2. Mobile Gamer Central (MGC) is preparing to launch a new game app. The advertisements for this new game are brightly colored, have lively music, and feature celebrities playing the game. To generate interest in the game, MGC pays to have these advertisements pop up multiple times while people are using other apps on their phone. The marketing director is pleased with the advertising campaign and thinks the game is really fun to play.

Part A

Explain how each of the following concepts relates to the scenario.

- Peripheral route to persuasion
- False consensus effect
- Mere-exposure effect

Part B

After a few weeks with moderate success, MGC's marketing director decides to test the most effective ways to increase sales of the game. Marketing researchers recruit 100 people to play the new game. They randomly assign half of the people to observe someone demonstrating how the game is played and assign the other half of the people to play the video game themselves. Participants rate how likely they are to buy the game on a scale of 1 (not likely) through 10 (very likely). Results are presented in the table.

Participants' Rating	Observed Game Demonstration ($n = 50$)	Personally Played Game ($n = 50$)	p value
Mean	6.31	2.04	< 0.001
Standard Deviation	1.25	0.80	

- Identify the operational definition of the dependent variable in the study.
- Explain what the difference between the standard deviations in the study indicates.
- Explain why random assignment is necessary for determining cause and effect in the study.
- Explain what the p value allows MGC to conclude about the study.

_____

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

GO ON TO THE NEXT PAGE.

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.

Part A   Mobile Gamer Central (MGC) is preparing to launch a new game app. The advertisements for this new game are brightly colored, have lively music, and feature celebrities playing the game. To generate interest in the game, MGC pays to have these advertisements pop up multiple times while people are using other apps on their phone. The marketing director is pleased with the advertising campaign and thinks the game is really fun to play.

Explain how each of the following concepts relates to the scenario.

Mere-exposure effect   **1 point**

Response must indicate that repeated exposure(s) to the game/advertisement will increase the liking/enjoyment of the game/advertisement.

Acceptable explanations include:

- *The more often people see the ads pop up on their phone, the more they will like the game. People liked the advertisement the second time they saw it more than the first time.*

- *The more times people play the game, the more likely they are to buy it.*

Unacceptable explanations include:

- *By playing the game, the people enjoy it and want to download it.*

Part B After a few weeks with moderate success, MGC's marketing director decides to test the most effective ways to increase sales of the game. Marketing researchers recruit 100 people to play the new game. They randomly assign half of the people to observe someone demonstrating how the game is played and assign the other half of the people to play the video game themselves. Participants rate how likely they are to buy the game on a scale of 1 (not likely) through 10 (very likely). Results are presented in the table.

Participants' Rating	Observed Game Demonstration ($n = 50$)	Personally Played Game ($n = 50$)	p value
Mean	6.31	2.04	<0.001
Standard Deviation	1.25	0.80	

Identify the operational definition of the dependent variable in the study.   **1 point**

Response must indicate that the operational definition of the dependent variable is the rating/score/number on the scale used in the study.

Acceptable explanations include:

- *The rating of the game on a scale of 1–10 is the dependent variable.*

- *The score of the survey indicating how likely the participant is to buy the game is the operational definition of the dependent variable.*

Unacceptable explanations include:

- *The operational definition of the dependent variable is which group the people were in.*

- *The operational definition of the DV is whether people will buy the game.*

- *The operational definition is how much people like the game.*

Explain what the difference between the standard deviations in the study indicates.	**1 point**

Response must indicate that the "personally played game" group ratings are more similar/less varied.

OR

Response must indicate that the "observed game demonstration" group ratings differ more/varied more.

Acceptable explanations include:

- *The personally played game group had responses that were more alike because their standard deviation is closer to zero.*

- *The ratings in the group who observed the game were more spread out than the group who played the game.*

Unacceptable explanations include:

- *The observed game group had higher scores than the personally played game group.*

Explain why random assignment is necessary for determining cause and effect in the study.	**1 point**

Responses must indicate that random assignment is necessary because it would help eliminate or reduce the impact of confounding variables related to individual differences.

Acceptable explanations include:

- *The researchers used random assignment to make sure individual differences are controlled for.*

- *The researchers used random assignment to make sure differences between participants are more likely to be spread out evenly between the two groups.*

- *The researchers used random assignment to make sure gender wasn't the reason why people wanted to buy the app.*

Unacceptable explanations include:

- *They must get a random group of people to participate in order to establish cause and effect.*

- *Random assignment is necessary for it to be an experiment.*

- *Random assignment will allow the MGC researchers to eliminate bias and confounding variables.*

Explain what the *p* value allows MGC to conclude about the study.   **1 point**

Response must indicate that the *p* value allows MGC to conclude that the IV (observing vs. playing the game) caused a change in the DV (ratings).

OR

Response must indicate that the *p* value allows MGC to conclude that the results of the study or difference between the groups' ratings were significant.

OR

Response must indicate that the *p* value allows MGC to conclude that the difference between the groups' ratings was not (or not likely) due to chance.

Acceptable explanations include:

- *The p value allows them to conclude that the people who observed the game demo were significantly more likely to say they would buy the app.*

- *The p value says that the groups' ratings were different enough to be statistically significant.*

- *The p value says that the difference in the group's ratings about the game is not likely due to chance.*

- *The p value allows MGC researchers to reject the null hypothesis.*

Unacceptable explanations include:

- *The p value shows that the results are accurate.*

- *The p value shows that the people who played the game found the experience to be significant.*

Total for question 2   7 points