PENNSTATE

Big Data Social Science
An Integrative Education and Research Program in Social Data Analytics

Approaches & Issues in Big Social Data

SoDA 501

"Ethics and scientific responsibility"

New ethics lessons hot off the presses

1. Don’t engage in sexual harassment.

2. If you’re the editor of a major journal accused of quid pro quo sexual harassment, don’t use the journal’s website to call your accusers liars.

Editorial Malpractice?

The editor of a prestigious political science journal uses its website to deny harassment allegations against him, prompting the Midwest Political Science Association to take action critics say it should have taken months ago.

By Colleen Flaherty // April 19, 2018

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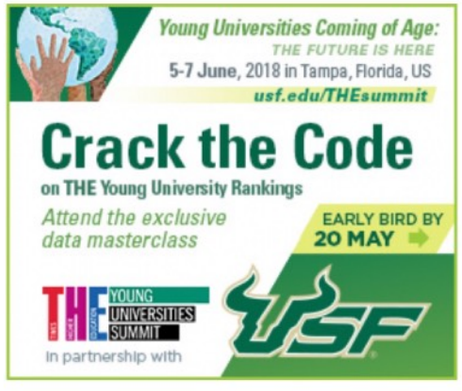

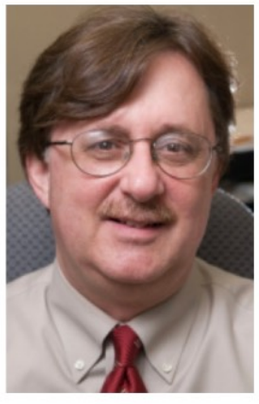

William Jacoby

The *American Journal of Political Science* is of one of the field’s most esteemed publications. So visitors to the journal’s main webpage were everything from incredulous to irate about what they saw there earlier this week: instead of just political science news, editor William G. Jacoby had posted a message denying the sexual harassment allegations he’s facing.

“It is apparently widely known that allegations related to sexual harassment have been made against me,” began the editorial note from Jacoby, a professor of political science at Michigan State University. “The allegations are untrue. I never engaged in the behaviors described in the allegations.”

Jacoby also used the highly visible space to announce that he’d be stepping down as editor of the journal at the end of December, of his own accord but due to “circumstances.”

In so doing, he continued to refute the allegations. While he is cooperating with several ongoing investigations into his conduct, he said, the charges are not going away, “despite their false nature.” Therefore, Jacoby wrote, “I do not want any questions about me as an individual (rather than as a scholar or editor) -- unfounded as these questions are -- to have any detrimental impact on the incredible, great things that have been accomplished at the journal so far.”

Some cases to consider …

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Target has got you in its aim

Source: Forbes


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Methods

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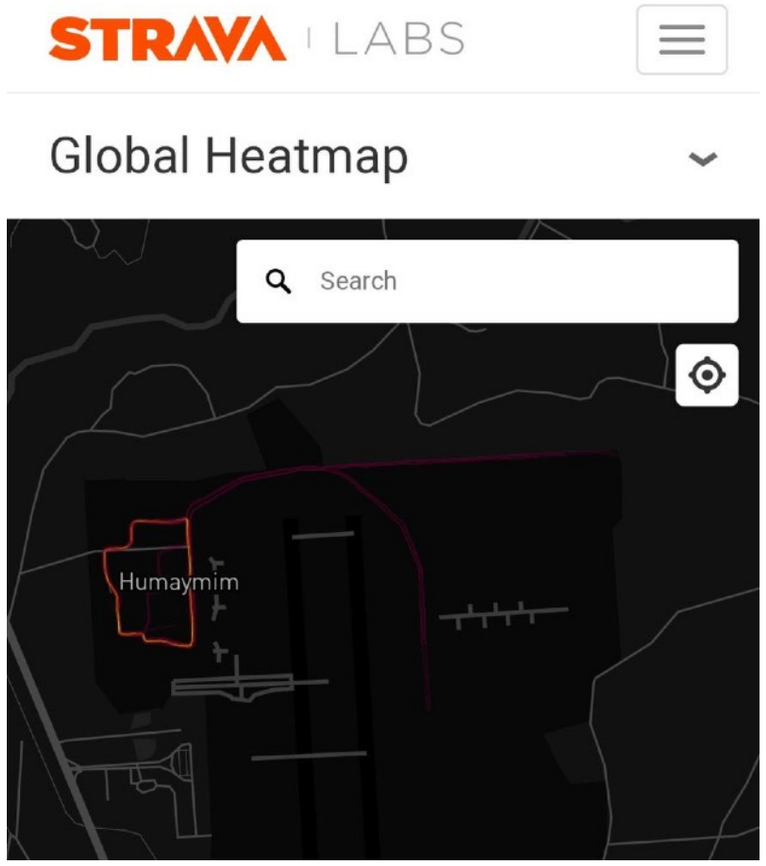

