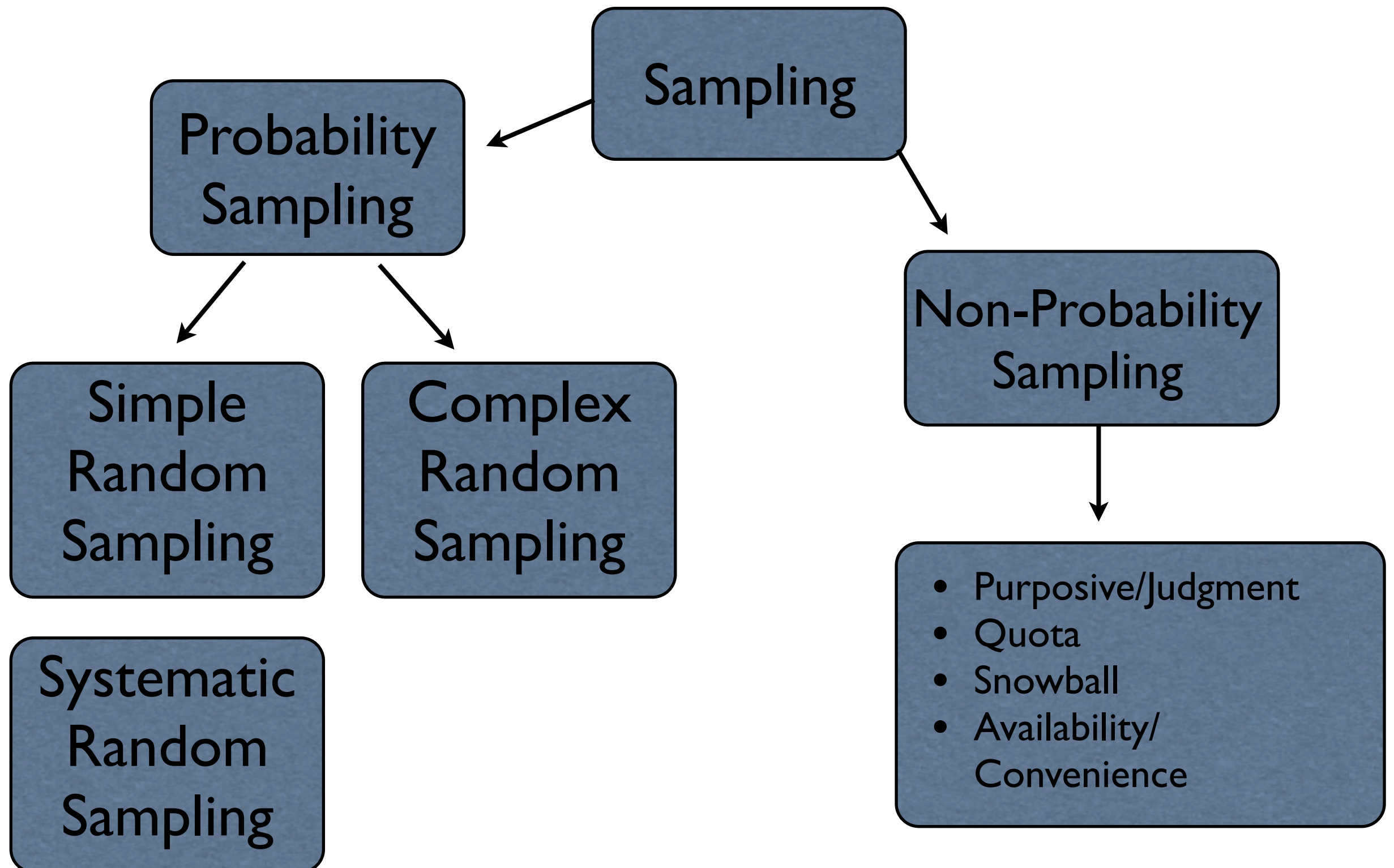


Lesson 4

Tuesday 2/6/24

Summary of Different Sampling Approaches



Varieties of Research Involving Statistics

- Descriptive Analysis: "How many" or "how often" questions; documenting patterns.
- Explanatory Studies: measuring the relationship between independent and dependent variables; testing hypotheses.
- Program and policy evaluation: analyzing the effectiveness of various policies and interventions on scientifically interesting criminal justice outcomes.

Examples

- Descriptive Analysis: Which states have the highest rates of police killings?
- Explanatory Studies: Some criminological theory hypothesizes that poor school performance is a cause of crime. A basic question we could answer with data is whether school performance is correlated with crime?
- Program and policy evaluation: do batterer intervention programs reduce future domestic violence?

