

Methodological Approaches and Strategies

SOAR - Humanistic Social Sciences

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Welcome!



About Me

- she/her
- B.S. in Public Health from UAB in 2022
- PhD in Economics from Emory in 2027 (hopefully)
- baker of 'famous' cinnamon rolls

Defining your Question

“Research is formalized curiosity. It is poking and prying with a purpose.”

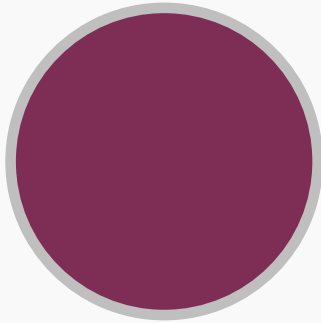
- Zora Neale Hurston

- often start off very broad
- narrowing the question makes it operational
- often has the form “what is the effect of x on y ?”

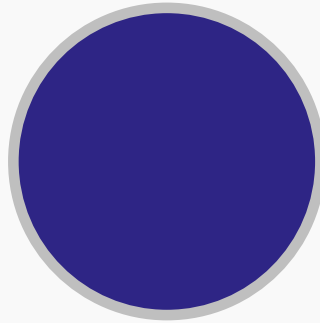
- **Null Hypothesis (H_0)** - predicts that no effect exists
- **Alternative Hypothesis (H_1)** - predicts that an effect exists
- **Independent Variable (X)** - variable researcher manipulates
- **Dependent Variable (Y)** - variable being measured, or outcome

Alternate Reality - Natural Sciences

Treatment

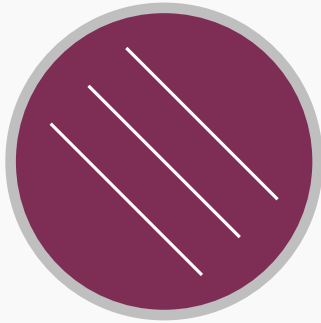


Control

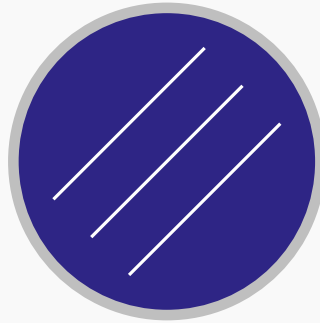


Alternate Reality - Natural Sciences

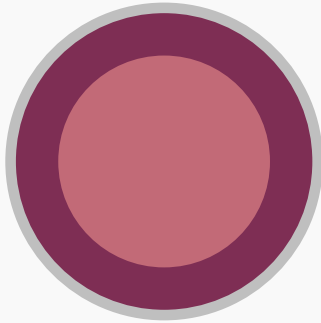
Treatment



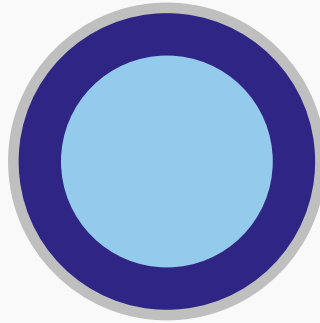
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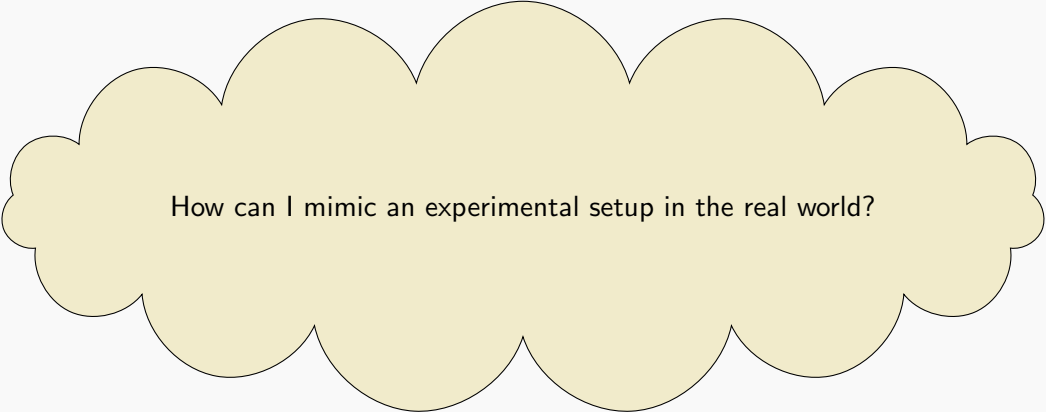


