

DATA COLLECTION & SAMPLING

The Local Landscape | Fall 2017



Preparing for data collection

Increase background knowledge



- Research Plan
- Field Recon
- Test field methods

Field reconnaissance



- Visit geographic location to walk around and observe
- Pilot study – initial run through of data collection methods

Research plan



- Operational definitions
- Geographic units
- Defining Study Area
- Literature Review
- Base Map
- Sampling

Getting data

- Where can I find GIS/mapping data?
 - Portland Civic Apps
 - Metro RLIS (Regional Land Information Systems)
 - Oregon Geospatial Data Library
 - US Census Bureau
 - Simply Map
 - <http://guides.pcc.edu/geography>
 - <http://www.christinafriedle.com/gis-data-links.html>



How much data is enough?

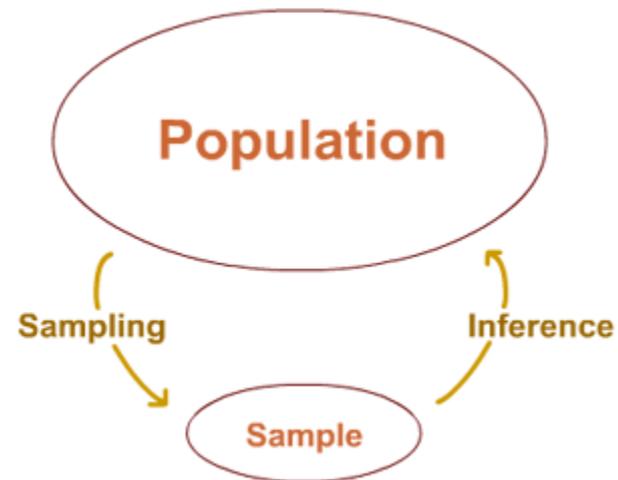
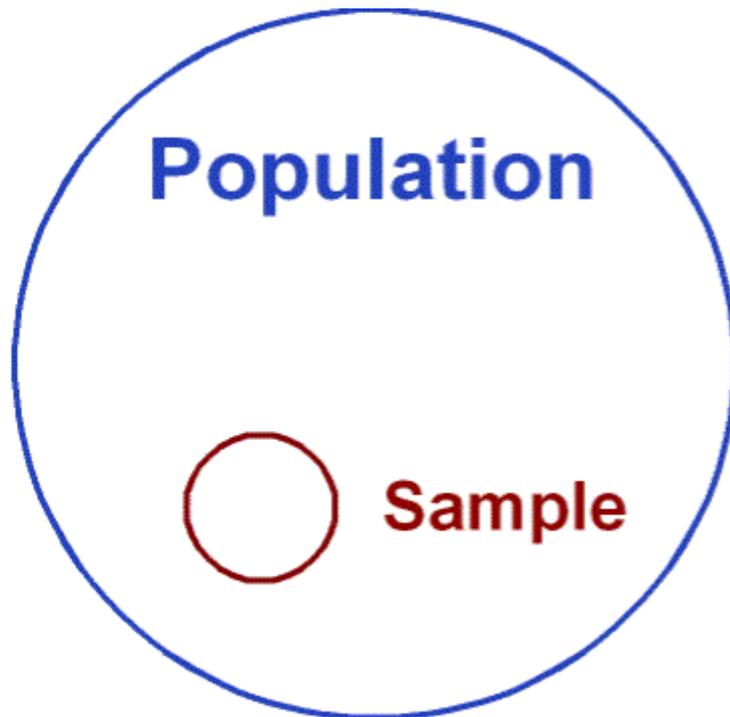
Sampling

What is a sample?

- A subset of the population for your study area/research
- It is not always (usually) necessary to collect information from every person in the community
- Subset should accurately represent the characteristics of the total population

What is a population?

- The aggregate or totality of individuals about which inferences or generalizations are made from your research



Sampling in qualitative research

- Samples sizes are usually small
- Keep collecting data until nothing new comes out of the data

What determines sample size?

