Question 1

Part A

Explain how each of the following plays a role in eating behavior:

- Drive-reduction theory
- External cues
- Dopamine and the reward center
- Observational learning

Part B

A study was conducted to investigate the role of framing on concern for healthy eating. Each participant (N=100) was randomly assigned to one of two conditions. In the first condition the participants read an article indicating that obesity is a disease. Participants in the second condition read an article indicating that obesity is the result of personal behaviors and decisions.

Participants were then asked to indicate how important it would be for them to eat a healthy diet. Scores ranged from 1 (not very important) to 9 (very important). The results are presented in the table below.

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean Score-Concern for Healthy Eating</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disease</td>
<td>3.4</td>
<td>1.4</td>
</tr>
<tr>
<td>Behavior</td>
<td>6.1</td>
<td>1.2</td>
</tr>
</tbody>
</table>

- Operationally define the dependent variable.
- What makes the study experimental rather than correlational?
- What is the most appropriate conclusion the researchers can draw about the relationship between the variables in the study?

General Considerations

1. Answers must be presented in sentences, and sentences must be cogent enough for the student’s meaning to come through. Spelling and grammatical mistakes do not reduce a student’s score, but spelling must be close enough that the reader is convinced of the word.
2. Do not score students’ notes made on the question section of the booklet. Score only what has been written in the blanks provided in the booklet.
3. Definitions alone will not score, but they may be used to enhance the application.
4. Within a point, a student will not be penalized for misinformation unless it directly contradicts correct information that would otherwise have scored a point. A correct application with incorrect definition is not considered a direct contradiction and should score the point.
5. Rubric examples provided for each point are not to be considered exhaustive.
6. A student can score 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.
7. Responses that simply parrot or repeat the terms from the question will not score.
Part A

Note: For all of part A responses should explain how each item plays a role in eating-related behaviors and not in wants, desires, or intentions.

Point 1
Drive-reduction theory:

Responses should explain that a physiological need creates a psychological drive of hunger that affects eating behavior.

- Score: references to a drop in blood glucose, stomach contractions, being out of homeostasis, or other physiological responses as description of physiological need for food.
- Score: “motivated to eat” as satisfying both the drive and eating behavior requirements.
- DO NOT score “drive” or “driven” alone.

Note: Responses may describe that a lack of physiological need, creating a lack of psychological drive of hunger, reduces eating behavior.

Point 2
External cues:

Responses should explain how the presence of food or a stimulus associated with food, as experienced through specific sensory input, will affect eating behavior.

- Score: descriptions of food-related events as specific stimuli.
- Do NOT score references to thoughts or internal processes without a specific external sensory experience.
- Do NOT score references to circadian rhythm or passage of time without description of external sensory experience.

Note: There must be a specific short-term physical stimulus affecting eating behavior.

Point 3
Dopamine and the reward center:

Responses should explain how the act of eating, along with the release of dopamine, results in a positive feeling.

- Score: responses describing eating behavior, followed by dopamine release and experience of pleasure.
- Score: responses describing dopamine release, followed by pleasure affecting eating behavior.

Point 4
Observational learning:

Responses should explain that if people see a behavior related to eating, then they learn and exhibit that same behavior.
Question 1 (continued)

Part B

Point 5
Operationally define the dependent variable:

Responses should explain that the dependent variable is measured as the score or rating from 1 (not very important) to 9 (very important) of how important it is to have a healthy diet.

- Score: “score,” “rating,” or “1–9” as measures of the dependent variable.
- Do NOT score general references to measurement, response, answers, or opinion.

Point 6
What makes this study experimental rather than correlational?

Responses should explain that this study is experimental either because participants were randomly assigned to one of two conditions, or because there is manipulation of a variable.

- Do NOT score references to cause and effect alone.

Note: If response discusses manipulation without mentioning manipulation, then it must describe how the conditions are different.

Point 7
What is the most appropriate conclusion the researchers can draw about the relationship between the variables?

Responses should explain that variations in the study’s independent variable cause variations in the study’s dependent variable.

Responses should include three essential elements: reference to the study’s independent variable, reference to the study’s dependent variable, and connection with causal language.

- Score: “Reading that obesity is the result of personal behavior makes people have more concern with healthy eating than if they read that obesity is a disease.”
- Score: “If, then” statements as examples of causal language.
- Do NOT score general mention of independent and dependent variables without reference to the study.
- Do NOT score references to correlation.
- Do NOT score a simple summary of the results as a conclusion.
- Do NOT score mere comparison between groups without a causal statement.
Sachio traveled to a prestigious college to audition for a music scholarship. After he arrived he learned that his audition had been rescheduled for late in the day. Sachio was required to play several difficult pieces on his saxophone and interview with the judges. Just before leaving campus he was offered a full scholarship to the college.

