The presence of others can increase performance if the task is easy, but the presence of others may damage performance if the task is difficult.” (This response does not *name* a psychological concept.)

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Question 2 (continued)

Point 7: Proximity, perception

Students must indicate an understanding of proximity and its impact on a specific perceptual process.

Pathways include the following:

- A. Near versus far objects, people, or sounds affect perception of a specific quality of objects, people, or sounds.
- B. When objects, people, or sounds are close to each other, we perceive a whole (Gestalt).
- C. People or objects in close proximity to the observer are perceived more positively over time (mere exposure).

Examples

Score

“When you look at a bunch of trees, the ones that are smaller and blurrier will seem to be farther from you.”

“If you see the same person over and over again, like in your class, after a while you start to like them.”

Do not score

“If objects have proximity, it affects perception.” (An understanding of proximity is not indicated.)

2. For each of the following pairs of terms, explain how the placement or location of the first influences the process indicated by the second.

- Rods, peripheral vision ✓
- A list of unrelated words, word recall ✓
- Serotonin, reduction of depression ✓
- Retinal disparity, depth perception ✓
- Motor cortex, body movement ✓
- Presence of others, performance ✓
- Proximity, perception ✓

The rods which are located mainly on the outer regions of the eye and are responsible for light/dark help with peripheral vision because since they are on the outside the eye can detect images on either side. Because the cones, for color, are located in the middle the peripheral vision is not have very much color. Without the rods on the outside of the eye back we would not have the ability to see to the side while looking straight ahead. Word recall is influenced by the placement of the words because there person is more likely to remember the words listed at the beginning and ending of the list and forget the ones that came in the middle. People who lack the proper amount of serotonin will have depression, so by increasing the levels of serotonin that the body has this will reduce depression. The placement of serotonin in the synapse is important because this is where the receptor sites are, depression drugs that are selective serotonin uptake, will leave more serotonin in the synapse to bind to the receptor sites and thus reduce depression. Retinal disparity is the process in which your two eyes see different images and your brain works to combine the two images, this relates to depth perception because when the images are closer the two images have greater difference and the brain must work harder to combine them. The location of the eyes on the face influences depth perception because the ground with is further when people are standing appears further because the physical difference is greater. The motor cortex in the brain

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Which has different sized representative areas for different parts of the body controls the movement of the body. Body movement that requires more muscle movement is more largely represented in the ~~brain~~ motor cortex than other parts, the hands and face ~~have more~~ are so overrepresented because they are more muscles to move. The social facilitation effect, where people perform better at tasks they are good at when others are around. So the presence of others being close to the person performing the action increases the performance of whatever is being displayed. Proximity is how close something is to another thing if ~~two~~ objects are closer to each other then the brain is more likely to see them as being grouped together. For example several "X's" ~~are~~ clumped together will be perceived, seen, as one group rather than individual "X's". In retinal disparity relating to depth perception when the pupils in the eyes are closer together the object is closer, when the ^{pupils} eyes are further apart the object is further away, this physical difference in the eyes is translated into the brain causing the depth perception.

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2. For each of the following pairs of terms, explain how the placement or location of the first influences the process indicated by the second.

- ✓ Rods, peripheral vision (on outside of retina) black/white, shading → seeing outer sides of eye
- ✓ A list of unrelated words, word recall list → primacy/recency recall
- ✓ Serotonin, reduction of depression decrease serotonin → reduce depression
- ✓ Retinal disparity, depth perception binocular cue → enables depth perception
- ✓ Motor cortex, body movement M.C → controls body movement
- ✓ Presence of others, performance D.O → inhibit performance
- ✓ Proximity, perception ~~where something~~ close → increase unifying perception

Rods, controlling black/white and shading seen by the eye, are ~~tools~~ located at the outer edges of the retina. Therefore, peripheral vision, seeing the outer edges of one's horizon of the eye, is made possible. It also makes that vision less clear.

The placement of unrelated words on a list will affect what words are recalled. Because of the primacy effect, the first words on a list will be more easily recalled. Also, with the recency effect, the last words on the list will be more easily recalled than words in the middle.

Serotonin is a neurotransmitter that acts as an inhibitor to the brain.

Those with depression usually have high levels of serotonin in their system.

In order for depression to be reduced,

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serotonin levels must be reduced as well. The reduction of serotonin helps reduce depression.

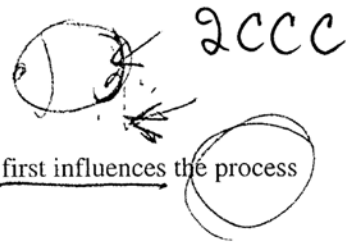
Retinal disparity is a binocular cue; both eyes are used in order for one to have depth perception. Therefore, depth perception is produced through retinal disparity.

The motor cortex of the brain controls voluntary movement. Therefore, the movement of the body is only possible with the motor cortex functioning properly.

The presence of others can either increase or inhibit the performance of an individual. When others are present, one may perform at a higher level ^(social synchronization) or perform at a lesser level. ^(social interference)

Proximity is when the brain perceives that objects closer together should be grouped together. This affects one's perception of what is or is not a proper group.

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2. For each of the following pairs of terms, explain how the placement or location of the first influences the process indicated by the second.