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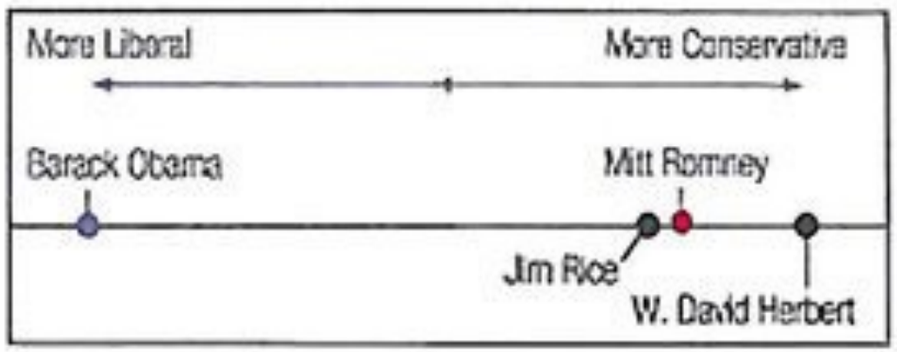
Election Date: November 4, 2014

Nonpartisan Supreme Court Justice #1 Race



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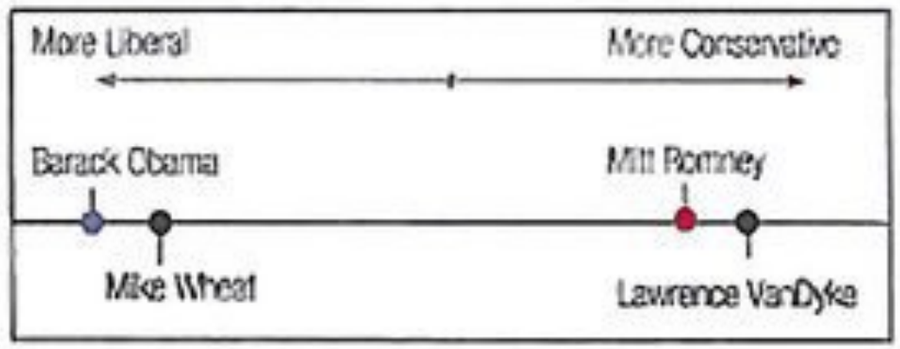

For more information on how these figures were created, please see http://data.stanford.edu/time. Please note that this guide is non-partisan and does not endorse any candidate or party. This guide was created as part of a joint research project at Stanford and Dartmouth.

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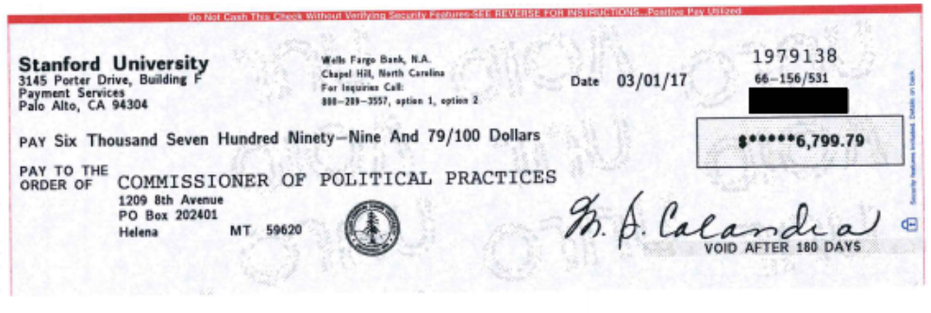
Take this to the polls!

