

# **Getting Started in Research**

**EDP 612 Week 4**

**Dr. Abhik Roy**



# Plan for the Day

- Ethics Wrap Up
- Review remaining Ethics Slides
- Facebook Article Discussion
- Literature Matrix Group Discussion
- Getting Started in Research
- Preliminary Ideas Roundtable



# Re: Ethics



# Facebook Article



# Literature Matrix Group Discussion



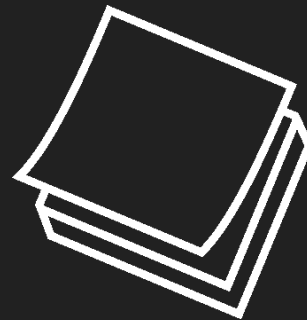
- In Groups, review your literature matrix.
- Compare/Contrast notes on articles
- Differences in organization?
- Use for your own Lit Review

# Getting started designing a research project



# Your own Ideas

- Take a few minutes and consider your own ideas for a research study as we go through the next set of slides:
  - Select a topic to study (maybe what you're going to do your lit review on)
  - Which broad approach do you plan to use (Qualitative, Quantitative)
  - Research Purpose Statement
  - 2-3 Research Questions or Hypotheses
  - Indented Measures
  - Sampling Method
- Prepare to share your initial ideas at the end of class!





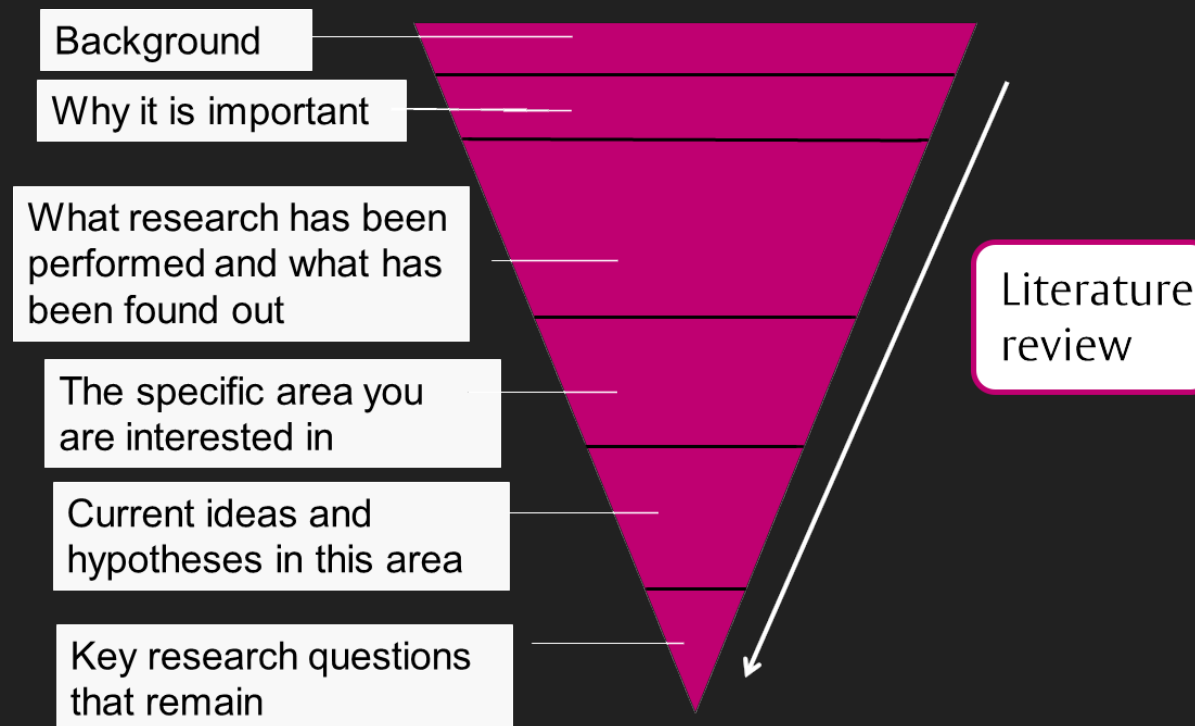
# Selecting a Research Topic

Where to get ideas?

- Literature
- Personal interests
- Observations
  
- Previous research experience
  
- Narrow your topic
  - Undergraduate research
  - Mentor-Mentee Relationships in UR
  - Disciplinary knowledge transfer between mentors and mentees in UR
  
- Additional Considerations:
  - Researchable?
  - Significance, Value, Worth?
  - Has it been done before?

