Learning Guide: Sampling Basics

I know that there are a lot of questions here. Sampling is complicated, important, and hard to understand. I apologize for the extensive list of questions, but I start with the assumption that this is your introduction to all concepts in sampling. Some of these questions will be easy for those of you who have previous knowledge and experience, but I would rather include them than cause people to miss important concepts. You should be able to answer these questions after completing the required materials (readings and videos). We will spend time clarifying confusing ideas or concepts that you raise. If you can answer *all* of these questions, you are well advanced and should have no trouble with assignments, 2-5. Some of these concepts are difficult to understand and we can discuss those in class. **I will call on people to answer specific questions.**

1. What is the difference between a sample and a census?

2. What is the difference between a population and a sample?

3. Define the terms theoretical population, accessible population, and sampling frame.

4. Who defines the theoretical population?

5. From a practical perspective, researchers almost always sample from the accessible population rather than the theoretical population. What must the researcher do to establish that the accessible population is a valid choice?

6. What are screening criteria?

7. What is a sampling frame? Give an example.

8. What is the difference between the sample and the respondents?

9. How do you determine the response rate for a sample in a study? (It's very basic math.)

10. Which of the following constitute "non-response"?

    - You are unable to contact someone who was randomly selected
    - Someone declines to participate
    - Someone refuses to sign the informed consent statement
    - Someone starts to complete your on-line **questionnaire** (note, not survey), but stops answering questions at question number 13 out of 20 questions
    - Someone starts to complete your on-line **questionnaire**, but stops answering questions at question number 7 out of 20 questions

11. How can a low response rate affect the generalizability of conclusions in a study?

12. One way to deal with a low response rate is replacement. What kinds of biases can be introduced into a sample when you have to replace a lot of participants?

13. How can faulty or poor replacement practices affect the internal validity, external validity, and explanatory power of a study?

14. What are some of the problems associated with sampling through third parties (like Qualtrix)?

15. A general objective in sampling is to maximize between-group variance for comparison groups and minimize variance within each group. Explain what this means and why researchers need to do this.

16. What is the difference between the results of a study and the conclusions the researcher draws?

17. What is sample bias? Try to give an example of how sample bias can occur.

18. What is effect size?

19. What is the difference between effect size and significance level?

20. What role does effect size play in determining (1) sample size and (2) generalizing statistical results and general conclusions?

21. How do you know what effect size you need for a result to be both statistically significant ***and*** meaningful?

22. Should you even worry about effect size if you are not taking a random sample?