INTRODUCTION TO SOCIAL SCIENCE

RESEARCH
I'm not going to do my math homework.

Look at these unsolved problems. Here's a number in mortal combat with another. One of them is going to get subtracted, but why? How? What will be left of him?

If I answered these, it would kill the suspense. It would resolve the conflict and turn intriguing possibilities into boring ol' facts.

I never really thought about the literary qualities of math.

I prefer to savor the mystery.
THE SCIENTIFIC STUDY OF HUMAN SOCIETY AND SOCIAL RELATIONSHIPS
SOCIAL SCIENCE RESEARCH METHODS

- Observational, archival, or case study
- Surveys, interviews
- Experimental research
RESEARCH ETHICS
RESEARCH ETHICS

- **Respect** for persons: recognition of the personal dignity and autonomy of individuals, special protection of those persons with diminished autonomy.

- **Beneficence**: obligation to protect persons from harm by maximizing anticipated benefits and minimizing possible risks of harm.

- **Justice**: requires that the benefits and burdens of research be distributed fairly.
RESEARCH ETHICS

- Example:
  - Milgram
BIASES IN SCIENCE

WOW, YOU SUCK AT MATH.

\[ \int x^2 = \pi \]

WOW, GIRLS SUCK AT MATH.

\[ \int x^2 = \pi \]
BIASES IN SCIENCE

- Confirmation bias
  - Ignoring evidence that contradicts what we believe
BIASES IN SCIENCE

▸ What robot would people most like to be?

privileged white adults with expertise in robotics
RESEARCH QUESTION

SHOULD I GET ONE 300 DOLLAR HOOKER?

OR THREE HUNDRED 1 DOLLAR HOOKERS?
RESEARCH QUESTION

- Thesis statement = answer to the research question.
- "Why do people like robots?"
  - Too broad!
- Better: "Does naming a Roomba make people anthropomorphize it more?"
- Are you biased?
A STATEMENT ASSUMED TO BE TRUE FOR THE PURPOSE OF TESTING ITS VALIDITY.
HYPOTHESIS

- If we make certain observations under particular conditions, and a particular theory is correct, then we should find the following results.

- Capable of empirical testing

- Capable of empirical confirmation or disconfirmation
HYPOTHESIS EXAMPLE

- If the Roomba is introduced with a name, participants will rate it as more anthropomorphic than when it is not.
ASPECT OF A TESTING CONDITION THAT CAN CHANGE WITH DIFFERENT CONDITIONS
VARIABLES

- Representative of the concepts you’re trying to measure
- Independent/dependent
- Confounded
HOW WELL DOES THE RESEARCH CONCLUSION CORRESPOND WITH REALITY?
VALIDITY

- Internal Validity
  - Is there really a cause and effect relationship between the independent and dependent variables?
    - Confounded variables
VALIDITY

- Construct Validity

  - Can we generalize from the specific things we’re measuring to the research question?
    - “Do people empathize with cute robots?” -> You need solid ways of measuring empathy and cuteness.
External Validity

Are the findings generalizable?

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WHAT TO BE CAREFUL OF WHEN DESIGNING AN EXPERIMENT

- Biases
- Ethics in human subject research
- Focused research question & hypothesis
- Internal validity: Defining your variables and holding other variables constant
- Construct validity: Are you measuring what you intend to measure?
- External validity: Generalizability of results?