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Educating data-literate citizens

LADS workshop

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What Politicians Could Learn From Oprah Winfrey

By JAMES PONIEWOZIK JAN. 8, 2018 (NYT)

It's a master's stage performance. It builds from kitchen confession to mountaintop thunder. It shifts perspective cinematically — close in on young Ms. Winfrey sitting on the linoleum floor, pull back to a panorama of America. It uses preacherly rhythms and even cliffhangers ("a young worker by the name of … Rosa Parks").

But above all, it’s a story. And it’s a story about stories. It moves from the personal (young Ms. Winfrey watching Sidney Poitier win an Oscar) to the communal (women in Hollywood, and women working on farms and even “some pretty phenomenal men”). It links “your truth” and “absolute truth.” It tells the audience: I have my struggle, and I know you have yours, and that connects us all in the sweep of a global struggle.

Conventional politicians can do that too, though it's not easy or common. Barack Obama was no one's idea of a shoo-in when he announced his campaign. But he synthesized his biography (as the "kid with a funny name"), his country's current struggles and an idea of generational social progress into one evocative narrative — change.

People are drawn to stories for a reason: In politics as in art, they say more than a list of bullet points. (emphasis added)

To statisticians, truth matters.

When are we seeing truth vs noise?

(Ways of knowing = reason that colleges have distribution requirements.)

How does a statistician think about “knowing” something?

Randomness is all around us. Acceptance of uncertainty does not stop us from making decisions and using models of the world.

An approximate answer to an exact question is better than an exact answer to an approximate question.

Source of the information:

Anecdote

Observational study

Experiment

Stat inference:

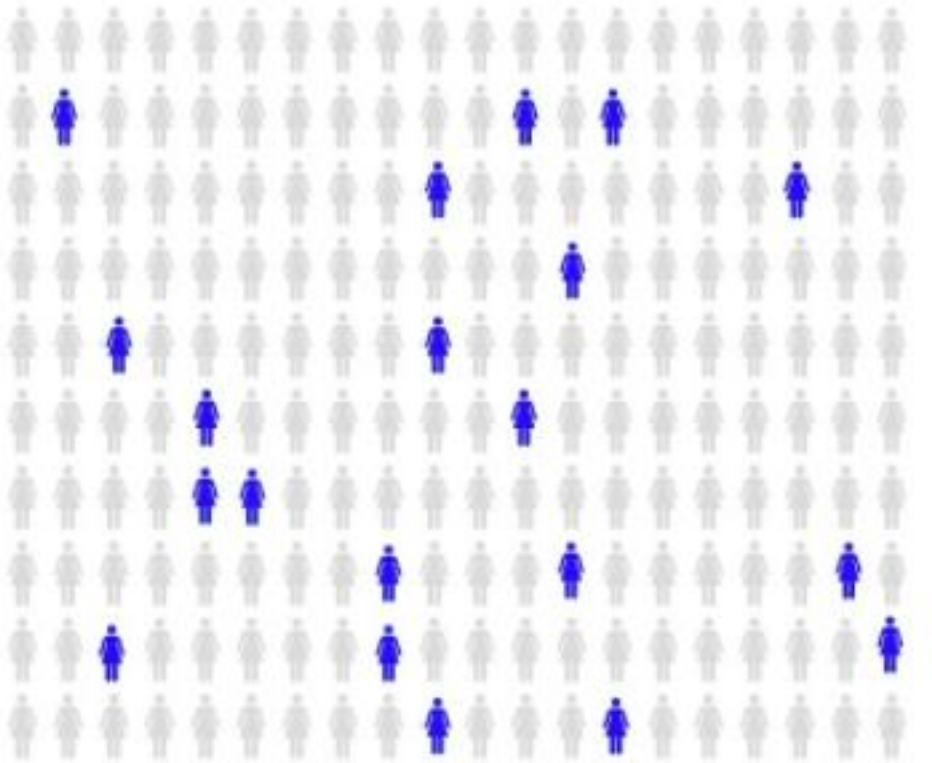
p-value

vs confidence interval for an effect

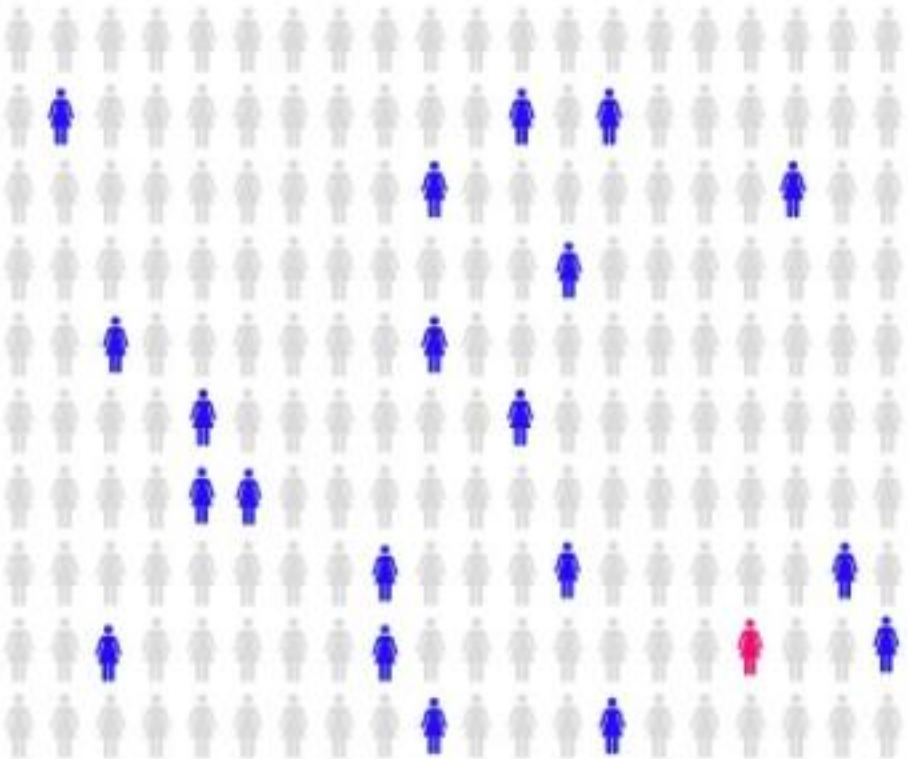
vs effect size

How to represent randomness and uncertainty?

David Spiegelhalter



Out of 200 women in their 50s, we would expect 20 to eventually get breast cancer [blue]



Out of 200 women in their 50s who take HRT for 5 years, we would expect 21 to eventually get breast cancer [blue and red]

https://understandinguncertainty.org/hrt-breast-cancer-and-framing-risks

We understand measurement error, confounding, adjusting for covariates (regression).

Stat sig ≠ important.

We understand

Regression effect;

Simpson's Paradox;

The most dangerous equation.

The person who knows how will always have a job. They will work for the person who knows why.