

Review Sheet Week 11

What is a field experiment?

- You're still manipulating a variable, but the study is done in the field instead of the lab

What are the differences between a lab experiment and a field experiment in terms of internal and external validity?

- Lab experiment: Bring subject into a controlled space, high internal validity, low external validity, reactivity-know you're being measured
- Field experiment: Observe subjects in their natural environment, low internal validity, high external validity, harder to do implement

What is reactivity?

- Knowing your being measured

Please describe each of the following types of descriptive statistics: Frequency, central tendency, and dispersion.

- Frequency: Number of times a given response is reported
- Central Tendency: The point in the distribution where the data are centered
- Dispersion: How spread out the data are

What is skewness? What are the two ways your data can be skewed?

- Concentration of scores around a particular point/value at the low or high end of the scale
- Right skewed and left skewed

What is a mean and how would you calculate it? What level of measurement do you need to calculate a mean?

- Average: Take everyone's score on a variable and divide by the number of participants
- Must have ratio or interval level data, can't use ordinal or nominal

What is the median? How do you calculate the median if there are an even number of respondents?

What level of measurement do you need to get a median?

- The number where 50% of the sample is above and below
- If there's an even number of responses, take the average of the middle two responses
- Must have at least ordinal level data, can't use nominal

What is a mode? What level of measurement do you need to get a mode?

- The response that occurs most often
- Can get a mode with any level of measurement

What do outliers do to the average? Should you report an average with extreme outliers (i.e., should we calculate an average income for the class if Bill Gates walks in the door)?

- Create a right skew or left skew
- You should use medians

What is bimodality? Should you report an average with bimodal data?

- Lots of respondents at both ends of the scale
- Average would likely be in the middle, but you're clearly dealing with two different groups
- Some score patterns have two (or more) central clusters rather than one
- Report Mode

What is a range?

- The difference between the largest and smallest observations

What is deviation/deviance?

- The difference between an observation and the mean for the variable

What is total deviation/sum of squared errors? Why is total deviation not always a useful measure?

- Deviation for you compared to national average was a negative number
- If you added all deviances you would end up with a value of zero (Zero is meaningless)
- To deal with negative numbers, we square each deviance

What is variance?

- Total deviances not useful because you can't compare across samples with different sizes
- The average dispersion (Or the average of the squared deviations)
- It doesn't make sense to say average error in data squared
- Not tied to the measurement you're using