Source: Bonica, Rodden, Dropp. 2014 Montana judicial elections experiment.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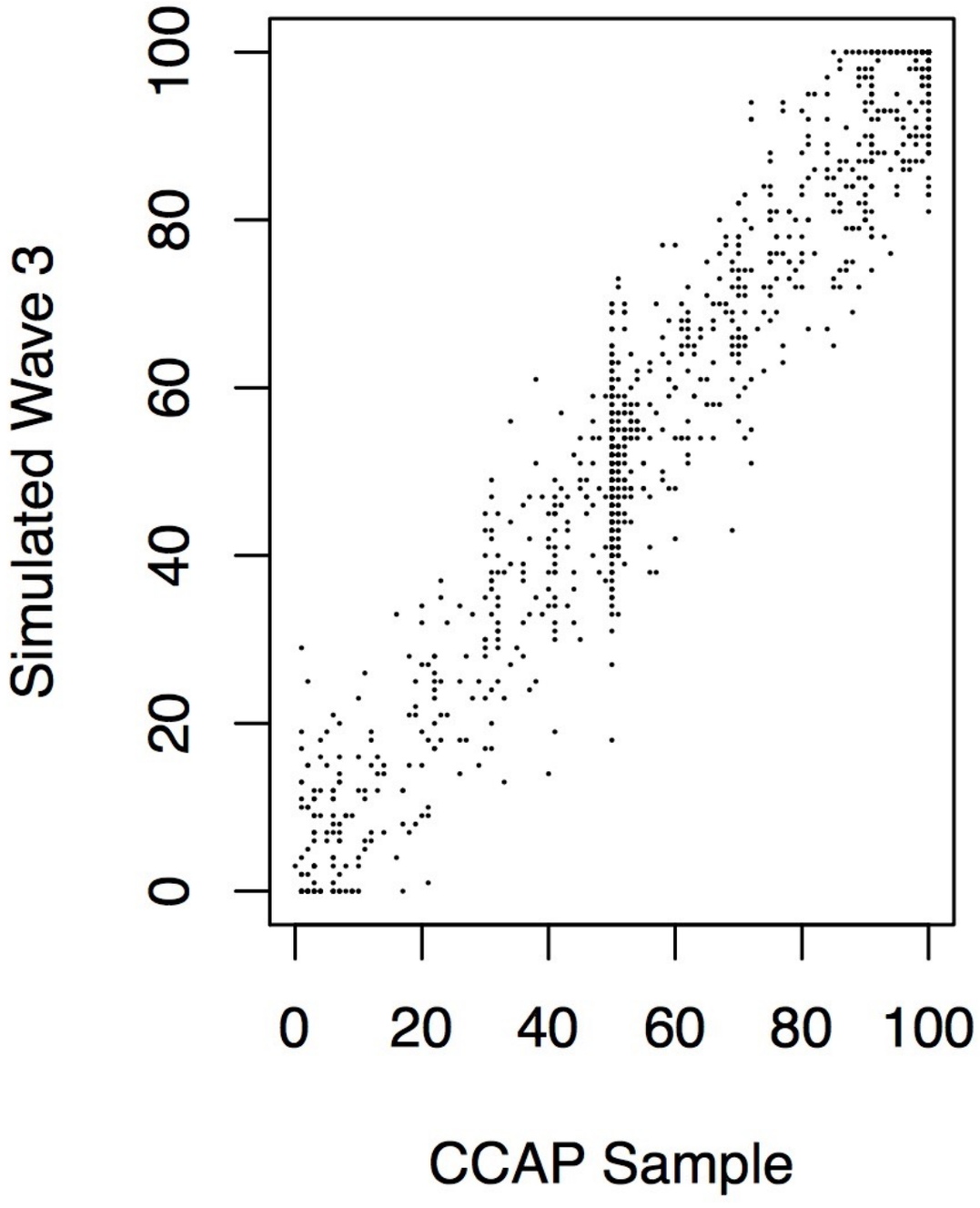
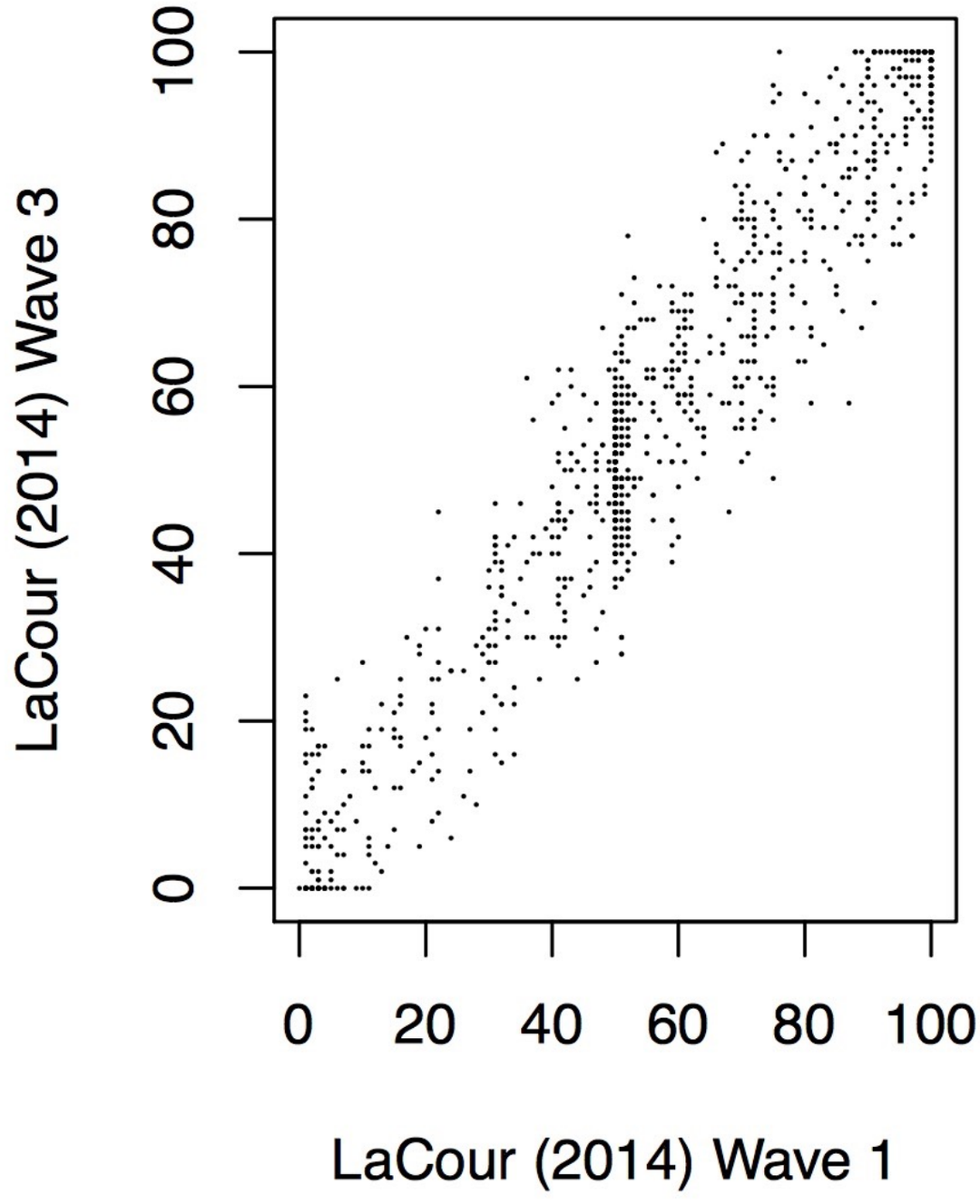
Source: Bozeman Daily Chronicle

