2023

AP®

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 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 <u>not</u> 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.

Michael is the regional manager for a car company and needs to give a presentation to the president of the company about how different management styles might relate to the total number of sales of the company's new electric car. He hires an industrial/organizational psychologist to study three stores, each in a different city. Each store's manager has their own distinct management style:

- In Store A, the manager has a supportive style (open and warm).
- In Store B, the manager has a strict style (rigid and severe).
- In Store C, the manager, who is Michael's good friend, has a distant style (permissive and disengaged).

The number of electric cars sold at each store over a five-month period is shown in the table.

Month	ELECTRIC CARS SOLD BY STORE		
	Store A (supportive style)	Store B (strict style)	Store C (distant style)
January	9	7	3
February	7	8	2
March	9	5	5
April	5	3	4
May	5	2	1

Explain why this study is not a true experiment.	**1 point**

Response must indicate that this study is not an experiment because the researcher did NOT use random assignment.

OR

Response must indicate that the study did not include the manipulation of a variable.

Acceptable explanations include:

- *The study is not a true experiment because the psychologist did not randomly assign participants to his groups.*

- *The study used stores that already existed instead of manipulating an independent variable.*

- *The independent variable was not manipulated by the researcher in this study.*

Unacceptable explanations include:

- *Michael didn't use random selection, so his study is not an experiment.*

Identify the implied dependent variable for the study if the study had been a true experiment.	**1 point**

Response must indicate that the number of cars sold would be the dependent variable.

Acceptable explanations include:

- *The DV would be the number of cars bought by customers.*

- *The DV is cars sold.*

- *The DV is sales.*

Unacceptable explanations include:

- *The DV would be the stores.*

- *The DV is cars.*

- *The DV is leadership style.*

Calculate the mean of Store B's sales.	**1 point**

Response must indicate that the mean for Store B is 5.

Acceptable explanations include:

- *The mean is five.*

Unacceptable explanations include:

Responses that indicate any other number than 5 or other representation of the number five that is not English/Arabic numerals.

- *The mean is 12.*

| **Explain why the location of the store is a confounding variable in this study.** | **1 point** |

Response must indicate that the location of the store is affecting the dependent variable in some specified way.

Acceptable explanations include:

- *Each management style was also in a different city, and people in each city may have different tastes in items and will purchase things differently.*

- *Cities with more people would most likely sell more units.*

- *Store A is in a higher-income area, so more cars are sold there.*

Unacceptable explanations include:

- *The location of the stores was confounding because some people couldn't go to all the stores.*

- *There may not be charging stations in some parts of the city where Store B is located.*

| **Explain how the halo effect could influence Michael's interpretation of the findings.** | **1 point** |

Response must indicate that Michael's previous positive perception of Store C's manager will cause him to think more positively toward Store C's sales data than he otherwise would.

Acceptable explanations include:

- *Michael's good feeling about the manager at Store C will make him think the data for that store are wrong.*

- *Michael is good friends with the manager of Store C, so that causes him to make a positive evaluation of the store's performance.*

Unacceptable explanations include:

- *Michael views the manager positively, but the data lead him to think he may have chosen a bad manager.*

| **Explain why the hiring of an industrial/organizational psychologist was appropriate for this study.** | **1 point** |

Response must indicate that I/O psychologists are interested in optimizing or improving performance **OR** solving problems in the workplace.

Acceptable explanations include:

- *This study is about which management style leads to the most sales, so an I/O psychologist would be best to help solve this problem.*

- *Michael wants to identify ways to improve managers' performance, and an I/O psychologist can help him with this goal.*

Unacceptable explanations include:

- *I/O psychologists study the workplace.*

Explain how Michael could use positive reinforcement to help him finish his presentation by the deadline.   **1 point**

Response must indicate Michael could reward himself with something that he likes each time he works on his presentation to make it more likely that he will keep working.

Acceptable explanations include:

- *Michael treats himself to a small piece of candy after he works for 20 minutes to encourage himself to keep working.*

Unacceptable explanations include:

- *Michael is positive with himself about finishing the report on time.*

- *Michael treats himself to candy after working on his presentation.*

- *Michael eats a piece of candy and then begins to work on his presentation.*

Total for question 2   7 points

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

2. This study is not a true experiment because no variable is being manipulated in order to create measurable differences among experiment groups. This could be more similar to an ~~natural~~ observation. There also ~~is in~~ isn't a comparison between ~~&~~ an experimental & control group (there isn't a control group).

   The implied dependent variable is the amount of electric car sold each month.

$$10 + 10 + 5 = 25 \div 5 = 5$$

   the mean of store B's sales is 5.

   The location could potentially altered the sales, it is a possible factor that contribute to the sale differences. For example, the supportive style store (store A) could've been located in a more populated area, allowing them to have closer proximity with potential customers, which explains why they made more sales than store C.

   Micheal's bias towards his good friend, (the manager in store C) might cause him to believe that there are ~~other er~~ reasons for the store's lack of sales: ~~other tha~~ refusing to believe that it is due to his management style. He might find good ~~th~~ excuses for the manager's style of management just because he believed that since he's a good friend he must also be a good manager & cannot do harm. Micheal might even find the findings to be unrealiable. This is the halo's effect.

Page 4

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.

This study is about improving performance in a company by poten-tially altering the atitude of the managers. An idustrial /organizatio-nal psychologist is the expert for the job given the setting & goal. A humanistic - based psychologist might be able to help motivate employees but not necessarily sales directly.

