

Primary & Secondary Data Definitions

Primary Data: Data that has been generated by the researcher himself/herself, surveys, interviews, experiments, specially designed for understanding and solving the research problem at hand.

Secondary Data: Using existing data generated by large government Institutions, healthcare facilities etc. as part of organizational record keeping. The data is then extracted from more varied datafiles.

Supplementary Data: A few years ago the [Obama Administration](#) judged that any research that is done using Federal Public funds should be available for free to the public. Moreover Data Management Plans should be in place to store and preserve the data for almost eternity. These data sets are published as Supplementary Materials in the journal literature, and data sets can be downloaded and manipulated for research.

NOTE: Even though the research is Primary source, the supplemental files downloaded by others become Secondary Source.

Pros and Cons for each.

Comparison Chart

BASIS FOR COMPARISON	PRIMARY DATA	SECONDARY DATA
Meaning	Primary data refers to the first hand data gathered by the researcher himself.	Secondary data means data collected by someone else earlier.
Data	Real time data	Past data
Process	Very involved	Quick and easy
Source	Surveys, observations, experiments, questionnaire, personal interview, etc.	Government publications, websites, books, journal articles, internal records etc.
Cost effectiveness	Expensive	Economical
Collection time	Long	Short
Specific	Always specific to the researcher's needs.	May or may not be specific to the researcher's need.

BASIS FOR COMPARISON	PRIMARY DATA	SECONDARY DATA
Available in	Crude form	Refined form
Accuracy and Reliability	More	Relatively less

Quantitative & Qualitative Research Methods

Quantitative Research Definition: Data that can be measured, quantified. Basically **Descriptive Statistics**.

Read: [Introduction to Quantitative Methods](#)

Qualitative Research Definition: Data collected that is not numerical, hence cannot be quantified. It measures other characteristics through interviews, observation and focused groups among a few methods. It can also be termed as "**Categorical Statistics**".

Read: [Qualitative methods in public health](#)

Mixed methods research. When quantitative and qualitative research methods are used.

Qualitative Research Methods:

Method	Overall Purpose	Advantages	Challenges
Surveys	<ul style="list-style-type: none"> Quickly and/or easily gets lots of information from people in a non threatening way 	<ul style="list-style-type: none"> can complete anonymously inexpensive to administer easy to compare and analyze administer to many people can get lots of data many sample questionnaires already exist 	<ul style="list-style-type: none"> might not get careful feedback wording can bias client's responses impersonal may need sampling expert doesn't get full story
Interviews	<ul style="list-style-type: none"> Understand someone's impressions or experiences Learn more about answers to questionnaires 	<ul style="list-style-type: none"> get full range and depth of information develops relationship with client can be flexible with client 	<ul style="list-style-type: none"> can take time can be hard to analyze and compare can be costly interviewer can bias

Method	Overall Purpose	Advantages	Challenges
			client's responses
Observation	<ul style="list-style-type: none"> Gather firsthand information about people, events, or programs 	<ul style="list-style-type: none"> view operations of a program as they are actually occurring can adapt to events as they occur 	<ul style="list-style-type: none"> can be difficult to interpret seen behaviors can be complex to categorize observations can influence behaviors of program participants can be expensive
Focus Groups	<ul style="list-style-type: none"> Explore a topic in depth through group discussion 	<ul style="list-style-type: none"> quickly and reliably get common impressions can be efficient way to get much range and depth of information in short time can convey key information about programs 	<ul style="list-style-type: none"> can be hard to analyze responses need good facilitator for safety and closure difficult to schedule 6-8 people together
Case Studies	<ul style="list-style-type: none"> Understand an experience or conduct comprehensive examination through cross comparison of cases 	<ul style="list-style-type: none"> depicts client's experience in program input, process and results powerful means to portray program to outsiders 	<ul style="list-style-type: none"> usually time consuming to collect, organize and describe represents depth of information, rather than breadth

Primary Data Sources

A primary source provides direct or firsthand evidence about an event, object, person, or work of art. Primary sources provide the original materials on which other research is based and enable students and other researchers to get as close as possible to what actually happened during a particular event or time period. Published materials can be viewed as primary resources if they come from the time period that is being discussed, and were written or produced by someone with firsthand experience of the event. Often primary sources reflect the individual viewpoint of a participant or observer. Primary sources can be written or non-written (sound, pictures, artifacts, etc.). In scientific research, primary sources present original thinking, report on discoveries, or share new information.

Examples of primary sources:

- Autobiographies and memoirs
- Diaries, personal letters, and correspondence
- Interviews, surveys, and fieldwork
- Internet communications on email, blogs, listservs, and newsgroups
- Photographs, drawings, and posters
- Works of art and literature
- Books, magazine and newspaper articles and ads published **at the time**
- Public opinion polls
- Speeches and oral histories
- Original documents (birth certificates, property deeds, trial transcripts)
- Research data, such as census statistics
- Official and unofficial records of organizations and government agencies
- Artifacts of all kinds, such as tools, coins, clothing, furniture, etc.
- Audio recordings, DVDs, and video recordings
- Government documents (reports, bills, proclamations, hearings, etc.)
- Patents
- Technical reports
- Scientific journal articles reporting experimental research results

Common Data Types in Public Health Research

Data Types

Quantitative Data

- Quantitative data is measurable, often used for comparisons, and involves counting of people, behaviors, conditions, or other discrete events (Wang, 2013).
- Quantitative data uses numbers to determine the what, who, when, and where of health-related events (Wang, 2013).
- Examples of quantitative data include: age, weight, temperature, or the number of people suffering from diabetes.

