

poli 399. sep 26.

- theory doesn't always include axioms.

variables and hypothesis overview.

- What is a variable? a variable is a concept's empirical counterpart. concepts are the building block of variables. empirical research works on 2 distinct levels.
- step 1- find variables that correspond with our concept.
- step 2: variables bring us closer to observation.
- any property that varies is a variable. anything that can take on different properties and values.
- examples of variables with variances are: income and age, and voter turnout, gender.
- they can't be constant. must be able to take on different values.
- which means variables are an empirically observable property that takes on different values.
- variables have to be specific. because of that 1 concept must be covered by many variables.

CONCEPTS VS VARIABLES:

- Political participation: mechanism for public to exert influence regarding social issues- concept.
- variables to use would be: voter turnout, party affiliation, seeking a candidacy.
- Economic dependency: dependency theory. eg poor states get exploited to make other states wealthier. notion that there's a periphery that's rich and a core that's poor.
- Political sophistication: the quantity and organization of a person's political cognitions. a person that takes info about political world and uses it. how u use it can be seen as sophisticated. e.g kinds of info gathered and the sources. ability to use left right terminology.
- no causation between concepts and variables. going from abstract to particular.

What is a hypothesis: a hypothesis is a conjectural statement of the relationship between 2 variables. proposition in theory leads to hypothesis. eg. variables being more specific counterparts of concepts. hypothesis has clear implications for testing. if we have an hypothesis, we have clear expectations.

INDEPENDENT VS DEPENDENT VARIABLES:

independent variables: what we expect to be the cause of what we want to explain.

explains the dependent variable.

the value dependent variable takes is affected by the independent variable.

independent variable is an antecedent. i.e it happens before the dependent variable, which is a consequent. we predict from independent variable to dependent variable. FORMULATING

HYPOTHESIS:

can be arrived at inductively or deductively, just like theories.

deductively is reasoning logically from a set of assumptions. hypothesis already comes loaded with the why.

because deductive comes with why, when we find evidence, the evidence is more powerful. with inductive, there is no concrete evidence.

you can state a relationship anyway but it must show how the variables are related.

state the relationship, carry implications for testing.

concepts: categorize, compare, quantify.

if iv plus dv = comparative and quantitative, state how values of the dv change when the iv changes. e.g the more money candidate has, more likely they are to be elected.

if iv plus dv = categorical, state which category of the dv is most likely to occur with which category of the iv. eg. men are more likely to run for office than women. 2 categories, men/ women and run.

if iv=categorical plus dv =comparative or quantitative, state which category of the iv will result in more of the dv. eg. women tend to be supportive of the welfare state than men.

if iv =comparative or quantitative, dv =categorical, state which category of the dv is most likely to occur when the iv increases. eg, as income inequality increases, civil disorder is more likely to

occur.

there are 7 common errors in hypothesis formulation.

- 1. Canadians tend not to trust their government. no comparison.
- 2. Are younger people more likely to vote or less likely to vote. question not hypothesis. doesn't state a relationship.
- 3. Regular churchgoers are more likely to vote conservative: incompletely specified because we don't know who we are comparing regular churchgoers to. specified in terms of dependent variable. hypothesis must always be in terms of independent variable, not dependent. fix: regular churchgoers are more likely to vote for conservative parties than irregular churchgoers.
- 4. People with more formal education should be more likely to vote than those with lower levels of education. problem, can't be tested. fix: people with more formal education are more likely to vote than those with no education.
- 5. Sweden has more women in its legislature than Canada. problem is that it contains proper name. limits the scope. we need to be able to generalize. this doesn't give us an opportunity to do that.
- 6. The more politically involved people are, the more likely they are to participate in politics. fix:

oct 5. LEVELS OF MEASUREMENT:

- Get the highest level of measurement as possible. easy to move down but not up.
- level of measurement drives your level of stats. you can't get stats right otherwise.
- they determine what kind of statistical tests can be done with the data.
- depends on what the property measurement is.
- depends on choice of data collection. (survey, experiments, content analysis)
- levels of measurement are cumulative.

NOMINAL LEVEL OF MEASUREMENT:

- no ranking system, only categories. 5 things
- 1. lowest level, 2. knowing categories and sorting them. 3. the numbers simply act as labels. 4. no hierarchy amongst the categories. interchangeable. because they can't be related to each other whatsoever. 5. classification system. no order of hierarchy. understanding of what the numbers are doing. they are used so that we can get the computers to do something with them.
  - rule: do not assign the same numeral to different categories. or different numerals to different categories. they must be exhaustive and mutually exclusive.
  - e.g. first language spoken and still understood. no orders, can't bump them unless you really want to.
  - exception is dummy variable. set up as binary.

ORDINAL: Higher level of measurement. there's hierarchy, you can't say how much more you have or less, e.g. strongly agree or strongly disagree. mutually exclusive and exhaustive, there's an order but you have to know where that stops. e.g. political interest, measured in low, high, or moderate. constrains us in the numerals we use. the numerals that get attached have to respect that order. more particular.

INTERVAL: We can't say that one observation has twice as much of the property as another observation, because 0 is arbitrary.

- you can't say twice as much or less because of the 0.
- it's quantitative.

RATIO: Now we can talk about the things being twice as much or less because 0 actually means absolutely nothing. e.g. ratio. if no one turns out to vote, it's 0. rank order.

- any rules that apply to nominal apply to everything else.

