Lecture 1:
Ethical Principles and Challenges

Summer Institute in Computational Social Science @ CU Boulder
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Why care about ethics?

- In the past, what we *could* do has been the limitation

- Increasingly, what we *should* do will become the limitations

- Research ethics will become increasingly central

- Increasing power of researchers and inconsistent rules over research

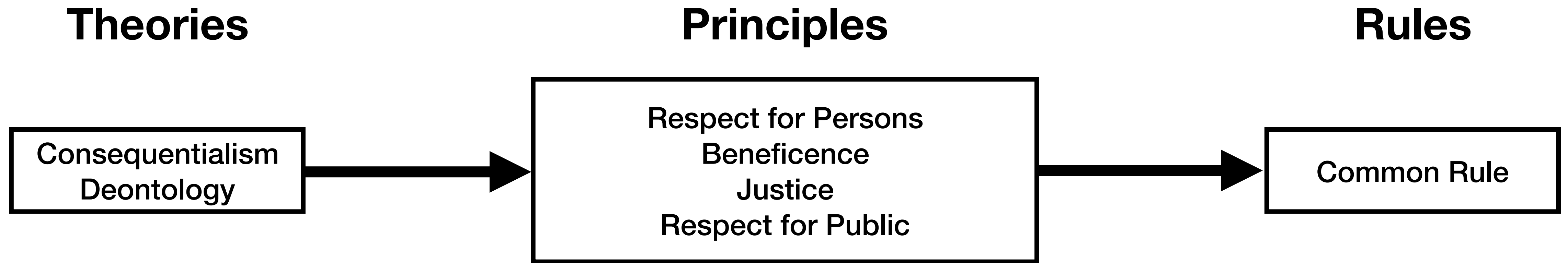University of Colorado Boulder

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Goals

- Computational social scientists will be responsible for:

  - Designing ethical and effective research

  - Explaining decision-making to others

Ethical Framework

Theories   **Principles**   **Rules**

Consequentialism
Deontology

→

Respect for Persons
Beneficence
Justice
Respect for Public

→

Common Rule

Four Ethical Theories

Type	Advantages	Disadvantages
Consequence-based *(Utilitarian)*	Emphasizes happiness and utility "Greatest good for greatest number"	Ignores concerns of justice for minority population
Duty-based *(Deontological)*	Emphasizes duty and respect for persons	Underestimates importance of happiness and utility
Contract-based *(Rights)*	Provides a motivation for morality	Overly permissive morality
Character-based *(Virtue)*	Emphasizes moral development and education	Assumes homogenous standards of morality

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Taxonomy of Ethical Ideologies

Relativism

	High	**Low**
High	**Situationists** Rejects moral rules; advocates individualistic analysis of each act in each situation	**Absolutists** Assumes the best possible outcome can always be achieved by following universal moral rules
Low	**Subjectivists** Appraisals based on personal values and perspective rather than universal moral principles	**Exceptionists** Moral absolutes guide judgments but pragmatically open to exceptions to these standards

Idealism

Complete this survey:

https://goo.gl/forms/oSRNR7dTTE182TUl3

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Principal Dimensions of Journalism Culture

Institutional Roles	Epistemologies	Ideologies*
Interventionism *Intervention vs. Passive*	**Objectivism** *Correspondence vs. Subjective*	**Relativism** *Contextual vs. Universal*
Power Distance *Adversarial vs. Loyal*	**Empiricism** *Empirical vs. Analytical*	**Idealism** *Means vs. Outcomes*
Market Orientation *Consumers vs. Citizens*		

Table 1 Classification of Professional Ideologies in Journalism

Professional Ideology	Interventionism	Power Distance	Market Orientation	Objectivism	Empiricism	Relativism	Idealism
Objective journalism	−			+	+	−	+
Advocacy journalism	+			−	−		
Adversarial journalism	+	+	−				
Watchdog journalism	+	+	−	+	+		
Investigative journalism		+	−	+	+	+	−
Public/civic journalism	+	+	−	−			
Interpretative journalism				−	−	−	
New journalism				−	−		
Development journalism	+	−	−	+	+		
Peace journalism	+		−	+	+		
Precision journalism	−			+	+		
Qualitative method journalism				−	+		
Service journalism			+				
Popular journalism		−	+			+	−
Existential journalism	+			−	−		

How do these dimensions map onto "orthodox" computational social science?