Police Killings by State

- Within each state, we would need a way to count the number of times someone was killed by the police in a well-defined period of time.
- There is no nationally mandated reporting system for police killings.
- Most research in this area relies on data collected by journalists (see, the Washington Post database for example) .

School Performance and Crime

- If poor school performance is a cause of crime, then age should be correlated with crime.
- If school performance is a cause of crime, then the correlation should be measurable under a wide range of circumstances.
- If school performance is a cause of crime, then no other variable should be able to explain the correlation.

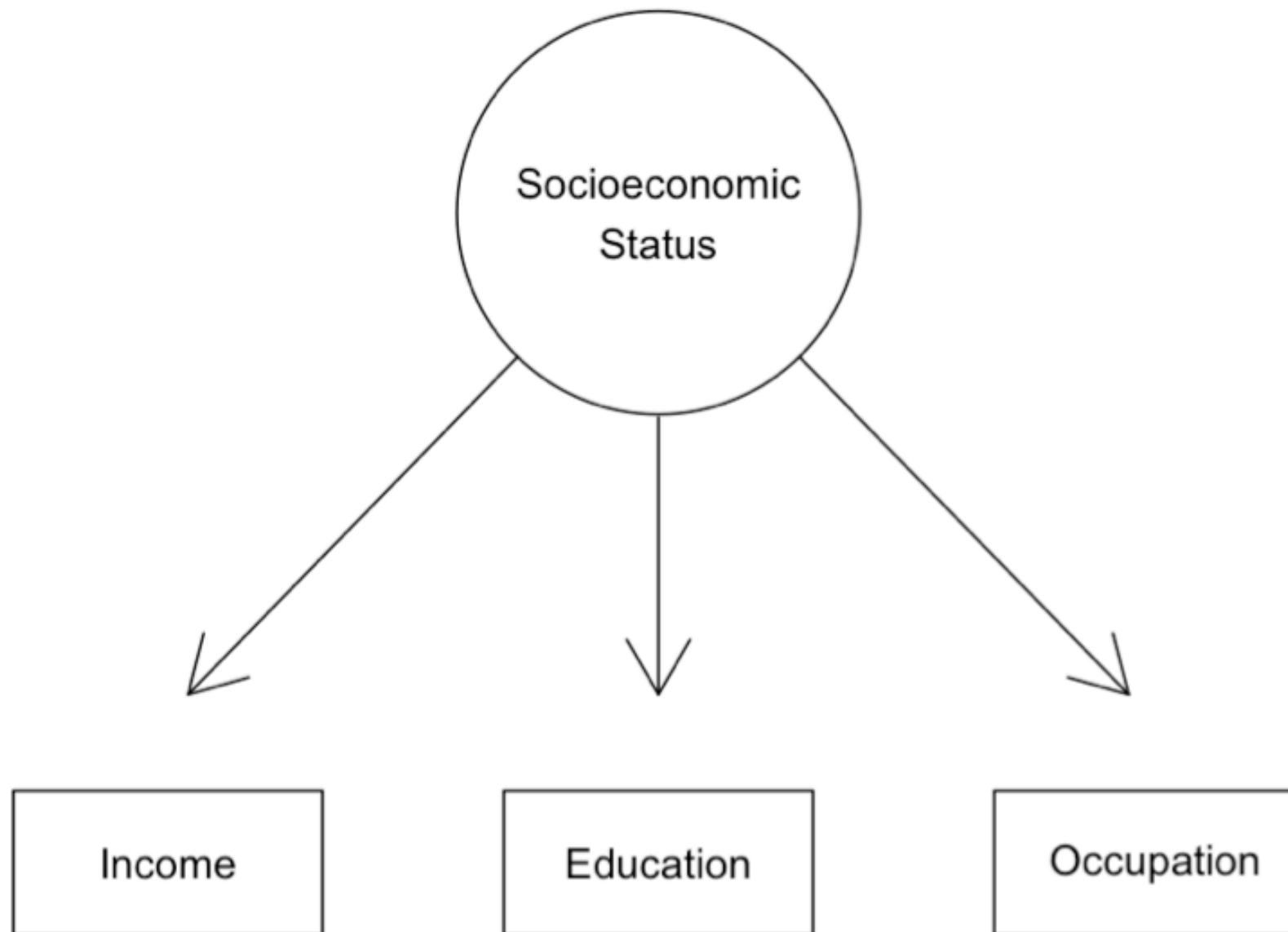
Batterer Intervention and Domestic Violence

- If a batterer intervention program is effective, it should be correlated with reduced rates of domestic violence.
- We could randomly assign abusers coming into court during some time period to 2 different groups: treatment and control. The treatment group gets the program and the control group gets whatever the business as usual condition is.
- Then, we can follow people in both groups (for the same length of time) to see whether the treatment group has better outcomes than the control group.
- This is an example of a randomized controlled experiment or trial (pp. 7-8 in your textbook).

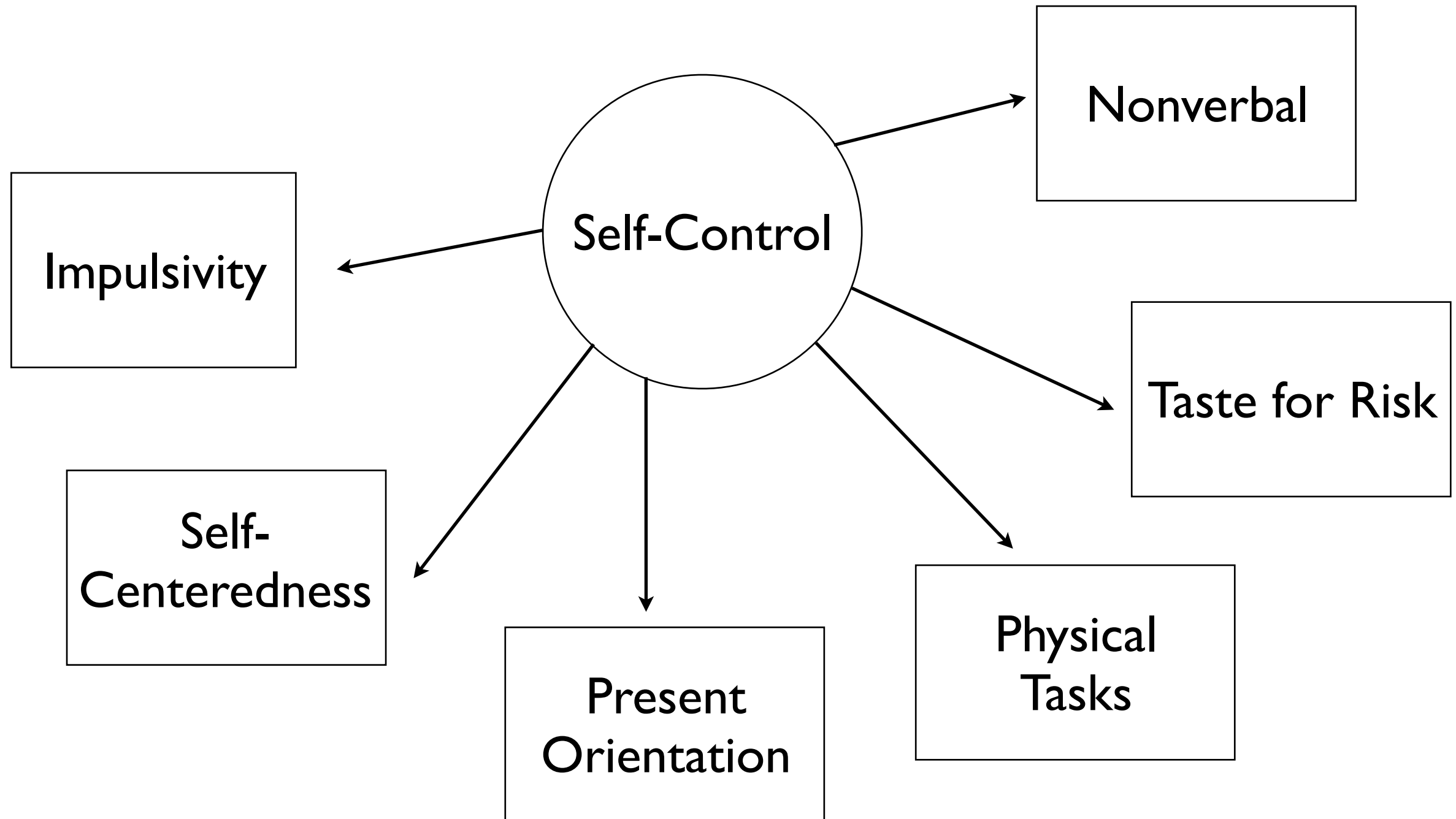
Measurement Validity

- Validity is a synonym for accuracy. In research, we say a measure is valid if the measure accurately reflects the concept that is being measured.
- Example: we might use the word "recidivism" to mean "new offending among people who have offended in the past." This is a conceptual definition.
- For purposes of conducting an actual study, we might define recidivism among a cohort of prison releasees as "any arrest for a new crime within 3 years of release from prison." This would be an operational definition.

