

Review Questions

- Dr. Owens has developed a well-controlled manipulation which consistently influences responses in her lab, though it is impractical in the real world. Her research can be said to have:
 - low significance
 - low internal validity
 - low external validity
 - low social desirability
 - low reliability
- “Statistical significance” in psychology is generally accepted to be at:
 - $p \leq 0.5$
 - $p = 1.0$
 - $p \leq 0.05$
 - $p \leq 0.02$
 - $p > 0.05$
- Which of the following is NOT a role of informed consent?
 - describe any risks of the study
 - describe any deception used in the study
 - describe the voluntary nature of participation
 - acknowledge agreement to participate
 - provide an overview of the tasks involved
- In order to match the population at her school, Kerry ensured that her survey collected 55% of responses from women and 45% from men. This is an example of:
 - random allocation
 - random sampling
 - naturalistic observation
 - opportunity sampling
 - stratified sampling
- Which measure of central tendency might be best to use when describing the income of individuals in a country?
 - range
 - median
 - mean
 - standard deviation
 - p-value
- As a participant, Shawn isn’t told whether he is receiving a medication or a placebo pill. Which of the following does this aim to reduce?
 - statistical significance
 - ethical considerations
 - observer bias
 - demand characteristics
 - construct validity
- Which correlational coefficient shows the weakest relationship between two variables?
 - $r = +0.1$
 - $r = +0.7$
 - $r = -0.6$
 - $r = -0.9$
 - $r = +0.4$
- Researchers designed an experiment to see if practicing meditation before a math exam improved scores. Some students meditated for 10 minutes before the exam, while others did not. In this case, meditation is the:
 - dependent variable
 - third variable
 - inferential statistic
 - independent variable
 - confounding variable
- The average distance each individual score is from the mean is known as the:
 - p-value
 - correlational coefficient
 - mode
 - mean
 - standard deviation
- Dr. Jones has chosen to measure aggression using a standard scale. In his study, the score on the scale would be the _____ for aggression.
 - extraneous variable
 - control
 - operational definition
 - sample
 - independent variable

Review Questions

1. C - low external validity

External validity refers to how well results can be applied outside the lab. In this case, lab results may be reliable and have high internal validity, but would have low external validity if they can't be applied to real-life.

2. C - $p \leq 0.05$

This is the standard cutoff point for statistical significance, however, it's important to note that this doesn't mean the hypothesis is correct, it just means that the data observed is unlikely to occur by chance.

3. B – describe any deception used in the study

Informed consent is meant to ensure that participants are aware of the tasks and any risks and emphasizes the voluntary nature of participation. Participants may still be deceived about the true nature of the study or the group they are in and this would not be revealed until the debriefing after data has been collected.

4. E – stratified sampling

In stratified sampling, researchers attempt to match the distribution of some characteristic in the population (gender, ethnicity, income, etc.) in their sample with the goal of making the sample representative of the population.

5. B - median

When comparing individual income median is frequently used to reduce the influence of extremely high values (outliers) on the mean. These would lead to a high mean value that would be misleading, while the median (middle score) is less affected by extremes.

6. D – demand characteristics

Demand characteristics can occur when participants change their behavior based on the situation or perceived expectations. Keeping participants blind to conditions can help to reduce this (while blinding data collectors to conditions can reduce observer bias – blinding both is known as a “double-blind” study).

7. A - $r = +0.1$

The correlational coefficient represents the strength of the relationship between 2 variables; this relationship is strongest at +1.0 (perfect positive correlation) and -1.0 (perfect negative correlation) and weakens as it approaches 0 (no correlation).

8. D – independent variable

The independent variable is the variable that is manipulated by researchers (meditation or not) in order to assess if it has an effect on the dependent variable (math exam score).

9. E – standard deviation

The standard deviation is calculated by comparing each individual score to the mean, then computing the average of all of those differences.

10. C – operational definition

An operational definition refers to how a researcher has chosen to define a particular property being studied. In this case, the score on the scale is what Dr. Jones is using to represent aggression. How well a definition represents a property is referred to as “construct validity”.