

Question 2: Research Design**7 points****General Considerations**

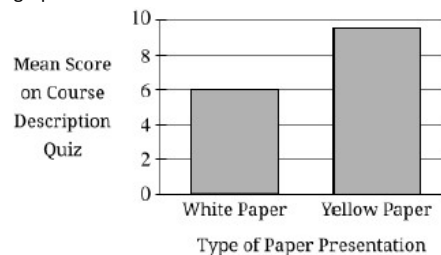
1. Answers must be cogent enough for the meaning to come through. Spelling and grammatical mistakes do not reduce a score, but spelling must be close enough so that the reader is convinced of the word.
2. A response can earn points only if the student clearly conveys what part of the question is being answered. It is possible to infer the part of the question being answered if it is consistent with the order of the question.
3. The response must apply the concept to the prompt. A definition alone will not earn the point, but a clear definition can support the application.
4. Examples provided in the Scoring Guidelines for each of the points are not to be considered exhaustive.

5. Within a point, a response will not be penalized for incorrect information unless it *directly contradicts* correct information that would have otherwise earned a point. For example, if a response applies a concept in two contradictory ways (such as identifying both the independent and dependent variables as the independent variable or describing proactive interference as interference from both older and newer information), the point is not earned.

NOTE: In certain cases, a response will not score if it includes a correct answer amongst multiple incorrect answers related to the same general concept/theory (e.g., a response that describes the Big Five trait of conscientiousness as being diligent, trusting, highly emotional, outgoing, and intellectually curious).

6. Within a bulleted question part, if the response addresses details from a scenario other than the one in the prompt, the point is not earned.

Part A Professor Gonzalez hypothesizes that students will remember more information from his detailed course description if it is printed on yellow paper than if it is printed on standard white paper. To test this hypothesis, he put the names of all his students into a bowl, then drew out names to assign them to two different groups. He gave one group of the students in his class a course description printed on white paper and gave the other group of students a course description printed on yellow paper. Students were instructed to thoroughly read the description outside of class in preparation for their next class. In the next class, he gave all students a ten-question quiz asking them about the information found on the course description. Professor Gonzalez then compared the number of correct answers for each group of students. The statistically significant results are depicted in the graph.

**State the operational definition of the dependent variable.****1 point**

Response must indicate that the dependent variable is operationally defined as the student's score on the course description quiz.

Acceptable explanations include:

- *The dependent variable is operationally defined as the score on the course description quiz.*
- *The dependent variable is the quiz score/grade on the quiz.*
- *The number of correct answers on the quiz is the dependent variable.*

Unacceptable explanations include:

- *The dependent variable is the type of paper used.*
- *The student's result on the quiz, and that's the dependent variable.*
- *The mean score on the quiz.*

Identify the experimental group.**1 point**

Response must indicate that the experimental group is the group with the course description printed on yellow paper.

Acceptable explanations include:

- *The experimental group is the people who have the yellow paper.*

Unacceptable explanations include:

Responses that state the yellow paper without indicating the people/group.

- *The experimental group is the yellow paper.*

Responses that state a control group instead of an experimental group.

- *Example: The control group is the group with the yellow paper.*

References to taking the quiz on yellow paper do not score.

In addition to the manipulation of an independent variable, identify the procedure Professor Gonzalez used to make this study a true experiment.**1 point**

Response must indicate that the procedure used to make this a true experiment is random assignment.

Acceptable explanations include:

- *Professor Gonzalez randomly assigned the participants to groups.*
- *Professor Gonzalez put people in groups randomly.*
- *Professor Gonzalez puts the names of all students into a bowl and pulls them out of a bowl.*

Unacceptable explanations include:

Responses that refer to random selection/sampling.

- *Professor Gonzalez used random selection to make this a true experiment.*

Explain how the data as presented in the graph do or do not support Professor Gonzalez's hypothesis. **1 point**

Response must indicate that data support the hypothesis because the experimental group (i.e., the yellow paper group) scored higher on the test.

Acceptable explanations include:

- *Professor Gonzalez thought that the experimental group would score higher, and they did, so the data support the hypothesis.*
- *The bar for the yellow paper group is higher than the bar for the white paper group, which supports the hypothesis.*
- *The control group/white paper group scored lower than the experimental group/yellow paper group, which is what Professor Gonzalez expected.*

Unacceptable explanations include:

Responses that do not provide an explanation for data supporting the hypothesis.