Another Example (Measurement)



Another Example (Measurement)

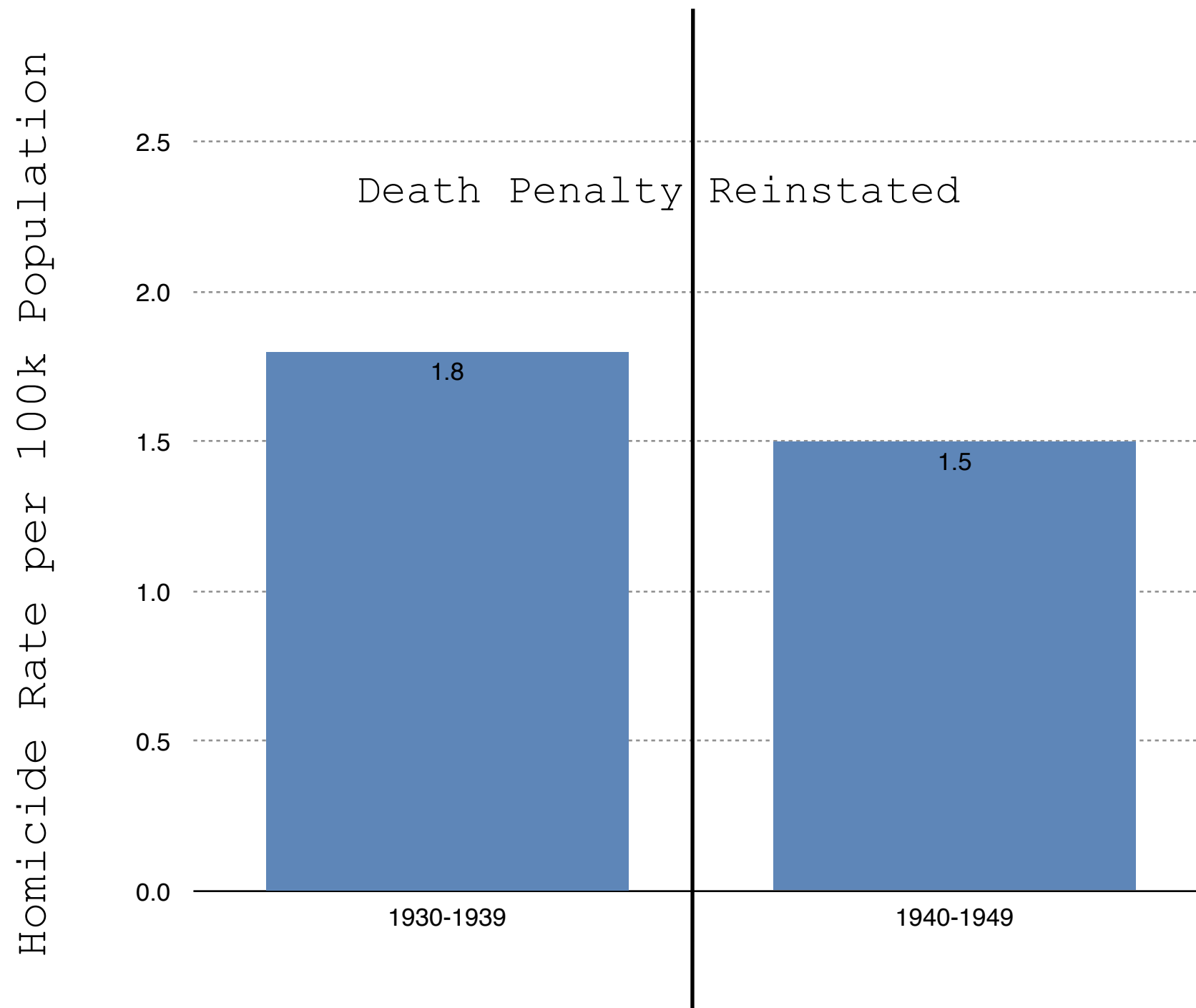


Source: Michael R. Gottfredson and Travis Hirschi (1990). A General Theory of Crime. Stanford, CA: Stanford University Press (see page 90).

