Chief Reader Report on Student Responses:

2025 AP® Psychology Set 2 Free-Response Questions

- Number of Students Scored 334,960
- Number of Readers 1005
- Score Distribution

Exam Score	N	%At
5	48,145	14.4
4	103,524	30.9
3	84,498	25.2
2	65,882	19.7
1	32,911	9.8

- Global Mean 3.20

The following comments on the 2025 free-response questions for AP® Psychology were written by the Chief Reader, Elliott Hammer, Professor of Psychology at Xavier University of Louisiana. The comments give an overview of each free-response question and of how students performed on the question, including typical student errors. General comments regarding the skills and content that students frequently have the most problems with are included. Some suggestions for improving student preparation in these areas are also provided. Teachers are encouraged to attend a College Board workshop to learn strategies for improving student performance in specific areas.

Question 1

Task: Article Analysis Question
Topic: Emotion
Max Score: 7

	Max Points:	Mean Score:
Part A: Research Method	1	0.68
Part B: Research Variable	1	0.74
Part C: Statistic Interpretation	1	0.66
Part D: Ethical Guidelines	1	0.85
Part E: Generalizability	1	0.74
Part F: Argumentation	2	1.45

Overall Mean Score: 5.10

What were the responses to this question expected to demonstrate?

This Article Analysis Question (AAQ) provided students with a summary of a research study which examined whether a dog's reactions to a person's emotions differ based on the dog's prior experience with a person (owner versus stranger). The research study connects to content found in the *AP Psychology Course and Exam Description* in Unit 4: Social Psychology and Personality. Responses are expected to demonstrate skills from Science Practices 2 (Research Methods and Design), 3 (Data Interpretation), and 4 (Argumentation).

- In **Part A: Research Method**, responses are expected to identify that the research method used in the study was an experiment.
- In **Part B: Research Variable**, responses are expected to state that person-oriented dog behaviors are operationally defined as a dog looking at a person, contacting a person, approaching a person, and/or vocalizing at a person in the study.
- In **Part C: Statistic Interpretation**, responses are expected to accurately describe the mean of the person-oriented behaviors for the laughing trials as larger than the mean of the talking trials, which indicates that the dogs showed more person-oriented behaviors when the people laughed than when they were just talking.
- In **Part D: Ethical Guideline**, responses are expected to identify either informed consent or doing no unnecessary harm to the animals as the ethical guideline applied by the researchers.
- In **Part E: Generalizability**, responses are expected to use specific and relevant evidence from the study to explain the extent to which the research findings are generalizable.
- In **Part F: Argumentation**, responses are expected to accurately interpret at least one of the research findings to explain the idea that dogs' expression of person-oriented behaviors demonstrates stimulus discrimination in operant conditioning.

How well did the responses address the course content related to this question? How well did the responses integrate the skill(s) required on this question?

Overall, responses addressed course content well and integrated skills required for this question.

- In **Part A: Research Method**, most responses (68%) correctly identified the research method used in the study as an experiment.
- In **Part B: Research Variable**, most responses (74%) correctly operationally defined person-oriented dog behaviors as the dog looking at a person, contacting a person, approaching a person, and/or vocalizing at a person in the study.

- In **Part C: Statistic Interpretation**, most responses (66%) accurately described the mean of the person-oriented behaviors for the laughing trials as larger than the mean of the talking trials and indicated that the dogs showed more person-oriented behaviors when the people laughed than when they were just talking.
- In **Part D: Ethical Guideline**, most responses (85%) correctly identified either informed consent or as doing no unnecessary harm to the animals as the ethical guideline applied by the researchers.
- In **Part E: Generalizability**, most responses (74%) correctly used specific and relevant evidence from the study to explain the extent to which the research findings are generalizable. Responses that earned this point provided participant data, identified or alluded to a larger population, and explained why the data provided did or did not support the research findings being generalizable. Responses could earn this point by arguing for or against the generalizability of the findings if the response provided participant data, identified or alluded to a larger population, and explained why the data supported their claim about generalizability.
- In **Part F: Argumentation**, most responses (74%) earned at least 1 point. Some responses (22%) earned 1 point, and many responses (62%) earned 2 points by explaining how at least one of the research findings supports or refutes the idea that dogs' expression of person-oriented behaviors demonstrates stimulus discrimination in operant conditioning.
    - Responses earning 1 point either presented evidence from the study without an explanation or provided an explanation without any supporting evidence.
    - Responses earning 2 points provided evidence from the study and explained why the evidence supported the idea that dogs' expression of person-oriented behaviors demonstrated stimulus discrimination in operant conditioning.

