2022

AP CollegeBoard

AP® Psychology

Sample Student Responses and Scoring Commentary Set 2

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Free-Response Question 2

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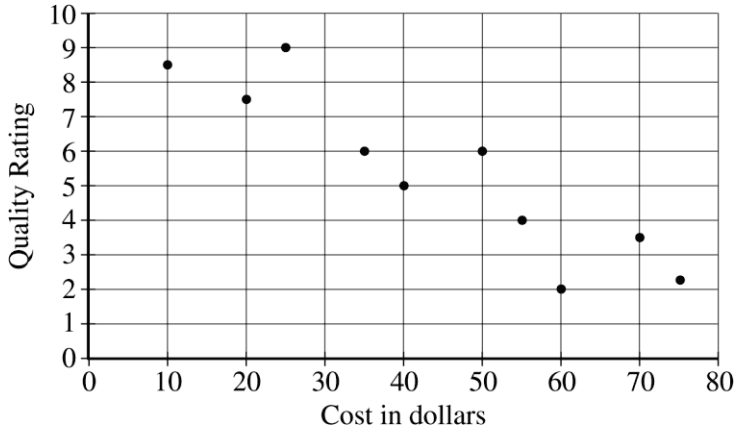
Question 2: Research Design — 7 points

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. Knowles is interested in exploring the relationship between garment cost and perceptions of clothing quality. She predicts that higher priced clothing will be perceived as being of higher quality. She creates a Web site that presents floral shirts listed at a variety of prices. Participants are directed to the Web site, where they are asked to rate the quality of each shirt (on a 1 to 10 scale, with higher numbers meaning better quality). The data collected are presented in the scatterplot below.



State the hypothesis that Dr. Knowles tested in the study. **1 point**

The response must indicate that Dr. Knowles hypothesized that higher priced clothing would be perceived as being of higher quality.

OR

The response must indicate that there would be a positive/direct correlation (e.g., relationship, association, etc.) between price and perceived quality.

Acceptable explanations include:

Response must name both variables with the correct direction of the relationship.

- *The perceived quality of the shirts is positively correlated with price.*

Unacceptable explanations include:

Responses without an explanation of the correlation.

- *Dr. Knowles hypothesized there would be a correlation between price and quality rating.*

Identify the operational definition Dr. Knowles used for quality. **1 point**

The response must indicate that Dr. Knowles operationally defined quality as score on the rating scale.

Acceptable explanations include:

- *Dr. Knowles operationally defined quality as a score from 1 to 10.*

Unacceptable explanations include:

Responses that refer to the rating scale without referring to a score from 1 to 10.

- *The operational definition is the rating of the shirt.*

Identify the type of relationship found between the variables of interest in the study. **1 point**

The response must indicate that the relationship between the variables is a negative/inverse correlation/relationship/association.

Acceptable explanations include:

- *It is a negative correlation.*

Unacceptable explanations include:

Responses that refer to a correlation alone without indicating its direction.

Responses that refer to a description of a negative correlation alone without using the acceptable terms.

- *There is a correlation between cost of shirt and perceived quality.*
- *As the cost of the shirts goes up, the perceived quality goes down.*

Explain why Dr. Knowles cannot generalize the results of her study to the general population. **1 point**

The response must indicate that results cannot be generalized because of small sample size.

OR

The response must indicate the sample is not representative of the general population.

Acceptable explanations include:

- *Dr. Knowles can't generalize because there are only 10 subjects.*
- *This study's results cannot be generalized to the population because it is likely the sample consisted only of people interested in floral shirts, which many people likely don't care about.*
- *Dr. Knowles can't generalize because she did not use a random sample.*

Unacceptable explanations include:

- *Dr. Knowles cannot generalize because she did not conduct a true experiment.*

Part B Explain how each of the following could affect participants' perceptions of the floral shirts on the Web site.

Mere-exposure effect **1 point**

The response must indicate that repeated experience with the shirts or the Web site leads to increased liking of the shirts.

