



## Research Methods Experimental Methods

Psychology 320  
Social Psychology

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### Experiments

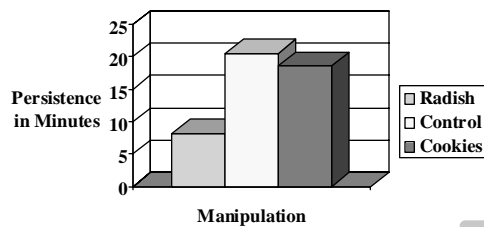
- Allow for causal inference.
- RANDOM ASSIGNMENT
  - NOT Random Sampling
- Independent Variable
  - What the experimenter DOES
- Dependent Variable
  - What the participant DOES

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Baumeister, Bratslavsky, Muraven, & Tice  
(1998)

### Willpower



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### Constructs vs. Operations

- Constructs—Broad concepts or ideas.
- Operations—Specific conceptualization or operationalizations of constructs.

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### Measures

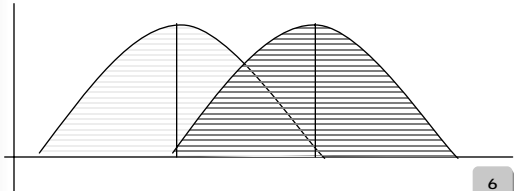
- Repeated → over time
- Multiple → different ways to assess the same construct
- Observation, Self-report, Performance

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### Differences

- Mean Differences
- Women are shorter than men.
- D statistics
- =  $(M_{\text{group1}} - M_{\text{group2}}) / \text{pooled standard error}$



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### Outliers

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- Can influence findings, but usually to weaken rather than strengthen.
- Concern is with the mean differences, not the individual case.
- Clinicians→individual cases?

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### Significance

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- Statistical vs. Practical
- Statistical not always Practical
- Careful Consideration
  - SAT scores
- Statistical–  $p < .05$

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### Realism

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- Mundane
- Psychological

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### Validity

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- Construct validity—operations are good measures of constructs
- Internal validity—causality by ruling out alternative explanation
- External validity—able to generalize findings

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### Reliability

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- Interjudge Reliability (intercoder reliability)
- Inter-item reliability
- Test-retest reliability

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### Replication & Meta-analysis

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- Replication—to find the same effect, with essentially all of the same methods
- Meta-analysis—statistically combine effects from all studies done on a particular construct.
  - Historically—Lit Review and Tally Box

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### Ethics vs. The 'Island'

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- Zimbardo's Stanford Prison Experiment

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### Human Subjects Boards

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- All protocols are reviewed.
- Impact on science?

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