



Experiments




The Basics


- Cause-effect relation between variables
- Combination of categorical and continuous variables
- Requires a controlled environment




Experimental


- *Violent media causes aggression*
 - People who are exposed to violent media will show more aggressive behavior than people who are exposed to other types of media
- *Ambiguity causes stress*
 - People who are placed in ambiguous situations will show more signs of stress than people placed in situations where the appropriate way to act is obvious






Two Types of Variables

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- ### Variable
- The “cause”
 - The manipulated variable (ex. media)
 - Typically categorical
 - Two or more “levels” or “conditions”
 - Ex. horror condition vs. comedy condition
 - Quantitative vs. qualitative
 - Experimental vs. control groups


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- ### Types of Variables
- Manipulated conditions
 - between-subjects
 - random assignment
 - Repeated
 - within-subjects
 - Subject variables
 - Median-split
 - Extreme cases
 - Can have any number of combinations




Variable

- The “effect”
- “Dependent on” the level of the independent variable (ex. aggression)
- Typically continuous
- Can have several dependent variables

Multiple-Group Designs





The _____ of Multiple-Group Designs

- Cause-effect relation between variables
- One independent variable with more than two levels
- Usually multiple hypotheses
 - one group will produce a larger effect than the other groups
 - groups with Shared Characteristic A will produce a larger effect than groups with Shared Characteristic B

Multiple-Group

- Cognitive-behavioral therapy is more effective than psychodynamic, humanistic, and efficacy-based therapy
- Conflict with parents and friends are more likely to lead to depression than conflict with one's co-workers or with one's roommate

Types of Multiple Group

- No control group vs. control group
- Independent- vs. Repeated-samples
- Comparing treatments, situations, or training

Things to consider

- More groups, bigger sample for between-subject designs
 - 20 participants for each group
- More groups, more suspicion in within-subject designs
- Design may be too simple if you recognize underlying factors among several groups

Factorial Designs

- Cause-effect relation between variables
- *At least two* categorical, independent variables and one continuous, dependent variable
- Independent variables also called "factors"

- ### Factorial _____
- Males who are provoked will be more aggressive than males who aren't provoked, and females in either condition (Provocation X Gender)
 - Nursing home patients will show the most life satisfaction when they a) choose their own daily activities AND b) are taught how to send email (Choice X Email)

Types of _____

- Randomized groups
- Matched-subjects
- Repeated measures
- Mixed

2 X 2 _____

- Two independent variables with two levels each

		IV #1	
		Level 1	Level 2
I V # 2	Level 1		
	Level 2		

Things to Consider

- Generally, looking for one "cell" to have higher values than the other "cells"
 - **Interaction effect**
- More IV's, more conditions
- More conditions, more participants needed
 - Unless all are repeated measures
- May add another IV as a *moderator*
