



## Chief Reader Report on Student Responses: 2024 AP<sup>®</sup> Psychology Set 2 Free-Response Questions

• Number of Students Scored	320,164		
• Number of Readers	731		
• Score Distribution	Exam Score	N	%At
	5	61,321	19.2
	4	73,921	23.1
	3	62,384	19.5
	2	37,826	11.8
	1	84,712	26.5
• Global Mean	2.97		

The following comments on the 2024 free-response questions for AP<sup>®</sup> Psychology were written by the Chief Reader, Elliott Hammer, Professor of Psychology at Xavier University of Louisiana. They 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:** Apply psychological concepts to a scenario described in the prompt

**Topic:** Concept Application

**Max Score:** 7

**Mean Score:** 3.09

***What were the responses to this question expected to demonstrate?***

Responses to this question were expected to demonstrate how specific psychological concepts applied to the scenario, which described the experiences of an athlete playing in a championship basketball game. The responses needed to demonstrate an understanding of retinal disparity, intrinsic motivation, social facilitation, kinesthetic sense, context-dependent memory, self-serving bias, and retroactive interference.

***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?***

Students varied in how well they addressed the skills and content assessed in this question. Some responses indicated a solid grasp of the concept and an ability to discuss and apply the concepts in the real-world scenario. Other responses indicated a solid understanding of memory and cognition concepts (context-dependent memory, self-serving bias, and retroactive interference). Some responses indicated a stronger understanding of motivation and emotion concepts (intrinsic motivation and social facilitation).

On the other hand, responses also indicated less mastery for concepts related to sensation and perception (retinal disparity and kinesthetic sense).

Responses that scored well demonstrated the ability to apply most of the concepts to the real-world scenarios of a game and a reunion presented in the scenario.

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

<i>Common Misconceptions/Knowledge Gaps</i>	<i>Responses that Demonstrate Understanding</i>
<ul style="list-style-type: none"><li>Many responses failed to indicate that retinal disparity involves depth perception resulting from the difference in visual signals from each eye. Students described depth perception without distinguishing retinal disparity from convergence, another binocular cue for depth.</li></ul>	<ul style="list-style-type: none"><li>“During her game, Claire uses retinal disparity to figure out whether or not the basketball being thrown to her is close. Because the difference between the image cast on the retina of the left eye and right eye is large, Claire knows that the basketball is very close to her.”</li></ul>
<ul style="list-style-type: none"><li>Many responses did not indicate that Claire was motivated by a specific internal motivation or that she was not motivated by a specific external motivation and simply referred to the motivation from within/internal/inside of Claire.</li></ul>	<ul style="list-style-type: none"><li>“Intrinsic motivation, her own personal drive that is not influenced by external rewards or factors, allows her to play for her own passion instead of for a prize, allowing her to try her best.”</li></ul>

- Many responses failed to indicate that kinesthetic sense is an awareness/sensation of the movement or position of the body as the body is moving or positioned and instead described knowledge for how to position or move the body.

- “By utilizing her kinesthetic sense, the ability to know where her body parts are, she can react quickly to a ball being passed to her and catch it by knowing where her arms are and positioning it to be where the ball is headed.”

***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?***

The AP Psychology Exam is changing to include two new question models for the 2025 Exam. This section provides advice related to comparable elements of the 2024 Exam that may be helpful for students preparing for the 2025 Exam.

Concept application is assessed in both new free-response question models. In the Article Analysis Question (AAQ), students will determine whether the results of the study support or refute the concept being studied in the article or a related concept. This part of the question challenges students to consider how what they have learned in AP Psychology is related to real-world research and how well the scientific processes of peer review or replication are advancing our understanding of psychological phenomena. In the Evidence-Based Question (EBQ), students will generate their own applications to the topic presented in the source materials. Students will be making a claim about a topic and then using the three provided summarized peer-reviewed sources to find evidence to support their claim. As they explain why they chose the evidence they did, they will be expected to connect their evidence to other related psychological concepts to explain how the evidence supports their claim. This question part allows students to think critically about psychological science and make important connections across topics in the course.

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

The AP Psychology Exam is changing to include two new question models for the 2025 Exam. This section provides advice related to comparable elements of the 2024 Exam that may be helpful for students preparing for the 2025 Exam.

To prepare for the 2025 AP Psychology Exam, teachers can access sample Article Analysis Questions (AAQ) and Evidence-Based Questions (EBQ) in AP Classroom. For Units 1 and 2, the question models are modified to help teachers scaffold the skills required for these questions, and Units 3 through 5 feature full AAQs and EBQs relevant to those units.

Teachers can also have students read summaries of research and identify elements of the research design and interpret data as practice. Additionally, teachers can have students take research articles and write their own summaries to help them distill the key elements of research and data into more student-friendly language. Teachers can use current or enduring topics of interest to students and have students propose claims about those topics and find relevant evidence that supports their claims. Students can then discuss how their evidence supports their claims in written or oral responses individually or as a class.

## Question 2

**Task:** Analyze elements of a research scenario and apply psychological concepts to the research scenario.

**Topic:** Research Methodology

**Max Score:** 7

**Mean Score:** 3.28

### ***What were the responses to this question expected to demonstrate?***

Responses to this question were expected to demonstrate an understanding of various characteristics of psychology research and to show how specific psychological terminology applied to the scenario, which described a study examining the effects of motivational statements on levels of anxiety. The responses needed to demonstrate an understanding of the operational definition of the dependent variable, the control group, the elements of an experiment, and whether the data presented support the hypothesis. Additionally, responses were expected to apply external locus of control, stage one of Selye's general adaptation syndrome, and crystallized intelligence.

