#### intro

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# <u>outline</u>

#### 2 questions about yourself

- specific research interests? using any data yet?
- what do you expect from this class?
- ◊(if another person similar to you and work together!)

# bad math, good statistics?

- ♦ actually, i don't like math
- ⋄i never did, and I'll never will
- probably like most of you
- but i love statistics
  - $\cdot$  (because it makes sense of the world; math doesn't)
- wheelan is the same, see book's intro

# approach: applied, examples, hands-on

- ⋄you're encouraged to collaborate (prep for class, ps)
- free to choose topics/data
  (as long as there are any research methods!)
  - ·kill 2 birds with one stone:
  - ·ideally, bring your own data and analyze it,
- or bring research done by others that interests you
- $\cdot \, don't \ worry, \ as \ long \ as \ you \ have \ any \ research \ interest$
- you'll find data and especially research about it
- \( \text{we'll go over finding research and data sources \)
  - · mostly just google scholar and google!
  - ·let's try it! https://scholar.google.com/

#### 1st and 2nd half

- ♦1st half basics, and some math, go fast:
  - · basics, data, theory, general
- 2nd half more application, focus on paper
  - ·after: more applied and specific topics
  - · and more research oriented topics for the paper

## recommended/extra/bonus

- only slides and assigned readings
  - · (mostly Wheelan and Trochim, and what i say in the class!)
  - ·are required and tested/graded
  - ·but it will be easier to follow if you do additional readings (and they are fun, too)
- omany materials are marked extra/bonus/[\*]

## grading/extra credit

- ◊i will be strict about grade scale:
  - you get the grade that your interval indicates (see grading table in the syllabus)
- but there is opportunity for extra credit, eg:
  - · answer extra credit questions during the class
- · have an early presentation of your research
- ·find typos/false statements in class materials
- tell me about useful course materials: books, datasets, websites, etc

# statistics is everywhere (Wheelan, 2013, ch1)

- statistics is everywhere
- ⋄we use it all the time
- t makes sense of and simplifies world
  - ·but also, it does not give the full picture
  - ·and may be often misleading!
- ⋄eg grades: A, B, C, F; GPA, etc
  - ·some of the smartest people I know
  - ·are dropouts or get bad grades
  - ·largely because they cannot navigate the system (Tough, 2014)
- ⋄reverse is true as well: many educated are not so smart!

#### consumers, not producers :(

- we won't use statistical software
- we'll try to understand research, not do it
- ·still will do some rudimentary calculations and research
- if you are interested in doing research professionally
- ·sign up for our PhD program!
- http://dppa.camden.rutgers.edu/degrees/phd/
- and come to bonus Python labs offered in this class
- ♦ if you plan to collect data, or use confidential data
- ·like student scores, start early! it takes time to get it!!
- · and seek IRB: https://orra.rutgers.edu/formsandtemplatesartsci

#### wrap-up

- oend every class discussing what we covered and quick look at next week
- ⋄end with a review Q&A,
- give some examples (essp in pub pol and pub adm) for concepts covered
- students will discuss concepts from the class

 $\Diamond$ 

quick look at next class

# bibliography I

Levitt, S. D. and S. J. Dubner (2010): Freakonomics, vol. 61, Sperling & Kupfer.

TOUGH, P. (2014): "Who Gets to Graduate?" New York Times.

WHEELAN, C. (2013): Naked statistics: stripping the dread from the data, WW Norton & Company.