Treatment



Control





How can I mimic an experimental setup in the real world?

4 Quadrants of HSS Research

Experimental

Non-Experimental

4 Quadrants of HSS Research

	Experimental	Non-Experimental
Quantitative		
Qualitative		

4 Quadrants of HSS Research

	Experimental	Non-Experimental
Quantitative	RCT	Regression, IV, Diff-in-Diff
Qualitative		

4 Quadrants of HSS Research

	Experimental	Non-Experimental
Quantitative	RCT	Regression, IV, Diff-in-Diff
Qualitative	Field Experiment + Interviews	Case Study, Ethnography

HSS - Experimental

1. Sample

- is it representative of the general population?
- are there confounding factors?
- is it large enough to have statistical power?

2. Treatment

- is there anything else that could cause the outcome of interest?
- how objective and measurable are my variables?

HSS - Non-Experimental

Hypothetical

Suppose I want to understand the effect of Medicaid Expansion on mortality rates. What could be the problem with comparing states that expanded Medicaid to those that didn't?

Whenever possible, you want to utilize an **exogenous shock** for your analysis.

(In my experience) this is the hardest part of actually conducting research!

Places to Start

- ICPSR
- papers on similar topics
- (usually) governmental sources

Go to ICPSR and find some data!

HSS Methodology - Qualitative Analysis

Qualitative Analysis helps us understand “Why”

1. Thematic Analysis (TA)
2. Grounded Theory (GT)
3. Interpretative Phenomenological Analysis (IPA)
4. Content Analysis (CA)

Thematic Analysis (TA)

Purpose: Identify and interpret patterns and themes

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1. Familiarize yourself with data
2. Generate initial codes
 - descriptive or interpretive
3. Search for themes
4. Review potential themes
 - themes should be internally homogeneous and externally heterogeneous
5. Defining and naming themes
6. Write it up

Ahmed et al., 2025

Purpose: Construct theory grounded in data

Grounded Theory (GT)

Purpose: Construct theory grounded in data

The diagram illustrates the Grounded Theory (GT) process. It features four pink ovals arranged in a diamond shape. The top oval is labeled 'Data collection'. The bottom oval is labeled 'Code generation'. The left oval is labeled 'Constant comparative analysis'. The right oval is labeled 'Memo writing'. The ovals are connected by thin lines, suggesting a cyclical or interconnected process.

Data collection

Constant comparative analysis

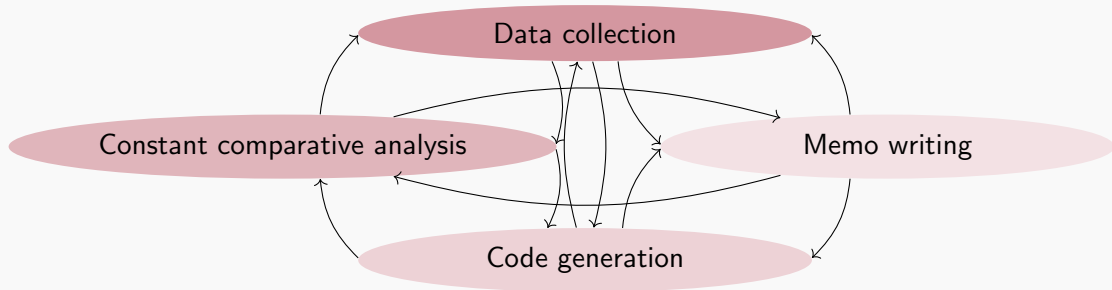
Memo writing

Code generation

Chun Tie et al., 2019

Grounded Theory (GT)

