

POLITICAL SCIENCE RESEARCH METHODS

LECTURE 4: THE ROLE OF THEORY AND INTRODUCTION TO PROBLEMS OF CAUSALITY

HOUSE-KEEPING

Conferences/Labs start next week

You need to install R and R studio



Pace of Class—Syncing readings and lectures



Reading quiz goes to one attempt starting next Tuesday



Tuesday: Library Session with two librarians



Assignment #1 is delayed (ask me why ☺), deadline one week later (Sept 20)

Lecture 4

Research Methods

2

OFFICE HOURS

- COLIN SCOTT: THURSDAYS, 11 TO 12PM
- ISADORA BORGES MONROY: WEDNESDAY, 2 TO 3PM
- HENRY ATKINS: MONDAYS, 12 TO 1PM
- ANNIE CHEN: MONDAYS, 2 TO 3PM
- DIETLIND STOLLE: TUESDAYS 2.45PM-3.45PM, AND AFTER CLASS
- WHERE? THEY WILL TAKE PLACE IN 3610 MCTAVISH, SECOND OR THIRD FLOOR.
- TA: 33-2
- STOLLE: 24-2

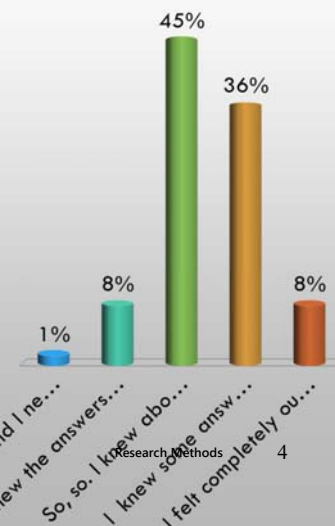
Lecture 4

Research Methods

3

How well do you think did you do on the pretest?

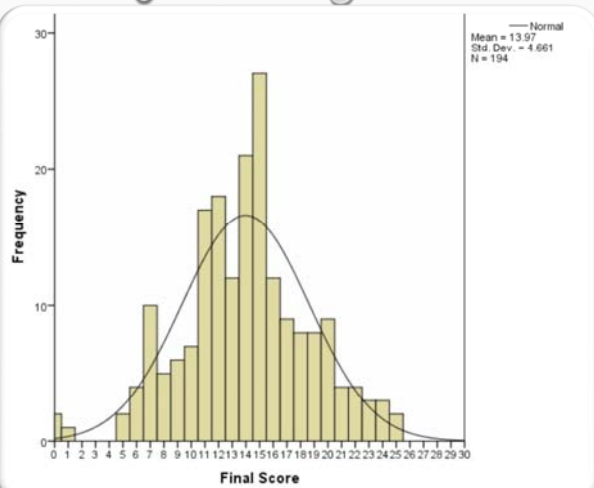
1. Very well and I nearly got all questions correct.
2. I knew the answers to many questions.
3. So, so. I knew about half.
4. I knew some answers but mostly I did not.
5. I felt completely out of my depth.



Lecture 4

Research Methods

4



PRETEST

Lecture 4

Research Methods

5



CONGRATULATIONS

- JOHN HICKS 25 POINTS
- ANDJELIJA PREKIC 25 POINTS

Lecture 4

Research Methods

6

TODAY'S PLAN



Differentiating research questions, theories and hypotheses



Using what we have learned



Introduction to Causality Issues in Political Science

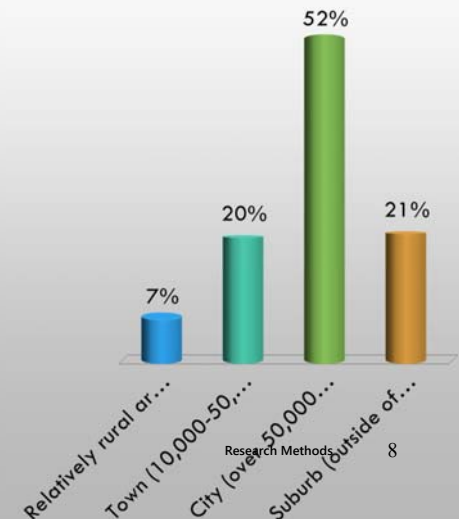
Lecture 4

Research Methods

7

I grew up in a

1. Relatively rural area (few inhabitants, outside major towns and cities)
2. Town (10,000-50,000 inhabitants)
3. City (over 50,000 inhabitants)
4. Suburb (outside of metro area)

