

Describing bivariate relationships

The great sociologist Yu Xie said that understanding variation is the essence of sociology. The bulk of statistical procedures concern themselves with examining variation, what variables explain variation in another variable. You are going to learn a large number of sophisticated measures, but they all come down to this simple idea of explaining variation. This lecture gives you an overview of how quantitative analysis goes about explaining variation. Although this lecture is simpler than future lectures, it is more important. Never lose sight of these basic principles; every procedure, even the most advanced, weird procedures, are based on this foundation.

- Association versus causation
 - Dependent factors
 - Independent factors
 - Disturbing factors and control (preview of later topic)
- Graphs showing bivariate relationships
 - Scatterplots (measurement data with measurement data)
 - Bar charts with means or medians (measurement data with categorical data)
 - Stacked bar charts (categorical data with categorical data)
- Tables showing bivariate relationships
 - Comparison of means or medians tables
 - Crosstabulations
- Describing relationships further
 - Existence of relationship
 - Direction of relationship
 - Strength of relationship
- Problems in detecting relationships
 - Omitted variable bias or spuriousness
 - Curvilinear relationships
 - Imprecise categorization
 - Truncated examination