

## **Tuskegee Syphilis Study**

- Conducted from 1932 to 1972
- Clinical study of natural progression of untreated syphilis in rural African American men who thought they were receiving free health care from U.S. government
- Enrolled 400 men who had syphilis, 200 who did not
- No one was told that they had syphilis, and those with the disease went untreated to observe its progression
- Led to the establishment of the Office for Human Research Protections (OHRP) and Institutional Review Boards (IRBs)

## **Milgram Obedience Study**

- A famous study about the role of obedience to authority figures
- Conducted in early 1960s, at a time when Nazi war criminals were on trial
- Explored the concept of "following orders"
  - Could an average person be pushed to harm others simply by the power of an authority figure asking him or her to behave a certain way?

## Milgram Obedience Study: Design

- Basic design:
  - Experimenter asked the teacher to give questions to a student (also called a learner).
  - The learner was a confederate (someone in on the study).
  - The teacher would give electric shocks when the student did not give correct answers to questions.
  - The experimenter would tell the teacher that "the study must continue," no matter how high the electric shocks went.
- Conditions included putting the "student" and "teacher" in same room or not, as well as having the experimenter in the same room as the teacher or not.

## Milgram Obedience Study: Impact

- Raised serious ethical issues regarding lab studies
- Psychological harm done to "teachers"
- Showed how tough concepts can be studied in a laboratory setting

## Stanford Prison Experiment

- The goal was to learn about the psychological effects of being a prison guard or a prisoner.
- University students were randomly assigned to be "prisoners" or "guards."
- Researchers watched to see how they behaved over time.
- It changed how studies are reviewed by IRBs.
- The psychological trauma to some of the participants raised an important issue about detrimental effects after a study is over.

## Further Exploration of Famous Experiments

- [Tuskegee Syphilis Study](#)
- [Milgram Obedience Study](#)
- [Stanford Prison Experiment](#)

## **Example Experiments From My Laboratory Work**

- Studying development of trust in different types of social interactions
- Laboratory experiments with hundreds of individuals
- Randomly assigning individuals to interact in different ways
- Measuring trust through self-reported responses

## **Field Experiments in Data Science**

- Experimental study about recruitment for online surveys via extrinsic and intrinsic motivation
  - Large-scale experiment across many tens of thousands of online daters
  - Especially interested in "surprise" incentives

## Review

- There are many types of experiments: some with small samples, others with thousands or even millions of participants.
- Experiments conducted outside of academic environments are not necessarily disclosed to participants.
  - Wikimedia foundation (Wikipedia), Google search data, Facebook, insurance companies, rewards and purchasing programs at companies like Wal-Mart, Target, and grocery stores
- Experiments test specific causal mechanisms in a way that may not be possible in other forms of data collection, such as scraping data from the web or compiling data from multiple sources.
- We must always consider ethical issues.
- Today issues of privacy and information security are at the forefront.