

Psyc 3101, Homework 2
Due Sept. 11

Write whether each of the following is an experiment (yes or no). **1 point each**

1. Monkeys with and without their prefrontal lobes removed are compared on a working memory task.
Yes. Removing the prefrontal lobes is a manipulation.

2. Monkeys and humans are compared on a working memory task.
No. We can't assign individuals to be monkeys or humans.

3. Humans with and without prefrontal brain injuries are compared on a working memory task.
No. We're not allowed to give people brain injuries.

4. Men and women are compared on a working memory task.
No. We can't assign sex.

5. Performance on a working memory task is compared between people who do and do not have to perform a concurrent complex motor task.
Yes. The researcher can assign people to do the secondary task or not.

6. Describe an example of self-selection. **3 points**

Basketball players tend to be taller, because tall people are more likely to choose to play basketball.

The critical elements here are

- a. multiple groups of people,**
- b. some difference between the groups, and**
- c. that difference arose not as a consequence of being in the group, but because of differences in who chooses to be in what group.**

In an experiment testing whether dogs can count, the experimenter places two buckets in front of the dog, drops several biscuits one at a time into the left bucket, and then does the same with the right bucket. The number of biscuits in each bucket is varied from trial to trial. The experimenter records which bucket the dog goes to. **2 points each**

7. What is the independent variable? **Number of biscuits in each bucket, or which bucket has more**

8. What is the dependent variable? **Which bucket the dog chooses**

9. The results show dogs consistently go to the bucket with more biscuits. Unfortunately, the researcher always put more biscuits in the second bucket, and it turns out dogs just like to go wherever they saw food most recently. What kind of problem is this? **Confound, lack of control, or third-variable problem**

Two-year-olds are shown movies of billiard balls colliding. Some movies are real, and others show impossible events like the second ball moving before the first one hits it. The researcher records how long the subject looks at each movie. Write whether each of the following is a datum, descriptive statistic, estimator, inferential statistic, or parameter. **2 points each**

10. The average amount of time a typical child will look at one of the impossible events.
Parameter. This is a property of the population of all children.

11. The amount of time the 3rd subject looked at the first movie.
Datum. This is a single measurement, which is an element of the sample.

12. The researcher finds a difference in average looking times between possible and impossible movies. She then computes a number that indicates how likely that difference is to be real, as opposed to having happened by chance.
Inferential statistic. Inferential statistics tell us how much we can rely on patterns in the data being reflected in the population.