What common student misconceptions or gaps in knowledge were seen in the responses to this question?

Common Misconceptions/Knowledge Gaps	*Responses that Demonstrate Understanding*
Part A: Research Method	
• Responses that did not earn this point most often identified a different research method. • Responses that did not earn this point often identified more than one research method in describing the study. Some responses that did not earn this point described the topic of the research study and not the methodology used.	• *"The researchers used an experiment."* • *"The researchers used a within-subject experiment."*
Part B: Research Variable	
• Responses that did not earn this point did not state or describe the measurable or quantifiable definition used by the researchers. Often, these responses would describe some aspect of the study that was not a person-oriented behavior.	• *"The researchers operationally defined person-oriented dog behaviors as the dog looking, approaching, or barking at the person."* • *"The researchers operationally defined person-oriented dog behaviors as the dog looking at the person."*

Part C: Statistic Interpretation	
• Responses that did not earn this point often listed the mean for each group without describing what the difference indicated. • Responses that did not earn this point often compared the means between the laughing and crying groups, instead of the laughing and talking groups. • Responses that attempted to describe the differences between the means as "not statistically significant" often did not earn the point because the response did not accurately describe that the difference in means between the talking trial and the laughing trial was likely due to chance.	• *"The dogs show more person-oriented behaviors to people who were laughing than those who were just talking."* • *"The dogs responded more to laughing than to talking."* • *"Since the difference between the means of the laughing and talking trials was not significant, this means that the difference in means was probably due to chance."*
Part D: Ethical Guideline	
• Responses that did not earn this point misidentified the ethical guideline applied in the study. • Responses that did not earn the point often listed a correct ethical guideline, but also identified another feature of the study that was not an ethical guideline.	• *"The researchers obtained informed consent from the dog owners."* • *"The researchers made sure they did no harm to the animals."*
Part E: Generalizability	
• Responses that did not earn this point most often did not reference participant data to support whether the research findings were generalizable. • Some responses did not earn this point because they referenced sample size or a methodological flaw as the explanation for why the study was or was not generalizable. • Some responses did not earn this point because they argued that the study was "partly" generalizable, but did not provide evidence for why the findings are both generalizable and not generalizable.	• *"The study is generalizable to dogs of all kinds because they used several different kinds of dogs in the study."* • *"The study is only generalizable to nonaggressive dog breeds because although they used a variety of dogs, they recruited only nonaggressive dog breeds for their sample."*

Part F: Argumentation		
• Responses that earned 0 points did not explain how the results of the study supported or refuted the idea that dogs' expression of person-oriented behaviors demonstrates stimulus discrimination in operant conditioning, or explained the evidence they used for their argument inaccurately. • Responses that earned 1 point only presented evidence from the study or only provided an explanation why the study supported or refuted the idea that dogs' expression of person-oriented behaviors demonstrates stimulus discrimination in operant conditioning without also providing evidence.	Responses that earn 1 point: • *"The study showed that dogs can tell the difference between the emotions their owners show."* [Explanation without evidence.] • *"The study shows that the dogs' responses to crying were significantly more than when the people were laughing or talking."* [Evidence only.] • *"The study shows the dogs responded to crying more than laughing or talking only to their owners, showing that they discriminate which type of emotion to respond to."* [Inaccurate interpretation of results.] • "*This study showed that they did not discriminate between the owners and the strangers.*" [No evidence from the study.]	Responses that earn 2 points: • *"The study shows that the dogs showed person-oriented behaviors more toward people who were crying than people who were laughing or talking, which supports the idea that dogs have learned to discriminate by being rewarded for responded to crying than to other emotions."* • *"The dogs responded more to crying than laughing, so they discriminated between the emotions."* • "*The difference between 75% and 73% is not a lot, which refutes that the dogs demonstrate stimulus discrimination as they did not respond differently to who was crying, the owner or the stranger.* "

