Non-Probability Sampling

- **availability sampling**
  select units that are available or easy to find.

- **snowball sampling**
  begin with one member of the target population, speaks to him/her, then asks that person to identify others

Quiz!

Imagine you want to sample 100 members of the Freemasonry organization to interview them about something. Which of the sampling procedures described above might be most effective and efficient? Why?

Survey

A survey collects information from a sample of units through their responses to questions.

Examples: the American National Election Studies
          the Wisconsin Longitudinal Survey
          the National Crime Victimization Survey
Attractive Features of Survey

versatile: (almost) any topic

efficient: asking a lot of questions relatively quickly at relatively low cost

generalizable: conclusions can be generalized to a large population when appropriate sampling methods are used.

Questionnaire

A questionnaire...a set of questions...is the central feature of a survey process.

Questionnaire

types of questions:

open-ended question: without explicit response choices; for explorative purposes or obtaining detailed information.

example: In your opinion, what have been the benefits of the community policing program in your neighborhood?

Questionnaire

types of questions:

fixed-response question: with explicit response choices; easy to process, less ambiguity

example: Overall, would you say that personal safety in this country has improved since you were a child, gotten worse since you were a child, a stayed about the same?

___ Improved

___ Gotten worse

___ Stayed about the same
**Questionnaire**

procedures to be considered in designing a questionnaire:

- maintain focus: keep your research question in mind
- construct questions:
  1. Make sure the validity of the questions.
  2. The same questions must be used with each person.
  3. Avoid confusion: grammar, concise, etc.

**Stanford Prison Experiment**

Male college students needed for psychological study of prison life. $85 per day for 1-2 weeks beginning Aug 14. For further information & applications, come to Room 248, Jordan hall, Stanford U.

24 out of 75 male students selected.
randomly assigned a role, prisoner or guard.
results: guards become sadists and prisoners depressed.
conclusion: behaviors are situational, rather than dispositional.


**Is it ethical?**
Syphilis Experiments in Guatemala

In 1946 to 1948, the United States experimented with > 1,000 residents of Guatemala to determine the efficacy of drugs like penicillin to treat and prevent syphilis, gonorrhea, and chancres. Unfortunately, researchers not only treated infected individuals, but to increase their sample size, actually infected some individuals.

Belmont Report (1979)

- **respect for persons**: treating person as autonomous agents
- **beneficence**: minimizing possible harms and maximizing benefits
- **justice**: distributing benefits and risks of research fairly.

Ethical Principles

- **achieving valid results**
  The research must be motivated and justified to seek objective knowledge.

- **honesty and openness**
  Disclose how the research will be conducted
Ethical Principles

- protecting participants
- no more than minimal risk of harm
- fully disclose the purpose of the research
- voluntary participation and informed consent
- confidentiality

Conclusions

Most scientists are well-intentioned, sensitive, and careful.

- a realistic assessment of risk and benefit
- submit research proposals to the Institutional Review Board (IRB)

Discussions

Should criminologists be permitted to conduct replications of the Stanford prison experiment?

If yes, can you justify such research within the current ethical standards?

If not, do you believe that these standards should be altered so as to permit this type of research?

Exam Review

Exams must be taken at the scheduled date and time unless...

1. You provide verifiable documents of unforeseen illness or family emergency, or notify ME in advance of religious observance or mandatory University-sponsored event that precludes your taking the exam;

   AND

2. You arrange with ME to schedule a make-up date and time.
Exam Review

Each exam covers lectures from since the previous exam and up to the exam date.
Questions will consist of a mix of short answers and computational problems.
"Semi-open note" exams...
ONE sheet of paper with formulas, definitions, and other information, written on both sides.
Write your name at the top of this sheet, enclose it inside your exam booklet, and turn them in at the end of the exam period.

Exam Review

differences between scientific research and non-scientific research
differences between a topic and a research question
types of scientific study: experiment vs observational study
anchoring effect

Exam Review

the research cycle...

research question

scientific method to collect
scientific method to analyze

data

conclusion

Exam Review

Data collection: how to collect valid data

Part I: variable and validity
Part II: sampling and generalizability
types of variables:

**continuous variable**: the observation can be categorized using numeric values

**discrete variable**: the observation can be categorized only in non-numeric attributes
  - nominal: no intrinsic ordering
  - ordinal: some ordering

---

types of variables: continuous or discrete variable?

- household income
- car type
- social class
- weight
- country of birth

---

population
- all of the units about which we wish to draw conclusions about

sample
- a subset of the population
  - the subset that we actually observe/interviewed/surveyed

size
- the number of units

---

CNN/ORC Poll results: “Clinton, Sanders in a dead heat for Nevada” (Feb 17, 2016). It was based on phone interviews on Feb 10-15 with 282 Democratic likely caucus goers among 1,006 adult Nevadans, among whom 48% supported Clinton and 47% supported Sanders.

1. Polls—like social surveys—are tools for studying some population. What population is being studied in this poll?

2. Was the entire population observed, or some sample of that population? If a sample, how was that sample selected? And how big was it (sample size)?

3. What the variable was measured about each individual?

4. What type of variable is it?
Sampling: the process of selecting units from the population for inclusion in the sample

**probability sampling:** prior knowledge about probability of selection
- simple random sampling
- stratified sampling

**non-probability sampling:** no such prior knowledge
- availability sampling
- snowball sampling

---

Exam Review

In simple random sampling, what is the **probability of selecting** an individual in the US population ($N=321.8$ million)... when sample size $n = 1000$?

---

Exam Review

What could go wrong?

**selection bias**
- the procedure used to sample cases from the population is flawed

**non-response bias**
- the cases selected to be in the sample cannot be included or refuse to be included in the sample

**measurement error**
- our measures of sample units’ attributes are flawed

---

Exam Review

survey and questionnaire

types of questions in a questionnaire
Exam Review

ethical principles

1. achieving valid results
2. honesty and openness
3. protecting participants
   - no more than minimal risk of harm
   - fully disclose the purpose of the research
   - voluntary participation and informed consent
   - confidentiality

Worksheet: the Stanford Prison Experiment

research question

variables:

research method:

population:

taxpling strategy:

sample size: