

Introduction

- 1 The topic
- 2 The course
- 3 A note on computers
- 4 A note on slides

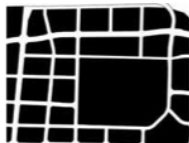
Reality is predictable

Los Angeles Times | ARTICLE COLLECTIONS

Stopping crime before it starts

Sophisticated analysis of data can sometimes tell police where criminals are headed. It's academic now, but the LAPD plans to get involved.

Reality is visualizable



MISSISSAUGA



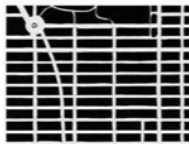
BARCELONA



COPENHAGEN



LONDON



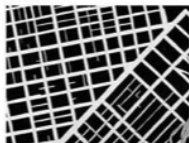
NEW YORK



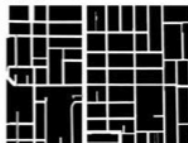
PARIS



ROME



SAN FRANCISCO



TORONTO

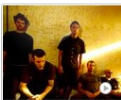
Reality is multidimensional



Bad Religion (317 plays)



David Bowie (220 plays)



Isis (202 plays)



Horace Andy (178 plays)



Army of the Pharaohs
(177 plays)



Biosphere (168 plays)



Bibio (162 plays)



Antonio Vivaldi
(143 plays)



Neil Young (125 plays)



King Crimson
(116 plays)



H.P. Lovecraft
(116 plays)



Virgin Prunes
(115 plays)



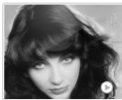
Motorama (109 plays)



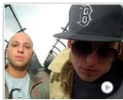
Wax Tailor (104 plays)



Lou Reed (103 plays)



Kate Bush (102 plays)

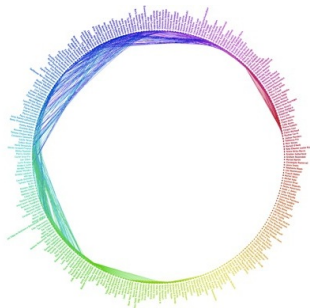


7L & Esoteric
(102 plays)



Gonzales (100 plays)

Reality is relational



Friendship ties on Facebook

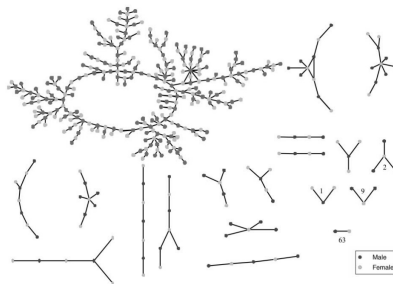


FIG. 2.—The direct relationship structure at Jefferson High

Sexual ties in high school

Data stand as professional assets

OECD Health Data 2010: Statistics and Indicators

AVAILABLE NOW - October 21st - [Internet update for OECD Health Data 2010](#)

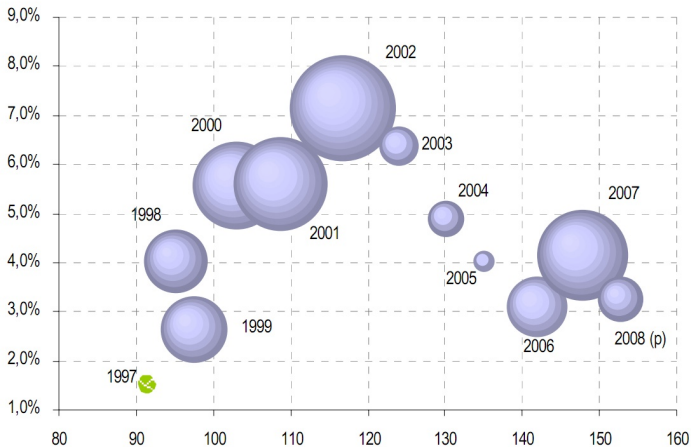
OECD Health Data 2010, released on 29 June 2010, offers the most comprehensive source of comparable statistics on health and health systems across OECD countries. It is an essential tool for health researchers and policy advisors in governments, the private sector and the academic community, to carry out comparative analyses and draw lessons from international comparisons of diverse health care systems.

- [What is OECD Health Data 2010](#)

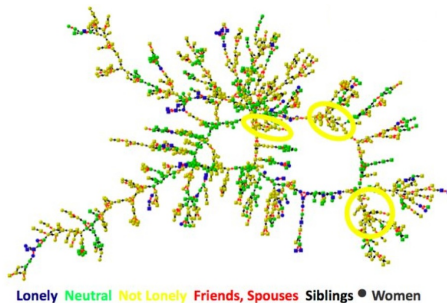


Data stand as policy expertise

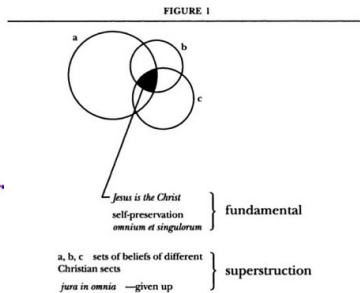
Graphique 1 – Vue d'ensemble de l'ONDAM



Interpretation is key to all analysis



Loneliness in social networks



Sets of Christian beliefs

Interpretation is difficult

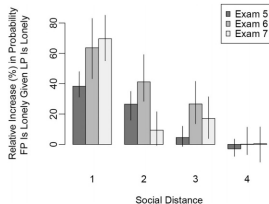
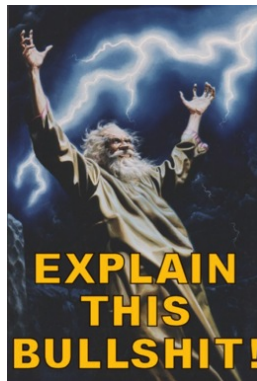