Based on your experience at the AP® Reading with student responses, what advice would you offer teachers to help them improve student performance on the exam?

Students should focus on the task verbs used in the question (e.g., Identify, State, Describe, Explain). These task verbs help direct students about what to include in their response. Refer to the *AP Psychology Course and Exam Description* for the definition of each task verb (p. 150). In addition, have students focus on the specific and relevant information found in the source summary. Several of the correct responses are explicitly presented in the summary, so have students focus on those details as they read the summary.

- For **Part A: Research Method**, have students only provide the research method that the study uses. Students should not provide other methods to avoid contradicting themselves in their response. In preparing for writing the AAQ, students should review the key features of a study that differentiates the research method used (e.g., A key feature of an experiment is the manipulation of an independent variable across randomly assigned groups). Referring to other research design elements (i.e., survey, random assignment, cross-sectional designs) are acceptable, but these elements alone are not sufficient to earn the point.

- For **Part B: Research Variable**, remind students that the operational definition is provided in the summary, typically in the "Method" section. Have students focus their response on how the researchers administered or measured the variable. For instance, if a scale is used in the operational definition, have students include that in their response since the scale provides part of the measurement data.
- For **Part C: Statistic Interpretation**, have students go beyond restating or defining the statistic. Have students include the specific information about what the statistic indicates in the study.
- For **Part D: Ethical Guidelines**, have students provide only the ethical guideline(s) explicitly stated in the summary. Referencing other guidelines is considered providing contradictory information and will not earn the point. Help students only reference ethical guidelines and not other research design elements from the summary to ensure they are demonstrating understanding of research ethics in their response.
- For **Part E: Generalizability**, help students remember to include specific and relevant information about the participants as they develop their responses. Direct students to the "Participants" section of the summary to find this information. Students can reference a population that was well represented or underrepresented to indicate the "larger population" in their responses. Remind students that deciding a study can be "partly" generalizable requires students to defend both sides of the argument in their response.
- For **Part F: Argumentation**, help students provide a piece of specific and relevant evidence in their response along with an explanation of how that evidence supports or refutes the hypothesis or concept in the question. Remind students to check that the evidence they cite does indeed support or refute the hypothesis or concept in the question. Students must connect their explanation back to the concept or hypothesis in the question clearly and directly. In this Part, students can demonstrate in their argumentation that they understand the topic of the study and any related concept in the question, so making sure their responses are clearly explained is a good strategy for success. The following is one effective approach to writing Part F: "*The researchers found that* [cite one specific, relevant, and accurate piece of evidence from the study]. *This evidence supports/refutes* [restate the hypothesis or concept] *because* … [provide explanation that connects back to the concept or hypothesis]."

What resources would you recommend to teachers to better prepare their students for the content and skill(s) required on this question?

The Article Analysis Question provides opportunities for developing several key skills students need to be successful in AP Psychology and as they interact with information about psychological research. With the AAQ, students can learn how to identify what research methodology is used in a study, how the researchers' operationalized variables, what basic statistics indicate, how ethics are applied in research, and whether a study's findings can be generalized to a larger population. In addition, students can consider how a single research study informs a larger topic learned in AP Psychology, such as stimulus discrimination for this question. These skills can help students think critically about psychological science and the application of research studies to their daily lives.

