Question 1. Time flies when you’re having fun, but what is it about pleasant experiences that makes time seem to go by faster? In one experiment (Gable & Poole, 2012), researchers tested the hypothesis that *approach motivation* causes perceptual shortening of time during pleasant experiences. That is, it isn’t just positive affect (fun), time goes quickly when you are specifically motivated to obtain a reward. Thus, they predicted that time spent viewing pictures of “delicious desserts” would appear to go by particularly quickly if you expected to get to eat one of the desserts after the experiment.

Participants were randomly assigned to either be told they would get to eat a dessert after the experiment or not. Then they each looked at 36 pictures of desserts each presented for a 12s and rated a scale of 1 (time dragged) to 7 (time flew), how long the picture had been presented. (35 pts total)

1. State the constructs being studied in this experiment. (6 pts)
2. Which construct is operationally defined as the independent variable? Describe the independent variable. (5 pts)
3. Which construct is operationally defined as the dependent variable? Describe the dependent variable. (5 pts)
4. After the experiment, all participants got to pick a dessert to eat if they wished. Why is this an appropriate procedure? (5 pts)

Question 1 continued.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | |  |  | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
|  | |  |  |  |  |  |  |  | Lower | Upper |
| Time Estimate |  |  |  | 3.423 | 18 | .003 | 1.50000 | .43843 | 2.4211 | .57889 |

1. Here are some hypothetical data that might have come from this study. The scores are based on each participant’s average ratings on the 1 to 7 scale.

|  |  |  |  |
| --- | --- | --- | --- |
| Condition | Mean | SD | SE |
| Did not expected to eat | 2.1 | 0.99 | 0.31 |
| Expect to eat | 3.6 | 0.97 | 0.32 |

What type of analysis did the authors use to evaluate the effect of the IV on the DV? Was it reliable (yes/no)? (4 pts)

1. Write out the descriptive and inferential statistics in the standard APA format including all the standard reporting information. (6 pts)
2. Describe two extraneous variables it might be helpful to control if you were designing a follow-up experiment using a similar design. (4 pts)

Question 2. Definitions.

Fill in the blanks with the appropriate terms (3 points each, 30 total):

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ The section of an APA-style research report that reviews the background research used to motivate the hypothesis

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ An incorrect rejection of the null hypothesis.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ The subsection of the Methods section where you indicate who was in the study.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ An experiment where some of the experimenters involved do not know the hypothesis in order to control for bias.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ A type of carryover effect where the participants get better at the task over time.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ What experimenters are protecting when they give participants subject codes and do not share individual participant data.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ A university committee that reviews proposed research and safeguards the rights of human participants.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ The hypothesis that there is no relationship between the variables, that is, the difference levels of the independent variable do not affect the scores on the dependent variable.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ The name of the condition when an extraneous variable changes systematically with an independent variable, creating a lack of internal validity.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ If we are fairly sure that a replication of the experimental procedure would produce the same result, we can say that our experiment has this.

Question 3. In Hamlin et al. (2013), researchers examined the nature and development of attitudes toward similar and dissimilar others in human infancy. They found that infants prefer individuals who treat similar others well and treat dissimilar others poorly. These findings suggest that the identification of common and contrasting personal attributes influences social attitudes and judgments in powerful ways, even very early in life.

One way to test this hypothesis is the following. First infants indicate whether they prefer crackers or peas, and then observed two rabbit puppets also showing food preferences (crackers or peas). The *similar* puppet likes the same food as the infant, the *dissimilar* puppet prefers the other food type. Then one of the two puppets is shown playing with a ball and one of two events occurs, either a *helping* event, where another rabbit comes and retrieves the ball after it falls or a *harming* event where a snake comes and takes the ball away. Finally, the helper/harmer puppet is shown alone to the infant and looking time is measured in seconds. This is a measure of infant preference (because they are pre-verbal) and infants tend to look at objects they like longer before looking away and getting distracted. (35 points total)

1. What type of experimental design is this study? What are the independent variable(s) here? What are their levels? You can answer this with a diagram. (8 pts)
2. Explain how the concept of “double-blind” would apply to best practice for this experiment. (6 pts)
3. In the design above, there is a confounded variable. Identify it, explain the inference problem it creates and explain how you could modify the design to fix this. (6 pts)
4. Suppose it happened that one parent got upset about their child being exposed to watching the harming event and requested the experiment be stopped. What ethical principles apply and what would be the appropriate course of action? (5 pts)
5. In this hypothetical study, the researchers found that infants generally liked the helper puppets more but also found results similar to the Hamlin et al (2013) report (see second sentence of question). Write out the three hypotheses tested in this design in using the study variables and describing the results consistent with this outcome. Fill in the graph below showing how these data might appear visually. (10 pts)

