

AP Statistics

Unit 03 – Sampling & Experiments
Day 08 Notes – Using Studies Wisely

Name Key
Period _____

Data Ethics

Do you think that the following scenarios are ethical? Why or why not?

- a) A promising new drug has been developed for treating cancer in humans. Before giving the drug to human subjects, researcher want to administer the drug to animals to see if there are any potentially serious side effects.

- b) Are companies discriminating against some individuals in the hiring process? To find out, researchers prepare several equivalent resumes for fictitious job applicants, with the only difference being the gender of the applicant. They send the fake resumes to companies advertising positions and will keep track of the number of males and females who are contacted for interviews.

- c) Will people try to stop someone from driving drunk? Television news program hires and actor to play a drunk driver and uses a hidden camera to record the behavior of individuals who encounter the driver.

Principles for Basic Data Ethics

Studies carried out or funded by the federal government obey these principles

- 1) **Institutional review board:** *A board of people who go over planned studies to protect the rights of the subjects*
 - The boards purpose is to protect the rights and welfare of **human** subjects (including patients) recruited to participate in research activities
 - Reviews and can require changes
 - Makes sure that the subjects are informed about the nature of the study and any potential risks
 - Once study begins, the board monitors its progress at least once a year

2) **Informed Consent:** *Subjects must be aware of details about an experiment and agree to participate.*

- Subjects must be informed in advance about the nature of a study and any risks of harm it may bring (physical, emotional, mental, etc.)
- Subjects should be told what kinds of questions the survey will ask
- Subjects should be told how much of their time it will take
- Subjects **MUST** consent in writing

3) **Confidentiality:** *personal information is not shared with the audience; only statistical summaries are shared.*

- Studies may be vague about controversial issues but may not mention names unless given permission
- **Anonymity:** the individuals are anonymous (names are not known even to the director of the study)
- Anonymity prevents any follow-up to improve nonresponse or inform individuals of results

Activity:

In this activity, your team will design and conduct an experiment to investigate the effects of response bias in surveys. You may choose the topic for your surveys, but you must design your experiment so that it can answer at least one of the following questions:

- Can the wording of a question create response bias?
- Do the characteristics of the interviewer create response bias?
- Does anonymity change the responses to sensitive questions?
- Does manipulating the answer choices change the response?

Write a proposal describing the design of your experiment. Be sure to include:

- a) Your chosen topic and which of the above questions you'll try to answer.
- b) A detailed description of how you obtain your subjects (minimum of 50). Your plan must be practical. *Sampling method*
- c) What your questions will be and how they will be asked.
- d) A clear explanation of how you will implement your design. *4 principles*
- e) Precautions you will take to collect data ethically.
- f) A group paper will be turned in at the end of the period (please include all names of group members).

Example:

Make-up. All questions were asked to males

- 1) "Do you find females who wear makeup attractive?"
Questioner wearing makeup. 75% answered yes.
- 2) "Do you find females who wear makeup attractive?"
Questioner not wearing makeup. 30% answered yes.