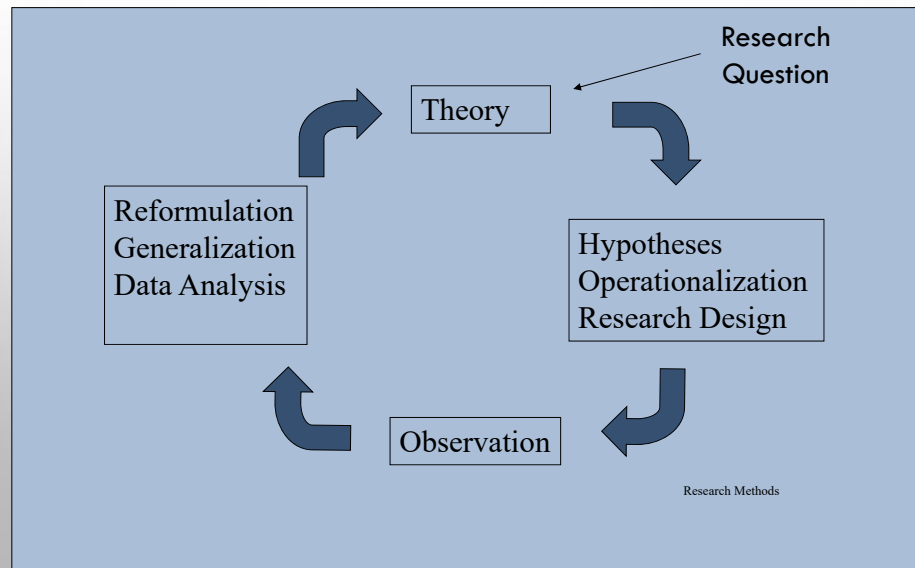


Lecture 4

Research Methods

8

THE SCIENTIFIC METHOD—HOW??



HOW DO I DECIDE FOR MY RESEARCH QUESTIONS ?



Relevance—Importance



Examining today's
political developments



The curious topics



The outsiders

Lecture 4

10

FINDING AN INTERESTING RESEARCH QUESTION

• Initial Research Questions can be fairly broad:

- How is populism related to socio-economic factors?
- Does gender of the candidate affect vote choice?
- How can we change views about regional separatism?
- How does religion and religious practice affect people's political decisions?

• Can also be more narrow:

- Why was there a Liberal surge in Canada in 2015?
- Why did Donald Trump win the US 2016 election?

Lecture 4 Research Methods

11

MORE
DETAILED
VOCABULARY



• Research Question:

- A research question asks the 'who, what, when or why' behind some phenomenon of interest.

• Theory:

- A theory is a **potential** explanation that answers a research question. It's a set of **logically related propositions** that explain political phenomena. It often reveals the **causal mechanism** behind your explanation.

• Hypothesis:

Lecture 4

12

TWO WAYS TO FIND A THEORY: INDUCTIVE VERSUS DEDUCTIVE

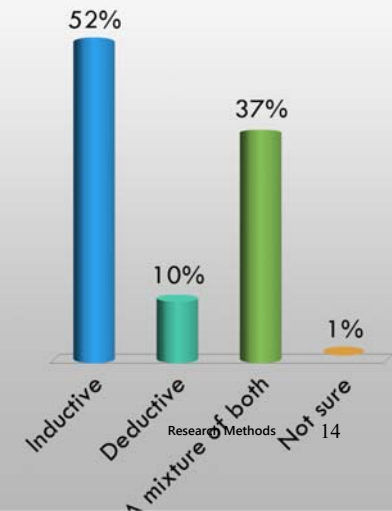


Rick: I've noticed previously that every time I kick a ball up, it comes back down, so I guess this next time when I kick it up, it will come back down, too.

Avery: That's Newton's Law. Everything that goes up must come down. And so, if you kick the ball up, it must come down.

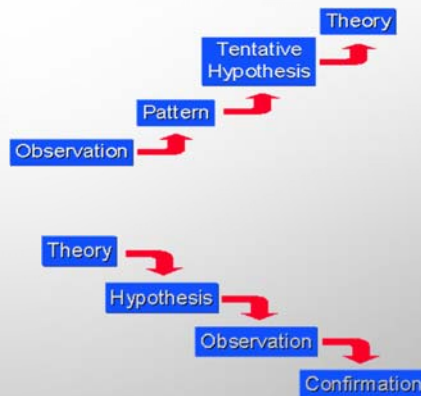
Lets assume you are interested in studying why some people turn out to the climate change protests and others do not. Which approach would you use?

