Sample Size and Other Issues in Social Science Research

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topics

- Sampling and standard error
- The role of sample size in standard error
- Role of sample size in social research
- Questions/comments

Sampling

- Selection of a part (sample) from the whole (population) in order to infer about the whole

- Success of sampling depends on "sampling error"

  - The amount error in our sample estimates that are due to 'chance'

- **Error can be measured only if it is a probability random sampling**

- **The amount of error depends on:**
  - **Sample size**
  - **Variation in the population**

Measuring error

- Standard error (se)=Sqrt(variance/sample size)
  - SE =$\sqrt{}$(S/n)*((N-n)/N-1))

  Where S=variance

  N=population size

  n=sample size
- We try to minimize the error
- Response rate

crude rule

- Each cell in a cross tabulation should have approximately 20 cases
- Eg. a 2 by 2 table should have 2X2X20=80 cases
- 2X2X2*20=160 cases
- Sample size=number of columns X number of columns *20

Sampling strategies

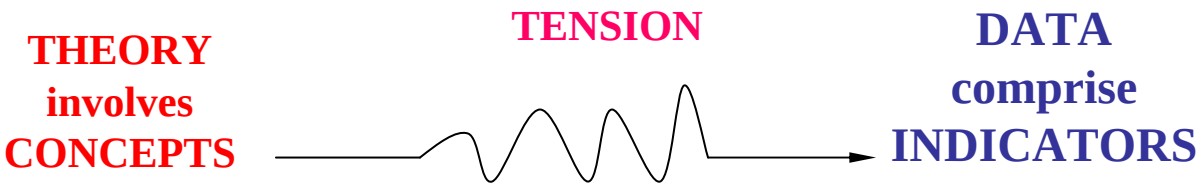
- There are two types of sampling:
  - Probability sampling
  - Non-Probability sampling

- Probability Sampling: each individual has a known probability of being included in the sample

- Known probability could vary for individuals

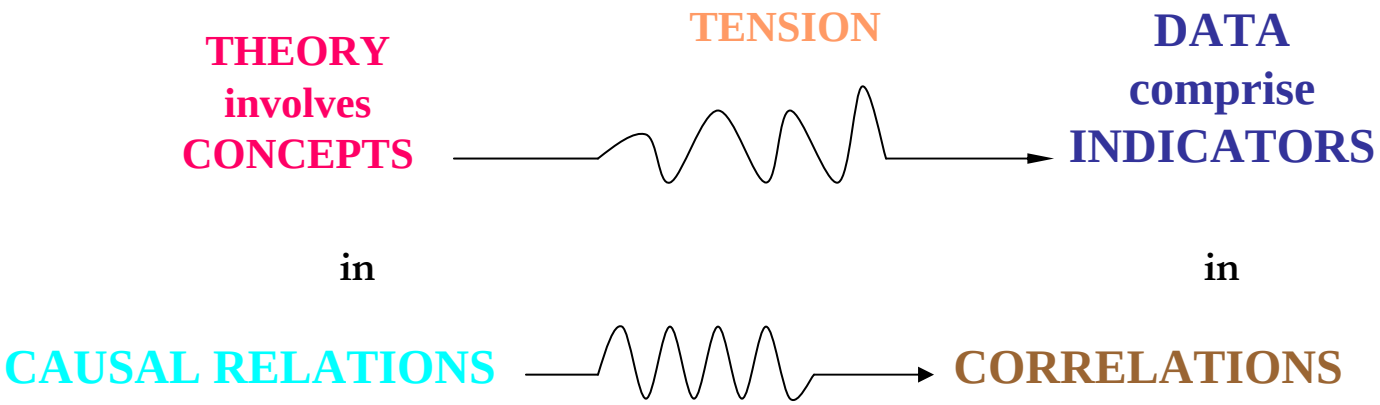
- Most widely used Prob. Sampling procedures are:
  - Simple random sampling (SRS)
  - Stratified Sampling
  - Cluster Sampling