What other dimensions should be added for computational social science?

What other "kinds" of computational social science could exist?

Hanitzsch, T. (2007) "Deconstructing Journalism Culture." *Communication Theory*: 367-385

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Research ethics principles

- **Respect for persons**: participants decide, not you

- **Beneficence**: minimize risk, maximize benefits, then decide

- **Justice**: distribute burdens and benefits of research

- **Respect for Public**: compliance, accountability, transparency

Principles

Respect for Persons
Beneficence
Justice
Respect for Public

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2014 Facebook Experiment

- Reduced amount of emotional content (positive & negative) in Facebook News Feed

- When positive content reduced, people produced fewer positive posts and more negative posts

- When negative content reduced, people produces more positive posts and fewer negative posts
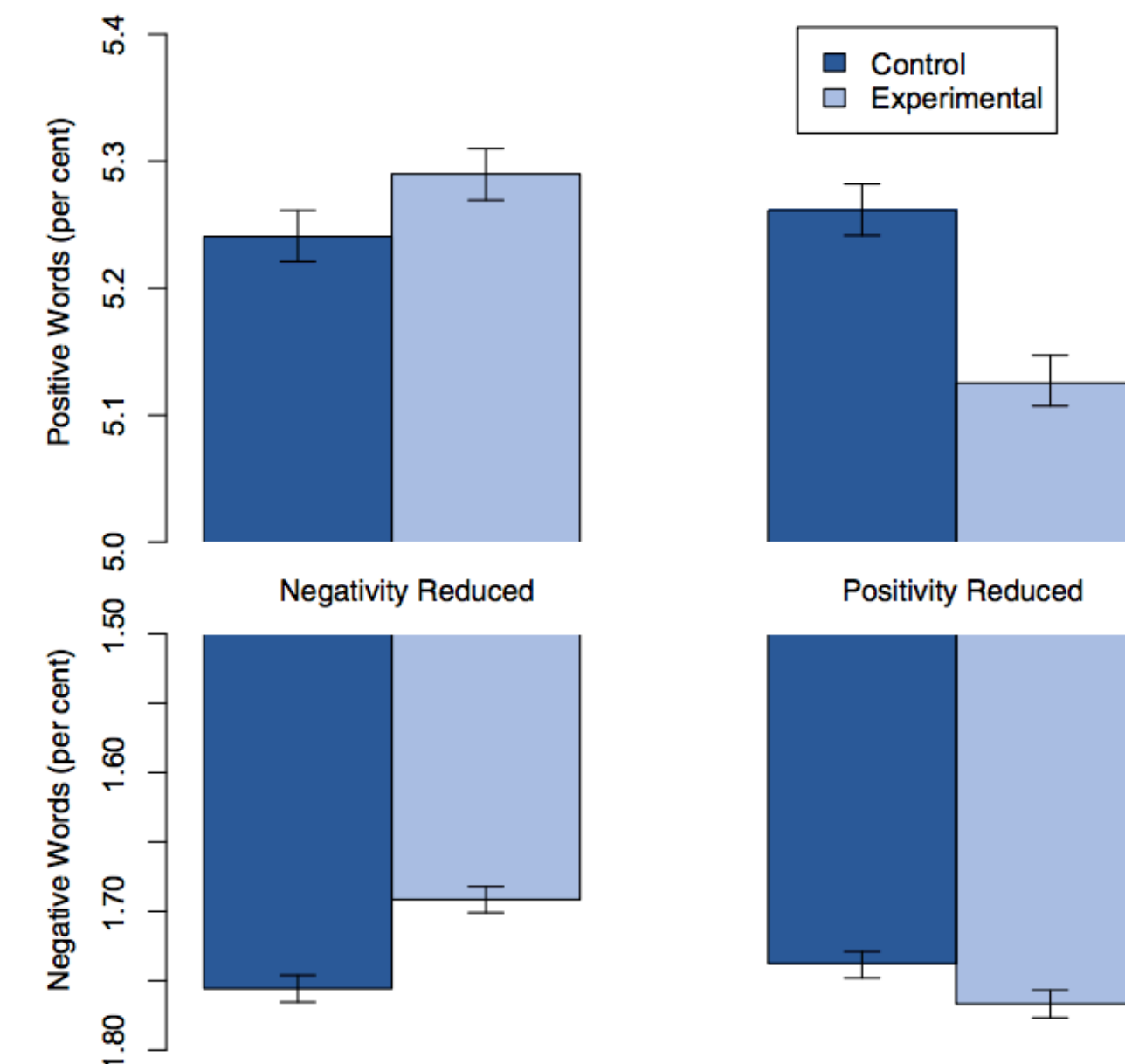
Experimental evidence of massive-scale emotional contagion through social networks

