

Threats to Internal Validity

- History
- Maturation
- Experimental mortality (differential loss of subjects); e.g. for experimental treatments with extreme demands
- Testing
- Instrumentation
- Statistical regression
- Selection bias (“Group Effects”)
 - Failure of random assignment
- Experimenter bias
 - Experimenter expectations
 - Experimenter characteristics
 - Biosocial (race, sex, etc.)
 - Personality (anxiety, persuasiveness, etc.)
- Demand characteristics
- Interactions of the above (e.g. selection/maturation, etc.)

Threats to External Validity

- Test reactivity
- Selectivity
 - Subjects
 - Environment or situation
 - Mundane realism
 - Psychological realism
 - Time
- Interaction between selection bias and testing
 - E.g, facility with computers or other research technology
- Reactive effects of experimental arrangements
- Unnatural processing mode
 - Consistency
 - Accountability
 - Mindfulness
 - Ego
- Multiple treatment interference (time-series designs)
- Are experimental findings “trivial”?

Threats to Validity in Measurement

- Experimenter demand
- Acquiescence
- Evaluation apprehension
- Consistency pressure
- Serial contamination
 - Contrast effects
 - Assimilation (carryover) effects
- Other ways to ensure reliability and validity
 - Multiple indicators
 - Counterbalance question order
 - Priming
 - Sensitive questions
 - Best in a questionnaire
 - Provide people with response options so that they don't have to say something embarrassing out loud.
 - Provide realistic anchors to avoid ceiling effects
 - Replication with different dependent measures to ensure external validity