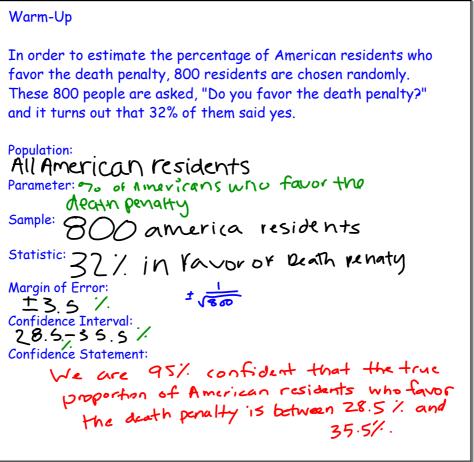


Mar 4-7:54 AM



Dec 18-11:24 AM

Good Sampling Methods

The goal is to truly estimate the population parameter.

Sampling frame is the list of the population.

Oct 8-10:29 PM

How do you choose a good sample?

Make it random
Every individual has the same chance of
getting chosen
Use a random number table
Low bias and Low Variability

Simple Random Sample (SRS)

Selecting individuals from one big list (give every individual its own number) using a random number table.

Every single member of the population has an equal chance of being selected.

Oct 8-10:29 PM

Simple Random Sample (SRS)

Step 1: Label Step 2: Table

I am going to choose 5 students to give a piece of candy to. OI - AI

ignore 00, 22-99

Assign a number to each student.

Use a line on the random number table and keep going until I have chosen 5 students.

Practice: I want to choose an SRS (Simple Random Sample) of 7 employees for a drug test. Use line 141 on the random number table. Describe your process.

```
ol Al OFFiona 15 Mike 22 Sara
ola Andrewo Phil 16 Matt 23 Sam
ola Bob 10 Gary 12 Maddie 24 Stan
ola Barry 11 Harry 18 Patty 25 Wesley
ola Betty 12 Haley 19 Patrick 13 nove 00
ola Chaz 13 Lee 20 Robert 14 26-99
ola Frank 14 Leslie 21 Rick
```

Nov 17-8:25 PM

Sampling Methods

1. Voluntary Response -

When the sample chooses themselves by responding to a general appeal.

2. Convenience Sampling -

Choosing individuals because they are the easiest to reach.

Points About Bad Sampling Methods:

- the word random is nowhere to be found.
- most of the results published in the media use these methods

Nov 18-11:06 PM

ERRORS IN SAMPLING

- 1. Sampling Errors
- bad sampling methods
- too small of a sample
- undercoverage (groups are missing)
- random sampling error (no way to avoid)
- 2. Nonsampling Errors
- non response bias (people refuse to answer or are unavailable)
- wording of the question
- response bias (people are untruthful or memory isn't great)
- processing errors

The poll is based on a landline, random-digit dial survey. From a randomly selected sample of active Minnesota telephone exchanges, random digits were added to form a complete telephone number, thus permitting access to both listed and unlisted numbers. Within each household, one adult was selected to be the respondent for the survey.

The survey data has also been weighted to accommodate for factors such as the number of telephone lines, cell phone usage, gender, age, race and ethnicity to approximate the demographic characteristics of the state's population according to the Census.

Why type of error, if any, is there in this survey?

Nov 18-11:09 PM

What type of error, if any, is there here?

Survey Question: "Given these difficult economic times, how likely are you to continue shopping at Lund's?"

"Do you think women and children should be given the first available flushots?"

"Don't you think that suffering terminal cancer patients should be allowed to be released from their pain?"

Principles of Good Experimental Design

- 1. **Randomization--**randomly assign subjects to treatment groups
- 2. **Control-**there should be a control group (a group that does not receive the treatment)
- 3. **Replication--**there should be a large enough number of subjects so that the results seem believable and the experiment should be able to be replicated (repeated with similar results) on a different group of subjects

Nov 22-9:22 PM

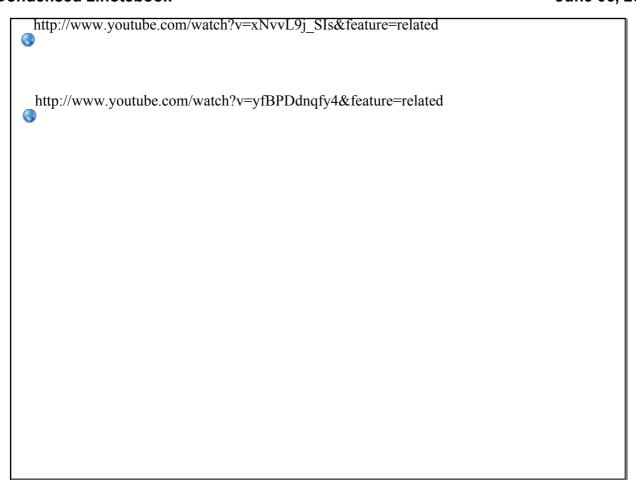
More Experiment Vocabulary

<u>Control Group:</u> A group that receives a placebo, no treatment or a different treatment than the one being studied. Results of the "real" treatment are compared to this group to see if the results are significant.

Single Blind Experiment: When the subject doesn't know which treatment they are receiving.

<u>Double Blind Experiment:</u> When neither the subjects nor the people working with them (the people running the experiment) know which treatment the subjects are receiving.

BLIND EXPERIMENTS HELP REDUCE BIAS!!!!



Mar 4-7:47 AM

Sec. 4.2 #4

Sec. 4.3 #1

Sec. 4.6 #4, 6, 15