1. Inductive
2. Deductive
3. A mixture of both
4. Not sure



THEORY BUILDING

- INDUCTION
 - “BOTTOM-UP” APPROACH
 - MAKING GENERALIZATIONS BASED ON OBSERVATIONS
- DEDUCTION
 - “TOP-DOWN” APPROACH
 - STARTING FROM A THEORY AND DERIVE EMPIRICAL IMPLICATIONS FROM THAT THEORY



HOW TO LINK YOUR RQ TO A THEORETICAL FRAMEWORK/THEORY

- Look for potential problems with the theories used. Do we maybe see other variables the theory did not include?
- Take a famous theory and apply it to set of (new) cases— maybe new insights?
- See if there are any outliers: cases that don't seem to fit the theory very well-e.g. role of Nevada (what do we learn about theory)
- Replicate existing theory and tests with new set of measures
- Soak and poke and observe to find a new theory for an unexplained phenomenon

MORE DETAILED VOCABULARY



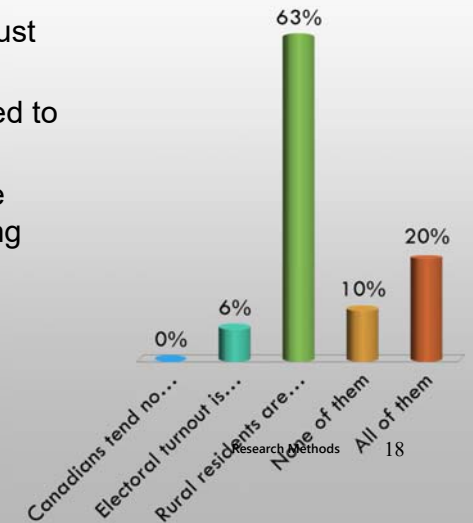
- **Research Question:**
 - A research question asks the 'who, what, when or why' behind some phenomenon of interest.
- **Theory:**
 - A theory is a **potential** explanation that answers a research question. It's a set of **logically related propositions** that explain political phenomena. It often reveals the **causal mechanism** behind your explanation.
- **Hypothesis:**
 - **Testable** statement of relationship between two **variables**
 - must indicate the unit of analysis, DV and IV, **relationship** between the two variables, comparison between values of IV; direction of relation.

Lecture 4

17

Which one of the following is a hypothesis?

1. Canadians tend not to trust the government
2. Electoral turnout is related to age
3. Rural residents are more likely to vote for right-wing parties than urban ones
4. None of them
5. All of them



Lecture 4

FORMAT OF A THEORY AND HYPOTHESIS

Research Methods

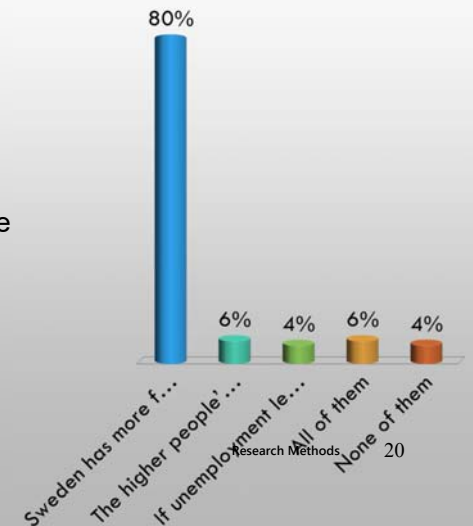
- Start with **Research question**
- Develop **Theory**: Add a causal explanation to the end by adding "because...." or select a more precise factor.
- **Hypothesis**: State relationship between two concepts (variables), add direction of relationship, add comparison (unit of analysis)
 - A CAUSES B OR $A \rightarrow B$
 - WHERE A IS IV, B IS DV AND \rightarrow IS CAUSAL MECHANISM
 - "In a comparison of [units of analysis], those having [one value on the independent variable] will be more likely to have [one value on the dependent variable] than will those having [a different value on the independent variable]."
 - Needs to be falsifiable/testable

Lecture 4

19

Which of the following is NOT a hypothesis?

1. Sweden has more female legislators than Canada
2. The higher people's incomes, the more likely they are to vote
3. If unemployment levels go up in a country, political protests tend to increase
4. All of them
5. None of them



Research Methods

20

A GOOD HYPOTHESIS

....

Research Methods

Should be general
and not too narrow

Examples

Too narrow: "The United States has more murders than other countries because so many people own guns."

More general here is better: "Countries with more guns per capita will experience more murders per capita than countries with fewer guns."

A GOOD HYPOTHESIS

...