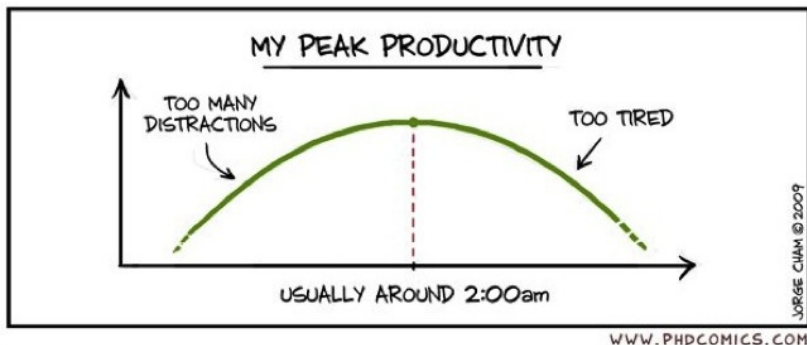
Figure 2. Social distance and loneliness in the Framingham Social Network. This figure shows for each exam the percentage increase in the likelihood a given focal participant (FP) is lonely if a friend or family member at a certain social distance is lonely (where lonely is defined as feeling lonely more than once a week). The relationship is strongest between individuals who are directly connected, but it remains significantly greater than zero at social distances up to three degrees of separation, meaning that a person's loneliness is associated with the loneliness of people up to three degrees removed from them in the network. Values are derived by comparing the conditional probability of being lonely in the observed network with an identical network (with topology and incidence of loneliness preserved) in which the same number of lonely participants are randomly distributed. Linked participant (LP) social distance refers to closest social distance between the LP and FP (LP = Distance 1, LP's LP = Distance 2, etc.). Error bars show 95% confidence intervals.

With explanation



Without explanation

Interpretation is what this course is eventually about



- What are the **measurements** of the axes?
- What is the **probability** of 2am being the cutoff point?
- What is the **shape** of the time/productivity relationship?

Internal biases

In observational data from surveys:

- Survey design and **sampling strategy**:

- "Please fill in this 367-page long questionnaire"*

- "Answer our questions and win an iPad! (perhaps)"*

- "We surveyed knowledge of SDMX among toddlers."*

- Question design and **measurement error**:

- "Are you a racial supremacist pig?"*

- "What do you like most, inflation or Star Wars?"*

- "Do you support Aliina Koospürati's new coalition?"*

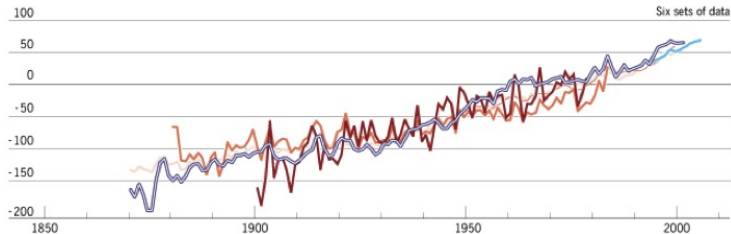
In official statistics:

"[GDP figures] are for reference only" (*Chinese official, 2010*)

External biases

- Media coverage
- Political spin
- 'Merchants of doubt'

Signs of a warming world
Sea level (mm)



WEIRD biases

BEHAVIORAL AND BRAIN SCIENCES (2010), Page 1 of 75
doi:10.1017/S0140525X0999152X

The weirdest people in the world?

“The findings suggest that members of Western, Educated, Industrialized, Rich, and Democratic (WEIRD) societies, including young children, are among the least representative populations one could find for generalizing about humans.”

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Course essentials

Core learning objectives

- Data management
- Statistical hypotheses
- Model-driven research

Core teaching blocks

- Statistical theory (readings)
- Statistical computing (programming)
- Tons of social science (research)

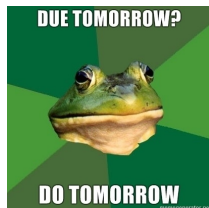
Course essentials

Requirements

- Attendance
- Homework
- No plagiarism

Grading

- Code and paper
- Draft, revised, final
- Project management



This won't work.

Homework

Course website

<http://f.briatte.org/teaching/quantitative/>

Readings

- Feinstein and Thomas: default
- Urdan: shorter, less explained
- Stata Guide: practical walkthrough

Coursework

- Replicate session do-files
- Code your own data analysis
- Write up an empirical research paper

Logistics

Elect a student representative.

No estimation without representation; one (wo)man, one vote.

Any questions so far?

Do not worry about deadlines: these will be discussed in class.

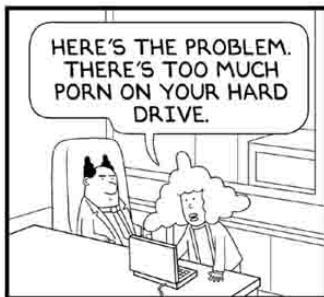


A note on computers

Despite appearances,
computers are more than

- Music players
- Facebook terminals
- Porn stashes

They can also be used to
do, like, serious stuff.



Important

This course requires that you learn how to work with a computer.
Program or be programmed.

A note on course slides

The course slides contain very basic guidance and are **absolutely insufficient** to complete the course requirements.

More generally, slideware is a teaching aid, **not a learning tool**.
Watching slides does not compensate documentation.



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Welcome, and thank you.

