Introduction

The purpose of this lecture is to find out how many Americans (actually) use various intoxicating drugs.

- “What PERCENTAGE Americans used ‘Ice’ or marijuana in the past year?” (rates are same thing as a percentage – expressed differently)
  \[
  \text{Rate} = \frac{\#\text{ per 100,000 US residents}}{}
  \]
  (Raw numbers are useless)

- This lecture is a companion to the lectures “Types of Drugs and Modes of Ingestion” and “Drugs and Usage Rates.”

Completely Ignore the Media’s Coverage of Drug Use (and drugs)

- I’m Serious!

Why to Completely Ignore the Media

- Drugs/drugs news is “info-tainment” – not objective description
- Purpose of the news is profit not objective information
  - Reporters are “good people in an impossible situation”
  - Problems with media information: few cases, expert opinions (w/ fancy backgrounds), extreme examples of drug users presented as “normal,” 8 second sound bites and or short quotes
Academia is the Best Source of Drug Use Information

- While not perfect, academic information is the best source of ‘accurate’ information about drug use. Gov’t funded studies done using academic principles.
- Social Scientists follow rules that help gather objective information about the social world.
- Social Science information not perfect, but it is better than philosophizing under the coconut tree – i.e. using your biased opinion to describe drug use.
- Next few slides taken from another lecture, but they apply here (new audio)

Samples and Populations

- There are “rules” or “assumptions” for collecting data
- Social Science (and science in general) studies the world by taking samples from populations and hoping the sample is representative of the population
- Sampling is incredibly complex!
  - Able to accurately represent all US voters with a sample of a couple of thousand voters

Infer From Sample to Population

- Population
  - Made up of sampling elements
  - Then we infer from sample back to population
  - Sample is a portion or subset of the population

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Defining Populations and Samples

Researcher decides upon the group of people she wishes to study. This group is called a "population." "A complete collection of measurements, objects, or individuals under study."

Researcher studies a portion or subset taken from that population which is called a "sample"

Researcher defines the population she wishes to study! This is an intellectual act! So all researchers, on their own, how to define the population they wish to study.

Definitions

Population is made up of Sampling Elements. Sampling Elements = the exact thing the researcher wishes to study. Most of the time they are individual people

A sampling element is the exact unit of analysis

So we select a number of the sampling elements from the population, study them, and hope they are representative of the rest of the population. We "infer" from the sample to the population.

Because we do not study everyone in the population there is always some error when we "infer"

Inferential Statistics Require Probability Samples with Random Selection

Remember, we study a sample from the population and then infer from the sample to the population. We hope that the sample is "representative" of the population!

"Inferential Statistics" are the basis of much of "modern" science!

Inferential statistics require "probability samples" with "random selection"
Probability vs. Non-Probability

Probability Sample = we know in advance the likelihood (the probability!) that a sampling element from the population will be selected into the sample. Plus, these sampling elements must be chosen by “random selection” – like in bingo or keno.

Think of “random sample” which comes from the most basic type of probability sample – a “simple random sample.”

Non-probability sample = we do not know this likelihood or probability in advance.

Almost all student projects will use a non-probability sample!

Matching Populations, Sampling Frames, and Sampling Elements

Good probability samples depend upon having a sampling frame that is representative of the population.

When we make a list that operationalizes our population and closely approximates all of the sampling elements in our population we have created a sampling frame. A sampling frame is the list (or group) from which I will “pick people to be in my study.”

A good sample is dependent upon a good match between the sampling frame and the population. (The population is made up of sampling elements.)

It is very difficult to find a sampling frame for any “deviant” population—don’t throw the baby out with the bath water!
Good and Bad Matches

Perfect Matches (hard to find any for crime)
Registered voters (population) and voter registration list (sampling frame).
UH students (population) and registered student records.

Good Matches
Phones to reach homeowners, phones to reach voters, phones to reach taxpayers (assume random digit dialing)

Bad Matches
Phones to reach any poor population: uninsured women in need of prenatal care, the homeless, Using convicted car thieves to reach "all car thieves."
Treatment populations to reach drug users.
What about phones to reach "all victims of crime?"

Traditional Problems with Drug Research

- Because of the problems of coming up with a probability sample of drug users, most drug research has traditionally used samples (i.e. "sampling frames") from treatment, criminal, and college populations
- Each of these are problematic as they aren't representative of the "general population" of drug users.
- Treatment populations = by definition made up of the most problematic and extreme drug users.
- Criminal Populations = very similar to treatment populations as biased towards extreme and problematic drug users.
- College Populations = by definition more educated, less ethnically diverse, and tend to be of higher socio-economic status

2 "Nationally Representative" Surveys

- Monitoring the Future (MTF)
  - MTF annually collects information about drug use, demographics, and lifestyle from a nationally representative sample of high school seniors, and has conducted follow-up interviews with a subset of each graduating class since 1976 (Harrison, 1995). It has information about 8th and 10th graders too. It is an in class survey.

- National Survey of Drug Use and Health (NSDUH) formerly called "National Household Survey on Drug Abuse" (NHSDA)
  - this survey collects information about the drug use of the US household population aged 12 and over.
Problems With 2 Surveys

- The problems w/ MTF are obvious: it’s an in class survey of HS seniors. Think about that for a moment.
- Problems w/ “household survey” similar.
- Each is VERY useful but “superficial” [That is the nature of “fill in the dots” surveys]
  - Example: Not all “Daily” users are the same -- can be very different types of drug users

So Now What?

- Ethnography
  - What is it
  - Pros and Cons
- Combining Info From Nationally Representative Surveys and Ethnography gives most complete view possible