- *The data do not support the hypothesis.*
- *The data **support the hypothesis** (needs to make clear what the hypothesis was).*

Part B Explain how each of the following might relate to a student's performance on any quiz.

Context-dependent memory

1 point

Response must indicate that the student's memory retrieval is affected if some external element (e.g., room, sensory cues, equipment) that is present when the information was learned/encoded is present/the same or absent/not the same as when they take a quiz.

Acceptable explanations include:

- *If students learn the information in a particular classroom, they should take a quiz in that same classroom so they can use the surroundings to cue them for their memories.*
- *If a student chews gum while studying, they should chew gum while taking a quiz.*
- *If students sit in different seats taking the quiz than when they learned that information, they will do worse on the quiz.*

Unacceptable explanations include:

- *Students must consider context in order to remember things well enough for their quiz.*

Responses that refer only to mood-dependent or state-dependent memory.

- *If a student is happy while learning the information, they will do better if they are happy when they take the quiz.*

Yerkes-Dodson law

1 point

Response must indicate that students would perform best under a level of optimal arousal.

OR

Response must indicate that students would perform worse if they were under- or over-aroused.

Synonyms for "under-aroused" can include a reference to the amount (e.g., too little, under, insufficient).

Synonyms for "over-aroused" can include a reference to the amount (e.g., too much, overly, super).

Acceptable explanations include:

- *Students might be too aroused on the quiz, so they don't do well.*
- *Students may be at their optimal arousal, so they end up doing well on the quiz.*
- *Students are extremely disinterested/very bored in the class, so they don't do well on a quiz.*
- *Students who have a high level of arousal perform poorly on the quiz.*

Unacceptable explanations include:

Responses that refer to arousal without quantity (i.e., too much, too little).

- *Students may be relaxed, so they do well on the quiz.*
- *Students who are excited do poorly on the quiz.*

Low level of the Big Five trait of conscientiousness

1 point

Response must indicate that a low level of an enduring characteristic of conscientiousness would hinder student performance on the quiz (e.g., not being diligent, being less hardworking, being unorganized, being undisciplined, being irresponsible, being unprepared, etc.).

Acceptable explanations include:

- *Students who aren't hardworking may be hindered from doing well on the quiz.*

Unacceptable explanations include:

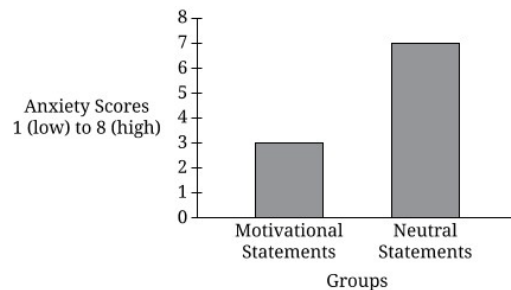
- *Students who are diligent do better on the quiz.*
- *Students who did not study hard did poorly on the quiz.*

Total for question 2 7 points

Question 2: Research Design**7 points****General Considerations**

- Answers must be cogent enough for the meaning to come through. Spelling and grammatical mistakes do not reduce a score, but spelling must be close enough so that the reader is convinced of the word.
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NOTE: In certain cases, a response will not score if it includes a correct answer amongst multiple incorrect answers related to the same general concept/theory (e.g., a response that describes the Big Five trait of conscientiousness as being diligent, trusting, highly emotional, outgoing, and intellectually curious).
- Within a bulleted question part, if the response addresses details from a scenario other than the one in the prompt, the point is not earned.

Part A Dr. Dawson is a psychologist who believes that students who read motivational statements before a test will experience lower levels of anxiety as compared with students who read neutral statements. To examine this belief, he conducted a study. In the study, he randomly assigned half of the participants to read motivational statements and the other half to read neutral statements. Immediately after reading the statements, all of the students completed a survey about their current level of anxiety (1 = low; 8 = high) and then took the test. Dr. Dawson found statistically significant results that are depicted in the graph.

**State a valid operational definition of the dependent variable in this study.****1 point**

Response must indicate that anxiety is defined by their score on the scale/survey of their anxiety.

Acceptable explanations include:

- The dependent variable can be operationally defined as the score on the anxiety scale.
- The dependent variable is the score on the scale/survey.
- The dependent variable is the anxiety score from 1 to 8 (or 1 to 10).

Unacceptable explanations include:

Responses that do not mention the scale/survey.

- The operational definition is the level of anxiety.
- The operational definition is the anxiety score.

Identify the control group in this study.**1 point**

Response must indicate that the control group is the group that reads the neutral statements.

Acceptable explanations include:

- The control group is the group that reads neutral statements.
- The control group is the group that does not read positive statements.

Unacceptable explanations include:

Responses that indicate the experimental group.

- The control group is the group that reads the positive statements.
- The control group is the group that does not read the neutral statements.

Explain why the study would be considered an experiment.**1 point**

Response must indicate that the study is experimental because an independent variable is manipulated, and/or the participants were randomly assigned to the groups in the study.

Acceptable explanations include:

- The study is experimental because the students are randomly assigned to two conditions.
- The study is an experiment because a variable was manipulated.

Unacceptable explanations include:

The response indicates random selection/sampling.

- The study is experimental because they were randomly chosen to participate.
- The study is experimental because it tests a hypothesis.

Explain how the results of the study do or do not support Dr. Dawson's hypothesis.**1 point**

Response must indicate that Dr. Dawson's hypothesis is supported because either the motivational statement group had lower anxiety or the neutral statement group had higher anxiety.

Acceptable explanations include:

- *Dr. Dawson's hypothesis is supported because the motivational group had lower anxiety.*
- *Dr. Dawson's hypothesis is supported because the neutral statement group had higher anxiety.*

Unacceptable explanations include:

- *The results do not support Dr. Dawson's hypothesis.*
- *Dr. Dawson's hypothesis is supported because the motivational group had higher anxiety.*
- *Dr. Dawson's hypothesis is supported because the motivational group had low anxiety.*

Part B The test Dr. Dawson gave was a vocabulary test. Explain how the following terms might relate to the students who performed poorly on the test in this study.

External locus of control**1 point**

Response must indicate that students may perform poorly because they believe that factors outside of themselves (e.g., fate, luck, destiny, circumstances, other people) are responsible for their performance.

Acceptable explanations include:

- *Students who believe that fate determines their scores on the test won't perform as well.*
- *Students who believe that the unfairness of their teacher determines their score won't pass the test.*

Unacceptable explanations include:

Responses that do not include a cognitive component (e.g., perception, belief, thought) do not score.

- *Students did badly because the questions were too hard.*

Responses that refer to internal locus of control do not score.

- *Students believe they can control how they do on the test.*

Responses that refer to lack of control without mention of an outside factor do not score.

- *The students may think there is nothing they can do, so they perform worse on the test.*
- *The students did poorly on the quiz because they believed they lacked the ability to do well.*

Stage one of Selye's general adaptation syndrome**1 point**

Response must indicate that the students' sympathetic nervous system or some specific aspect of their sympathetic nervous system is activated which interferes with taking the test.

OR

Response indicates that the students' fight-or-flight mechanism is activated, which interferes with them taking the test.

NOTE: Students are not required to identify the name of the stage in order to earn the point.

Acceptable explanations include:

- *Students' fight or flight response might engage if they perceive the test as being a threat, so they might score lower than if they weren't stressed.*
- *Students' heart rates increased, and they performed poorly.*

Unacceptable explanations include:

Responses that do not indicate poor performance on the test do not score.

Responses that refer to being "alarmed," "stressed," or "aroused" but do not indicate a physiological element do not score.

- *The student was too alarmed or too aroused to perform well on the test.*
- *Students with anxiety might get sick because they've resisted stress so much.*

Crystallized intelligence**1 point**

Response must indicate that a lack of crystallized intelligence (e.g., accumulated knowledge, facts, general information, or vocabulary) could have hindered student performance on the test.

Acceptable explanations include:

- *Students who study the wrong vocabulary perform poorly.*
- *Students who do not have prior knowledge do poorly on the test.*

Unacceptable explanations include:

Responses that refer to general intelligence or fluid intelligence do not score.

- *Students may not be able to come up with abstract answers quickly, so they score low on the test.*

Responses that refer to memories unrelated to knowledge on the test do not score.

- *The memory of a past bad experience on a test makes them perform poorly on the vocabulary test.*

Total for question 2**7 points**

Question 1: Concept Application**7 points****General Considerations**

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- Within a bulleted question part, if the response addresses details from a scenario other than the one in the prompt, the point is not earned.