Research Methods

Should not be
ambiguous, but specific
(without being narrow)

Examples:

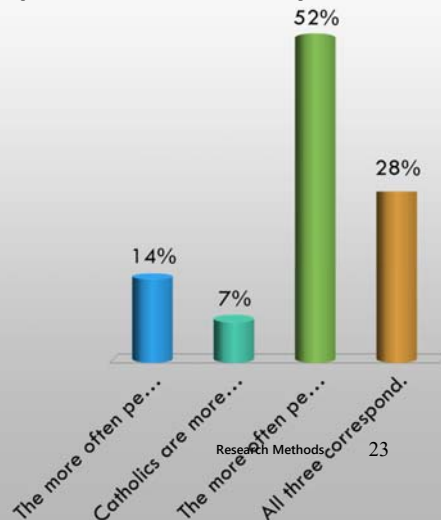
Too ambiguous: "A country's geographic location influences the type of political system it has."

Better: "The more borders a country shares with other countries, the more likely it is to be nondemocratic."

"Religious people are more socially conservative."

A hypothesis that corresponds to this theory is

1. The more often people worship, the more likely they are to oppose the death penalty
2. Catholics are more likely than Protestants to oppose same-sex marriage
3. The more often people pray, the more likely they are to oppose having children outside marriage
4. All three correspond.



Common Errors in Formulating Hypotheses

Common Errors

The statement contains **only one** variable or is generally vague

The statement fails to specify how the variables are **related**

The hypothesis is **incompletely or improperly** specified (especially if categorical IV)

Use of proper names, value judgement, tautologies

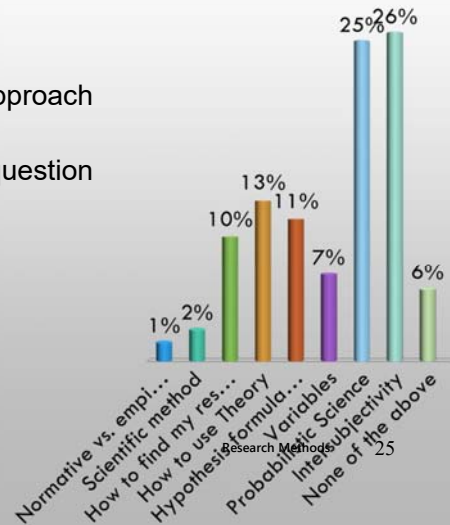
Lecture 4

Research Methods

24

Which of the concepts are still fuzzy to you?

1. Normative vs. empirical approach
2. Scientific method
3. How to find my research question
4. How to use Theory
5. Hypothesis formulation
6. Variables
7. Probabilistic Science
8. Intersubjectivity
9. None of the above



Lecture 4

HOW DO WE TEST OUR HYPOTHESES? EMPIRICAL METHODS

Experimental Approach



Non-experimental (observational) Approach

Case-Study



Medium -N

n

Large -N Statistical

n

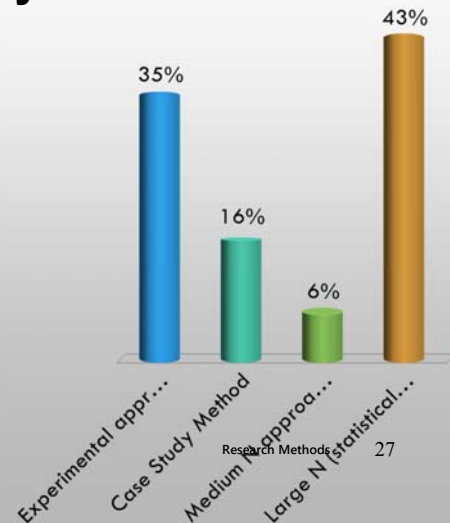
Lecture 4

Research Methods

26

Which approach do you believe is best to determine that two factors are causally related?

1. Experimental approach
2. Case Study Method
3. Medium N approach (a few select cases)
4. Large N (statistical method)



Lecture 4

Research Methods

27

ASSIGNMENT #2

Research Methods

- Select an Op-ed (opinion page from a regular columnist writing)
- Find a causal claim that the author is making (DV, IV)
- What would be an appropriate research question related to this causal claim?
- How would the hypothesis be formulated?
- Can you think of a way in which you would potentially study or test this particular claim?
- Not more than one page, link to article, Pass/Fail

Lecture 4

28

TO DO: FOR NEXT WEEK

Research Methods



Library Session on Tuesday



Reading quiz



Download R and R Studio to your computer
(check lab guide 1) and come to first Lab
session



Look out for Assignment # 1 (survey) until
Sept 20



Check whether you have polling problems
(Discussion Tab on weekend)



Enjoy your weekend!