L'affaire Lacour …





Source: Broockman, Kalla, and Aranow. 2014. "Irregularities in LaCour (2014)."

“Human subjects research” ethics, principles, rules

- Tuskegee Syphilis Study (1939-1972)
  - → 1972: Exposed by *NYT*, shut down
  - → 1973: Congressional hearings
  - → 1979: Belmont Report
  - → 1981: *Common Rule* (and “the IRB”)
    2017: *Revised Common Rule* [effective 7/2018]

- Other social science touchstones
  - 1963: Stanley Milgram, Obedience to Authority
  - 1970: Laud Humphreys, Tearoom Trade

“Human subjects research” and data science

- The Common Rule and the IRB are …
  - designed to prevent repeats of Tuskegee, Milgram
    - Is digital different? Does the IRB scale?
  - designed for “human subjects research.” Data scientists are often not trained in this, often don’t think of their work as “human subjects research.”
- Proposed frameworks, digital science / data science
  - 2011: boyd & Crawford, “Critical questions”
  - 2012: Menlo Report
  - 2016: Association of Internet Researchers
  - 2016: Council for Big Data, Ethics, and Society

Belmont/Menlo Four Principles

- Respect for persons
- Beneficence
- Justice
- Respect for law and public interest (Menlo)

Respect for persons

- treating people as autonomous / in control
  - (and providing extra protections for those with diminished autonomy - like who?)
- → *informed consent* (“when possible”)

Informed consent

- for everything? some say yes.

- most say no … deception sometimes considered ok
  - limited harm? (is risk worse *with* consent?)
  - social benefit?
  - other methods weak? (can you *debrief*?)
  - IC logistically impossible?

Beneficence

- do not harm
- maximize benefits and minimize harms

- → *risk-benefit analysis*
  - what are the risks? probability? severity?
    - to whom … subjects? others?
  - what are the possible benefits?
  - what would reduce risk? increase benefits?
- → *weigh them* - do benefits justify the risks?

Privacy / confidentiality / informational risk

- "Anonymization" ain't enough —
  - sparsity in big data, uniqueness of network structures, GPS patterns …
  - possibility of *auxiliary data*

- Tradeoff with scientific "utility"
  - *aggregation*, *row swapping*, noise, *synthetic data*
  - *differential privacy, walled gardens*

- Data sharing, open data, the "replication crisis"

Justice

- Are risks distributed fairly? Do vulnerable groups bear more risk than others?

- Are benefits distributed fairly? Do marginalized groups have access?

- Does the research reify or magnify existing biases and injustices? Could it be applied to do so?

Respect for law and public interest

- not just participants … all relevant stakeholders
- compliance - laws, contracts, TOS, robots.txt
- *transparency-based accountability*

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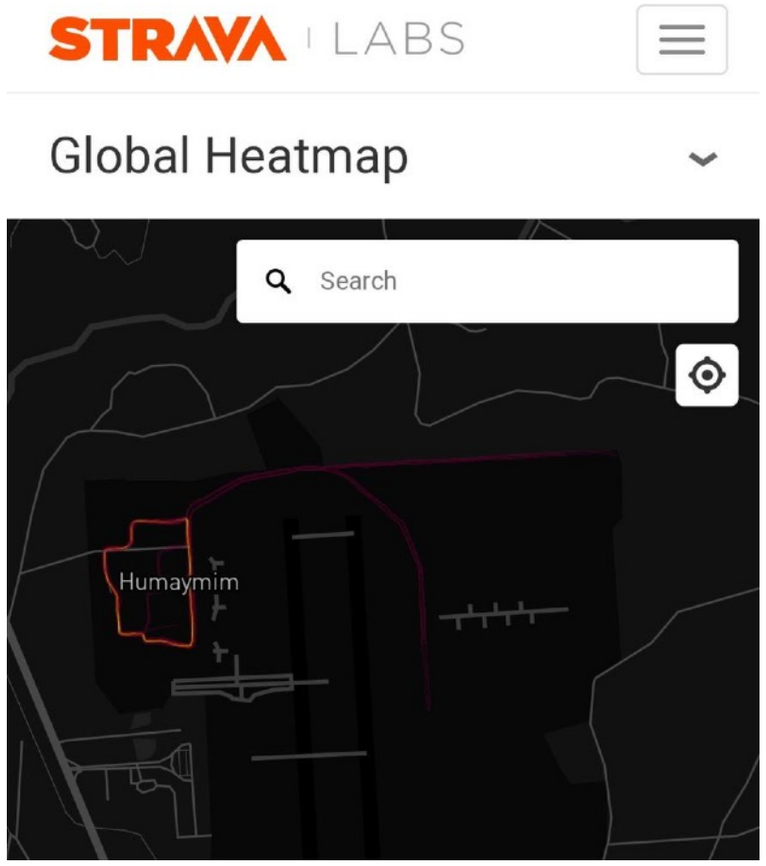

