AP | CollegeBoard

AP® Psychology
Sample Student Responses
and Scoring Commentary
## Set 1

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Free-Response Question 2

☑ **Scoring Guidelines**

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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 the point. For example, if a response applies a concept in two contradictory ways (such as identifying both the measured variables as the independent variable or describing proactive interference as interference from both older and newer information), the point is not earned. Additionally, a response will not score if it includes a correct answer among 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. Germanotta hypothesized that the more witnesses there are to a crime, the less likely any one witness will help. She collected data on the number of people who helped someone in distress and the number of people walking by at that particular time. Dr. Germanotta found the following statistically significant results.
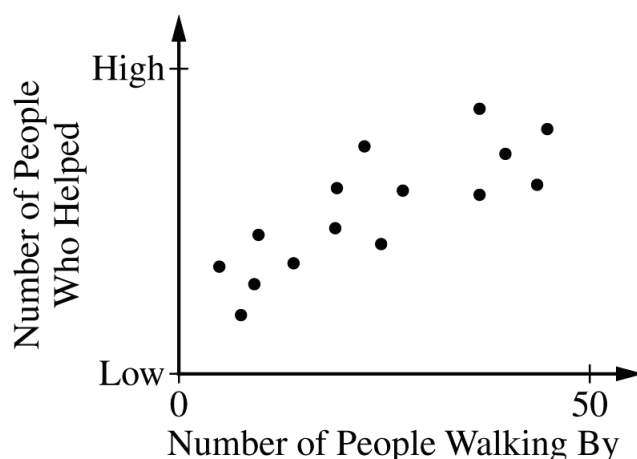
Explain how the data presented in the graph above support or do not support Dr. Germanotta's hypothesis.	**1 point**

The response must indicate that the data do not support Dr. Germanotta's hypothesis, because the relationship is a positive, rather than a negative one.

Acceptable explanations include:

Responses that refer to a correct description of the correlation without specifically saying "positive" score.

- *The graph did not support the doctor's hypothesis because as one variable increases, the other increases as well, and she predicted the opposite.*

Unacceptable explanations include:

Responses that say "do not support" without an explanation of the correlation.

- *Dr. Germanotta's hypothesis was wrong.*

Identify the statistical measure that Dr. Germanotta would use to assess the strength of the relationship between variables.	**1 point**

The response must indicate that the appropriate statistical measure is a correlation coefficient (e.g., r, coefficient of determination, standardized beta weight, etc.).

Acceptable explanations include:

- *In order to measure the strength of the relationship between variables, she should use Pearson's r.*

Unacceptable explanations include:

Responses that refer to "correlation" alone.

Responses that refer to incorrect statistical tests such as t test, ANOVA, or chi-square.

- *Dr. Germanotta should perform a correlation.*

- *Dr. Germanotta should perform a chi-square test for significance.*

Explain how the third variable problem could influence the results.	**1 point**

The response must indicate that there may be some other variable not in the study that may have affected the two variables being studied.

OR

The response must indicate that the presence/influence of some other variable not in the study would prevent Dr. Germanotta from drawing a cause-and-effect conclusion.

Acceptable explanations include:

- *There could have been a lot of people walking by for a particular reason, such as a protest. The protestors might be more concerned with the welfare of others than a person normally would be.*

- *Dr. Germanotta cannot say that the number of people caused helping because there may have been people there because of a protest.*

Unacceptable explanations include:

Responses that do not explain the impact on both variables or the ability to draw causal conclusions.

- *Time of day could affect the results.*

- *Type of crime could influence the results as participants may be more likely to help following a minor crime.*

Part B	Dr. Germanotta decides to conduct an experiment to test whether the number of people present during a staged emergency situation will influence helping behavior.

Identify the independent variable in this study.	**1 point**

The response must indicate the independent variable is the number of people present.

Acceptable explanations include:

- *The independent variable in Dr. Germanotta's experiment would be the number of people in the area.*

Unacceptable explanations include:

- *The independent variable would be the amount of helping behaviors.*

| **Part C** | Explain how each of the following is related to helping behaviors. |

Internal locus of control   **1 point**

The response must indicate that if a person believes that their efforts will be helpful, they will be more likely to help.

OR

The response must indicate that if they believe their efforts will not be helpful, they will be less likely to help.

