

# introduction

Adam Okulicz-Kozaryn

`adam.okulicz.kozaryn@gmail.com`

this version: Wednesday 20<sup>th</sup> January, 2021    16:35

## outline

why data management?

stata v sas v r

let's fire up stata

[\*] bonus-data sources [skip, can look at home]

# introductions

- <https://theaok.github.io>
- and see my goog scholar
- and i will tell you what data i have been using
- if you use same data then i can share my code with you!
- 
- yourself? (see if others overlap: can collaborate!)
- research interests and data?
- software? eg sas, spss, stata, python, r
- specific expectations for this class?

## before we start: extra credit opportunities

- present sth not covered (has to be datMan, of course)
- present alternative way of doing sth that we have covered
- civic engagement: Michael D'Italia  
michael.ditalia@camden.rutgers.edu
- talk to Darren or Sarah  
<https://rand.camden.rutgers.edu/people/staff/>

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## data revolution!!

- ◇ there are many jobs and there will be more that require programming
- ◇ there will be more jobs like that because we have more and more data: twitter, facebook, netflix etc
- ◇ these jobs will even ask you for a sample of your code
- ◇ data will be more important in any field
- ◇ qualitative data (pictures, text, etc.) are just rich quantitative data and can be analyzed like quantitative!
- everything can be quantified or not? any examples of non-quantifiable things ?

# data management is fundamental

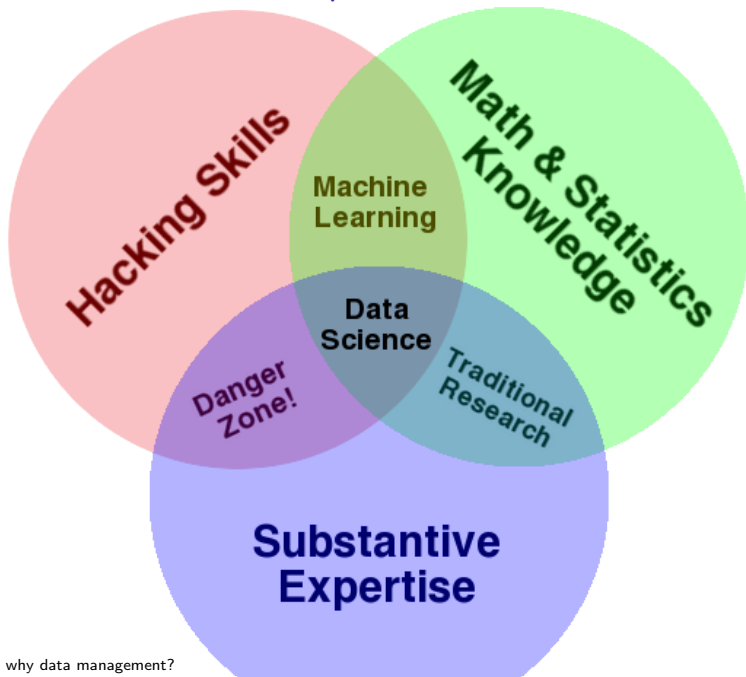
- ◇ in order to analyze data you need to manage it first
- ◇ GIGO (Garbage In Garbage Out)
  - if data management fails, data analysis fails
- 
- ◇ takes more time to prepare data than to analyze it
- ◇ start early with the right data!

## (social) data science or CSS (comp soc sci)

- <http://gking.harvard.edu/files/LazPenAda09.pdf>
- a person good at computer programming (eg stata)
- a person who can manage, visualize and infer useful information from data
- need to like programming
- willing to learn programming beyond stata, eg python
- <http://radar.oreilly.com/2010/06/what-is-data-science.html>
- <http://tdwi.org/Articles/2011/01/05/Rise-of-Data-Science.aspx?Page=1>
- <http://www.quora.com/Educational-Resources/How-do-I-become-a-data-scientist>



already have stat/math and subst, need hacking!



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## a critical decision!

- it takes months to get productive with software
- it takes years to master software
- huge time investment
- in soc sci dat man the choice is: sas, stata, r, python
- there's more (Lisrel, HLM, etc) but the above are major
- excel and spss are junk that no one should use

## which one?

- stata: powerful, no need to learn any other soft; sufficient for vast majority of projects
- r: most powerful stat soft (Py seems to be taking over)
- stata: user friendly, fast, very concise code
- r: user unfriendly, slow; weird code!
- py: somewhere in between
- all: great user community: listserv, websites, etc.
- sas: a dinosaur (still, often industry standard), very verbose
- r,py: free, stata: around \$300; sas over \$1k

## which one?

- “stata is for people getting things done; r is for geeks showing off”
- “people using canned software like stata don’t know what they are doing”
- CONSIDER:
  - your supervisor/field usage
  - are you a geek?
  - do you need to do things that almost nobody does?
  - what’s your style? (software is like cars or handbags)



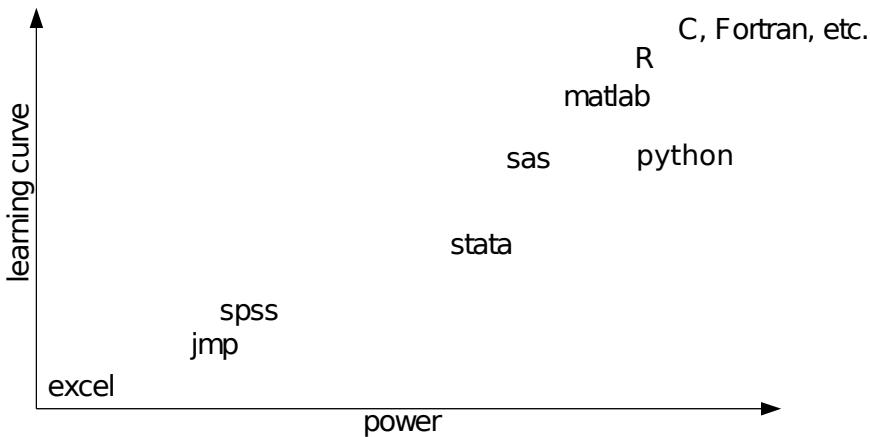
sas

spss



R

which one?



