



# Quasi Experimental Designs

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PSY 357: Community Psych  
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# Announcements

- ▶ Assignment 2 resuming grading will be done by Friday at the latest!
- ▶ Assignment 3 due date change! (NEXT FRIDAY! 4/7)
- ▶ Assignment 4 & 5 will be available soon.

# Some research terms

- ▶ **Dependent Variable (DV)**: Variable that the researcher measures
- ▶ **Independent Variable (IV)**: Variable that the researcher manipulates (Treatment/Intervention)
- ▶ **Measurement/Operationalization**: How the researcher chooses to keep track of the difference in the DV as well as take the baseline
- ▶ **Quasi-independent Variable**: Participant characteristics that are being looked at/compared. (Researcher can't control who identifies as what but can select groups based on these)
- ▶ **Control Group**: Usually the group measured as a baseline that doesn't receive or move through the intervention
- ▶ **Intervention**: What researchers implement in hopes that it will cause a marked difference in the DV

# Defining an intervention

Say as a researcher you wanted to do a research project where you were trying to reduce shame and stigma surrounding menstruation in k-12 schools in NY.

What is an intervention (something you could actually do or implement) that might address this?

What would this intervention look like?

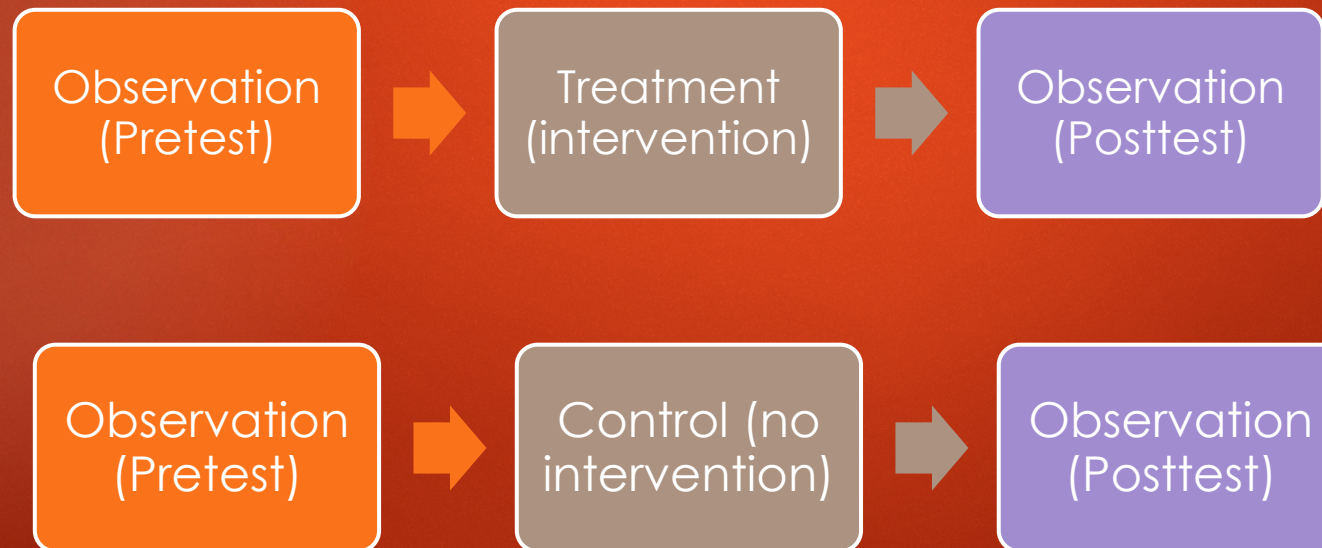
Who would it be for?

# Quasi-Experimental Designs

- ▶ Quasi-experiments are most often defined by what they are not, typically “True” Experiments (only in quotes because I personally question this claim of truth)
- ▶ Key differences between Quasi-experiments and True experiments are:
  - ▶ Participants are not randomly assigned
  - ▶ Researchers have less control over the intervention
  - ▶ Having control group is not necessary
  - ▶ Quasi-experiments can be done in the field or natural settings
- ▶ While similarities include:
  - ▶ Researchers implement and measure the effect of an intervention
  - ▶ Researchers are attempting to answer cause and effect questions between the iV (or quasi-independent) and DV.