Purpose: Construct theory grounded in data



Chun Tie et al., 2019

Interpretative Phenomenological Analysis (IPA)

Purpose: Understand how individuals make sense of experiences

Interpretative Phenomenological Analysis (IPA)

Purpose: Understand how individuals make sense of experiences

- collect and analyze a small number of participant accounts
- double hermeneutic - researcher's interpretation of a participant's interpretation of their own experience

“Interpretative phenomenological analysis — Religion and Philosophy — Research Starters — EBSCO Research”, n.d.

Purpose: Quantify and categorize textual content

Content Analysis (CA)

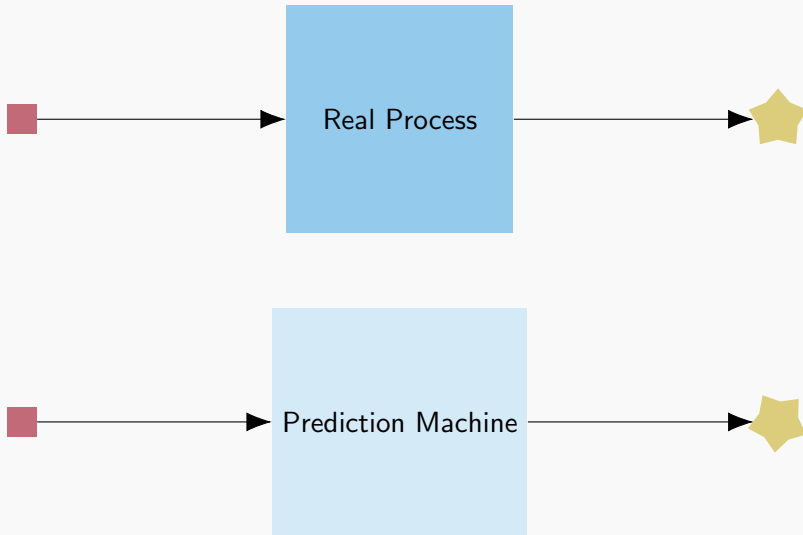
Purpose: Quantify and categorize textual content

1. Choose a level of analysis (word, phrase, theme)
2. Choose what/how many concepts to code for
3. Code!
 - existence v. frequency
 - distinguishing among concepts (exact words v. variations)
 - choose allowable level of implication
4. Analyze results

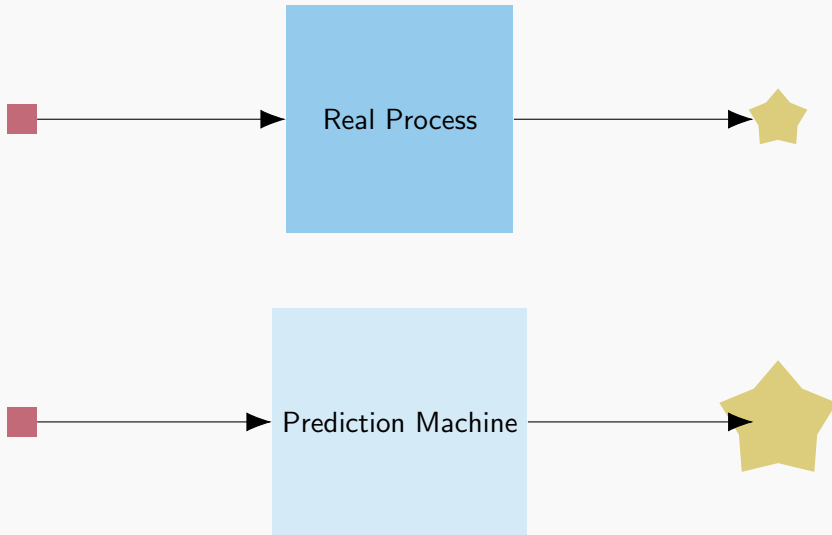
“Content Analysis Method and Examples — Columbia Public Health”, 2016