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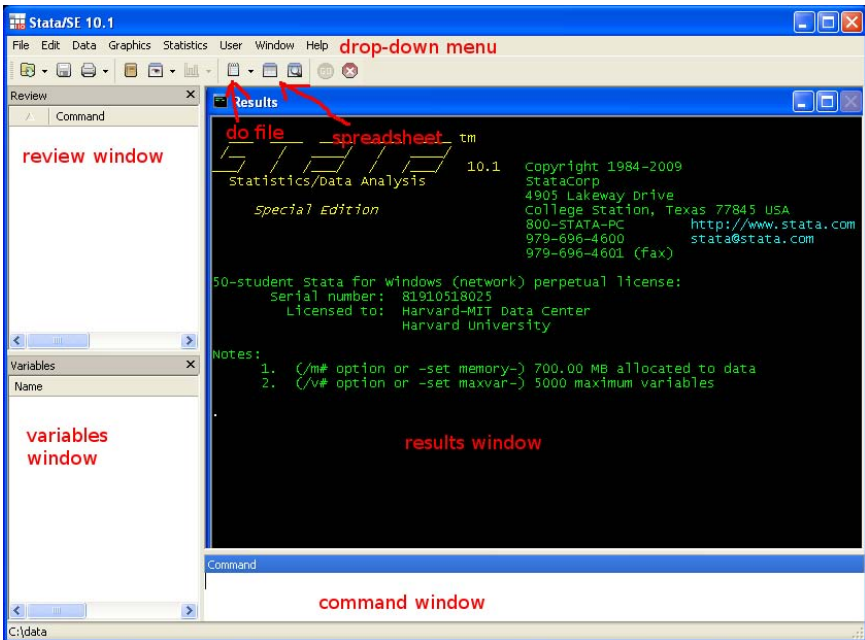
stata v sas v r

let's fire up stata

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# stata interface; and do intro.do



let's fire up stata

## looking

- exploring your data is critical!
- we will learn many commands to understand data
- most basic: `d` `sum` `tab`
- remember this:
  - to manage data well, you need it to understand it well
  - it takes a lot of time to understand it well, and hence
  - either manage data you are already familiar with
  - or data that you are ready to invest a lot of time into knowing
- again, the bottomline in this class is to manage data that is of great interest to you

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- `http://www.data.gov/`

## data sources

- ◇ <http://www.worldvaluessurvey.org/>
- ◇ <http://www.norc.uchicago.edu/GSS+Website/>
- ◇ <http://www.icpsr.umich.edu/icpsrweb/ICPSR/>
- ◇ <http://www.thearda.com/>
- ◇ <http://ksghome.harvard.edu/~pnorris/Data/Data.htm>

## more data sources

- ◇ <http://www.measureofamerica.org/>
- ◇ <http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/0,,contentMDK:20388241~menuPK:665266~pagePK:64165401~piPK:64165026~theSitePK:469382,00.html>
- ◇ <http://usa.ipums.org/usa/>
- ◇ <https://international.ipums.org/international/>

## “non-traditional” data

- ◇ `http://dvn.iq.harvard.edu/dvn/dv/patent`
- ◇ `http://www.trustlet.org/wiki/Trust_network_datasets`

## happiness data

- ◇ `http:`  
`//www.bmj.com/content/337/bmj.a2338.full`
- ◇ `http://apps.facebook.com/usa_gnh/`
- ◇ `http:`  
`//www.facebook.com/notes/facebook-data-team/relationships-and-happiness/304457453858`
- ◇ `http://www.springerlink.com/content/757723154j4w726k/fulltext.pdf`
- ◇ `http://www.wefeelfine.org/`



## facebook data

- ◇ [http://apps.facebook.com/usa\\_gnh/](http://apps.facebook.com/usa_gnh/)
- ◇ <http://www.facebook.com/notes/facebook-data-team/relationships-and-happiness/304457453858>
- ◇ <http://www.facebook.com/notes/facebook-engineering/visualizing-friendships/469716398919>
- ◇ <http://cyber.law.harvard.edu/node/4682>
- ◇ <http://www.thefacebookproject.com/resource/datasets.html>

## more data

- <http://www.stateoftheusa.org/blog.php>
- <http://www.stateoftheusa.org/content/health-measures-for-the-develo.php>
- <http://www.stateoftheusa.org/content/fbi-report-violent-crime-down.php>
- <http://www.stateoftheusa.org/content/economy-seen-as-prompting-cohabitation.php>
- <http://stateoftheusa.org/content/measuring-economic-well-being.php>
- <http://www.stateoftheusa.org/content/report-hispanics-outlive-other-american.php>

# LaTeX

- ◇ we may have a separate class, but some links follow:
- ◇ <http://people.hmdc.harvard.edu/~akozaryn/myweb/latex/>
- ◇ <http://www.ats.ucla.edu/stat/stata/latex/default.htm>
- ◇ i will post my do-files that output into LaTeX