Question 1. Pay it Forward

When people are the recipients of generosity, one hypothesis is that their first impulse is to pay back that behavior in kind. What happens when people cannot reciprocate, but instead have the chance to be kind to someone entirely different—to pay it forward?

In an experiment inspired by Gray et al. (2014), participants were recruited from subway stations in a Northeastern city.  After giving informed consent to participate in a research study, individual participants were led to a bench and told they would play an anonymous economic game in which one person splits $6 between themselves and another person. First, these participants received an envelope with money ostensibly left to them by a previous participant. Upon opening the envelope, they either saw that the “previous participant” had given them a Fair split ($3 of $6), or a Generous split ($6 of $6). In reality, participants were randomly assigned to one of these two conditions.

Participants were then instructed to act as the splitter in a second game, choosing how to divide $6 between keeping some or all for themselves and giving some part to an anonymous future participant. The amount of the $6 given to the next participant was scored. A total of 100 participants were in the experiment. After completing the experiment, all participants were paid $10 total regardless of the split to maintain fairness and the purpose of the research project was explained. (35 points total; 5 points each)

1. What is the independent variable in this study?
2. What is the dependent variable?
3. Give a hypothesis about the outcome of the study in terms of the IV and DV.
4. What statistical test would be used to evaluate the effect of the IV on the DV for this design?
5. The data for this study were collected by a team of research assistants (RA’s). At the beginning of the study, one RA who was very enthusiastic about the study was observed to get visibly excited when participants received the Generous split and appeared to be encouraging them to then be generous themselves. Explain the problem this causes for the study and the standard method for avoiding this issue in data collection.
6. Here are some hypothetical data from a means table and associated R analysis output that might have come from the study.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Condition | Mean | SD |  | **R Output**  data:  Money\_split by Condition  t = 3.6980103, df = 98, p-value = 0.000386  alternative hypothesis: true difference in means is not equal to 0  95 percent confidence interval:    1.354274 5.225071  sample estimates:  mean in group fair: 3.47865032  mean in group generous: 5.40987145 |
| Fair | 3.48 | 1.28 |  |
| Generous | 5.41 | 2.64 |  |
|  |  |  |  |
|  |  |  |  |

Write out a results statement for these data including both descriptive and inferential statistics in APA format summarizing the outcome of this study.

1. The research team is considering running a follow-up experiment to see if the results still hold when larger amounts of money are involved in the split. For this study, participants will be asked to divide up $100 rather than $6. Because this will make the experiment more expensive to run, they anticipate running a much smaller sample of participants. The smaller sample raises the question of whether there are participant variables (individual differences) that need to be considered. What might vary across participants that would affect the DV? How would we normally control for this in experimental design, but why is this difficult for this study?

Text

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*(n.b. the comic is used to take up space in order to avoid thinking you need to use the whole page to answer the question above and has nothing to do with any of the answers)*

Question 2. Short Answer

Fill in the blanks with the appropriate terms. The answers should generally be 1-2 words, but if you are unsure of the answer, include more description or explanation as needed. (30 points total, 3 each)

|  |  |
| --- | --- |
| The experimenter says the significant differences between the treatments were produced by the independent variable even though it really had little to no effect. What type of error is this? | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| The subsection of an APA style Methods where you indicate what stimuli were used in the study is called | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| The process by which the researcher informs and obtains permission from an individual about their participation prior to enrolling them in a study is called | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| If your study findings replicate and produce the same result, your experiment has | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| The null hypothesis was incorrectly not rejected. What type of error is this? | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| When an extraneous variable systematically varies with the independent variable and potentially explains the results, what is this called? | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| The section of a research report that very briefly summarizes the background, methods, results and conclusions is called | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| In a double-blind vs. single-blind study, who are the additional person(s) who do not know the experimental condition? | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| A control technique to prevent order effects by randomly assigning half of participants to complete the conditions in one order and half to another order is called | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| A university wide committee that reviews proposed research to safeguard the safety and rights of human participants is called | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

Question 3. Product Placement

Product placement in video games is gaining momentum as a way to target audiences in an indirect and engaging way. Inspired by a recent report by Marti-Parreno et al. (2017), a student came up with the idea to test the idea that consumers would remember brands that they saw more often when the ads were surreptitiously placed within a video game.

To get a large sample of participants to test their hypothesis, the student created an add-on modification for a virtual racing circuit video game and titled their add-on “Win Cash Prizes!” Game players would download this “mod” and when using it, it would add billboards displaying ads from ten different brands that would be visible while playing the game. The mod would then randomly assign players to one of two conditions in which the ads repeat either 3 times or 15 times during the game.

At the end of the game, participants were given a yes/no recognition test for the brands displayed on the ads with the ten brands shown and ten unseen brands. Performance on this test was scored as percent correct.

To keep the participants blind to conditions, they were not informed that they would be in a research study until after they completed the recognition test at the end. At that time, they were provided compensation for their participation. (35 points total, 5 each)

1. What is the independent variable (IV) for this study and what construct is it attempting to capture?
2. What is the dependent variable (DV) for this study and what construct is it measuring?
3. Describe an outcome (data) that would support the stated hypothesis above, given here in terms of the experimental IV and DV.
4. Would this study be able to tell us whether ads placed in a video game were more or less effective than other measures of advertising?
5. After data collection, it was discovered that the ads selected to be used in the 3-repetition condition were accidentally rendered too dark to be seen easily in the game making those brand logos very hard to recognize. Describe what kind of problem this is for this study, even if the data come out as suggested in (c) above.
6. As described, the study has significant ethics issues. Describe how the protocol given above does not follow the proper model for appropriate, ethical psychological scientific work and explain what would need to be done differently to correct these errors.