Teachers can find AAQs and accompanying scoring guidelines in AP Classroom for every unit in the course. Some of the questions in AP Classroom are partial AAQs, meaning teachers can use these to scaffold the questions with their students before providing full questions as the course progresses. Scaffolding the AAQ allows students to practice each part of the question in a focused way. Teachers can use the question parts of the AAQ for any summary of psychological research students encounter as they take this course. This type of repeated and interleaved practice can help students feel more confident on the AAQ as they progress through AP Psychology.

Additionally, teachers can modify parts of existing AAQs by choosing a different variable to operationalize or a different statistic to interpret. For this AAQ, teachers may want to ask students about other variables operationalized in the study, such as “non-person-oriented dog behaviors.” Teachers may ask students to interpret other statistics such as standard deviation or statistical significance. Teachers could also ask about how this study supports or refutes other concepts such as stimulus generalization. These types of question adaptations can serve as scaffolds, reteaching experiences, or variations to promote a secure testing environment.

Question 2

Task: Evidence-Based Question
Topic: Helping in an Emergency
Max Score: 7

	Max Points:	Mean Score:
Part A: Claim	1	0.89
Part B(i): Evidence	1	0.88
Part B(ii): Reasoning	2	1.32
Part C(i): Evidence	1	0.81
Part C(ii): Reasoning	2	0.99

Overall Mean Score: 4.91

What were the responses to this question expected to demonstrate?

This Evidence-Based Question (EBQ) provided students with a summary of three peer-reviewed research studies which explore the social conditions that lead people to be more likely to help another person in an emergency. The studies connect to content found in the *AP Psychology Course and Exam Description* in Unit 4: Social Psychology and Personality. Responses are expected to demonstrate skills from Science Practice 4 (Argumentation).

- In **Part A: Claim**, responses are expected to propose a defensible claim.
- In **Part B(i): Evidence**, responses are expected to use one piece of specific, relevant, and accurate evidence from one of the sources that supports the claim proposed in Part A.
- In **Part B(ii): Explanation and Application (Reasoning)**, responses that earn the first point are expected to explain how the evidence used in Part B(i) supports the claim proposed in Part A. Responses that earn the second point are expected to use a psychological perspective, theory, concept, or research finding as part of their explanation about how the evidence supports the claim proposed in Part A.
- In **Part C(i): Evidence**, responses are expected to use one piece of specific, relevant, and accurate evidence from a different source than the one used in Part B that supports the claim proposed in Part A.
- In **Part C(ii): Explanation and Application (Reasoning)**, responses that earn the first point are expected to explain how the evidence used in Part C(i) supports the claim proposed in Part A. Responses that earn the second point are expected to use a different psychological perspective, theory, concept, or research finding than the one used in Part B as part of their explanation about how the evidence supports the claim proposed in Part A.

How well did the responses address the course content related to this question? How well did the responses integrate the skill(s) required on this question?

Overall, most responses demonstrated the skills required for this question.

- In **Part A: Claim**, most responses (89%) correctly provided a claim about a specific social condition that leads people to be more likely to help another person in an emergency.
- In **Part B(i): Evidence**, most responses (89%) correctly used one piece of specific, relevant, and accurate evidence from one of the sources to support the claim proposed in Part A.
- In **Part B(ii): Explanation and Application (Reasoning)**, most of the responses (79%) earned at least 1 point on Part B(ii). Some responses (25%) earned the first point by explaining how the evidence used in Part B(i) supports the claim proposed in Part A. Other responses (54%) also earned the second point by correctly using a psychological perspective, theory, concept, or research finding as part of their explanation about how the evidence supports the claim proposed in Part A.

- In **Part C(i): Evidence**, most responses (81%) correctly used one piece of specific, relevant, and accurate evidence from a different source than the one used in Part B that supports the claim proposed in Part A.
- In **Part C(ii): Explanation and Application (Reasoning)**, many of the responses (66%) earned at least 1 point on Part C(ii). Some responses (32%) earned the first point by explaining how the evidence used in Part C(i) supports the claim proposed in Part A. Other responses (34%) also earned the second point by correctly using a different psychological perspective, theory, concept, or research finding than the one used in Part B as part of their explanation about how the evidence supports the claim proposed in Part A.