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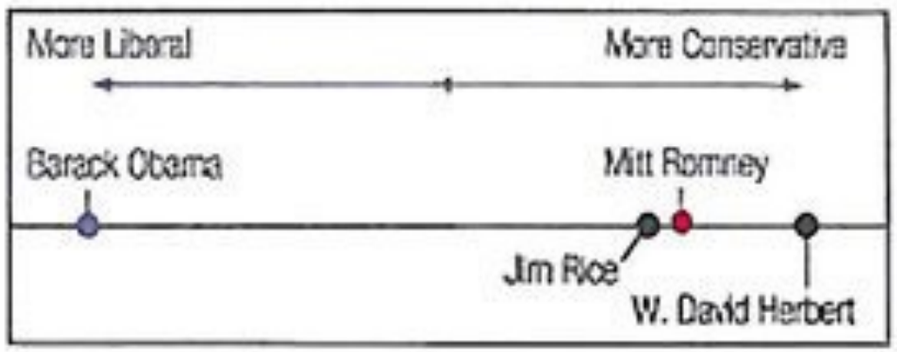

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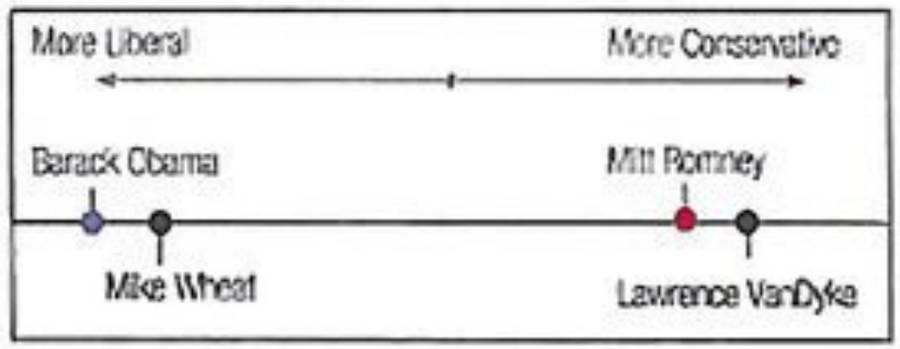

