




Experiments

- 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



- 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

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



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 (Autonomy X Email)

Factorial

Race of Defendant

S E S o f D E F E N D A N T	Euro.-Amer.	African-Amer.	Asian-Amer.	Latin-Amer.
Low				
Mid				
High				

2 X 2 Matrix

- Two independent variables with two levels each

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

Things to Consider

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



Quasi-Experimental Designs

The Basics

- "Cause"-effect relation between variables
- Usually one categorical, quasi-independent variable and one continuous, dependent variable
- Requires *at least one* comparison group

Quasi-experiments vs. Experiments

- Quasi-experiments do not randomly assign participants to conditions
- _____ = participants are already in one condition or another
 - Exists prior to research
 - Unethical or impossible to assign participants to conditions

Quasi-experimental hypotheses

- Ex-convicts who go through a Halfway House have lower recidivism rates than ex-convicts who are simply released
- Children who are physically abused show more violent behaviors than children who are sexually abused or not abused
