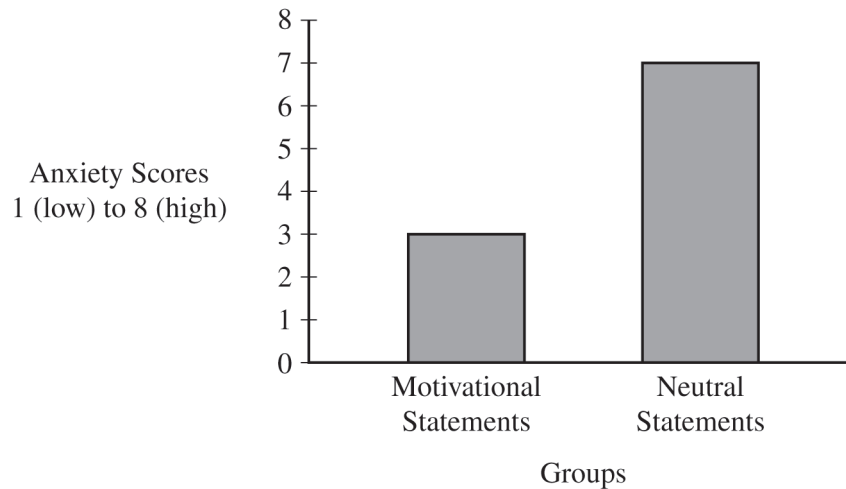


2. Dr. Dawson is a psychologist who believes that students who read motivational statements before a test will experience lower levels of anxiety as compared with students who read neutral statements. To examine this belief, he conducted a study. In the study, he randomly assigned half of the participants 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.



Part A

- State a valid operational definition of the dependent variable in this study.
- Identify the control group in this study.
- Explain why the study would be considered an experiment.
- Explain how the results of the study do or do not support Dr. Dawson's hypothesis.

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
- Stage one of Selye's general adaptation syndrome
- Crystallized intelligence

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

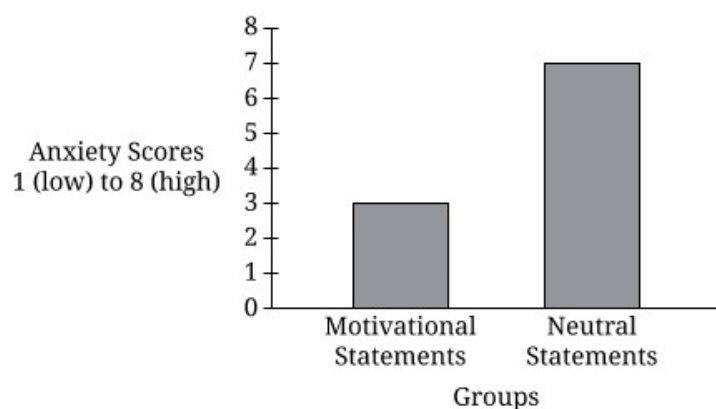
Question 2: Research Design**7 points****General Considerations**

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 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**