HSS Methodology - Quantitative Analysis

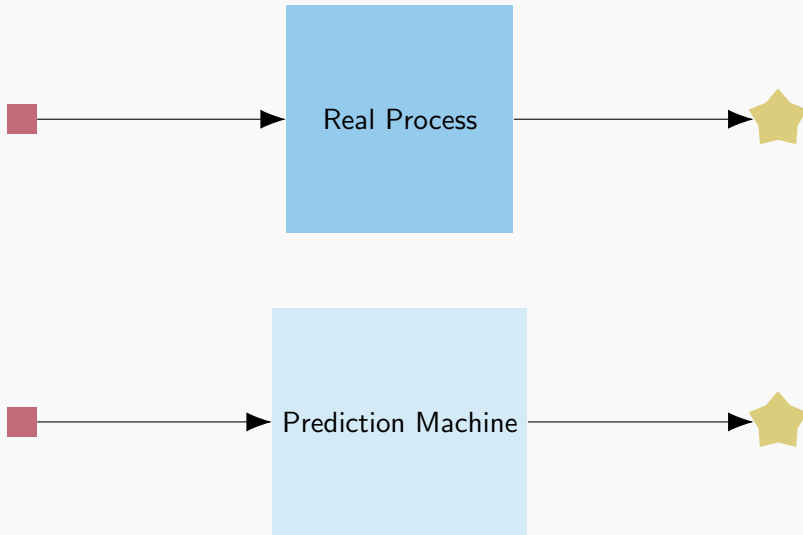
Linear Regression - Intuition



Linear Regression - Intuition



Linear Regression - Intuition



Ordinary Least Squares (OLS)

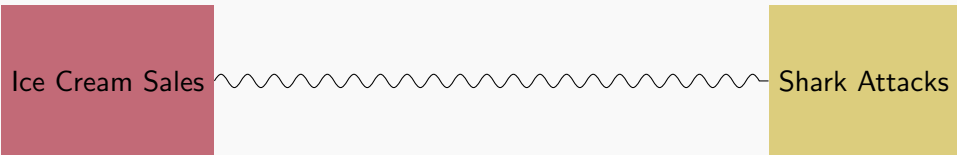
$$Y_i = \beta_0 + \beta_1 X_i + \epsilon_i$$

$$\hat{Y}_i = \hat{\beta}_0 + \hat{\beta}_1 X_i$$

- X is our independent variable
- Y is our dependent variable/outcome
- $\hat{\beta}_1$ is our coefficient of interest
- i denotes each observation

