

## Prelude to Internal Validity Types

Of the four types of validity (Measurement, External, Internal & Statistical Conclusion), we will be most concerned with External Validity and Internal validity.

Each of these has different types or components with which you must be familiar

### Internal Validity

- initial equivalence
- ongoing equivalence

## Components of Internal Validity

Whenever we are testing causal research hypotheses we must be concerned about confounds or alternative explanations in the study!!!

### Initial Equivalence

- Prior to manipulation of the causal variable, participants in the different conditions are the same (on the average) on all measured/subject variables

### Ongoing Equivalence

- during manipulation of the causal variable, completion of the task, and measurement of the effect variable, manipulated/procedural variables in the different conditions are the same (on the average), except for the manipulated or treatment variable, per se.

Tell the confounding variable, whether it is measured subject variable or manipulated procedural variable and tell the component of internal validity(causal interpretability) that is at “risk” ... (answers on next page)

The causal research hypothesis was that those in the Therapy Treatment group would show better results than those in the Drug Treatment group.

1. I'm concerned that before the treatment began, those in the Drug Treatment group were more depressed than were those in the Therapy Treatment group.

2. Are you sure that there was no problem allowing those in the Drug Treatment group to attend an extra 5 sessions ? Those in the Therapy Treatment group didn't have the extra sessions.

The causal research hypothesis was that those in the Therapy Treatment group would show better results than those in the Drug Treatment group.

1. I'm concerned that before the treatment began, those in the Drug Treatment group were more depressed than were those in the Therapy Treatment group.

Depression is the confounding variable

- it is a measured or subject variable
- the component of internal validity that is involved is initial equivalence

2. Are you sure that there was no problem allowing those in the Drug Treatment group to attend an extra 5 sessions ? Those in the Therapy Treatment group didn't have the extra sessions.

Number of sessions is the confounding variable

- it is a manipulated or procedural variable
- the component of internal validity that is involved is ongoing equivalence

Again, please ... (answers on the next page)

The causal research hypothesis was that those in the Computer Training Condition would do better on the exam than those in the Lecture Condition.

1. Because of the class schedule, those in the Computer Training Condition only had 20 minutes to take the test, while those in the Lecture Condition had 30 minutes.

2. To save time, only those who are familiar with computers were included in the Computer Training Condition, and everybody else was put in the Lecture Condition.

Again, please ...

The causal research hypothesis was that those in the Computer Training Condition would do better on the exam than those in the Lecture Condition.

1. Because of the class schedule, those in the Computer Training Condition only had 20 minutes to take the test, while those in the Lecture Condition had 30 minutes.

Training time is the confounding variable

- it is a manipulated or procedural variable
- the component of internal validity that is involved is ongoing equivalence

2. To save time, only those who are familiar with computers were included in the Computer Training Condition, and everybody else was put in the Lecture Condition.

Familiarity with computers is the confounding variable

- it is a measured or subject variable
- the component of internal validity that is involved is initial equivalence