Causal Validity

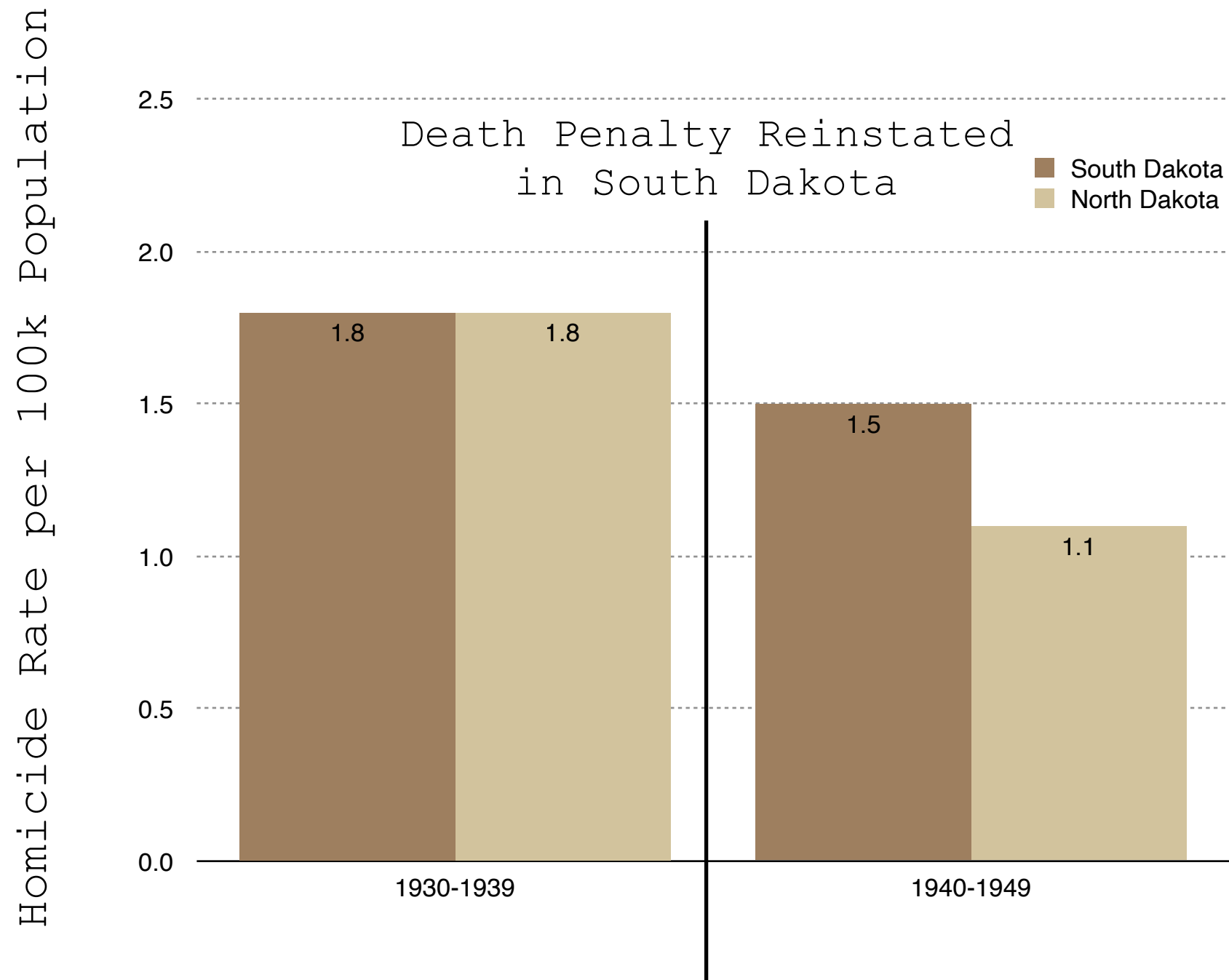
- Causal validity is a synonym for another term -- internal validity -- that is often used in research methods (note: your book has a typo on page 17 and refers to interval validity; this should say "internal" validity instead).
- The concern here (internal validity) is around whether a study provides convincing evidence of that a causal effect has been measured.
- Three conditions must be met to show that x is a cause of y: (1) x must precede y; (2) x and y must be correlated; (3) the correlation between x and y is not spurious.
- Establishing convincing evidence of cause-and-effect is very difficult as our next 3 examples will show.
- Another type of validity which we will consider later is "external validity"; has to do with the generalizability of our results to a larger population.

Homicide Rates in South Dakota



Source: Karl Schuessler (1952). The deterrent influence of the death penalty. Annals of the American Academy of Political and Social Science, 284:54-61 (at page 58).

Homicide Rates in North & South Dakota



Source: Karl Schuessler (1952). The deterrent influence of the death penalty. Annals of the American Academy of Political and Social Science, 284:54-61 (at page 58).