We want to choose $\hat{\beta}_1$ to minimize $\sum_{i=1}^n (Y_i - \hat{Y}_i)^2$

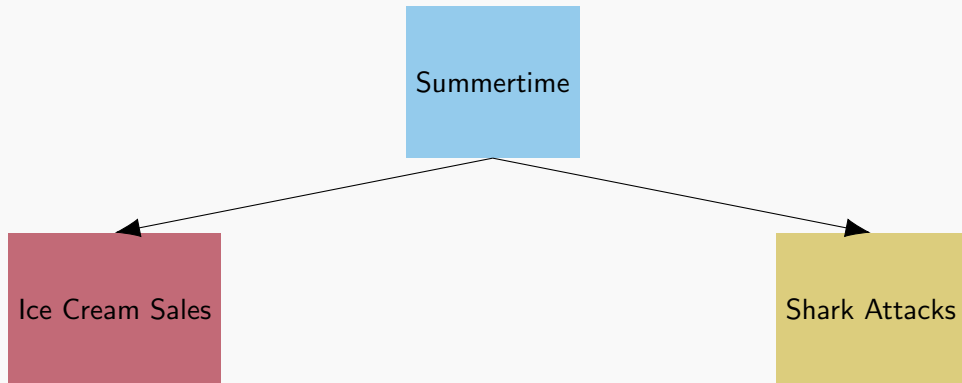
Sources of Bias - Omitted Variables



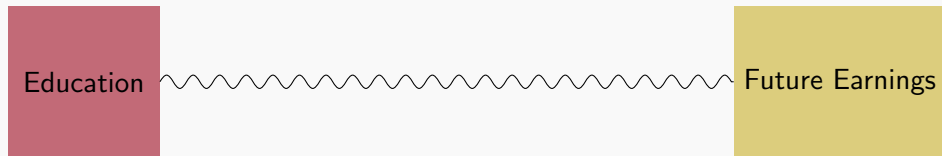
Sources of Bias - Omitted Variables



Sources of Bias - Omitted Variables



Sources of Bias - Reverse Causality



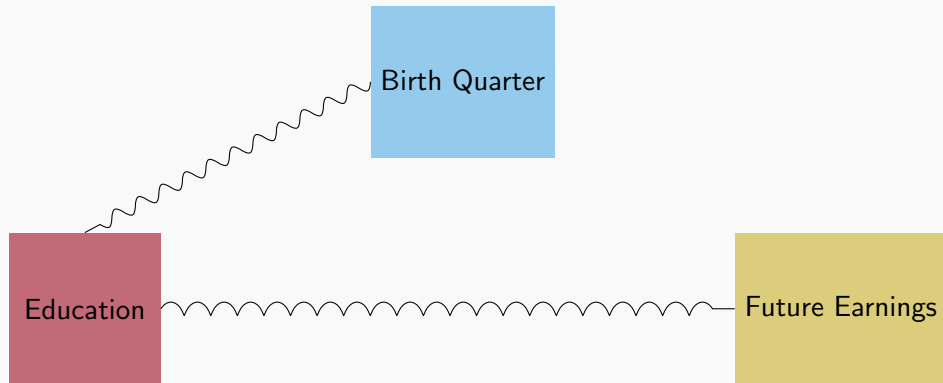
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Sources of Bias - Reverse Causality

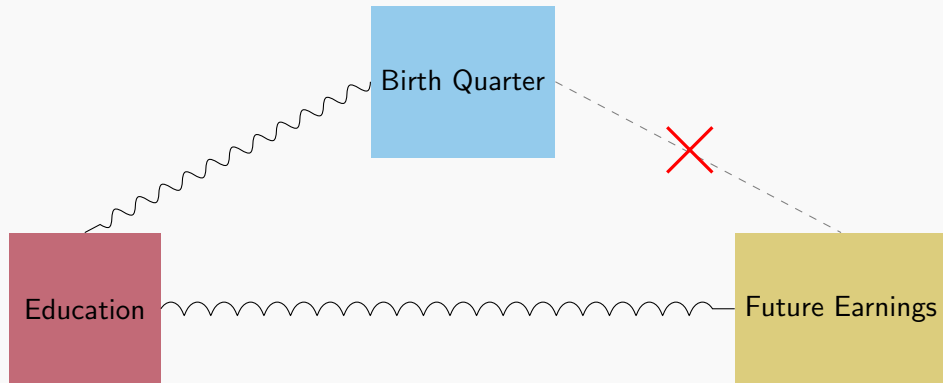


Sources of Bias - Reverse Causality



Angrist and Krueger, 1991

Sources of Bias - Reverse Causality



Angrist and Krueger, 1991

Exercise

Given an Outcome and Variable of Interest, brainstorm other variables that you may want to control for.

1. Test Scores; Hours Studying
2. House Price; Square Footage
3. Salary; Years of Education
4. High Blood Pressure; Age
5. Revenue; Ad Spending

- Statistical software like Stata, SPSS, SAS
- Coding languages like R, Python
- DO NOT edit or delete raw data