

Experiments

- Experiments allow us to test for causal relationships.
- Correlation vs. causation
 - In children, shoe size correlates with reading ability.

Experimental method

- Manipulate some aspects of the experimental situation (independent variables).
- Measure other aspects of the experimental situation (dependent variables).
- If dependent variable changes, then we can conclude that the change in the independent variable caused the change in the dependent variable...
IF no other factor is systematically influencing the dependent variable.

Controlling 'nuisance variables'

- The ideal is often held to be an experiment in which the independent variables change, but everything else remains constant.
- In the best of circumstances, this is not practical, and in linguistic experiments the best circumstances rarely obtain.

Controlling 'nuisance variables'

- More practical:
 - Eliminate alternative explanations for the hypothesized effect.
 - Keep conditions the same where practical.
- Nuisance variables can also be controlled by randomization (e.g. subject selection, order of presentation).
- Or they can be measured and controlled statistically.

Language is hard to control

- Many aspects of language co-vary, so it is often impossible to vary only the desired independent variable. E.g.
 - Intensity and duration generally vary with vowel height.
 - Can't find languages that are identical in all respects except vowel inventory.