Acceptable explanations include:

- *People are more inclined to help others if they believe that it is within their power to actually make a real difference.*

- *People are less likely to help if they think that their helping won't matter.*

Unacceptable explanations include:

Responses that refer to intrinsic motivation.

- *Some people like to help others because it makes them feel good.*

Modeling   **1 point**

The response must indicate that a person observes some behavior related to helping or not helping, and then performs the same behavior.

Acceptable explanations include:

- *We learn a lot of helping behaviors growing up through observation. For example, a little kid might see their parents hold a door open for someone, so the next time they go to the store the kid holds the door open for the person behind them.*

Unacceptable explanations include:

Responses that refer only to a potential future action.

- *One person sees another helping others, so they want to mimic that helpful behavior.*

- *People learn helping behaviors through modeling.*

Approach-avoidance conflict   **1 point**

The response must indicate a decision-making process in which there is BOTH an attractive and an unattractive aspect of helping.

Acceptable explanations include:

- *Sarah really wants to help out at the animal shelter because she loves dogs, but she is hesitant because she thinks cleaning the cages would be gross.*

Unacceptable explanations include:

Responses that refer to other types of motivational conflicts.

- *Sally can't decide if she wants to volunteer at the animal shelter or the nursing home. She loves animals but also really enjoys spending time with older people.*

Total for question 2   7 points

Important: Completely fill in the circle that corresponds to the question you are answering on this page.

Question 1   Question 2
     ○   ●

Begin your response to each question at the top of a new page. Do not skip lines.

The data above does not support the claim, because the data correlates a higher number of passerby's to a higher number of people who helped. Though this does not measure the likelihood of an individual to help, it most certainly cannot be used to support her claim, as it does not present a negative correlation between number of passerby's and an individual's likelihood to help.

The correlation coefficient (r^2) would be used to measure the strength of the correlation/relationship between number of passerby's and number of helpers.

The third variable problem could influence these results, because some other variable may be influencing both other variables. For instance, the booth may influence both the number of people walking by, and the number of people who have time to help.

The independent variable in this experiment is the number of people present in the staged emergency, and the effect of this is measured with an individual's likelihood to help.

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0351023

Q5308/05

Begin your response to each question at the top of a new page. Do not skip lines.

An internal locus of control is the belief that one can influence the world through their own actions. A person with a strong locus of control will be more likely to help, because they will more strongly believe their actions will make a difference.

Modeling is the tendency for a person to behave in the way they see another person behave. Modeling ~~~ may ~~make~~ make someone less likely to help if they observe other people choosing not to help, (modeling their behavior)

Approach-avoidance conflict is the conflict caused when someone is faced with a choice which has positive and negative aspects to making a certain decision. When deciding whether or not to help, a person may feel approach-avoidance conflict because helping a person is beneficial to that person (approach), but it may also be detrimental to themself (avoidance) in terms of time cost or ~~~~ risk of failure.

Page 6

Q5308/06

Begin your response to each question at the top of a new page. Do not skip lines.

The data in the graph ~~proves~~ does not support Dr. Germanotta's hypothesis because the scatterplot shows a positive correlation between the number of witnesses and the number of people who helped. Dr. Germanotta hypothesized a negative correlation, as the number of witnesses increased, the number of helpers would decrease, but results proved the opposite. The statistical measure Dr. Germanotta would use to assess the strength of the relationship would be a correlation coefficient between 0 and ~~+~~1 in ~~the~~ this case because the data is positive. By adding a third variable such as time of day of location, data could be influenced. For instance, if witnesses are on their way to work they may be less likely to stop verses if they're off of work and have more free time.

The independent variable in Dr. Germanotta's new ~~study~~ experiment would be the number of people present in the emergency situation.

A person's internal locus of control makes them feel in control of their own fates and decisions. By having a strong internal locus of control, a person may feel more inclined to help someone because they have a stronger belief that their actions are making a difference. When a person is surrounded by other witnesses that are refusing to help in an emergency, they will be more likely

Important: Completely fill in the circle that corresponds to the question you are answering on this page.

Question 1   Question 2
   ○   ●

Begin your response to each question at the top of a new page. Do not skip lines.

to model the other witnesses' behaviors and refuse to help also. On the other hand, a person surrounded by helpful people will be more likely to model their helpful actions and also help out. Approach-Avoidance conflict describes a scenario in which a person must make a decision between something they want and something they don't want. By looking at an emergency situation in this way, a person may be less inclined to help out. If they have to choose between going bowling with a friend and possibly unsuccessfully helping someone in an emergency they will likely choose the first option when approaching the conflict in such a way.