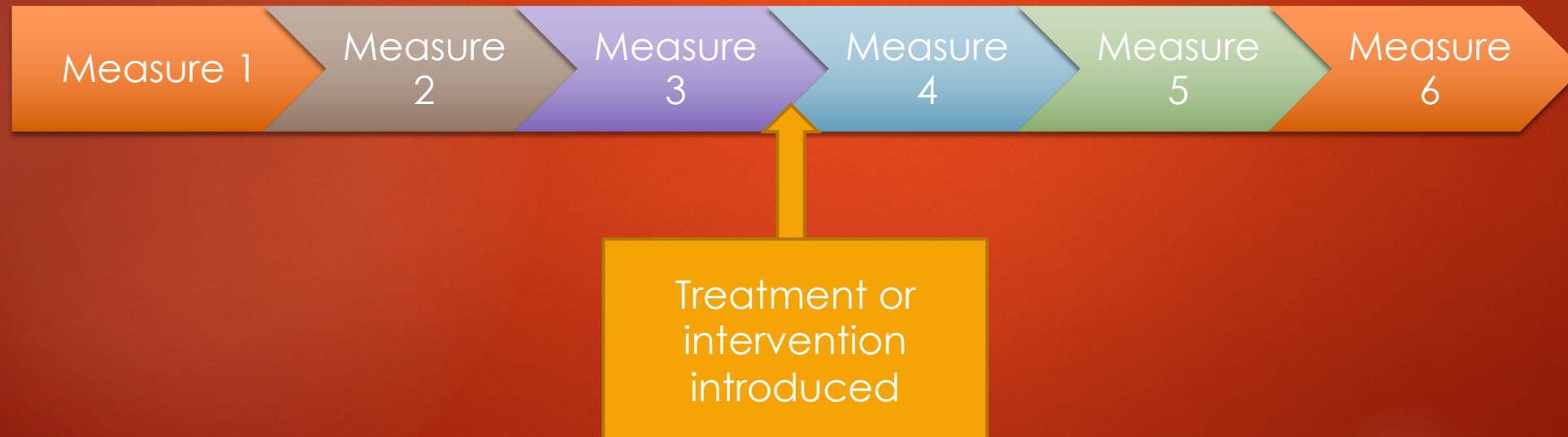
# Nonequivalent control group design

- ▶ Most common form of quasi experiment that involves Comparing two mostly similar groups where one receives the intervention and the other does not.
- ▶ Control group is matched preexisting criteria that makes it exceedingly similar to the treatment group
- ▶ Two types: Posttest only and Pretest-posttest design



# Interrupted time series designs

- ▶ Variable of interest (Dependent variable) is being measured at regular intervals which are then interrupted by treatment or intervention as measurement continues at the same intervals.



# Differential Design

- ▶ A relatively simple design: Two groups (sometimes more) are measured based on the presence or absence of some quasi-independent variable.
- ▶ The research usually tries to show that groups differ along these axes, but sometimes try to show how they do not differ.
- ▶ This design can be thought of as very similar to a nonequivalent group design however making sure both groups are similar is more important



# Class Discussion

Let's say we want to use a quasi-experimental design to try and prove that our intervention "community centered rehabilitation" was a more effective recovery method than a standard twelve step program for LGBTQ Adults dealing with substance dependence and addiction.

- ❖ What's your connection to this community and this issue?
- ❖ What would this intervention look like?
- ❖ How do we want to measure efficacy/recovery progress?
- ❖ What kind of design might we use?
- ❖ What are the strengths and limitations of our experiment?



# Quasi Experimental Designs

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3/30/2023

# Announcements

- ▶ Assignment 3 due date 4/7
- ▶ Assignments 4 +5 available soon
- ▶ Spring break begins next Wednesday so no class Thursday!

# Question

Let's say you wanted to do a quasi-experiment to address colorism within the latine community.

How would you operationalize colorism?

What could your intervention look like?

# Validity

## Internal Validity

- ▶ Making sure that your experiment measured and assessed whatever you're studying correctly.
- ▶ Always necessary to have some level of internal validity if not your experiment is incorrect/biased
- ▶ Quasi experiments have lower internal validity than true experiments

## External Validity

- ▶ Making sure that your experiment was done in such a way that it can be applied or generalized in some way.
- ▶ Not always necessary especially not in community psych research
- ▶ Quasi experiments tend to have higher external validity because they are done in the real world not in a lab

Important Note: These two have an inverse relationship. Meaning the higher the internal validity the less external validity you have and vice versa.