Explain how each of the following might have contributed to the success of Sachio’s visit:

- Resistance phase of general adaptation syndrome
- Implicit memory
- Social facilitation
- Basilar membrane
- Somatosensory cortex
- Intrinsic motivation
- Big Five personality trait of extraversion

**General Considerations**

1. Answers must be presented in sentences, and sentences must be cogent enough for the response’s meaning to come through. Spelling and grammatical mistakes do not reduce a response’s score, but spelling must be close enough that the reader is convinced of the word.
2. Do not score notes made on the question section of the booklet. Score only what has been written in the blanks provided in the booklet.
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5. Rubric examples provided for each point are not to be considered exhaustive.
6. A response can score points only if it 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.
7. Responses that simply parrot or repeat the terms from the question will not score.
8. In describing how the concept contributed to Sachio’s success, responses may pertain to any aspect of the “visit.”

**Point 1**

**Resistance phase of general adaptation syndrome:**

Responses must indicate how Sachio’s heightened or stabilized physiological arousal (e.g., sympathetic nervous system, energy, adrenalin) contributes to a specific successful outcome.

- Score: “Because he was in the resistance phase of the GAS, Sachio’s high arousal level enabled him to play well for the judges.”
- Do NOT score examples that are not clearly physiological (e.g., nervousness, anxiety).
Point 2
Implicit memory:

Responses must explain that Sachio’s implicit memory makes his behavior automatic (unconscious, natural, "procedural memory," muscle memory, second nature, doesn’t require thinking or focus) in the context of the visit.

- Score: “Because Sachio has practiced the saxophone so much that his songs are in implicit memory, he automatically knows how to play the notes.”
- Do NOT score examples that are not clearly implicit (e.g., “he can play well”; “it is easy for him”; “without much effort”; “he memorized it”).
- Do NOT score: “He knows how to play the saxophone,” because it could be declarative.

Point 3
Social facilitation:

Responses must explain that Sachio will perform better because of the presence of other people (e.g., the judges) in the context of the visit.

- Score: “Sachio played better for the judges than he did when he practiced on his own because of social facilitation.”
- Do NOT score responses mentioning task difficulty/novelty without including the presence of other people.

Point 4
Basilar membrane:

Responses must explain the contribution of the basilar membrane to Sachio’s sensation or perception of sound (e.g., hearing, pitch, tone, timbre, listening) in the context of the visit.

- Score: “Sachio’s basilar membrane will help him hear the interview questions.”

Point 5
Somatosensory cortex:

Responses must explain the contribution of the somatosensory cortex to Sachio’s sense of touch (e.g., temperature, body position, pressure, texture) in the context of the visit.

- Score: “Sachio played better because his somatosensory cortex allowed him to feel that his fingers were in the right place for the notes he needed to play.”
- Do NOT score examples referring to an emotional feeling.

Note: Including other senses (hearing, vision, taste, smell) as being governed by the somatosensory cortex is considered a direct contradiction and will NOT score.
Point 6
Intrinsic motivation:

Responses must demonstrate how a specific cognitive or emotional aspect of Sachio’s intrinsic motivation (e.g., doing it for pleasure, interest, curiosity, enjoyment, satisfaction, self/himself, its own sake) contributes to a specific successful outcome.

- Score: “Because he is intrinsically motivated, Sachio really likes playing the saxophone, which led him to play well.”
- Do NOT score: “Sachio did well in his audition because he wanted to get the scholarship.”
- Do NOT score general phrasing such as “inside factor” or “internal motivation.”
- Do NOT score examples negating extrinsic motivation alone (e.g., “Sachio is not doing it just to earn the scholarship”).
- Do NOT score examples of satisfying a physiological drive.
- Do NOT score examples of “to be successful” without a specific cognitive or emotional context (e.g., “sense of success”).

Point 7
Big Five personality trait of extraversion:

Responses must indicate how an aspect of Sachio’s extraversion (e.g., being outgoing, sociable, not shy, friendly, draws energy from others) contributes to a specific successful outcome.

- Score: “As an extravert, Sachio’s outgoing personality helped him do better in his interview.”
- Do NOT score: “Because Sachio is socially skilled, he got the scholarship.”
- Do NOT score clear references to other Big Five personality factors (openness, conscientiousness, agreeableness, neuroticism).