- Based on:
 - ▣ Research goals and objectives
 - ▣ Characteristics of the population (size and diversity)

Research objectives & sampling

- Three distinct types of objectives:
 - to **describe** the phenomena occurring within a specified area,
 - to **develop general principles** of location,
 - to **apply** the principles of geography to a specific problem

To describe



- Does not generally sample because the goal is to enumerate as many phenomena as possible

To develop general principles



- Requires the researcher to know how the specific subset of individuals (objects, persons, events, areas) are related to the total population about which principles will be developed

To apply

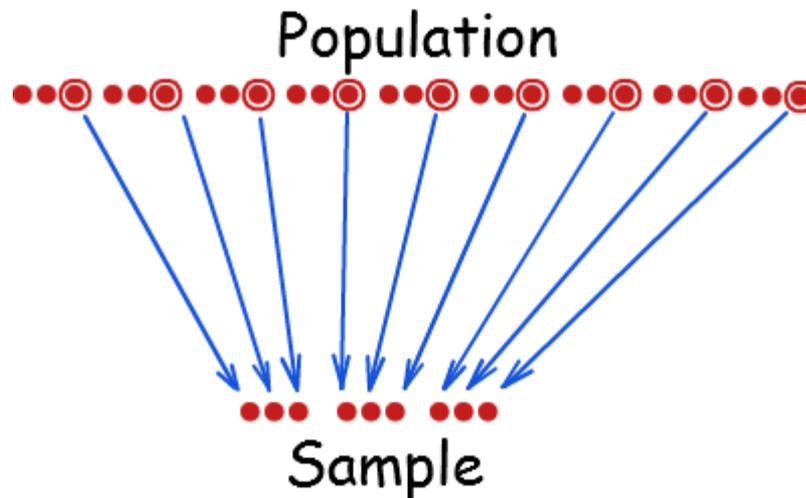
- Ensure that the specific study area/sample is a member of the population to which the general principles pertain



Types of Sampling

Random sampling

- To keep sampling unbiased, random sampling gives each individual of the population an equal chance of being selected
- Example:
 - ▣ Choosing every 5th house on the block to interview or survey



Unrestricted, random sample

- n units are obtained from a population of N units in a way that each unit has an equal and independent chance of being chosen
- How is this implemented?
 - ▣ numbering the population units from 1 to N , and then drawing a set of random numbers from a collection of numbers 1 to N
 - ▣ "Drawing" the random numbers may be carried out by picking numbered papers from a bag, using a Table of Random Numbers or by generating a set of random numbers from a computer

Haphazard/Accidental sampling

- Choosing individuals arbitrarily without any conscious attempt by the researcher to pick particular members of the population
- Factors that affect human decisions invariably create a biased sample

Purposive sampling

- Select participants that are likely to generate useful data for the project
- Ensure that the you choose an indicative sample that is seen as credible - statistical representativeness is not the aim
- Minimize sample bias
- Recognize that the sample will not represent the entire population, therefore you cannot make claims for the whole population

Purposive sampling

- Groups participate based on a preselected criteria relevant to the research question
- Example:
 - ▣ Places that offer services to homeless
- Sample size depends on:
 - ▣ Study area
 - ▣ Time
 - ▣ Resources
 - ▣ Theoretical saturation (the point when new data no longer brings additional insights)

Quota sampling

- When designing the study, decide how many people with which characteristics to include as participants
- Characteristics might include age, place of residence, gender, profession, marital status, location, size, etc.
- Example:
 - ▣ Wild spaces in Portland – 5 from each quadrant of the city, 2 of which are larger than 10 acres.
 - ▣ Restaurant preference – 10 males, 10 females, half of which are between 18-30 and the other half 30+

Snowball sampling

- Participants with whom contact has already been made use their social networks to refer the researcher to other people who could potentially participate
- Snowball sampling is often used to find and recruit groups not easily accessible to researchers through other sampling strategies

Overview of sampling strategies

Type of Sampling	Purpose	Example
Intensity sampling	To provide rich information from a few select cases that manifest the phenomenon intensely but are not extreme cases	Interviewing LGBTQ homeless to understand how they came to be homeless
Deviant case sampling	To learn from highly unusual manifestations of the phenomenon in question	Interviewing people that only use plastic bags in a community where it is common for people to typically use re-usable ones
Stratified (Quota) sampling	To illustrate characteristics of particular subgroups of interest; to facilitate comparisons	Collect data about restaurant preference from different sexes, age groups, and socioeconomic status

Overview of sampling strategies

Type of Sampling	Purpose	Example
Snowball or chain sampling	To facilitate the identification of hard-to-find cases	Finding out about other graffiti artists in town by asking the few that you already have identified
Maximum variation sampling	To document diverse variations; can help to identify common patterns that cut across variations	Looking at the use of paper v plastic v reusable bags by going to stores of varying sizes, in varying locations, and selling a variety of goods
Convenience sampling	To save time, money and effort. Information collected generally has very low credibility	If going door-to-door interviewing, using a sample based on who answered the door and your questions the day you went out to collect data

Overview of sampling strategies

Type of Sampling	Purpose	Example
Criterion sampling	To investigate in depth a particular “type” of case; identify all sources of variation	Interviewing only people who have filed a noise complaint about the trains