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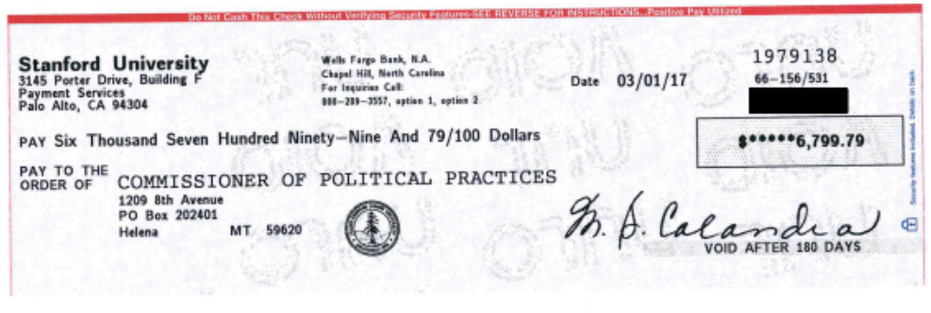
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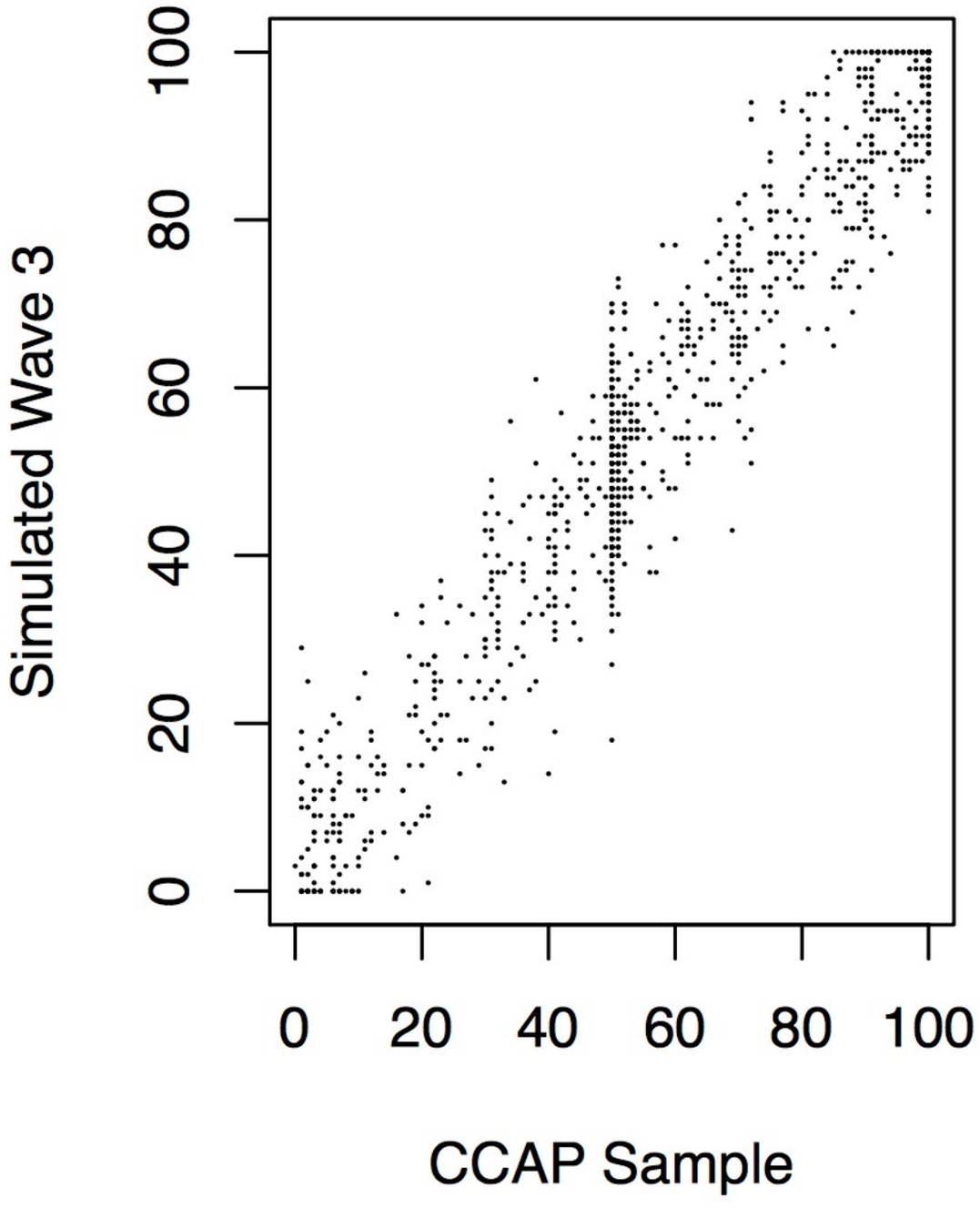