Part A Jordan recently moved to a new school for her senior year of high school, and she has been adjusting to her new environment.

Explain how each of the following relates to Jordan's adjustment to her new school.

Spotlight effect**1 point**

Response must indicate that Jordan overestimates how much the people at her new school are paying attention to/judging her.

Acceptable explanations include:

- Jordan feels so awkward her first few days because she thinks everyone is staring at her.*
- Jordan believes that other students are noticing her, even when they are not.*

Unacceptable explanations include:

- Jordan enjoys being in the spotlight and getting everyone's attention.*
- Jordan worries that people are staring at her.*

Cognitive map**1 point**

Response must indicate that Jordan forms a mental representation of the school layout, which allows her to navigate.

OR

Response must indicate that Jordan does not form a mental representation of the school layout, which hinders her navigation.

Acceptable explanations include:

- After a few weeks at the school, Jordan has developed a pretty good mental representation of the school's layout, so she can easily find everything now.*
- Because Jordan never developed a mental representation of the layout of her new school, she struggles to find the gymnasium.*

Unacceptable explanations include:

- Jordan memorized the map of her school to get around.*

Jordan's low level of the Big Five trait of extraversion**1 point**

Response must indicate that Jordan's low level of extraversion (e.g., lack of sociability, lack of outgoingness, not getting energy from large crowds, etc.) will make her less likely to interact with others at school.

Acceptable explanations include:

- Because Jordan is not that outgoing, she finds it hard to make friends at her school.*
- Because Jordan is not comfortable interacting with others, she won't ask questions of the teacher.*

Unacceptable explanations include:

- Jordan is outgoing so she makes friends easily.*

Part B Jordan tries out for and makes the debate team. Jordan has made friends with other members of the team, and she really enjoys sitting with them at lunch every day. The coach is impressed with Jordan's debate skills, so he makes her the captain of the team. When Jordan starts to help the coach plan for the next big debate, her friends stop sitting with her at lunch. She then stops helping the coach plan for the next debate but ends up winning it.

Explain how each of the following concepts relates to the scenario.

Negative punishment

1 point

Response must indicate that because Jordan's friends stop sitting with her at lunch, she stops helping the coach plan for the next debate.

Acceptable explanations include:

- *Because Jordan's friends stop sitting with her at lunch, Jordan stops helping the coach plan the debate.*
- *Jordan stops planning with the coach because her friends stop sitting with her at lunch.*

Unacceptable explanations include:

- *Jordan changes her behavior because bad things happen to her.*
- *Jordan stops helping the coach to get her friends to sit with her at lunch.*

Formal operational stage of cognitive development

1 point

Response must indicate that Jordan is in the stage of development where she can think abstractly and hypothetically (e.g., critical thinking, reasoning, etc.).

Acceptable explanations include:

- *Jordan being good at debate shows that she can think abstractly and hypothetically, which is formal operational thinking.*

Unacceptable explanations include:

- *Jordan can think well now that she has grown older.*

Responses that include sensorimotor, preoperational, and concrete operational thinking.

- *Jordan can think well about object permanence.*

Actor-observer bias concerning Jordan's debate performance

1 point

Response must indicate that Jordan attributes her own behavior to situational factors

AND

Response must indicate that others in the scenario attribute that same behavior to dispositional factors.

Acceptable explanations include:

- *Jordan believes she won the debate because she had the time to prepare, but Jordan's teammates think she won because she is smart.*

Unacceptable explanations include:

- *When Jordan is debating, the other debaters' think she acts fake.*
- *Jordan believes she is good at debate because she is intelligent.*

Jordan's high level of self-efficacy

1 point

Response must indicate that Jordan believes she has the capability to accomplish a specific task related to the scenario.

Acceptable explanations include:

- *Jordan believes that she can win her debate.*
- *Jordan is sure she can do what it takes to make friends.*

Unacceptable explanations include:

Response refers to self-confidence or self-esteem without tying it to Jordan's belief about her ability to perform some specific tasks.

- *Jordan's self-efficacy causes her to stop planning with the coach.*
- *Jordan has high self-efficacy, so she believes in herself.*
- *Jordan thinks she is smart.*

Total for question 1 7 points