### ***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?***

Responses demonstrated the skill-related ability to read a summary of a research study and describe key features of conducting research, including an understanding of an operational definition, the dependent variable and the control group, critical characteristics of an experiment (manipulation of the independent variable and random assignment of participants to condition), and the pattern of the study results when presented in a graph.

Responses earned points by clearly identifying the dependent variable and describing its operational definition, clearly identifying the control group, clearly identifying one of the critical characteristics of an experiment (either manipulation of the independent variable or use of random assignment), and clearly identifying that the pattern of results supported the hypothesis (i.e., by correctly reading the data on the graph provided).

Responses also earned points by clearly applying the concepts of external locus of control, stage one of Selye's general adaptation syndrome, and crystallized intelligence to explain a specific outcome (i.e., performing poorly on a test).

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

Commonly missed points in the research design part of this question included:

- Failing to provide a complete description of the operational definition of the dependent variable, either because they failed to correctly identify the dependent variable itself or because they did not fully explain how the dependent variable was measured (i.e., it was a score on a survey or scale).
- Misidentifying the experimental condition as the control condition
- Failing to identify one of the procedures most central to defining a study as an experiment (manipulation of the independent variable or random assignment of participants to condition). These two features are essential to reduce or eliminate confounding variables and more easily identify cause and effect.

Commonly missed points in the application part of this question included:

- Incorrectly describing and applying the concept of locus of control to describe how a student may believe that their poor test performance was caused by an external factor. A common error was that responses failed to mention that it was the student’s belief about that external factor that explained how external locus of control led the student to perform poorly on the test. Responses needed to specify an explicit reference to an external factor. Referring to an absence of an internal factor like knowledge (“they didn’t know the words”) or control (“they felt it was out of their control”) does not sufficiently describe external locus of control.
- Incompletely describing stage one of Selye’s general adaptation syndrome as “a failure to adapt to the situation” and failing to mention the key feature of stage one involving the sympathetic nervous system or fight-or-flight response.
- Incompletely describing the impact of crystallized intelligence on poor test performance by failing to clearly describe “acquired knowledge.” The response needed to convey that a lack of acquired knowledge about the words on the test led to poor test performance.

<i>Common Misconceptions/Knowledge Gaps</i>	<i>Responses that Demonstrate Understanding</i>
<ul style="list-style-type: none"> <li>• Responses often gave an incomplete description of the operational definition of the dependent variable by failing to fully describe that the measure included 1) a score on 2) a scale (e.g., “The operational definition of the dependent variable was the anxiety score.”)</li> </ul>	<ul style="list-style-type: none"> <li>• “The operational definition of the dependent variable was the level of anxiety as measured on the scale.”</li> <li>• “The dependent variable was measured on the survey using a 1-8 score, where 1 is low anxiety and 8 is high anxiety.”</li> </ul>
<ul style="list-style-type: none"> <li>• Responses often incorrectly identified the control condition (often mentioning the experimental group instead).</li> </ul>	<ul style="list-style-type: none"> <li>• “The control condition was the group who read the neutral statements.”</li> </ul>
<ul style="list-style-type: none"> <li>• Responses often described only generic features of an experiment, such as having an experimental and control group, and testing a hypothesis.</li> </ul>	<ul style="list-style-type: none"> <li>• “Dr. Dawson’s study was an experiment because he manipulated the independent variable.”</li> <li>• “This was an experiment that used random assignment to place students in either the motivational statements condition or the neutral statements condition.”</li> </ul>

<ul style="list-style-type: none"> <li>• Responses often failed to correctly describe “external locus of control” by clearly identifying that 1) the student holds a belief about 2) some external factor that 3) relates to their poor test performance. Reference to the belief or reference to an external factor was often missing from the response.</li> </ul>	<ul style="list-style-type: none"> <li>• “Students believed they failed the test because their teacher did not fully cover the test material.”</li> <li>• “Because the student believed that they had bad luck, they did not do well on the test.”</li> </ul>
<ul style="list-style-type: none"> <li>• Responses often failed to identify the physiological component of stage one of Selye’s general adaptation syndrome. A common error was reference to “a failure to adapt to the situation” without mentioning any physiological reaction.</li> </ul>	<ul style="list-style-type: none"> <li>• “When students were given the test, they may have experienced stage one of Selye’s general adaptation syndrome with an increased heart rate, which led them to do poorly on the test.”</li> <li>• “Stage one of Selye’s general adaptation syndrome may be involved because students felt a fight-or-flight reaction to the test and did poorly.”</li> </ul>
<ul style="list-style-type: none"> <li>• Responses often failed to clearly define crystallized intelligence as entailing knowledge acquisition. The response needed to indicate that poor test performance was due to a lack of knowledge acquisition or “low/weak crystallized intelligence.”</li> </ul>	<ul style="list-style-type: none"> <li>• “Crystallized intelligence is facts and knowledge gained through everyday life and increases as one gets older. The students may have done poorly on the test because they were younger and had not learned the words yet.”</li> <li>• “Some students did poorly on the test because they had not learned the words on the test yet so they had weak crystallized intelligence.”</li> </ul>

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

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The Article Analysis Question (AAQ) for the 2025 Exam will require students to identify and explain elements of research and data interpretation. To help students identify the components of experiments, teachers should review in class with students’ descriptions of sample experiments to clarify how to define and identify the IV and DV and their operational definitions, as well as identifying the experimental condition, the control condition, potential confounding variables, and how procedures such as manipulating the IV and random assignment help to eliminate potential confounding variables. One suggestion is to provide students with a series of sample experiments that explicitly include or fail to include some of the above components. The teacher can modify the description of any experiment to selectively remove some components to test students’ ability to identify the presence/absence of key characteristics of experiments in a research summary to help students think through each component needed to make a true experiment and to avoid potential confounds. Teachers should also have students discuss how the results of the study support or refute what students have learned about the topic of the research.

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

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