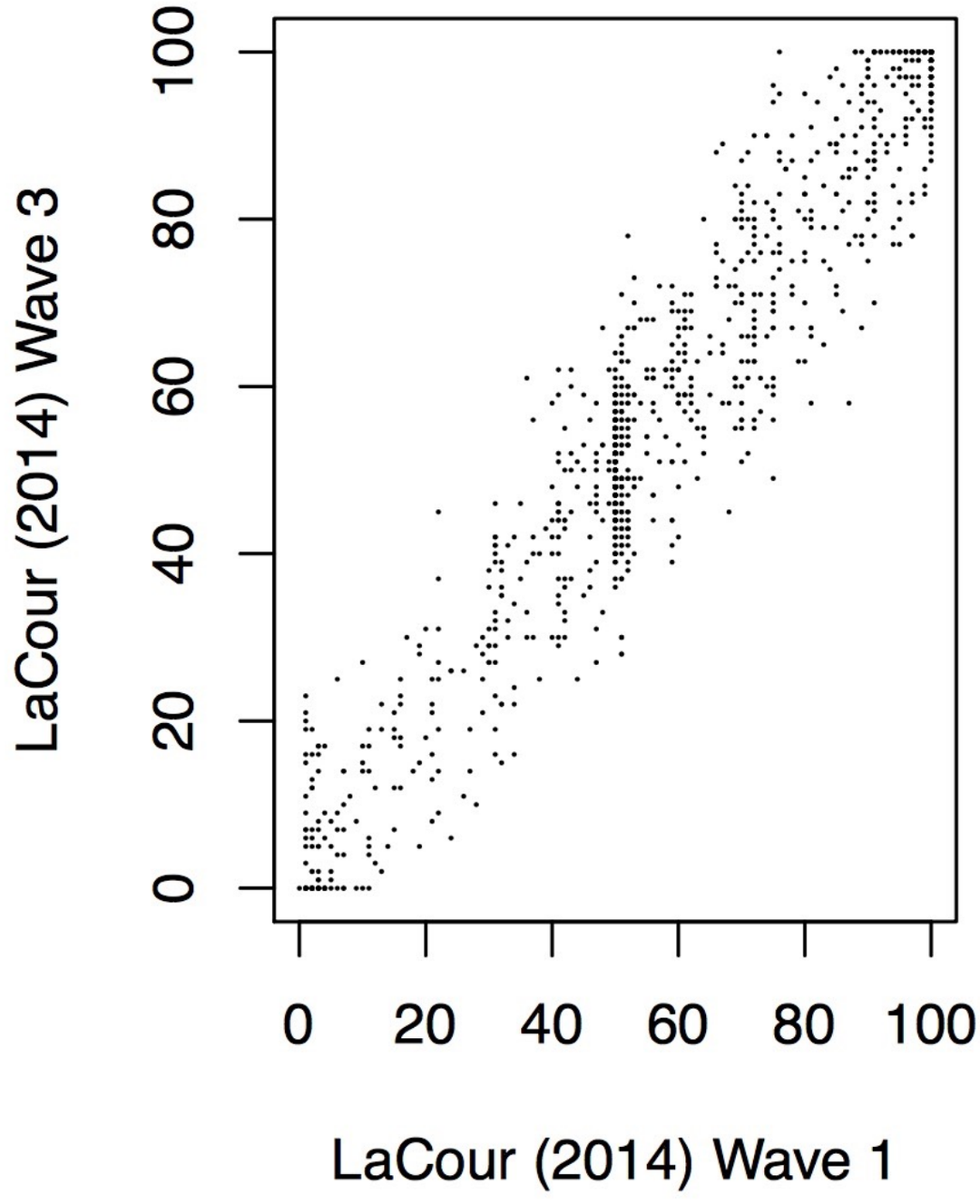

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Some extra guidelines

- “Legal” is insufficient for “ethical.” (Are there cases where “illegal” is ethical?)

- “IRB-approved” or “IRB-exempt” is insufficient for ethical (or legal).

- “These data are already public” is insufficient for “ethical.”

- Abstractly “ethical” is insufficient for “advisable.”

Extra topics …

Consequentialism and deontology

- what the what now?
- what's the difference?
- what are the tradeoffs?

Metcalf, Keller, & boyd - Policy recommendations

- Ensure the Common Rule addresses data science.

- New approaches, ethics review, academia & industry.

- Ethical assessment calibrated to big data practices.

- Integrate data ethics into NSF program solicitations.

Metcalf, Keller, & boyd

- Pedagogical interventions
  - Distribute high quality data ethics case studies.
  - Data science curricula w integrative approaches to ethics education.
  - Train librarians to achieve / promulgate data science literacy
  - Strengthen ethics-oriented activities in professional associations.

- Developing networks & cultures
  - Create hybrid spaces for ethics engagement.
  - Build models of internal/external ethics regulation bodies in industry.
  - Set standards for responsible cross-sector data sharing.

Metcalf, Keller, & boyd - Future research?

- Should human data science be regarded as human-subjects research?
- What are the quantifiable risks in correlative &/or predictive data research?
- How should we account for data sharing risk w/ unknown auxiliary data?
- How is big data redefining when/how public benefits from research? More precise ways of assessing public benefit or justice considerations?
- How should data privacy & security scientists approach illicitly gained data?
- Options for self-regulation in data science?
- What resources are needed in the university context, outside IRB?
- How can integrative approaches to data ethics be fostered in the classroom?
- What are the ecological & environmental impacts of a rise in big data research?
- How can ethical issues be integrated into core technical research?
- What motivates data scientists in industry to establish ethics processes? What ethics review structures work?
- What is the proper purview of “research ethics” as a topic in the age of big data?