Adam D. I. Kramer, Jamie E. Guillory, and Jeffrey T. Hancock

Fig. 1. Mean number of positive (*Upper*) and negative (*Lower*) emotion words (percent) generated people, by condition. Bars represent standard errors.

2014 Facebook Experiment

"Even if it is true that the risks for the Facebook experiment were low and even if, in hindsight, the results are judged to be useful, there is an important principle at stake here that must be upheld. In the same way that stealing is stealing no matter what amounts are involved so **we all have a right not to be experimented on without our knowledge and consent**, whatever the nature of the research"
— Kleinsman and Buckley, 2015

"The "A/B illusion" [is] the human tendency to focus on the risk, uncertainty and power asymmetries of running a test that compares A to B, while ignoring those factors when A is simply imposed by itself. … **We assign false value to the A before us, never imagining the possibly preferable B that was never tried.** But as long as we permit those in power to make unilateral choices that affect us, we shouldn't thwart low-risk efforts… to rigorously determine the effects of those choices."
— Meyer and Chabris, 2015

Which of these arguments is rooted in consequentialism? Deontologicalism?

Other examples?

- Think-pair-share other examples

Four areas of difficulty

- Informed consent

- Informational risk

- Privacy

- Decision-making under uncertainty

Informed consent

- **Simple idea**: obtain informed consent from all participants

  - Motivated by respect for persons or beneficence?

Consent, deception, and audit studies

- White and black applicants with similar qualifications but different criminal records

- No informed consent from employers interviewing candidates

- Principles-based arguments

  - limited harm to employers

  - robust measure of discrimination

  - weaknesses of alternatives

  - deception does not violate norms

- Rules-based arguments

  - Approved by IRBs and courts

The Mark of a Criminal Record[1]
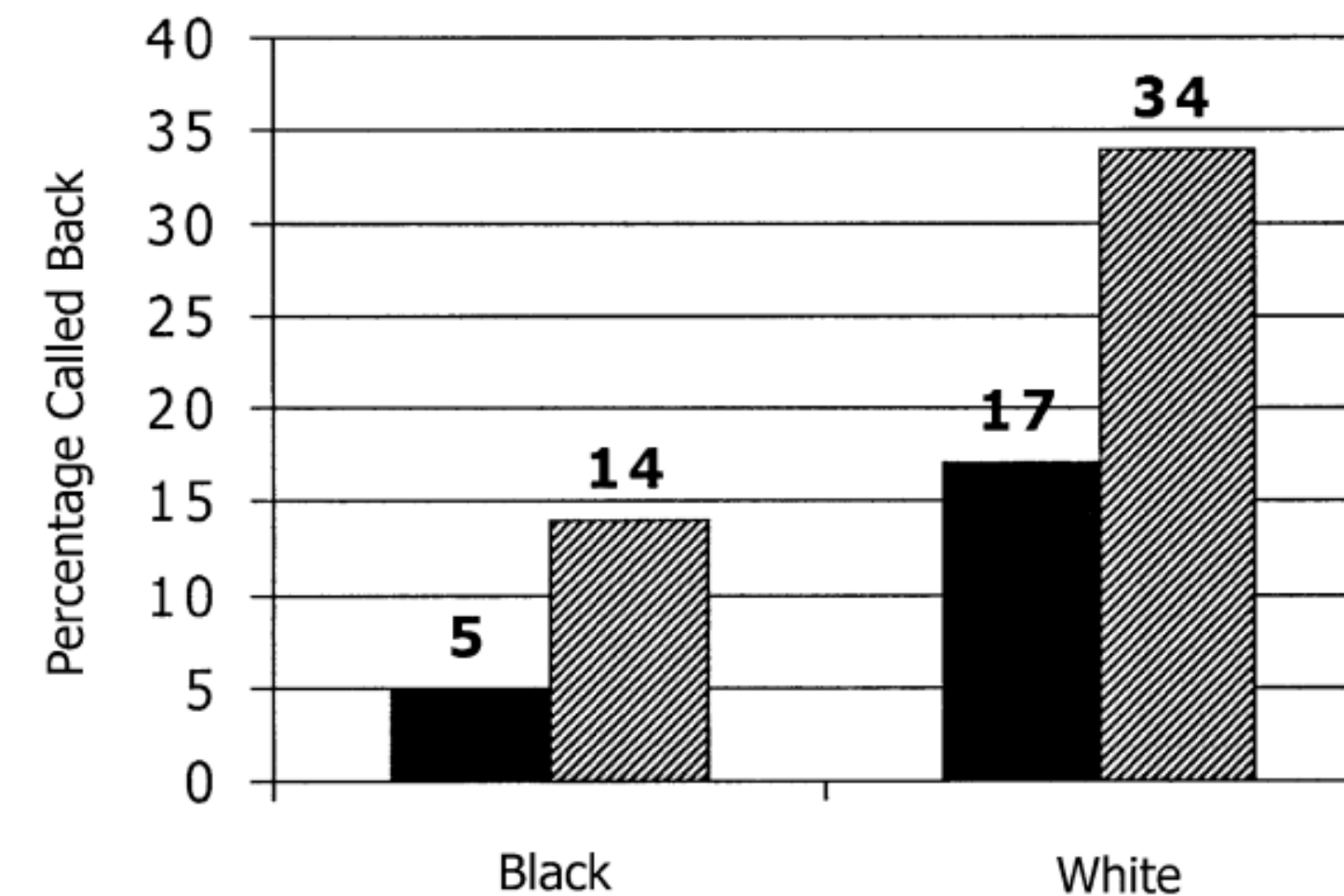
Devah Pager
Northwestern University