- Rods, peripheral vision → night, shadow
- A list of unrelated words, word recall → ~~no~~ meaning/connection
- Serotonin, reduction of depression → S. → relaxes
- Retinal disparity, depth perception → mistakes, ~~or~~
- Motor cortex, body movement → body movement caused by
- Presence of others, performance → enhance/decrease perform
- Proximity, perception → closer, more detailed

Rods found in the back of the eye, aid with 'nighttime vision and only' vision of black and white. The placement of rods, ~~and~~ behind the eyes, would aid in 'peripheral vision'. Peripheral vision is the vision to the far side of the eye and is usually categorized by many shadows. Rods assist in the perception of shadows, thus aiding in peripheral vision.

The placement of unrelated words would have a huge impact on word recall. Because there is no way to make any ~~connection~~ connection between the words, there is very little chance all the words will be recalled. However, using the serial position

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effect subjects would ~~not~~ find that it is easier to recall words closer to the end of the list than ones in the ~~beginning~~ beginning.

Serotonin is a chemical spread throughout the body that is ~~used~~ used to relax or calm the body. Depression is caused by ~~an~~ a reduced amount of dopamine, which is ~~not~~ found in surplus in alert and aware people. Serotonin can reduce depression as it will relax the body, instead of a deflated and helpless feeling.

The retina is found in the back of the eye, like the rods. If the retina fell victim to retinal disparity, then depth perception would be way off. Retinal disparity is the case in which the retina mistakes some sort of perception. Depth perception could be way off in a case of retinal disparity!

The motor cortex found in

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Question 2 is reprinted for your convenience.

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- Motor cortex, body movement
- Presence of others, performance \Rightarrow enhance/decrease
- Proximity, perception \Rightarrow closer, more details

The brain regulates ~~all~~ all of a body's movements.

The presence of others, perhaps in front of a performer much like an audience in front of a stage, ~~is~~ could greatly influence the performance. Some performers feel their parasympathetic reactions take place in a full house causing a better performance. However, some performers are ~~extremely~~ nervous at the idea of others watching their performances and thus giving a worse performance.

The proximity of objects will result in a definite perception of details. The closer an object is, the more accurate the perception will

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2012 SCORING COMMENTARY

Question 2

Overview

This question required students to communicate their knowledge of several psychological concepts by addressing, in a list of paired items, how the placement or location of the first element influences an outcome related to the second element. Specifically, students were required to demonstrate an understanding of the relationship between the following: (1) the rods in the eye and peripheral vision, (2) a cognitive strategy tied to word recall, (3) serotonin in the brain or in a neuron-related structure and the reduction of depression, (4) retinal disparity and depth perception, (5) the motor cortex in the brain and body movement, (6) a psychological concept related to the influence of the presence of others on performance, and (7) the effect of proximity on perception.

Sample: 2AAA **Score: 7**

The essay earned point 1 because the student correctly identifies the location of rods in the periphery of the eye and addresses their role in peripheral vision. Point 2 was awarded because the student accurately describes the serial-position effect: a “person is more likely to remember the words listed at the beginning and ending of the list and forget [*sic*] the ones that came in the middle.” Point 3 was merited when the student explains that serotonin is located in the synapses and that increased levels of serotonin will reduce depression. Point 4 was granted because the student explains that disparity between the images in two eyes will result in depth perception. Point 5 was credited because the student specifies that the motor cortex is located in the brain and also refers to specific parts of the body controlled by the motor cortex. The essay earned point 6 because the student identifies and describes social facilitation as a social phenomenon that affects performance: “people perform [*sic*] better at tasks they are good at when others are around.” Point 7 was gained because the student describes how the proximity of objects will result in the Gestalt perception of perceiving a whole, rather than individual parts.

Sample: 2BBB **Score: 4**

The essay was awarded point 1 because the student correctly identifies the location of rods in the periphery of the retina and indicates that the rods allow for peripheral vision. Point 2 was granted because the primacy effect is accurately described, and the student indicates that the primacy effect enhances recall. The essay did not receive credit for point 3 because the reduction of depression is erroneously tied to reduced levels of serotonin. Point 4 was earned because retinal disparity is explained as a binocular cue from “both eyes” that allows for depth perception. Point 5 was not gained because the student does not reference a specific body part or action, nor does the student mention contralateral control of the body or mapping of the body in the brain. The essay was not awarded point 6 because a psychological concept is not accurately named (e.g., social facilitation). The essay merited point 7 because the student describes Gestalt perception (“the brain perceives [*sic*] that objects closer together should be grouped together”) and indicates that this affects perception of “a proper group.”

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Question 2 (continued)

Sample: 2CCC

Score: 2

The essay received no credit for point 1 because the student does not indicate that the rods are located in the peripheral area of the eye or retina. Point 2 was awarded, based on an accurate description of the recency effect. Point 3 was not earned because the student does not indicate that serotonin levels must increase to reduce depression. The essay did not merit point 4 because the student does not describe how depth perception is related to two eyes or two slightly different images. Point 5 received no credit because no specific body movement, voluntary muscle, or mapping of the body in the brain is described. Point 6 was not granted because an appropriate psychological concept (e.g., social facilitation) is not named. The essay earned point 7 because proximity is addressed in terms of the nearness of objects, and a specific property of the object is identified.