The tensions between theory and data

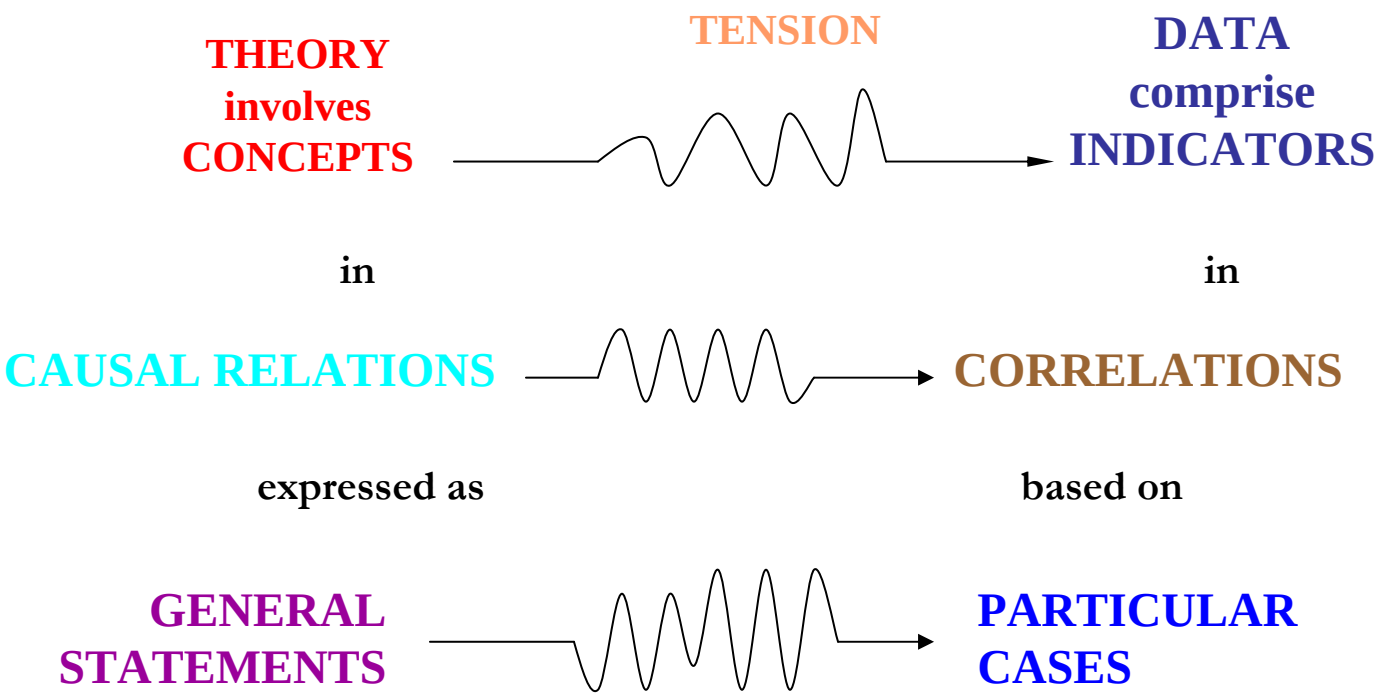


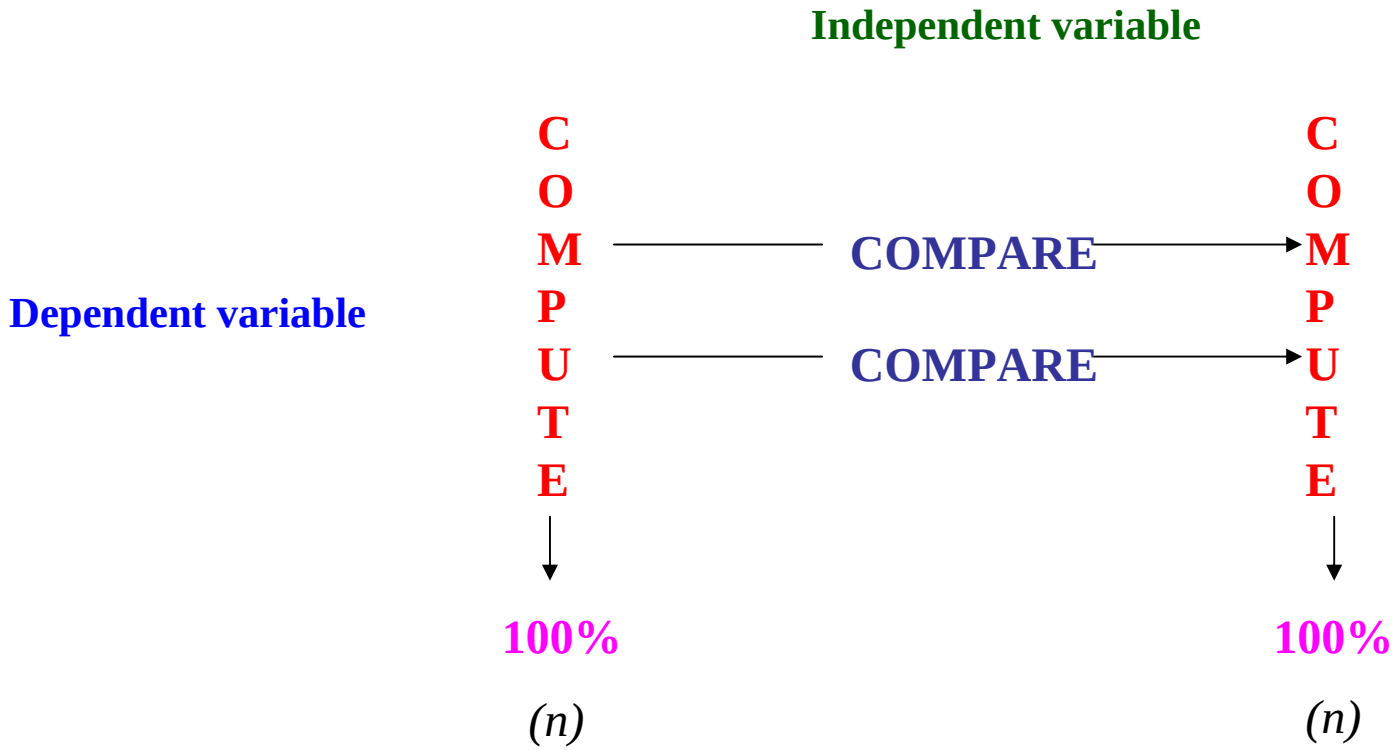
When we link an unobservable concept with an observable indicator we are producing operationalization

The tensions between theory and data



The tensions between theory and data





Model for analysing percentaged tables

resources

- Moser, C.A. and Kalton, G. 1971. Survey Methods in Social Investigation, Heienemann Educational, London.
- Rose, D. and Sullivan, O. 1996. Introducing Data Analysis for Social Scientists, Open University Press, Philadelphia.