FIG. 6.—The effect of a criminal record for black and white job applicants. The main effects of race and criminal record are statically significant ($P < .01$). The interaction between the two is not significant in the full sample. Black bars represent criminal record; striped bars represent no criminal record.

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Informed consent

- **Simple idea**: obtain informed consent from all participants

  - Motivated by respect for persons or beneficence?

- **Actual rules**: some form of consent for <u>most</u> research

  - Audit studies prioritize fidelity over consent → deceptive?

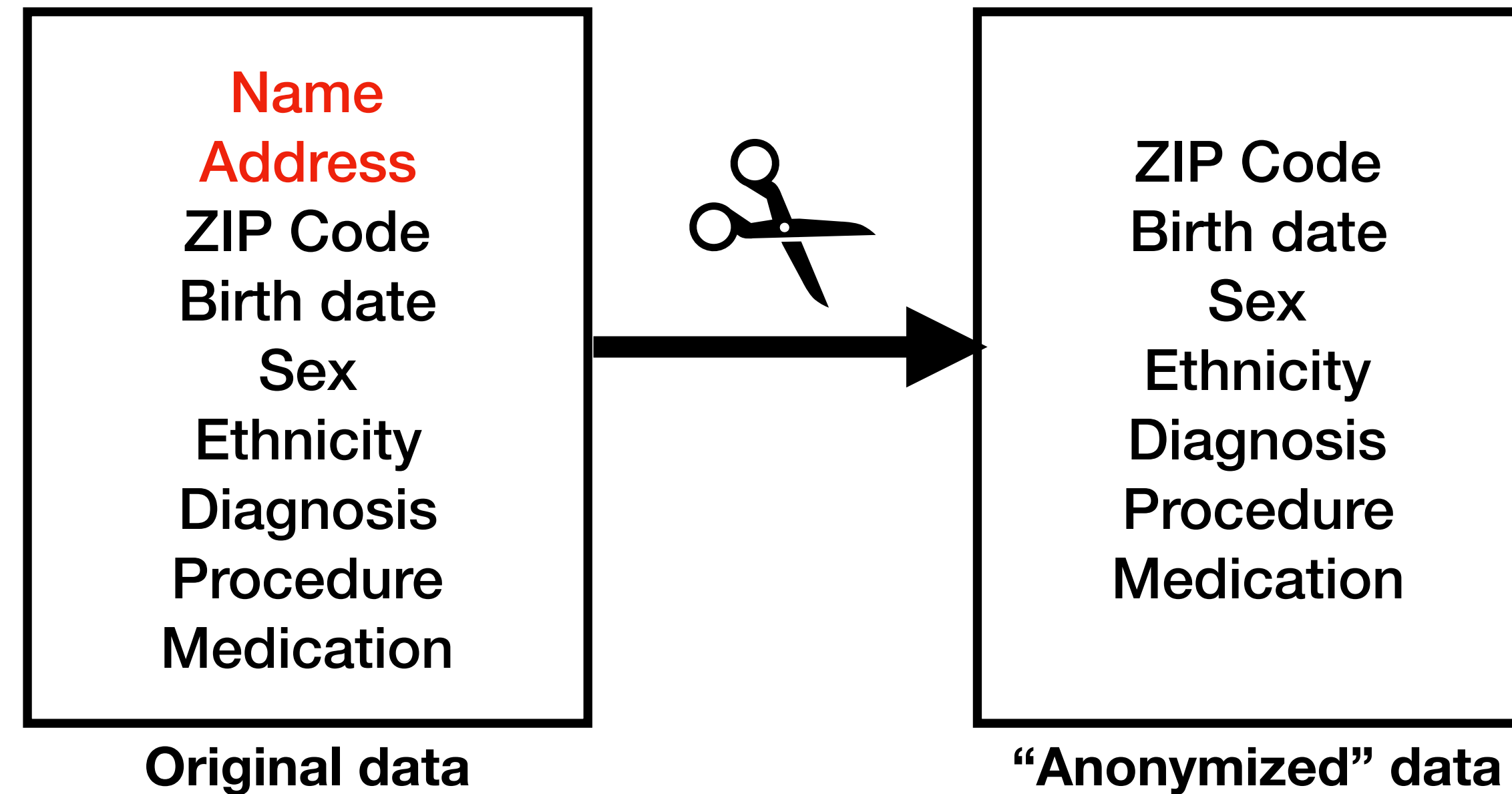 - Pre-existing data typically not human subjects research → loophole?

Informational risk

- Harms from disclosure of personal information

  - Economic (*e.g.*, losing a job)

  - Social (*e.g.*, embarassment)

  - Psychological (*e.g.*, depression)

  - Criminal (*e.g.*, arrest)

- **Simple idea**: We can identify and irrevocably anonymize sensitive data
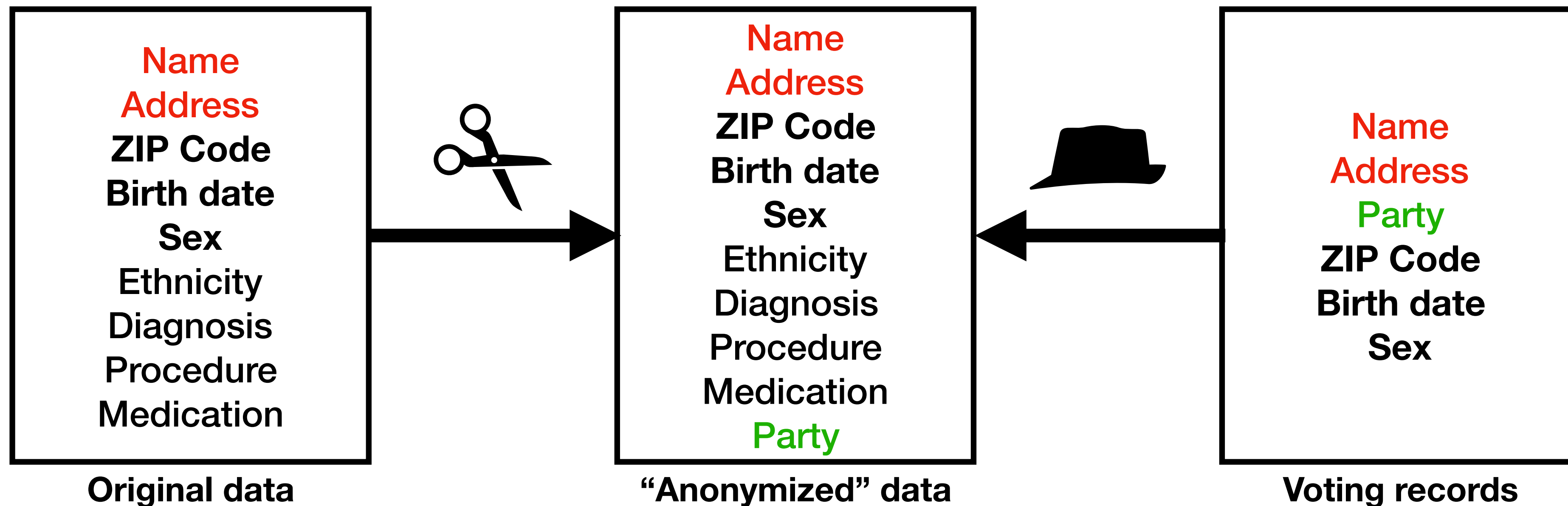
Anonymization