Qualitative Data

- Qualitative data is a broad category of data that can include almost any non-numerical data.
- Qualitative data uses words to describe a particular health-related event (Romano).
- This data can be observed, but not measured.
- Involves observing people in selected places and listening to discover how they feel and why they might feel that way (Wang, 2013).
- Examples of qualitative data include: male/female, smoker/non-smoker, or questionnaire response (agree, disagree, neutral).

- Example of qualitative data from a health care setting includes ([Curry, Nembhard, & Bradley, 2009](#)):
 - Measuring organizational change.
 - Measures of clinical leadership in implementing evidence-based guidelines.
 - Patient perceptions of quality of care.

Data Sources

Primary Data Sources

- Primary data analysis in which the same individual or team of researchers designs, collects, and analyzes the data, for the purpose of answering a research question (Koziol & Arthur, nd).
- Advantages to Using Primary Data
 - You collect exactly the data elements that you need to answer your research question (Romano).
 - You can test an intervention, such as an experimental drug or an educational program, in the purest way (a double-blind randomized controlled trial (Romano)).
 - You control the data collection process, so you can ensure data quality, minimize the number of missing values, and assess the reliability of your instruments (Romano).

Secondary Data Sources

- Existing data collected for another purposes, that you use to answer your research question (Romano).
- Advantages of Working with Secondary Data
 - Large samples
 - Can provide population estimates : for example state data can be combined across states to get national estimates (Shaheen, Pan, & Mukherjee).
 - Less expensive to collect than primary data (Romano)
 - It takes less time to collect secondary data (Romano).
 - You may not need to worry about informed consent, human subjects restriction (Romano).
- Issues in Using Secondary Data
 - Study design and data collection already completed (Koziol & Arthur, nd).
 - Data may not facilitate particular research question o Information regarding study design and data collection procedures may be scarce.
 - Data may potentially lack depth (the greater the breadth the harder it is to measure any one construct in depth) ([Koziol & Arthur, nd](#)).
 - Certain fields or departments (e.g., experimental programs) may place less value on secondary data analysis (Koziol & Arthur, nd).
 - Often requires special techniques to analyze statistically the data.

Primary and Secondary Legal Sources

The materials used for legal research are generally divided into two broad categories: **primary sources** and **secondary sources**. Primary legal sources are the actual law in the form of constitutions, court cases, statutes, and administrative rules and regulations. Secondary legal sources may restate the law, but they also discuss, analyze, describe, explain, or critique it as well. Secondary sources are used to help locate primary sources of law, define legal words and phrases, or help in legal research. In short, anything that is more than the actual law is considered a secondary source.

Examples

Primary law consists of sources that state the actual law. These sources include:

- Constitution (either federal or state)
[United States Constitution, Washington State Constitution]
- Statutes (laws enacted by legislatures); municipal codes (enacted by local councils)
[United States Code, Revised Code of Washington, King County Code, Seattle Municipal Code]
- Cases (opinions handed down by courts)
[United States and state appellate courts, including the U.S. Supreme Court and WA State Supreme Court]
- Rules and Regulations (established by administrative government agencies)
[examples include U.S. Environmental Protection Agency, WA State Department of Social and Health Services]
- Treaties
[Geneva Convention, North American Free Trade Agreement, Worldwide Chemical Weapons Convention]

Secondary Law consists of sources that explain, criticize, discuss, or help locate primary law. Examples of secondary legal sources include:

- Legal dictionaries
[*Black's Law Dictionary, Nolo's Plain English Law Dictionary*]
- Legal encyclopedias and digests
[*Gale Encyclopedia of American Law, American Jurisprudence, Washington Digest*]
- Law reviews and journals
[*Virginia Law Review, Seattle University Law Review, Yale Law Journal*]
- Legal treatises, nutshells, hornbooks, deskbooks
[*Criminal Law in a Nutshell, Principles of Employment Law, American Constitutional Law, Washington Civil Procedure Deskbook*]
- Manuals and guides on how to practice law
[*Washington Practice, Washington Lawyers Practice Manual*]

Seeing the Difference

The U.S. Supreme Court decision of *Brown v. Board of Education* 347 U.S. 483 (1954) was a landmark case in which the Court declared that state laws allowing for separate public schools for whites and blacks were unconstitutional. The actual case is primary law. The book *Simple Justice : the History*

of *Brown v. Board of Education and Black America's Struggle for Equality* discusses the case and its historical context and is a secondary legal source. The *Gale Encyclopedia of American Law* has an article on the case analyzing it, and is a secondary legal source.

The Fourth Amendment to the U.S. Constitution states that "The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized." Because this is straight from the actual Constitution, it is primary law. The 2012 *William and Mary Law Review* article "The Fourth Amendment Rights of Children at Home: when Parental Authority Goes Too Far," is an analysis and discussion of one aspect of the Fourth Amendment. This makes it a secondary legal source.

References:

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