## Types of Internal Validity

- ▶ **Construct validity**: Test measures the concept that it's intended to measure
- ▶ **Content validity**: Test fully representative of what it aims to measure
- ▶ **Face validity**: Content of the test matches its aims
- ▶ **Criterion validity**: Results correspond to a different test of the same thing.

## Types of External Validity

- ▶ **Population**: Results are applicable to larger population
- ▶ **Ecological & Environmental**: Results are applicable across similar environments
- ▶ **Temporal**: Results are applicable across time and generations

# Threats to Validity

- ▶ **History:** Unrelated event that happens during study influences outcome
- ▶ **Maturation:** Time spent testing or in study influences outcome
- ▶ **Measure/Instrument:** Flaw in how something is measurement or instruments used to measure
- ▶ **Testing:** pretest influences outcome of posttest
- ▶ **Mortality/Attrition:** Participants leave changing outcomes
- ▶ **Experimenter:** Characteristics of experimenter change results
- ▶ **Hawthorne Effect:** Tendency of participants to change their behavior/answers because they are being studied
- ▶ **Situation effect:** Outside factors such as time of day, temperature, location influence findings.
- ▶ **Sample:** Sample is biased in some way
- ▶ **Diffusion:** Participants tell information about study to one another

# Question

Community psych researchers are trying to count instances of “Respectful behavior” in the context of their research with gang affiliated folk in NYC. The PI is noticing that their one research is utilizing a dictionary definition of respect to measure while the other is utilizing the definition of respect developed with community in the ethical framework. This has lead to drastic differences in the counts of “respectful behavior” between the two.

***What kind of threat to validity does this scenario describe?***

**Measurement/Instrument**



## Question

Community psych researchers are conducting a interrupted time series design around developing critical racial consciousness. They take three measures and introduce their treatment which is a workshop on racial consciousness building. They see amazing results. Later they find out that around the time of their treatment a massive social media campaign about what it means to understand race and power was released.

***What kind of threat to validity does this scenario describe?***

**History**

## Question

Community psych researchers are trying to address and reduce child maltreatment and abuse in low SES households in the NYC Using a pretest-posttest design and a treatment of confidential culturally responsive family counseling sessions. Researchers find that families are discussing their counseling sessions with one another.

***What kind of threat to validity does this scenario describe?***

**Diffusion**

# Community Psych and the Quasi Experiment

- ▶ Community psychology regularly uses Quasi-experimental designs because they can implement interventions or action within the project itself.
- ▶ Community psychology stretches stretches the boundaries of what a Quasi-experiment can be.
- ▶ Using Quasi-experimental designs in community psychology research projects allow researchers to get closer to making direct causal claims than most other methods.
- ▶ Anytime you heard the phrase “Community intervention” in a psych research paper you can usually conclude they are using some sort of quasi experiment.

# Important to remember

- ▶ Even in experiments and Quasi experiments a researchers claim to objectivity should still be questioned and interrogated
- ▶ Creativity in interventions and treatment is vital in community psych quasi-experiments lest we fall into the same cycles of violence
- ▶ Stay mindful ethical dilemmas present within the structure of quasi-experimental designs
- ▶ Power, privilege, and oppression are still wholly present in these studies and influence their outcomes

# Quick Review

- ▶ Independent, Quasi-independent, and Dependent Variables
- ▶ Types of Quasi experiments: Interrupted time series, Pretest-posttest, non-equivalent groups
- ▶ Internal validity: Making sure that you are measuring what you want to be measuring in the best way
- ▶ External validity: Ability to apply or generalize findings at some level beyond the research study
- ▶ Threats to validity: History, testing, maturation, attrition, Hawthorne, situation, measure, sample, experimenter

# Activity: Creating a Community centered Quasi-experiment

- ▶ Choose one of the three research goals
  1. Addressing suicidality and suicidal ideation in rural youth
  2. Increasing quality and equity in healthcare for BIWOC
  3. Reducing Islamophobia in NYC high schools
- ▶ Develop a research question & Hypothesis
- ▶ Define your variables, community of interest, measures
- ▶ Select a type of Quasi-experimental design you'd like to use
- ▶ Dream up a potential intervention/treatment that might help achieve your research goal
- ▶ Note the threats to validity that are present within your study