ETHICS AND PRIVACY

Angelo Klin

Katra Analytics

LEARNING OBJECTIVES

◉ Ethics, Codes of Conduct, Responsibilities

◉ Privacy

ETHICS AND PRIVACY

OPENING

- This topic is based on the content of the Privacy and Ethics class of Bill Howe
  - Bill Howe
    - Associate Professor in the Information School
    - Adjunct Associate Professor in Computer Science and Engineering
    - Associate Director and Senior Data Science Fellow at the University of Washington eScience Institute

ETHICS

BARROW ALCOHOL STUDY, 1979

◉ Barrow, Alaska

  ◉ Northernmost city in the United States

  ◉ Rural community

  ◉ Historical whales hunting based economy

  ◉ Significant economic changes over a short time since World War II

◉ Authorities concerned with drinking and violence

◉ Sociology researchers invited to access the problem and suggest solutions

BARROW ALCOHOL STUDY – METHODS

◉ People over the age of 15, representative sample (N=88)

◉ Checked on attitude and values on alcohol usage

◉ Psychological histories including drinking behaviour

◉ Tested with the Michigan Alcoholism Screening Test (Seltzer, 1971)

◉ Asked to draw a picture of a person, to determine cultural identity

BARROW ALCOHOL STUDY – RESULTS

- Results announced unilaterally and publicly
  - a report was released
  - a press conference was held to the Barrow community
    - **without representation** or **consent** from the tribal communities
- The report was picked up by the press
  - became a front page New York Times story titled "Alcohol plagues Eskimos"

The New York Times

WORLD	U.S.	N.Y. / REGION	BUSINESS	TECHNOLOGY	SCIENCE	HEALTH	SPORTS	OPINION

Article Preview

Alcohol Plagues Eskimos; Alcoholism Plagues Eskimo Village

DAVA SOBEL ();
January 22, 1980,
, Section Science Times, Page C1, Column , words

PERMISSIONS

[DISPLAYING ABSTRACT]

THE Inupiat Eskimos of Alaska's North Slope, whose culture has been overwhelmed by energy development activities, are "practically committing suicide" by mass alcoholism, University of Pennsylvania researchers said here yesterday. The alcoholism rate is 72 percent among the 2,000 Eskimo men and women in the village of Barrow, where violence is becoming the ...

- Methodology Problems
  - only natives were studied and outsiders in the town were not included in the study
    - some suggestion that there was a conclusion in mind when the study was designed, so to confirm the hypothesis
  - trying to form linkages between the frequency of intoxication, based on the association with the probability of being detained
  - Although no individual information was published, a group or ethnicity was clear, creating some stigmatisation
    - Ethics is not about technicalities

BARROW ALCOHOL STUDY – CONSEQUENCES

◉ Community's reputation

◉ The town's Standard & Poor bond rating suffered as a result

  ◉ decreased the tribe's ability to secure funding for much needed projects

  ◉ direct financial harm incurred by the community

ACTIVITY: COMMENT ON THE MATTER

EXERCISE

DIRECTIONS (10 MINUTES)

1. What is particularly troubling to you about this case?

2. Do researchers have special obligations when the participants are

    a. members of culturally distinct groups (often with their own governing bodies and laws);

    b. vulnerable groups in society; or are

    c. socio-economically disadvantaged?

3. Do you think the researchers in this case were culturally sensitive or competent?

ETHICAL PRINCIPALS VS ETHICAL RULES

◉ Existing rules at the time were applied and some that have been developed since then in terms of how to handle private data were not necessarily violated

◉ Ethical principles were violated

◉ Putting researchers' own needs and interests ahead of those of the research subjects, the client and society

CODES OF CONDUCT

◉ Ethical Principals vs Ethical Rules

◉ Codes of Conduct

  ◉ Statistical Society of Australia Incorporated (SSAI)

  ◉ Data Science Association

  ◉ Australian Public Service – Better Practice Guide for Big Data

  ◉ Certified Analytics Professional

SSA'S CODE OF CONDUCT

◉ The Public Interest

◉ Duty to Employers and Clients

◉ Duty to the Profession

◉ Professional Competence and Integrity

DSA'S CODE OF CONDUCT

- Terminology
- Competence
- Scope of Data Science Professional Services Between Client and Data Scientist
- Communication with Clients
- Confidential Information
- Conflicts of Interest
- Duties to Prospective Client
- Data Science Evidence, Quality of Data and Quality of Evidence
- Misconduct

PROTECTING SENSITIVE DATA

- HIPAA - Health Insurance Portability and Accountability Act
  - HHS
  - Wikipedia
- Australia
  - Privacy Act 1988
  - Regulation of Health Information

PRIVACY

PROTECTING SENSITIVE DATA

- ◉ Access Control
  - ◉ Who, When data can be accessed
- ◉ Query Control
  - ◉ What data can be accessed, normally via an API
- ◉ Perturbation based techniques
  - ◉ Add noise (might restrict what questions can be answered)
- ◉ Secure multi-part computation
  - ◉ Encrypt the data and allow remote computation
- ◉ Anonymity
  - ◉ Remove or convert characteristics that can identify one record

ACTIVITY: KNOWLEDGE CHECK

EXERCISE

1. What is the difference between causation and association?

TOPIC REVIEW

TOPIC REVIEW

- Always consider the implications of your fin

- Any other questions?

ETHICS AND PRIVACY

Q & A

CREDITS AND REFERENCES

ETHICS AND PRIVACY

- Videos
  - The ethics of data science: man and machine
  - Scientific Studies: Last Week Tonight with John Oliver (HBO)
  - Ethical quandary in the age of big data, Justin Grace, TEDxUCL
  - Data Science Ethics – Course Preview
  - Behind the Data: Humans and Values
- Courses
  - Coursera, University of Washington, Communicating Data Science Results
  - edX, University of Michigan, Data Science Ethics