What common student misconceptions or gaps in knowledge were seen in the responses to this question?

Common Misconceptions/Knowledge Gaps	*Responses that Demonstrate Understanding*
Part A: Claim	
• Responses that did not earn this point provided a claim that was off topic. • Responses that did not earn this point provided a description of the topic instead of a claim.	• *"People are most likely to help another person in an emergency due to social norms."* • *"The fewer people that are present during an emergency, the more likely someone will help."*
Part B(i): Evidence	
• Responses that did not earn this point provided no evidence from the sources. • Responses that did not earn this point provided no citation for the evidence. • Responses that did not earn this point provided evidence that was not specific and relevant, or was inaccurate (e.g., described the method instead of a research finding).	• *"In Source 3, researchers found that when people know each other they are more likely to help in an emergency situation."* • *"In Source 1, they found that 85% of the participants who thought they were alone in witnessing an emergency reported the emergency and called for help. However, 31% of those who thought 4 other bystanders were present reported the emergency and called for help."* • *"According to Source 2, at least one person intervened 90.9% of the time and the number of people was positively correlated with chances of intervention."*

Part B(ii): Explanation and Application (Reasoning)		
• Responses that earned 0 points did not explain how the evidence supported the claim. • Responses that earned 1 point did not correctly apply a psychological perspective, theory, concept, or research finding as part of their explanation of how the evidence supports the claim.	Examples that earn 1 point: • *"The study showed that the more people that are present in an emergency, the less likely an individual will help."* • *"It didn't seem to matter if the people witnessing the event were friends or just acquaintances. If they knew each other they were more likely to help the person."*	Examples that earn 2 points: • *"Onlookers to an emergency that know each other might be more likely to help a victim because of in-group bias. They identify the other onlooker as part of their group and immediately trust them believing that they can work together to help someone."* • *"Their findings show that the more bystanders that are around during an emergency, the less likely someone will help. This is called the bystander effect."*

Part C(i): Evidence	
• Responses that did not earn this point provided no evidence from the sources. • Responses that did not earn this point provided no citation for the evidence. • Responses that did not earn this point provided evidence that was not specific and relevant, or was inaccurate (e.g., described the method instead of a research finding). • Responses that did not earn this point did not provide evidence from a different source than one that was used in Part B(i).	• *"In Source 2 there is support for the research findings that the more bystanders present the more likely the person will give aid in an emergency."* • *"Source 3 found that people are more likely to help in a situation where there are other people around who they know as friends."* • *"According to Source 3, one additional person present in a situation increased the chances that someone would help."*

Part C(ii): Explanation and Application (Reasoning)		
• Responses that earned 0 points did not explain how the evidence supported the claim. • Responses that earned 1 point did not correctly apply a different psychological perspective, theory, concept, or research finding as part of their explanation of how the evidence supports the claim.	Examples that earn 1 point: • *"These findings support the idea that when there are more people present in an emergency, the less likely a person will help."* • *"This pattern suggests people are not going to help if the other people present are unfamiliar."* • *"This finding suggests people are more willing to help in more dangerous situations."*	Examples that earn 2 points: • *"The finding that the more bystanders present, the more likely that they group will help a person in need supports the idea of conformity. When one person makes a move to help, the others in the group feel that unspoken pressure to also join in and help."* • *"This evidence supports my claim because according to the sociocultural perspective, people are more likely to help when there are others around, especially in collectivist cultures."* • *"The finding that the more bystanders that are present the greater likelihood that help will be given contradicts the first source. This study showed that in a larger group of onlookers, the diffusion of responsibility doesn't always happen."*

Based on your experience at the AP® Reading with student responses, what advice would you offer teachers to help them improve student performance on the exam?