Acceptable explanations include:

Responses can indicate more exposure by referencing amount of time or number of exposures to shirts or the Web site.

- *The more often that people look at the Web site the more they like the shirts.*

Unacceptable explanations include:

- *Some shirts were so beautiful that people liked them the second they saw them (all it took was mere exposure).*

Cones of the retina **1 point**

The response must indicate that cones enable the perception of color or fine detail of the floral shirts.

Acceptable explanations include:

- *Cones help people see the color of the shirts.*
- *Malfunction of cones hinders people's ability to see the colors of the shirts.*

Unacceptable explanations include:

- *Cones help people see the shirts better.*

Prototype **1 point**

The response must indicate that the participants' perceptions of the shirts are influenced by their idea of the best, ideal, or most typical shirt.

Acceptable explanations include:

- *Participants compare their ideal of what a floral shirt should look like to the shirts on the Web site.*

Unacceptable explanations include:

- *Dr. Knowles made a shirt prototype first, then made all the other shirts based on the prototype.*

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.

Part A

Dr. Knowles's hypothesis is that higher priced clothing are perceived as being of higher quality.

The operational definition she used for quality is measuring it on a scale from 1-10, with higher numbers indicating better quality.

The relationship found is one of negative correlation, and a fairly strong negative correlation. As the cost increased, quality perceptions tended to decrease.

Dr. Knowles cannot generalize the results because she does not have a representative sample: the participants only looked at floral shirts, not every type of garment, so she cannot generalize the results to her initial goal of correlating garment cost and quality. Additionally, it is not specified who makes up the "participants", but if they were volunteers, this would also stop her from generalizing. If the sample did not contain accurate proportions in comparison to the general population, for example, if all the participants were middle-aged women, she would not be able to generalize her findings.

Part B

The mere exposure effect is when we start to like something more simply because we are exposed to it a lot. This would mean the shirts shown later in study would get a disproportionately higher rating, compared to if the same shirt were shown earlier because the participant

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has already seen many floral shirts. Just the exposure to floral shirts can influence the participants rating: seeing more of them means they will like them more. The cones in their retina help the participants see the color of the floral shirts, which affects their perception because seeing color is essential when trying to judge a very colorful shirt, as floral shirts are usually colorful.

Floral shirts that fit a person's prototype, or mental image that they believe is the "standard floral shirt", may recieve a higher rating simply because the person's prototype of a floral shirt looks similar to what they are shown on the website.

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Question 1 ○ Question 2 ●

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Dr. Knowles hypothesis for the study is ~~that~~ she predicts that higher-priced clothing will be perceived as being of higher quality.

The operational definition used for quality is made ~~of better material, more durable, and long-lasting shirts~~. color schemes that are more satisfying ~~to~~ & appealing to the eyes of the participants

There was a negative correlation between the variables of interest in the study.

Dr. Knowles can not generalize the results of her study to the general population because she creates a web site that presents floral shirts specifically. So, even if there is a negative correlation between quality & cost for floral shirts, that may not be the case for chevron-printed shirts, or plain shirts, ~~etc.~~ or any other kind of clothing besides floral printed shirts. The website also might have only attracted people who really like floral shirts so there could be participant bias.

The mere-exposure effect is when someone is barely exposed to something, which might have affected the participants perceptions of the floral shirt because they know nothing about the shirt

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and are still asked to rate it out of 10 (strictly fast attraction - or not.)

Cones of the retina could affect the participants perceptions as they are the parts of the eye that allow color & depth (colorblind) perception. So, if someone has damaged cones they may not be able to accurately see the color of floral shirts. Or, based on their cones allowing them to see color, they may just not like a certain color scheme on ~~the~~ some of the shirts.

Prototype also could affect the participants perceptions of floral shirts as ~~they are~~ certain participants may have different prototypes on what a good, cute floral shirt should look like. So, even though some florals shirts cost more, if it is not the participants normal satisfying, appealing prototype the results could be different than the original hypothesis.