Begin your response to each question at the top of a new page. Do not skip lines.

Part A

• The data presented does not accurately support Dr. Germanotta's hypothesis. The data shows a positive correlation to the number of people walking by and the number of people who helped. Dr. Germanotta hypothesized a negative correlation between the two variables, making the data inaccurate with her hypothesis.

• Dr. Germanotta would use a positive correlation to assess the strength of the relationship between the two variables.

• The third variable problem would not influence the results.

Part B

• The independent variable is the number of people who help in the given situation.

Part C

• The internal locus of control is the personal drive to be a leader in a given situation. An internal locus of control would make one want to help more as they would want to be in control of the situation at hand.

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0111168

Q5308/04

Question 1   Question 2
      ○   ●

Begin your response to each question at the top of a new page. Do not skip lines.

Part C (continued)
 • Modeling is when one follows the direction or lead of someone higher than them. Modeling would make more people want to help as they would want to do something good for someone else, just as the ~~emergency~~ EMTS do.
 • The approach-avoidance conflict is when one arrives at a scene, but decides not to interfere. The approach-avoidance conflict would make one avoid the conflict, which would decrease the helping behavior.

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0111168

Q5308/05

Question 2

Note: Student samples are quoted verbatim and may contain spelling and grammatical errors.

Overview

The responses to this question were expected to demonstrate an understanding of characteristics of both correlation and experimental research designs and to show how specific psychological terminology applies to a portion of the scenario. The responses needed to address a psychologist's research project on the number of people present and the number of people that intervened in an emergency situation. The responses needed to demonstrate an understanding of how graphed data is best utilized to evaluate a provided hypothesis, the statistical measurement test best suited, and the limiting factors of correlational designs. The responses also needed to demonstrate the ability to identify the independent variable in an experimental design. Additionally, the responses needed to demonstrate knowledge of specific concepts within motivation (internal locus of control and approach–avoidance conflict) and behaviorism (modeling).

Sample: 2A
Score: 6

The response earned point 1 because it states that the data "does not support the claim" and describes a positive correlation. The response earned point 2 because it refers to the correlation coefficient/r as a method to measure the strength of the correlation. The response earned point 3 because it indicates that "location may influence both the number of people walking by and the number of people who have time to help." The response indicates a variable not in the study and relates it to two variables being studied. The response earned point 4 because it states that the independent variable is "the number of people present." The response earned point 5 because it references a belief "that one can influence the world through their own actions," and an increase in helping behavior will result. The response did not earn point 6 because intention to help or being likely to help or unlikely to help are not observable behaviors. The response earned point 7 because it indicates an attractive aspect of helping ("beneficial to that person") and an unattractive aspect of helping ("time cost or risk of failure").

Sample: 2B
Score: 4

The response earned point 1 because it mentions that the graph does not support the hypothesis and that the graph shows a positive correlation. The response earned point 2 because it references a correlation coefficient. The response did not earn point 3 because it refers to a possible third variable but does not address how it could affect both the number of people and helping behavior. The response earned point 4 because the response states that the independent variable is "the number of people present in the emergency situation." The response earned point 5 because it indicates a feeling of being in control of "their own fate" and that people would be more inclined to help. The response did not earn point 6 because, even though the response indicates observing a behavior, it does not indicate doing the behavior. It only indicates they would be "more likely." The response did not earn point 7 because it does not indicate an attractive and unattractive option specifically related to helping.

Question 2 (continued)

Sample: 2C
Score: 1

Point 1 was earned because the response states that the hypothesis was not supported and describes a positive correlation. Point 2 was not earned because the response does not mention correlation coefficient or Pearson's *r* as a statistical measurement of relationship between the two variables. Point 3 was not earned because the response states that the third variable problem would "not influence the results." The response does not relate a third variable to the two variables being studied. Point 4 was not earned because the response states that the independent variable is the "number of people who help" instead of the number of people present. Point 5 was not earned because the response refers to intrinsic motivation in the form of "personal drive" instead of referring to a belief. Point 6 was not earned because the response references a "want to help" but not the actual performance of the behavior. Point 7 was not earned because the response indicates an avoidance of the situation instead of an attractive and unattractive aspect of helping.