

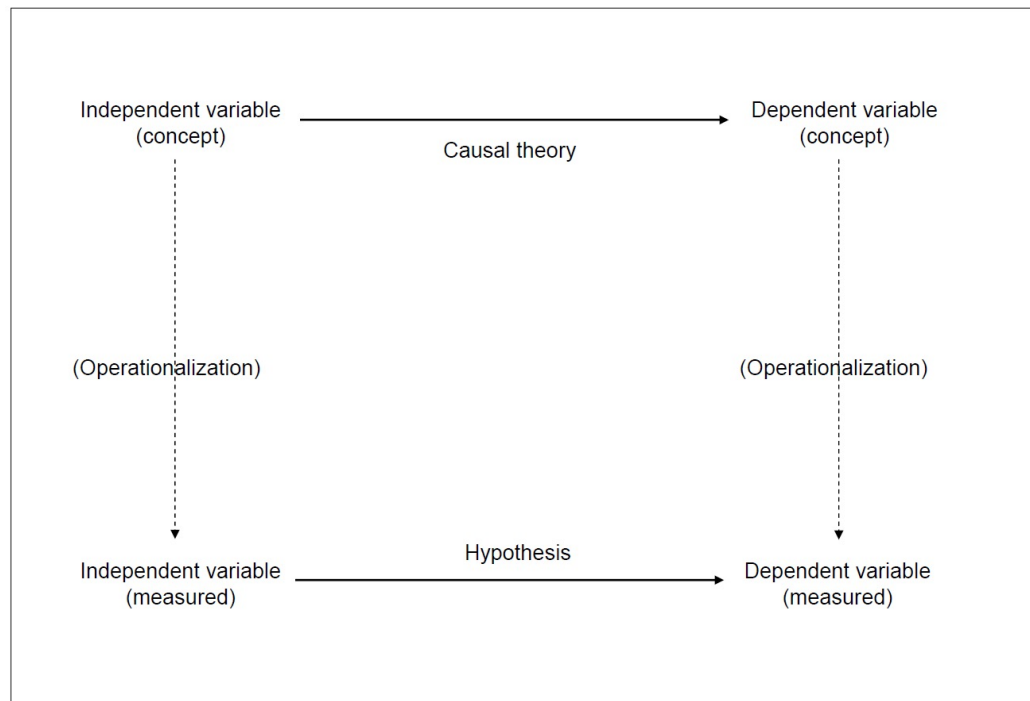
POLS 095: Methods in Politics

Framing Hypotheses; Concepts, Measurement, and Variables

Review: theory overview

- Generate testable, causal hypotheses
- Generalizable
- Parsimonious
- Probabilistic
- Cumulative

2



Plan for today



Framing hypotheses



Concept mapping
and measurement

Defining
concepts

Measuring
concepts



Leading to:

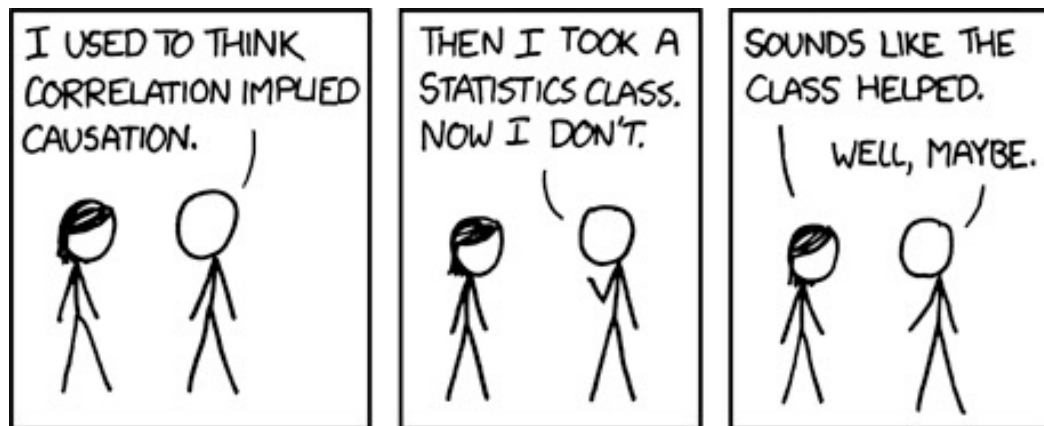
Problems with
measurement

Types of variables used for explanation

The **dependent** (response) variable (Y)

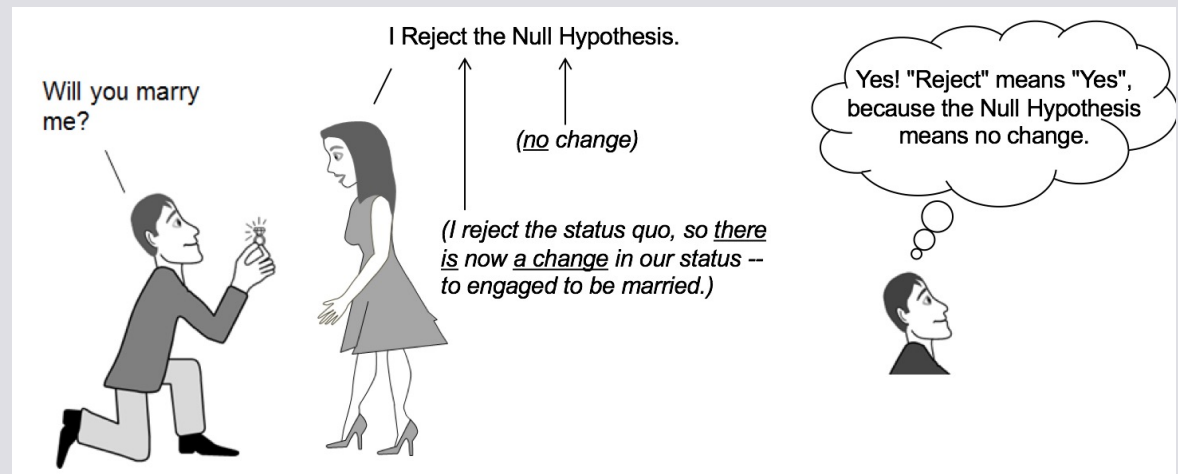
The **independent** (explanatory) variable (X)

$X \rightarrow Y?$



Framing hypotheses

What is a hypothesis?





Hypotheses

Good templates (but not always necessary or exactly appropriate):

Increases/decreases in X lead to increases/decreases in Y.

Group A will have higher values of Y than Group B.

Hypotheses: other criteria

What are the criteria for a good hypothesis?



Probably not quite what your research will look like



What's wrong with these hypotheses?

- ☐ Income and partisanship are related.
- ☐ Some people will be more likely to have served in the military than others.
- ☐ Do countries with strict gun control laws experience fewer mass shootings?
- ☐ Decentralized workspaces have highly satisfied workers.
- ☐ Do states who have easy access to early voting have a higher voting turn out?
- ☐ Education and smoking are related.

Hypothesis template

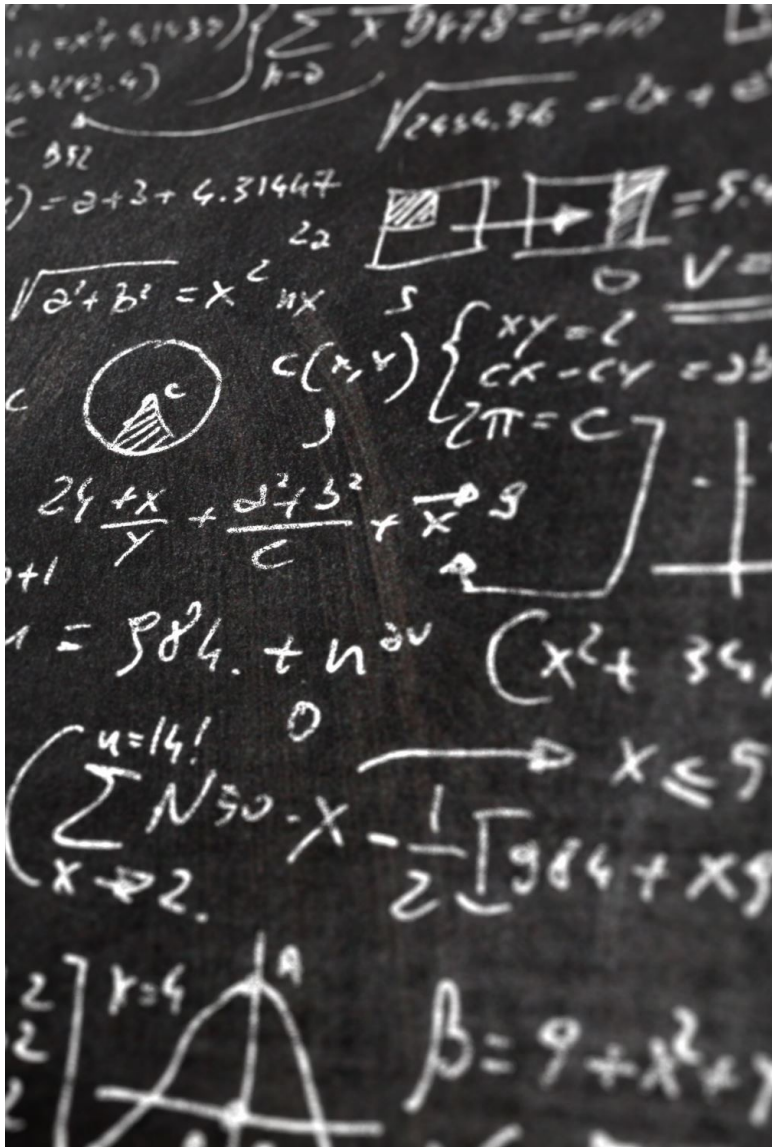
In a comparison of [unit of analysis], those having [one value on the independent variable] will be more likely to have [one value of the dependent variable] than those having [a different value on the independent variable].

Examples:

In a comparison of *voters*, those who are *interested in politics* will be more likely to have *voted* than those who are *not interested in politics*.

In a comparison of *states*, those that *have early voting* will have *higher voter turnout* than those that *do not have early voting*.

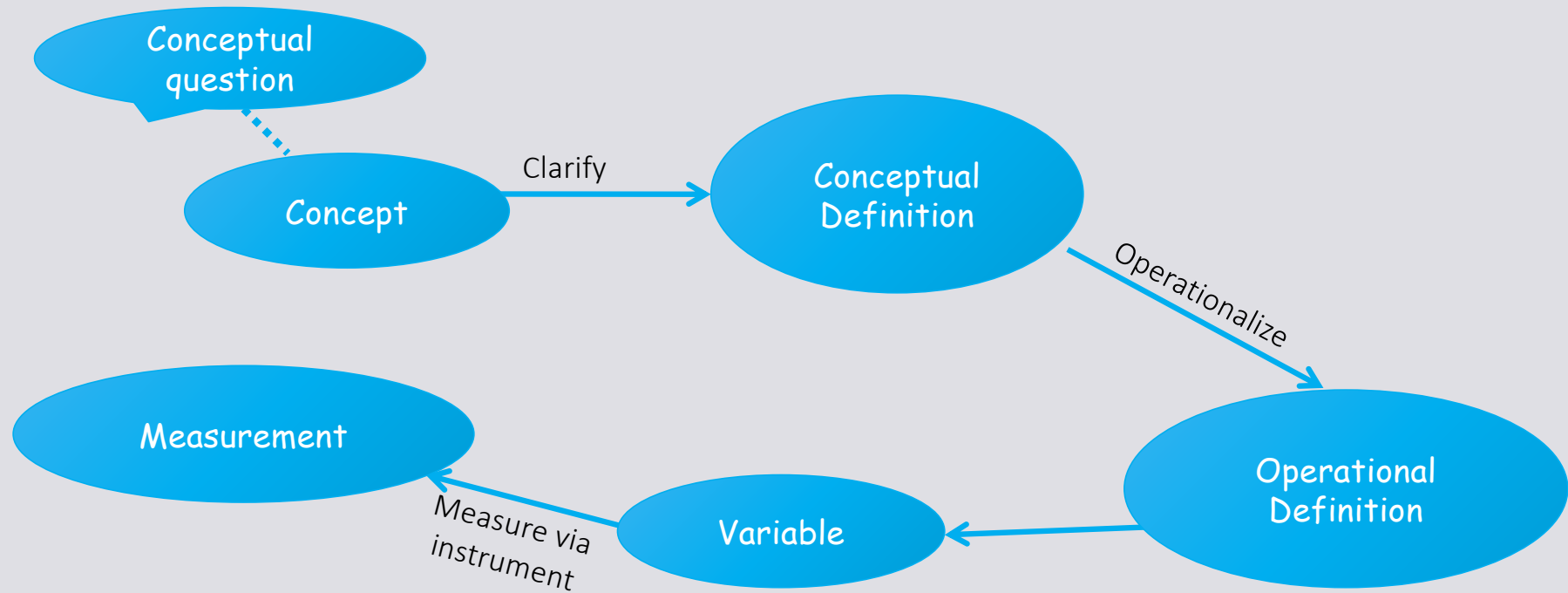
In a comparison of *states*, those *having stricter gun ownership laws* will be more likely to have *mass shootings occur* than will those *having more lax gun ownership laws*.

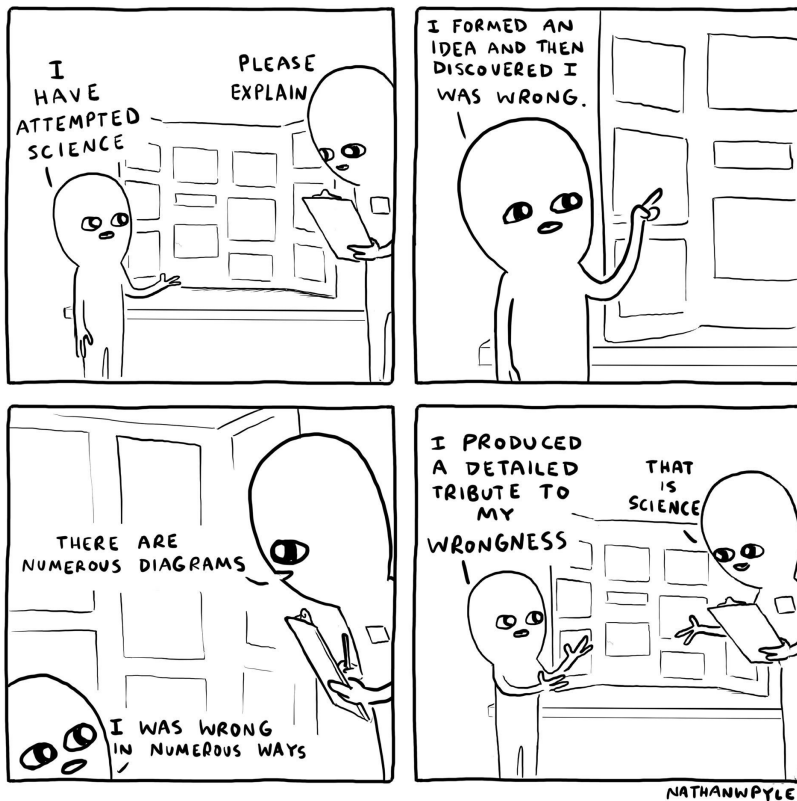


How do we get to a hypothesis?

Draw a conceptual map!

From vague to concrete





Concepts

An idea or mental construct that represents phenomenon in the real world

Examples?



Conceptual definition

A conceptual definition clarifies
the concept

Measurable properties

Concrete

Varying

Units of analysis

Conceptual definition example

Conceptual definition of conservative

“Extent to which...”

“Unit of analysis is...”

(Measurement with variation)

Template:

The concept of ____ is defined as the extent to which ____ exhibit the characteristic of ____.



“Hi, my name is...” -



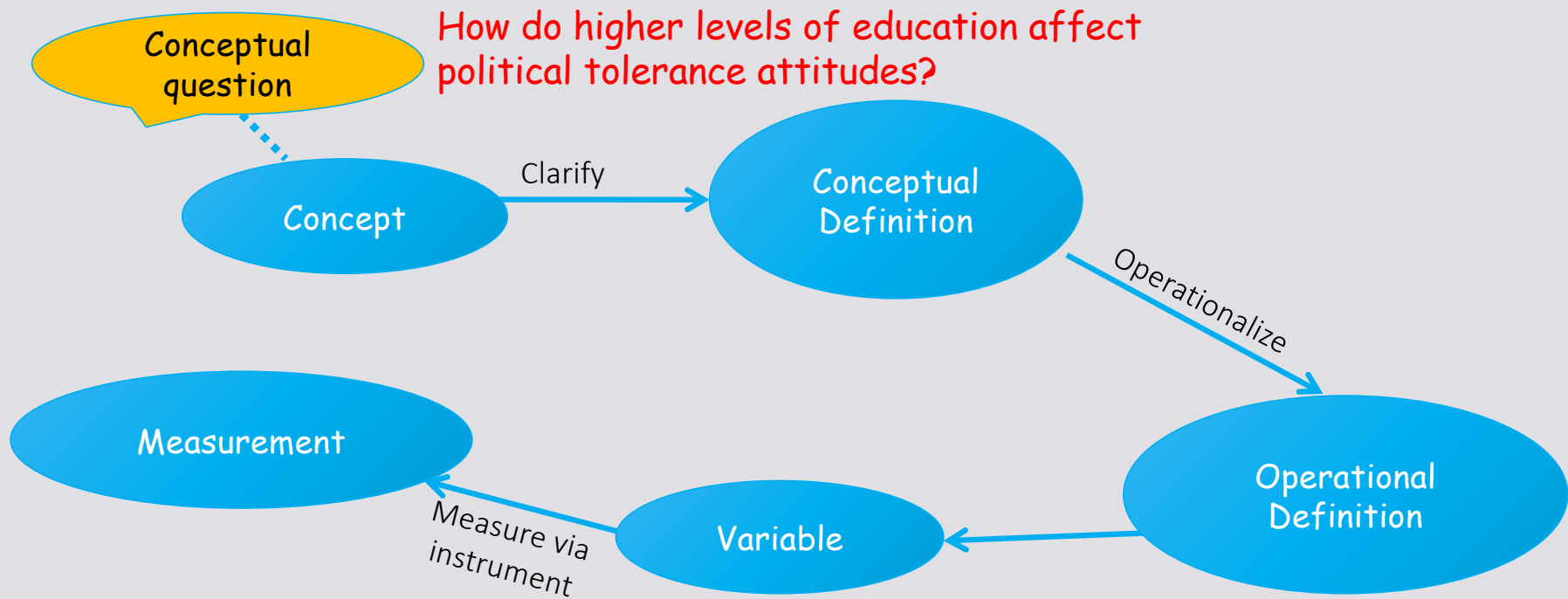


Operational definitions

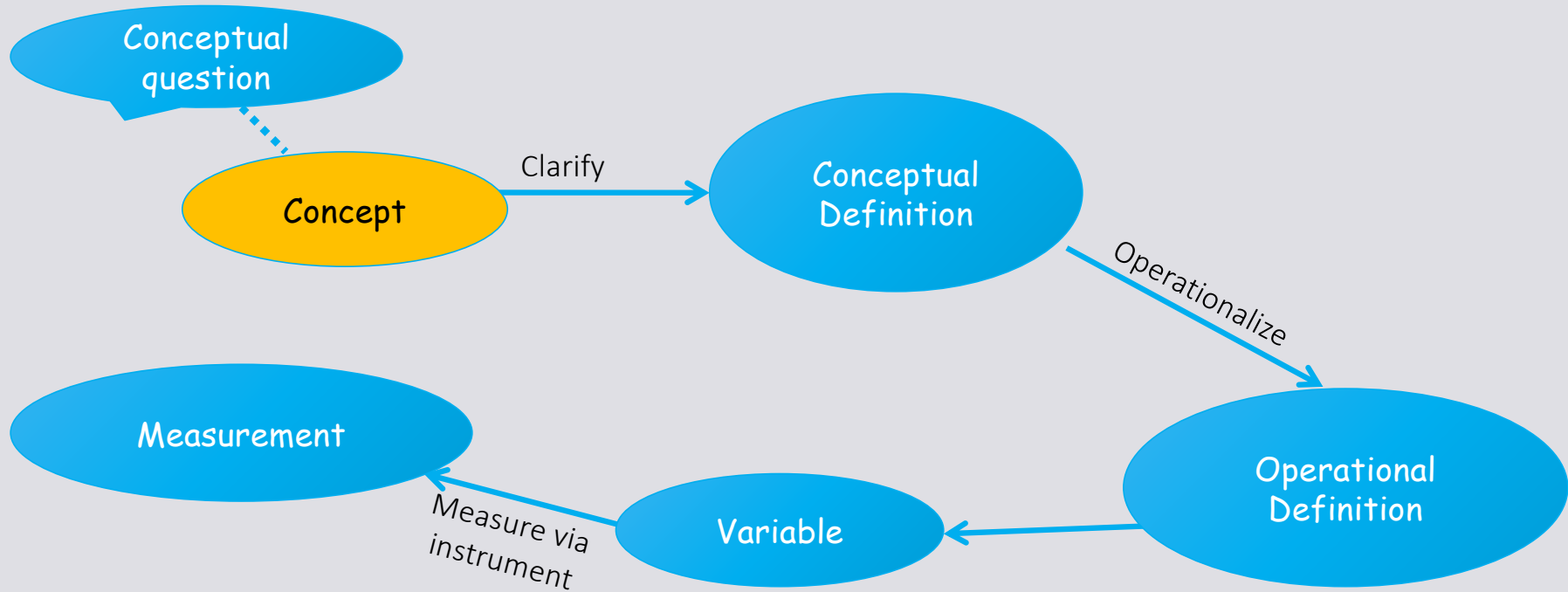
Conceptual → operational definitions

How is the concept to be measured?

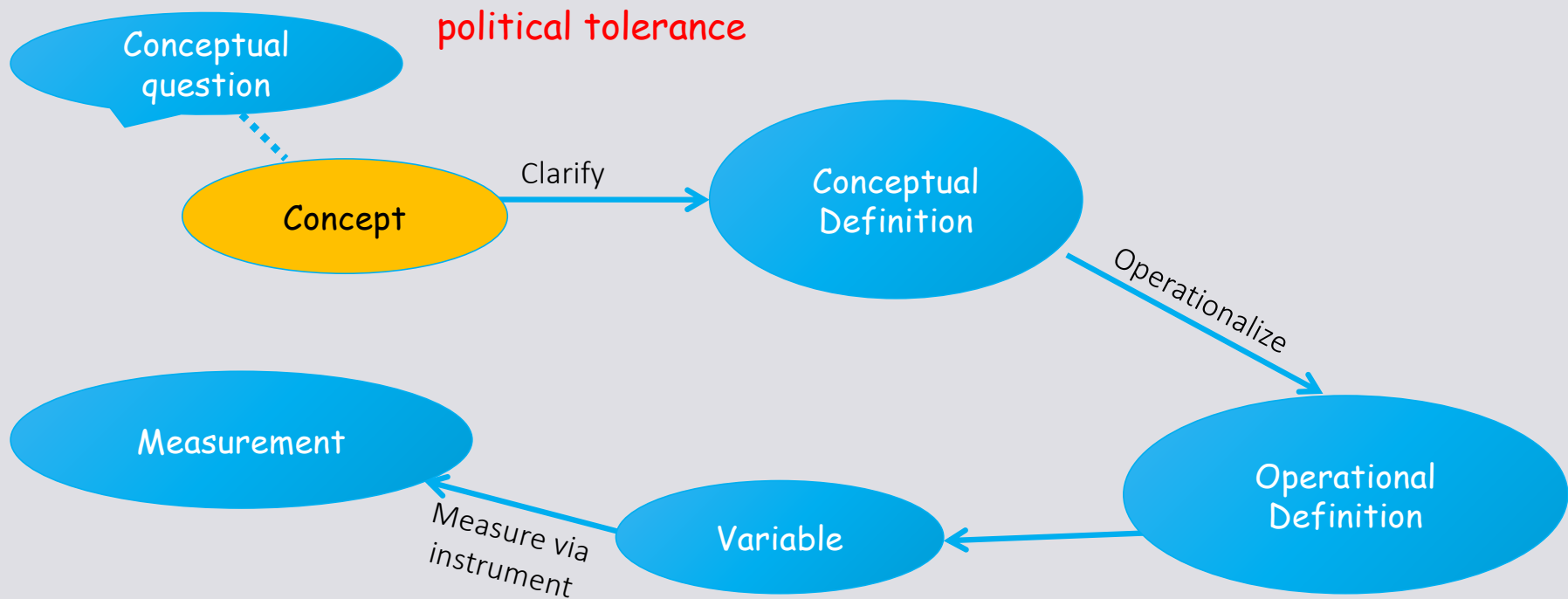
Example: political tolerance



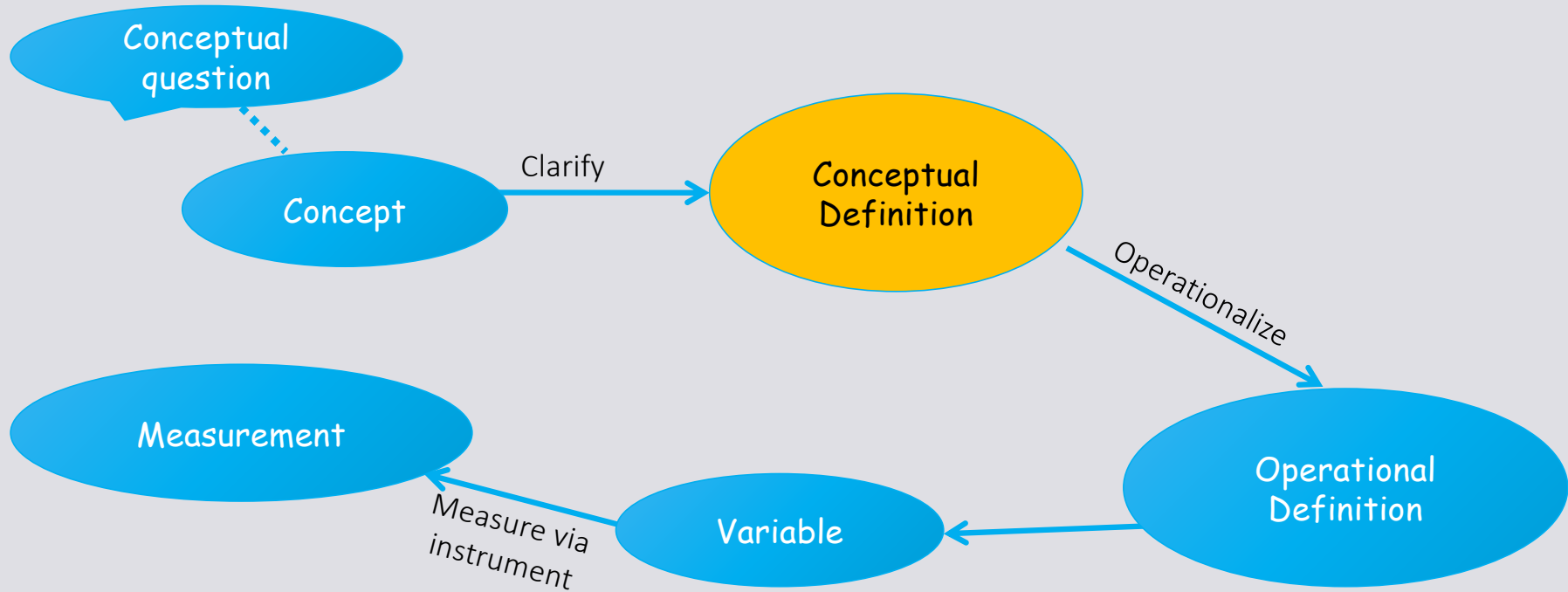
Example: political tolerance



Example: political tolerance

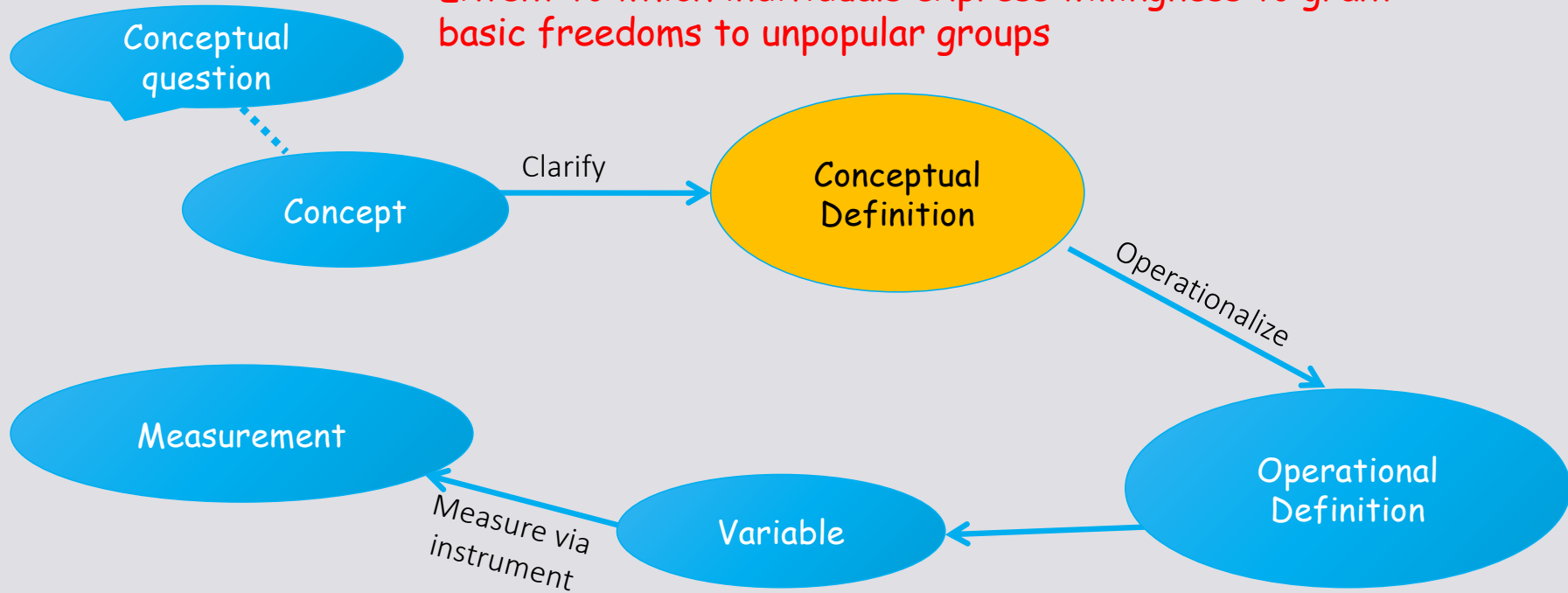


Example: political tolerance

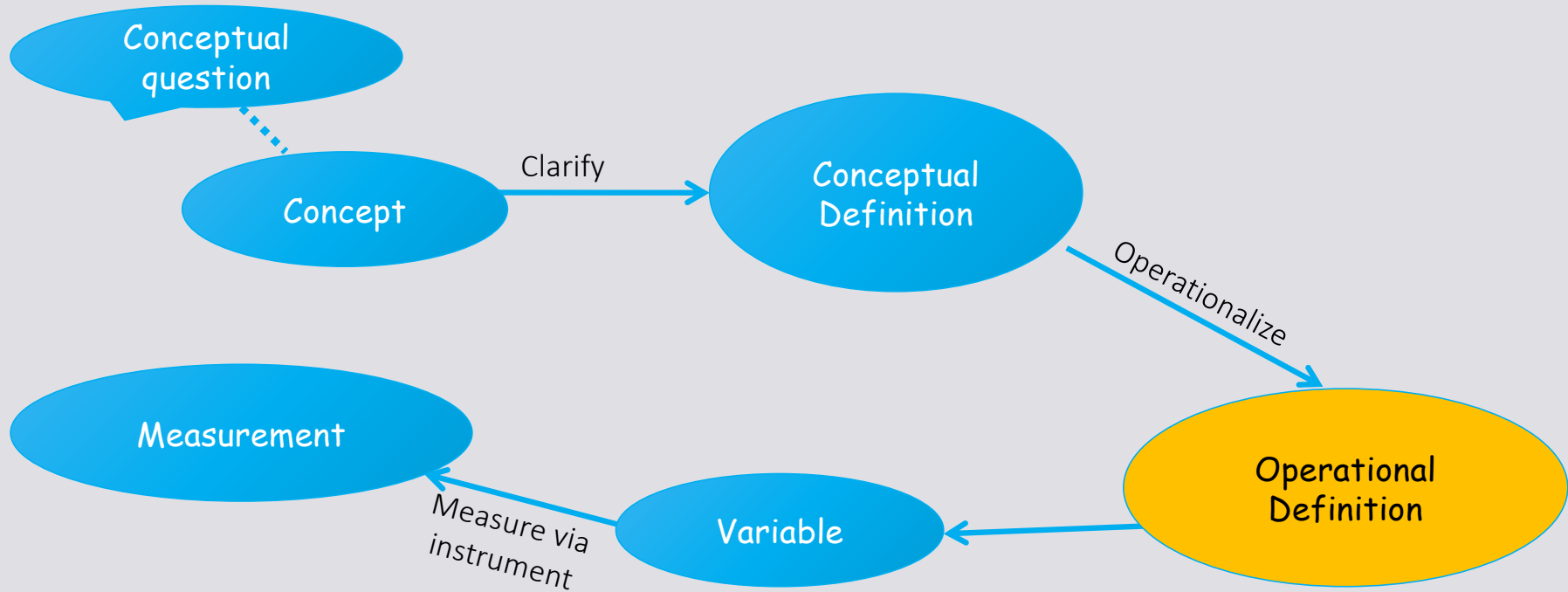


Example: political tolerance

Extent to which individuals express willingness to grant basic freedoms to unpopular groups

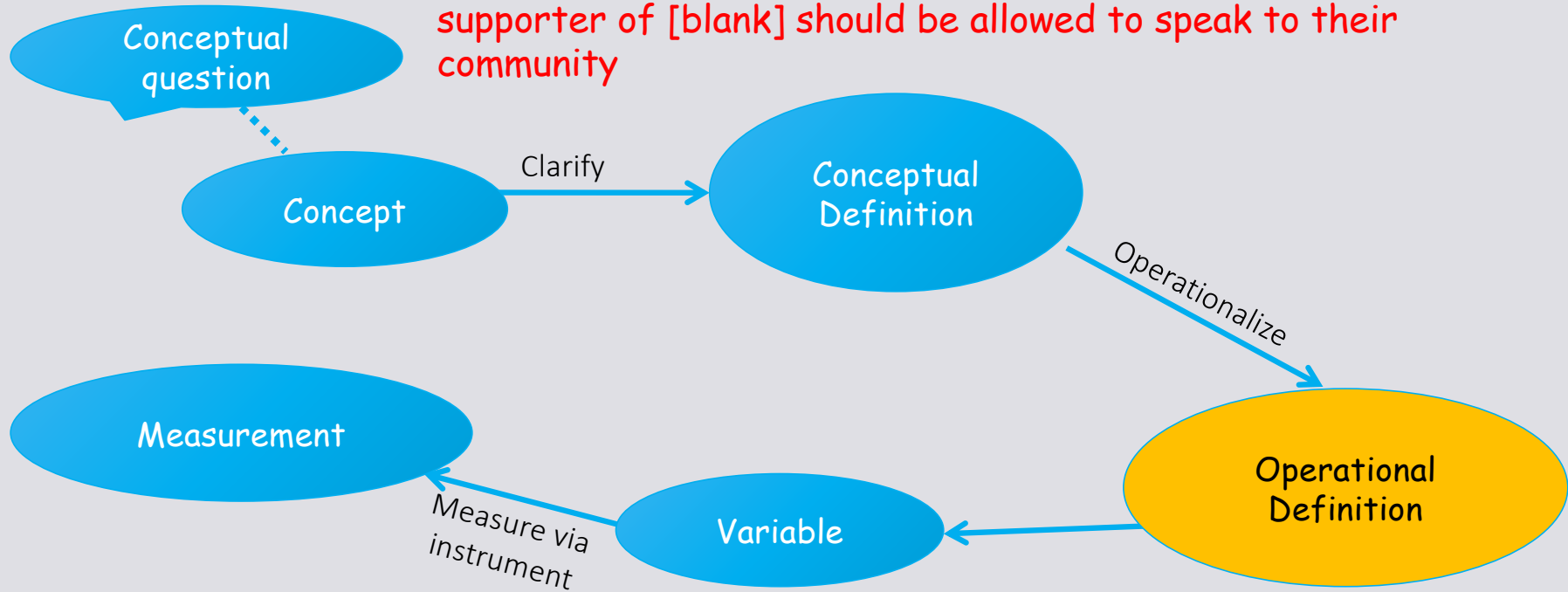


Example: political tolerance

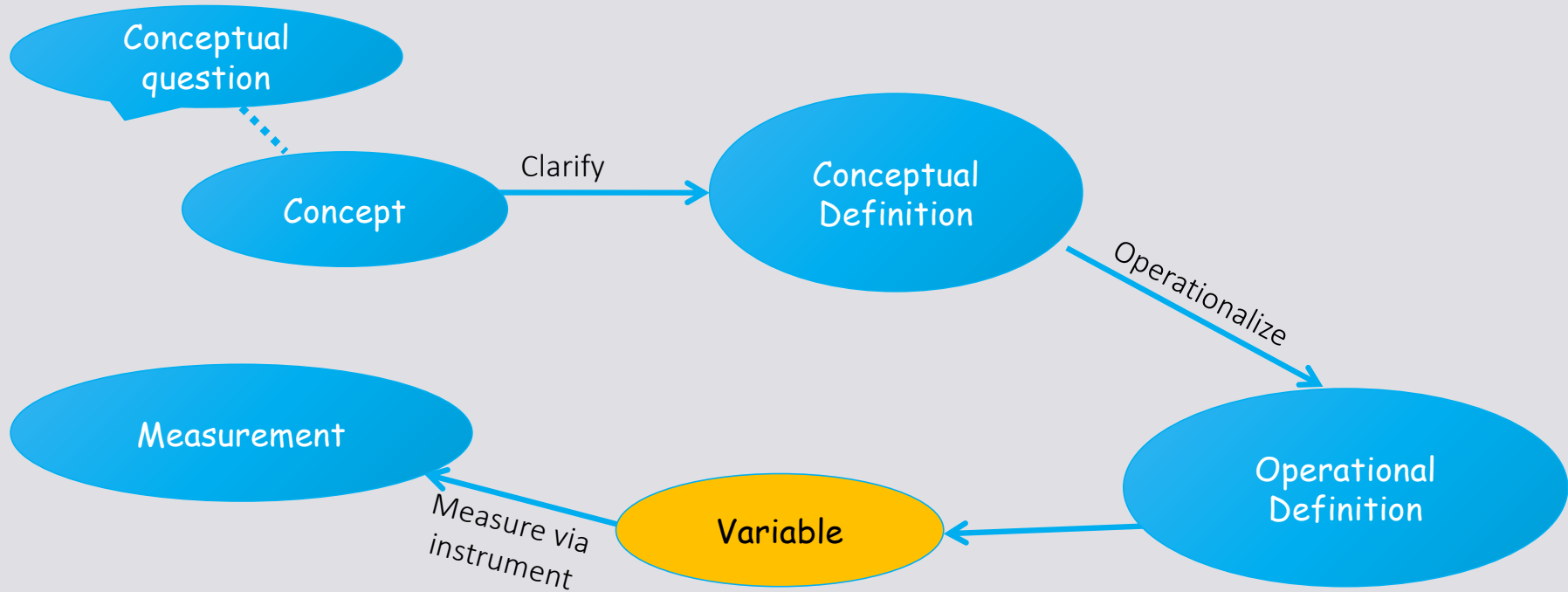


Example: political tolerance

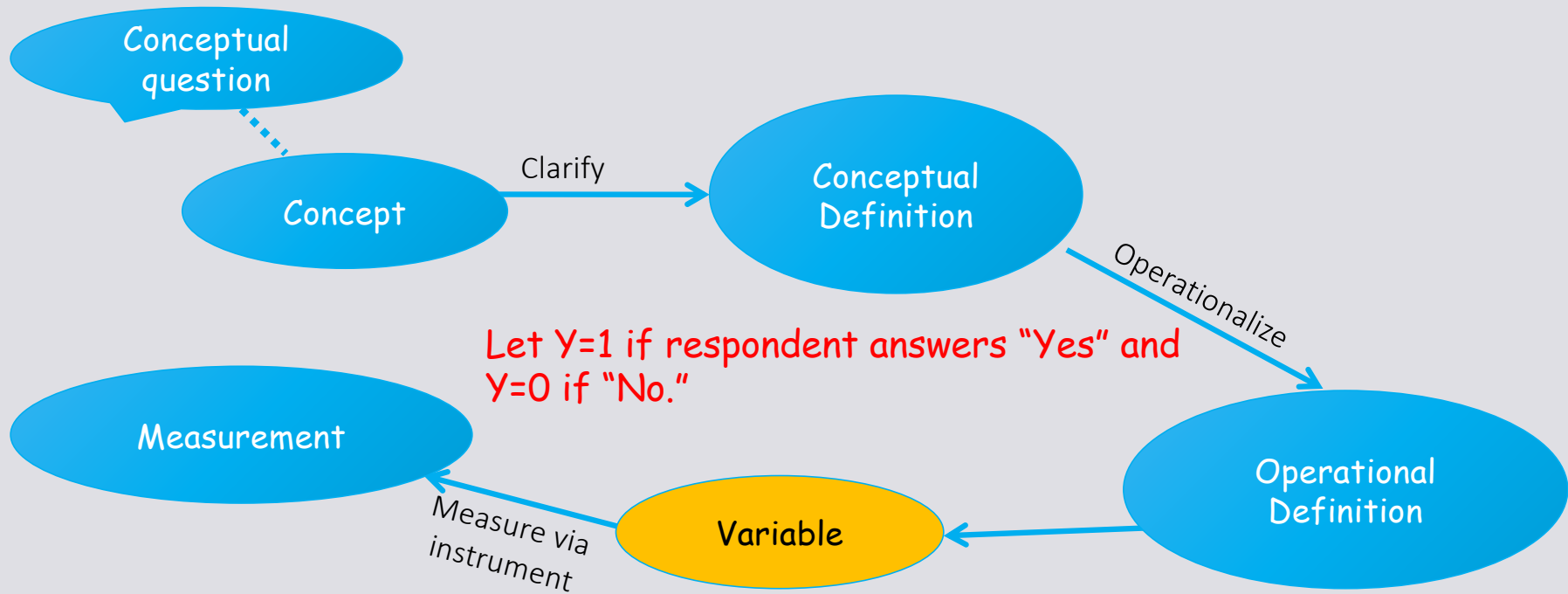
Proportion of group answering "yes" when asked whether a supporter of [blank] should be allowed to speak to their community



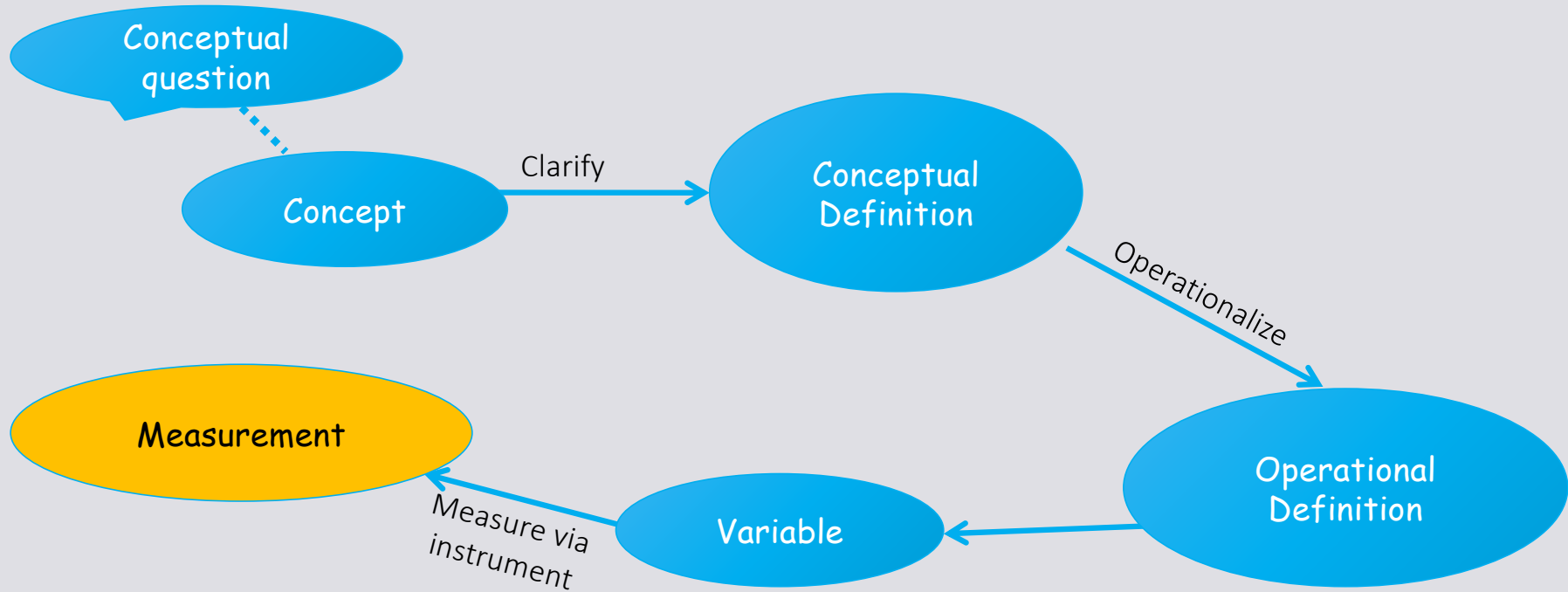
Example: political tolerance



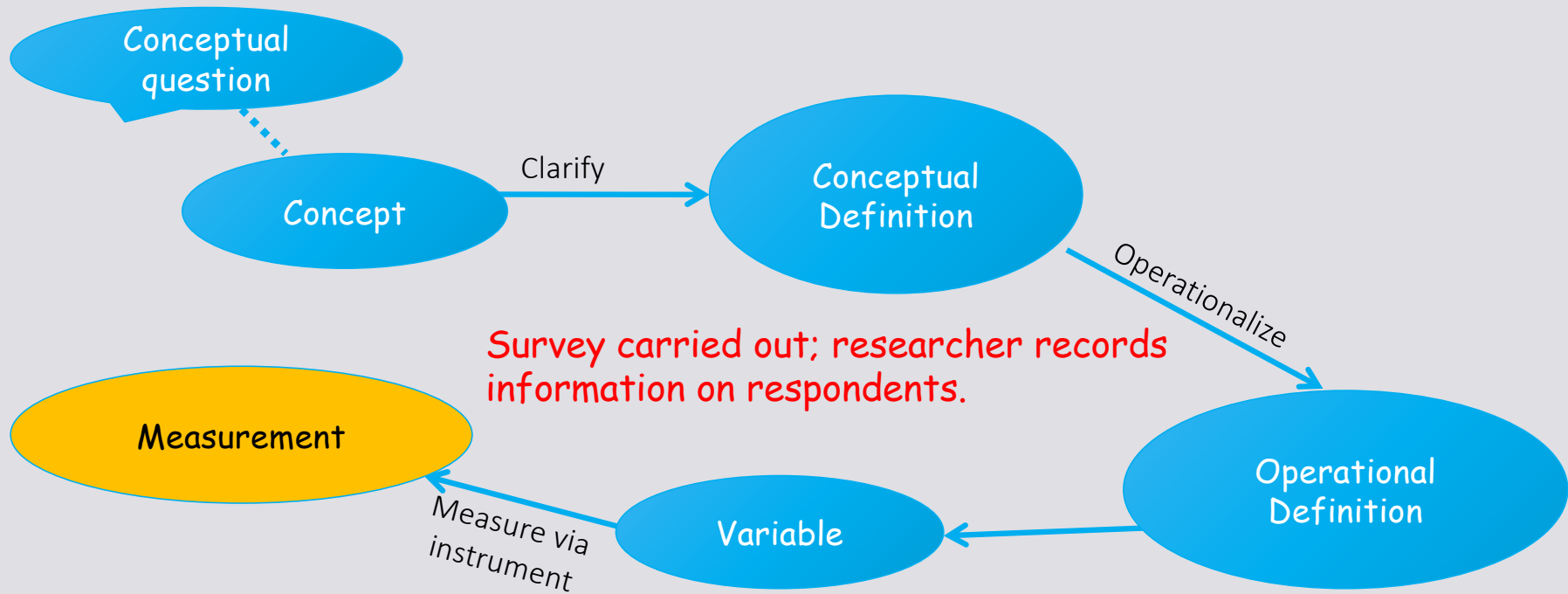
Example: political tolerance



Example: political tolerance

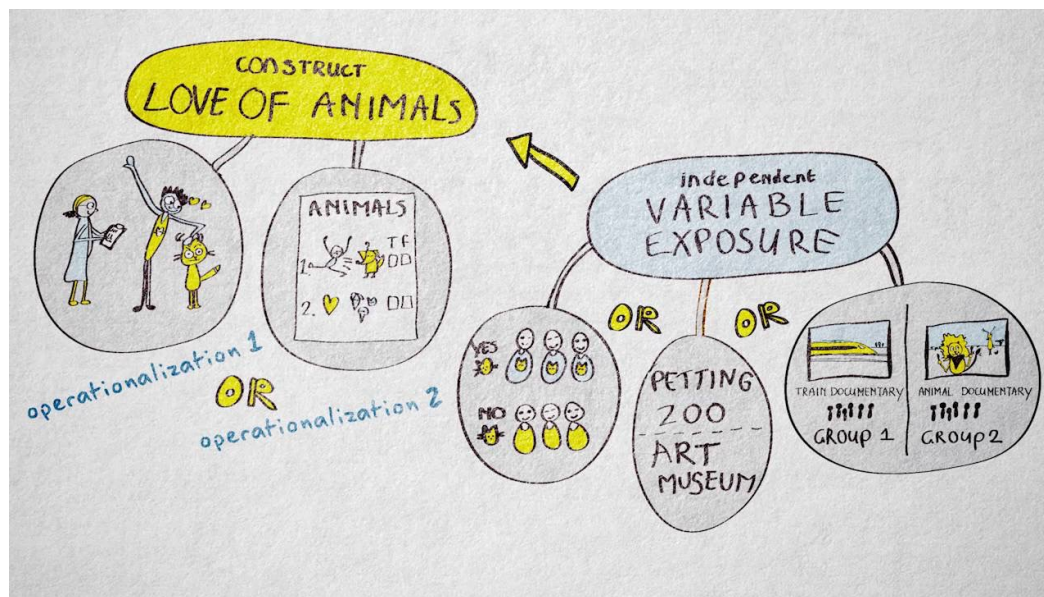


Example: political tolerance



Operationalization
as a link between
theory and
observation

What is
operationalization?
Reduce a concept
to a set of values
that can be
observed



Instrumentation as a link between theory and observation

What is instrumentation?

Plan for measurement



Operationalization examples

A non-political example:
Crop growth

Question: Does a certain fertilizer stimulate more growth in field on which it is applied?

What is the key concept being studied?

How should we operationalize it?

Your turn, a political example:
Party unity

Question: In a state legislature, do members of one party tend to support their own party more than those in the other party do?



Units of analysis

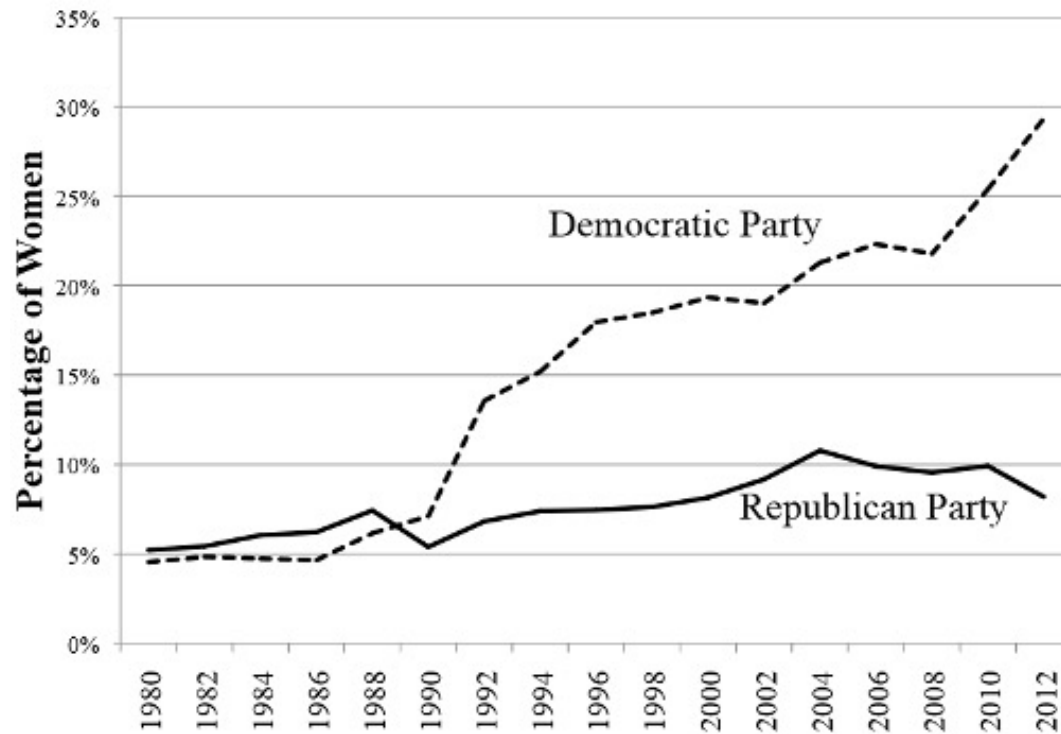
Individual people, groups of people, businesses, states, wars, trade deals, alliances, terrorist events, political institutions, roll call votes, court rulings, etc.

Concepts may be measured at different levels

Two main types:

Individual (micro)

Aggregate (macro)

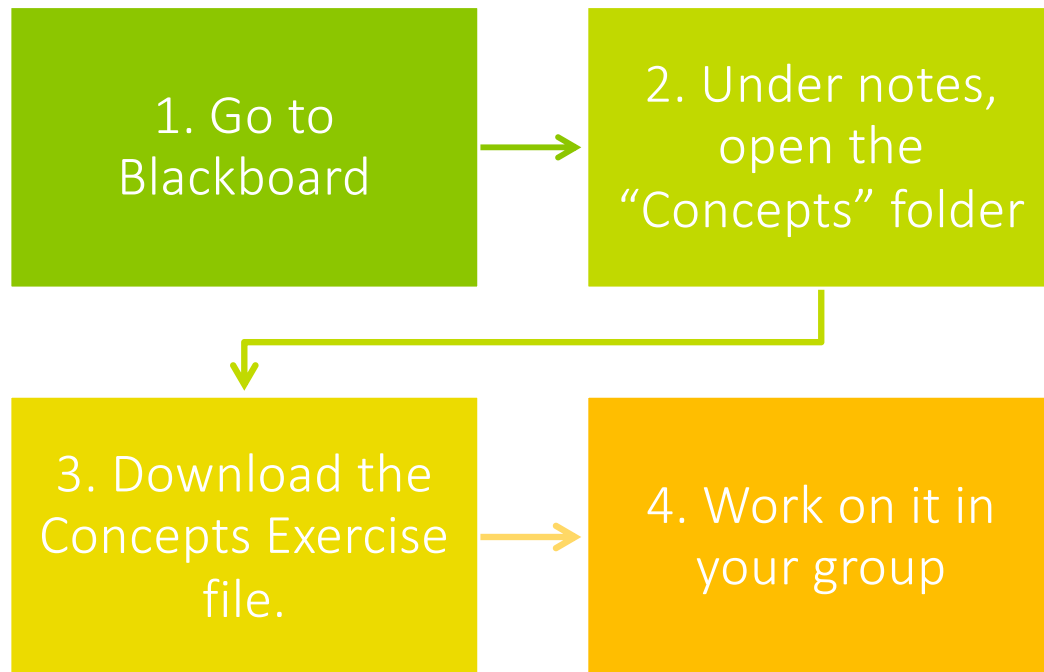


Example: women's representation in the U.S. Congress

Women make up only 20% of House of Representatives in US

Why?

Develop a theory



Try your own!

Next:

Measurement
error – reliability
and validity