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Question 1 ○ Question 2 ●

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

Dr. Knowles' hypothesis is that if clothing is placed at a higher price, then it will be perceived as being of higher quality. The operational definition Dr. Knowles used for quality is that if it is placed at a higher price, consumers will think that it is of a higher quality thus why it's more expensive. From the data, it is clear that the less expensive it was, the higher quality rating it received. To elaborate, a piece of clothing that was $70 was given a rating of 3.5, but a piece of clothing listed for $10 was given a rating of 8.5. From this data, it can be concluded that Dr. Knowles' hypothesis was incorrect. Dr. Knowles can't generalize the results of her study since each individual has a different meaning of what is "quality". It varies from person-to-person. Someone may think that a $30 shirt is of quality because they had only bought shirts that cost $10. Here-exposure effect could affect participants perceptions of the shirt because some participants may have more experience of quality clothing than others. It's completely subjective. One participant could be a fashion designer (someone who has lots of experience in clothing), while another one could be a person who doesn't have much interest of experience in clothing. Lenses of the retina could come into play as well since each participant may have seen and received the package in a different way, thus causing them to change their perspective. Prototype could also come into play since the actual shirt itself may have appeared differently on the web site than it did when it

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0260019

Q5308/04

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Question 1 ○ Question 2 ●

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was actually delivered to the consumer. With that in mind, some consumers may have thought "Wow! This great quality of a shirt with no flaws at such a low price! This quality is amazing!" other consumers may have believed that "I payed $70 to receive such a cheap shirt like this! This quality is horrible! There's flowers missing on the shirt!"

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

0260019

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 various characteristics of a nonexperimental research study and to show how specific psychological terminology applied to the scenario. The responses needed to demonstrate understanding of the concepts of hypothesis, operational definition, generalizability of a study to the general population, and identification of the type of relationship represented on a scatterplot. Additionally, the responses needed to demonstrate knowledge of specific concepts related to the human eye (cones of the retina) and cognition (mere-exposure effect and prototype).

Sample: 2A
Score: 7

Point 1 was earned because the response correctly states the hypothesis that higher-priced clothing is perceived as being of higher quality. Point 2 was earned because the response correctly recognizes that the operational definition was a rating scale from 1 to 10. Point 3 was earned because the response accurately identifies that a negative correlation was found in the study. Point 4 was earned because the response states that Dr. Knowles does not have a representative sample. Point 5 was earned because the response indicates that seeing many floral shirts would influence perception. Point 6 was earned because the response describes how cones would help the participants see the color of the shirts. Point 7 was earned because the response provides an example of how a person's idea of a "'standard floral shirt'" may affect perception.

Sample: 2B
Score: 4

Point 1 was earned because the response correctly states that higher-priced clothing will be perceived as being of higher quality. Point 2 was not earned because the response does not accurately identify the operational definition. Point 3 was earned because the response accurately identifies that there was a negative correlation between the variables of interest. Point 4 was earned because the response states, "The website also might have only attracted people who really like floral shirts so there could be participant bias." Point 5 was not earned because the response inaccurately states that mere-exposure effect "is when someone is barely exposed to something" and this would affect their perceptions. Point 6 was earned because the response describes how damage to the cones would keep someone from accurately seeing the color of the shirts. Point 7 was not earned because the response does not provide an example of how a person's idea of an ideal shirt would influence their perceptions in the study.

Sample: 2C
Score: 1

Point 1 was earned because the response correctly states that the hypothesis is that "if clothing is placed at a higher price, then it will be perceived as being of higher quality." Point 2 was not earned

Question 2 (continued)

because the response does not recognize that the operational definition was a rating scale from 1 to 10. Point 3 was not earned because the response does not identify the relationship as a negative correlation. Point 4 was not earned because the example provided in the response does not capture the concept of sample representation. Point 5 was not earned because the example provided focuses on past experiences with clothing, not repeated exposures to the shirts on the website. Point 6 was not earned because the response does not indicate that cones enable the perception of color. Point 7 was not earned because the response does not demonstrate that the participants' perceptions of the shirts are influenced by their idea of an ideal shirt.