# Lit Review

- Goal is to both review research in topic area AND to make it clear why your research questions can add to the field.
- Include seminal studies (landmark studies)
- Synthesize existing literature, do not summarize!



# Research Purpose, Questions, and Hypotheses

## Research Purpose Statement

- Purpose and objectives of the study.
  - May vary based on approach used (Qual verses Quant)

## Hypotheses & Research Questions

- Hypothesis: predictive relationships between variables (quant)
  - Research Questions: guiding questions of the study
    - Quant research – can have both hypotheses and RQs but not always
    - Qual – Research questions may be more inductive or open ended.

# Measurement & Variables

- Categorical Variables
  - Variables that are able to be sorted into meaningful groups
  - Student year in school, Race, Binaries (Yes, No; enrolled, not enrolled)
- Continuous Variables
  - Rely on progress and preserve meaningful distance between variables
  - Age, Income, time spent in condition
- Independent Variables
  - Influences or impacts other variables
- Dependent Variable
  - Affected or influenced by other variables
  - “depends” on other variables

# Also...

- Extraneous Variables
  - May impact data and aren't controlled for in the study
  - Covariates
  - May impact the study, so you control for these in your study!



# Sampling



- Things to consider:
  - Who is your population?
  - Who is the broad group you are interested in that you're pulling your sample from?
- Population: Undergraduate mentors and mentees at R1 institutions.
- Sample: 10 mentor-mentee pairs at R1 university on the mid-East coast.
  - Consider how many participants you might need:
  - Sample size calculators (quantitative research)
  - Reaching saturation (qualitative research) calculators

# Sampling

- *Probability Sampling*: Participant selection based on strategy such that population has a known and nonzero chance of being selected. Typically used in quant research. Useful if you are hoping to generalize your findings.
- *Purposeful Sampling*: Selecting participants who are the best candidates for the study. Typically used in qualitative research!

Simple random sample



Systematic sample



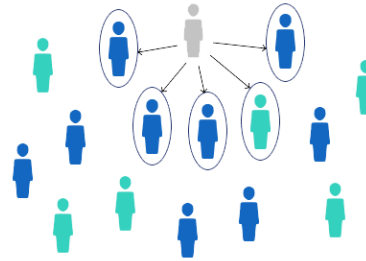
Stratified sample



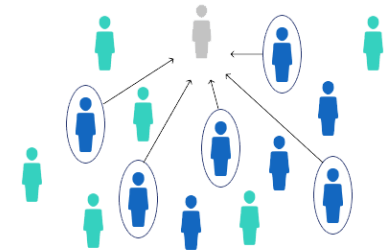
Cluster sample



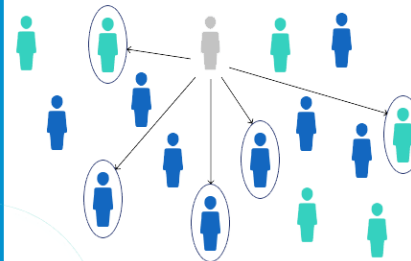
Convenience sample



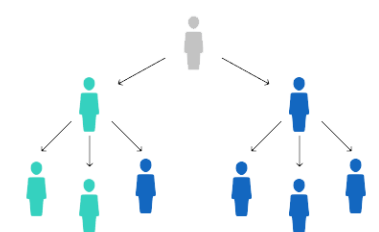
Voluntary response sample



Purposive sample



Snowball sample



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  - Indented Measures & Variables
  - Sampling Method



# Roundtable



- Talk us through your ideas so far!
  - Study purpose, Hypotheses/Research Questions, Approach (qual or quant), Variables and measures of interest, Sampling
  - Ask each other (and us) questions!

# For Next Week:

- Topic: Experimental and Quasi-Experimental Designs
  - Due: L1 - Selecting a Topic and Annotated Bib
    - (Similar to what we did in class today!)
    - Select a topic and describe it in 500 (+/- 50) words
    - Include an Appendix of the Annotated Bibliography
      - 5 articles in bibliography
    - Follow formatting guidelines (APA 7)
  - Read:
    - Leavy Chapter 4, p. 87-93.
    - Shadish , Cook, & Campbell, Chapter 1

# Calendar of Tasks



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L0	L0: Lit Review Process	Week 3
L1	L1: Topic Selection & Annotated Bib	Week 5
L2	L2: Annotated Bibliography	Week 7
L3	L3: Lit Review First Draft	Week 9
L4	L4: Lit Review Second Draft	Week 11
L5	L5: Lit Review Third Draft	Week 13
L6	L6: Lit Review Final Version!	Week 15 <sup>1</sup>

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<sup>1</sup>This is the week of final exams.

# That's it!

Any questions?