Micheal could give himself positive reinforcement like a little reward (ex : ~~I have~~ 5 of his favorite Girl Scout cookies, because he's absolutely in love with thin mint flavor) for every slides ~~presentation~~ he complete. This would increase his behavior of complete slides since he wants a cookie. This is part of the incentive theory as well.

Page 5

Use a pen with black or dark blue ink only. Do NOT write your name. Do NOT write outside the box.

0152230

Q5347/05

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

~~This~~ This study is not a true experiment because the number of ~~cards to~~ cars sold could be affected by more factors besides management style, like population and climate. The implied dependent variable is the number of ~~cards~~ cars sold. The mean of Store B's sales is 5. The location of the store is a confounding variable because it impacts the store's costumers and sales ~~depen~~ purely based on where they are located. If they are ~~too~~ located in a small town, they may not get as many sales as another town that is bigger and more ~~populated~~ populated. The halo effect is trusting something because of where it comes from. Because Michael got his information from a psychologist, he ~~and~~ believes it is fool-proof. The hiring of an industrial/organizational psychologist was appropriate because his field of expertise can be seen as support to Michael's argument. Michael could use positive reinforcement to finish his presentation by the deadline to motivate his reasonings for ~~advoo~~ advocating change in the first place. ~~Positi~~ Positive reinforcement will result in positive ~~eff~~ effects and ~~results~~. He can find ways with his data to ~~mate~~ support his arguments and presentation.

Page 3

Important: Completely fill in the circle that corresponds to the question you are answering on this page.   Question 1   Question 2

15+5=20÷5=~~~~   25÷5=5

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

This study is not a true experiment because there is no ~~cause and effect~~. control group, and there are not consistant variables.

The implied dependent variable if the study was a true experiment would be the total number of sales.

Store D's mean is 5 ~~cars~~. new electric cars.

The location is a confounding variable because different cities have different popularity ~~maybe~~ and different number of population. This ~~did~~ doesn't create an accurate experiment, as population comes into play.

The halo effect could influence Michael's interpretations as one of the managers is Michael's good friend. This could creates bias in the results.

Hiring an industrial/organizational psychologist can determine whether the managers are ~~#~~ reliable and valid to continue to run the store.

Michael could use positive reinforcement to help him furnish his presentation by ~~~~~~~ to add a ~~~~~~ ~~~~~~~~~~~~~~ ~~take away~~ ~~~~~~~~~~~ the deadline by ~~setting reminders everyday~~ ~~every~~ month to ~~take check how many electric cars were sold by store and~~ thinking about a promotion ~~that could be~~ given.

Use a pen with black or dark blue ink only. Do NOT write your name. Do NOT write outside the box.

0315060

Question 2

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

Overview

Responses to this question were expected to demonstrate an understanding of various characteristics of an experimental research study and to show how specific psychological terminology applied to the scenario. The responses needed to demonstrate an understanding of the features of a true experiment, a dependent variable, a measure of central tendency (i.e., the mean), and confounding variables. Additionally, responses were expected to apply the halo effect, industrial/organizational psychology, and positive reinforcement to the scenario.

Sample: 2A
Score: 7

The true experiment point was earned because the response indicates that no variable was manipulated. The dependent variable point was earned because the response identifies the number of cars sold as the dependent variable. The point for the mean of Store B was earned because the response identifies the mean of Store B's sales as 5. The confounding variable point was earned because the response notes that an aspect of location (e.g., differences in population size) may affect sales. The halo effect point was earned because the response states that Michael's friendship biases his interpretation of Store C's low sales, and he makes excuses for those sales. The industrial/organizational psychologist point was earned because the response explains that an industrial/organizational psychologist is focused on optimizing performance in the workplace, namely altering manager attitudes to improve sales performance. The positive reinforcement point was earned because the response describes how Michael eats five cookies for each slide he creates, which strengthens his behavior of completing slides.

Sample: 2B
Score: 3

The true experiment point was not earned because the response does not reference random assignment of participants to groups or the manipulation of a variable. The dependent variable point was earned because the response identifies the number of cars sold as the dependent variable. The mean of Store B point was earned because the response identifies the mean of Store B's sales as 5. The confounding variable point was earned because the response notes that the size of a city may affect sales. The halo effect point was not earned because the response does not describe how Michael's friendship influences the way he interprets the sales data for Store C. The industrial/organizational psychologist point was not earned because the response does not describe the role industrial/organizational psychologists play in improving work performance or solving workplace problems that would lead to more sales. The positive reinforcement point was not earned because the response does not describe a specific behavior related to the presentation that is rewarded and, therefore, is more likely to continue in the future.

Question 2 (continued)

Sample: 2C
Score: 2

The true experiment point was not earned because the response does not reference random assignment of participants to groups or the manipulation of a variable. The dependent variable point was earned because the response identifies the number of sales as the dependent variable. The mean of Store B point was earned because the response identifies the mean of Store B's sales as 5. The confounding variable point was not earned because the response does not specifically explain how population differences influence sales. The halo effect point was not earned because the response does not describe how Michael's friendship influences the way that he interprets the sales data for Store C. The industrial/organizational psychologist point was not earned because the response does not describe the role industrial/organizational psychologists play in improving work performance or solving workplace problems that would lead to more sales. The positive reinforcement point was not earned because the response does not describe a specific behavior related to the presentation that is rewarded and, therefore, is more likely to continue in the future.