For the EBQ, students read three summaries of peer-reviewed research. In their responses, students make a claim, support that claim with evidence from two different sources, and explain why the evidence supports the claim while applying two different psychological concepts. As a first step, be sure students know what kind of claim the question is asking for. Then, encourage students to read all three sources before starting their response. As they read, encourage them to make notes throughout the sources, focusing on interesting results that might relate to the claim and which psychological concepts come to mind as they read. Make sure students note how the findings of each of the sources vary from each other or from what they would expect. The sources may provide contradictory findings about the topic, which students can keep in mind as they formulate their responses.

- For **Part A: Claim**, have students develop a claim that can anchor the rest of the response. The claim should be more than a topic sentence but can be a broad statement about how the variables studied connect to each other in ways that are supported by the evidence in the sources. Remind students that a claim is written as a statement, not a question.
- For **Part B(i): Evidence**, guide students toward choosing evidence that is correctly cited, accurate, specific, and relevant to the claim. Students should focus their search for evidence on results from the study, not on how the study was conducted or who the participants were. The piece of evidence should support the claim, not refute it.
- For **Part B(ii): Explanation and Application (Reasoning)**, remind students that they are providing the link between their evidence and their claim with this part, so explicitly referencing the evidence and the claim will help make sure their responses are clear.
    - To earn 1 point, have students provide an explanation for why the evidence supports the claim.
    - To earn 2 points, have students bolster their explanation using a psychological concept learned in AP Psychology. Remind students that providing only a definition of a related psychological concept is not sufficient to earn this point. To demonstrate their argumentation skills and their understanding of psychological science, students need to integrate the psychological concept into their explanation.
- For **Part C(i): Evidence**, guide students toward choosing a different piece of evidence that is correctly cited, accurate, specific, and relevant to the claim. Students should focus their search for a different piece of evidence on results from the study, not on how the study was conducted or who the participants were. The different piece of evidence should support the claim, not refute it.
- For **Part C(ii): Explanation and Application (Reasoning)**, remind students that they are providing the link between their different piece of evidence and their claim with this part, so explicitly referencing the different piece of evidence and the claim will help make sure their responses are clear.
    - To earn 1 point, have students provide a different explanation for why the evidence supports the claim.
    - To earn 2 points, have students bolster their explanation using a different psychological concept learned in AP Psychology. Remind students that providing only a definition of a related psychological concept is not sufficient to earn this point. To demonstrate their argumentation skills and their understanding of psychological science, students need to integrate a different psychological concept into their explanation.

What resources would you recommend to teachers to better prepare their students for the content and skill(s) required on this question?

The Evidence-Based Question provides opportunities for developing argumentation skills students need to be successful in AP Psychology and as they interact with psychological research. With the EBQ, students can learn how to make a claim and use evidence and reasoning to support that claim. These skills can help students think critically about psychological science and the application of research studies to their daily lives.

Teachers can find EBQs and accompanying scoring guidelines in AP Classroom for every unit in the course. Teachers may want to scaffold the distinct skills demonstrated in the EBQs early in the course, which allows students to practice each part of the question in a focused way. For instance, teachers may want to have students practice generating claims as they read news reports of psychological studies. Teachers can have students evaluate evidence presented in those reports to determine whether the evidence supports or refutes what they've learned in AP Psychology. Teachers can also interleave content throughout the course to give students practice connecting content from one unit to other units. This type of practice can help students feel more confident on the EBQ as they progress through AP Psychology.

Additionally, teachers can modify the prompts of existing EBQs by choosing different ways to ask for a claim. For this EBQ, teachers may want to ask students to make a claim about other reasons people act in prosocial ways, such as the social reciprocity norm or social responsibility norm. Teachers could also ask students to make claims about how social norms or conformity might influence helping behavior. Teachers could also investigate the factors that lead to antisocial instead of prosocial behavior, such as deindividuation. These types of adaptations can serve as scaffolds, reteaching experiences, or variations to promote a secure testing environment.