Original data

Name
Address
ZIP Code
Birth date
Sex
Ethnicity
Diagnosis
Procedure
Medication

"Anonymized" data

ZIP Code
Birth date
Sex
Ethnicity
Diagnosis
Procedure
Medication

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De-anonymization

Sweeney, L. (2002) "k-Anonymity: A Model for Protecting Privacy." *Int'l J. on Uncertainty, Fuzziness, & KBS*, 10(5): 557-570.

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Informational risk

- **Simple idea**: We can identify and irrevocably anonymize sensitive data

- **Better idea**: All data are potentially identifiable and sensitive

- "Five safes" data protection plan (Desai, *et al*. 2016)

  - Safe projects: "Is this use of the data appropriate?"

  - Safe people: "Can the users be trusted to use this data appropriately?"

  - Safe data: "Is there a disclosure risk in the data itself?"

  - Safe settings: "Is the data stored to limit unauthorized use?"

  - Safe output: "Are the statistical results non-disclosing?"

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Privacy

- **Simple idea**: Public-private dichotomy "Keep them separated"

Social pressure and voter records

- Are voter more effectively mobilized by appeals that engender pride or shame?

- Shame mobilizes both high- and low-propensity voters, pride only high-propensity voters

- Principles-based vs. rules-based ethics?

WHO VOTES IS PUBLIC INFORMATION!

Dear registered voter:

On November 6, 2007, an election to select local leaders will be held in Ely, IA.

As a registered voter, you are eligible to vote in this election. We urge you to exercise your civic duty and vote on November 6th.

We also remind you that who votes is a matter of public record.

To promote participation in the election, we will obtain a complete list of registered voters who cast ballots on Election Day from local election officials. Shortly after the November 2007 election, we will publish in the local newspaper a complete list of all Ely registered voters who did <u>not</u> vote.

The names of those who took the time to vote will not appear on this list.

DO YOUR CIVIC DUTY! VOTE ON ELECTION DAY!

Panagopoulos, C. (2010) "Experimental Evidence of the Mobilizing Effects of Pride, Shame and Publicizing Voting Behavior." *Political Behavior*, 32(3): 369-386.

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Privacy

- **Simple idea**: Public-private dichotomy "Keep them separated"

- **Better idea**: context-relevant informational norms, "contextual integrity"

  - Who are actors? (subject, sender, recipient)

  - What is information?

  - How is it transmitted?

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Decision-making under uncertainty

- **Simple idea**: Better safe than sorry ("precautionary principle")

2014 Facebook Experiment

- Improve user experience and engagement

- No risk-free approach

  - Someone harmed by experiment

  - Someone harmed by *status quo*

Experimental evidence of massive-scale emotional contagion through social networks

