Research Methods
(Psy 365)

Quasi-Experimental Design

What We Will Cover in This Section

• What are they?
• Designs.
  – Non-equivalent control group.
  – Interrupted time series.
  – Control series.
• Summary

Definition

• Designs that have all of the controls of a true experiment but do not duplicate the true experimental design.
  – Weakness in one or more areas.
  – Weakness leads to confounding.
  – Gives more information than nothing at all.
The Designs

Non-Equivalent Control Group, Pre-test: Post-test

<table>
<thead>
<tr>
<th>Pre-test</th>
<th>Independent Variable</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure A</td>
<td>Treatment 1</td>
<td>Measure A</td>
</tr>
<tr>
<td>Measure A</td>
<td>Treatment 2</td>
<td>Measure A</td>
</tr>
</tbody>
</table>

When Used

- When participants cannot be assigned at random.
- When you have to use pre-existing groups.
Issue and Answer

- **Issue.**
  - The groups may differ on the dependent variable at the beginning of the experiment.
- **Answer.**
  - Compare groups on the pre-test to see if there are differences.

Other Issues and Fixes

1. Replicate the study.
2. Assign multiple groups to treatment conditions.

Time Series Designs

- Similar to single subject design but with one group.
- Have no control group.
- Usually have
  - Baseline measurement on dependent variable.
  - Some manipulation or event.
  - Second measurement on the dependent variable.
Interrupted Time Series Design

Baseline (Pre-test)  Event  Post Test

Connecticut Traffic Fatalities

![Chart showing Connecticut Traffic Fatalities from 1951 to 1959, with years 1951 to 1959 on the x-axis and number of fatalities on the y-axis. The chart includes data points for Speeding and Crackdown events.]

When Used

- Assess the impact of some naturally occurring event.
- Assess the impact of some broad treatment within an existing group.
Control Series Design

Uses existing groups but attempts to match the treatment group with an equivalent control group.

Baseline | Event | Post Test
Baseline | Event | Post Test

Issues

- Potential confounding from...
  - History
  - Maturation
  - Instrumentation changes.
Connecticut Traffic Fatalities

Year

Fatality Rate
0 2 4 6 8 10 12 14 16 18

Conn Control

THE END