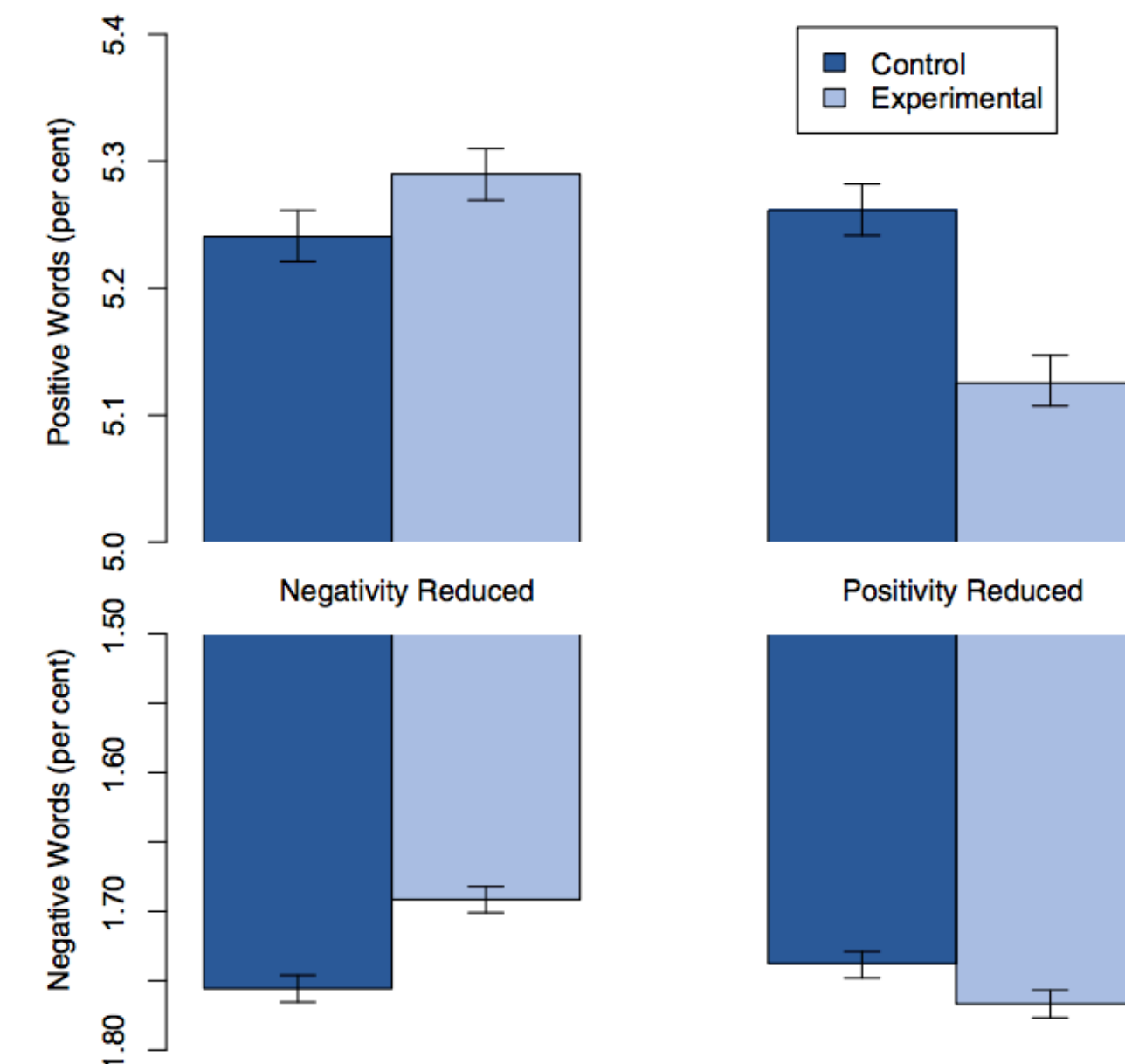Adam D. I. Kramer, Jamie E. Guillory, and Jeffrey T. Hancock

Fig. 1. Mean number of positive (*Upper*) and negative (*Lower*) emotion words (percent) generated people, by condition. Bars represent standard errors.

Decision-making under uncertainty

- **Simple idea**: Better safe than sorry ("precautionary principle")

- **Better idea**: No risk-free approach and avoid narrowing thinking

- Ways forward:

  - Minimal risk standard

  - Power analysis

  - Ethical response surveys

  - Staged trials

Sunstein, C. (2005) Laws of Fear: Beyond the Precautionary Principle.

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Practical advice

- IRB is a floor not a ceiling

- Golden Rule abides: research others as you would want to be researched

- Ethics is continuous, not discrete

- Ethics as a research opportunity

Recap

- Increasing capabilities demands stronger ethical foundations

- Ethical frameworks and theories: deontology and consequentialism

- Debates and tensions about different research designs

- Four areas of difficulty (informed consent, informational risk, privacy, decision-making under uncertainty)