Survey research in the digital age
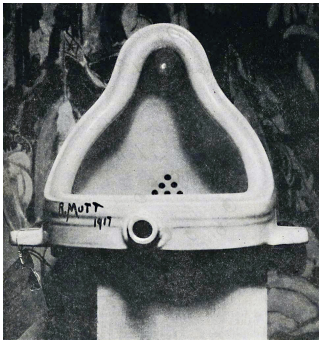
Matthew J. Salganik
Department of Sociology
Princeton University

Summer Institute in Computational Social Science
June 21, 2018

readymades   custommades

Schedule for today:

- ▶ 9:15-9:45 Survey research in the digital age
- ▶ 9:45-10:15 Probability and non-probability sampling
- ▶ 10:15-10:30 Coffee break
- ▶ 10:30-11:00 Computer-administered interviews and wiki surveys
- ▶ 11:00-11:30 Combining surveys and big data
- ▶ 11:30-12:00 Group exercise introduction
- ▶ 12:00-12:30 Begin group exercise (Not open to public/No livestream)
- ▶ 12:30-1:30 Lunch (Not open to public/No livestream)
- ▶ 1:30-3:15 Continue group exercise (Not open to public/No livestream)
- ▶ 3:15-3:45 Discuss activity and open-source data (Not open to public/No livestream)
- ▶ 3:45-4:00 Break
- ▶ 4:00-5:30 Guest speaker: David Lazer

A few notes on my teaching:

- Anti-status quo bias

A few notes on my teaching:

- Anti-status quo bias
- Anti-formality bias (formality is important, but just not right now)

A few notes on my teaching:

- Anti-status quo bias
- Anti-formality bias (formality is important, but just not right now)
- Very brief to leave time for the activity

A few notes on my teaching:

- ▶ Anti-status quo bias
- ▶ Anti-formality bias (formality is important, but just not right now)
- ▶ Very brief to leave time for the activity
- ▶ More information in Chapter 3 of *Bit by Bit: Social Research in the Digital Age*: `https://www.bitbybitbook.com/en/1st-ed/asking-questions/`

Why should I care about surveys?

Why should I care about surveys
in the age of big data?

We will always need to ask

- limitations of big data (fubu vs. nufu-nubu)

We will always need to ask

- limitations of big data (fubu vs. nufu-nubu)
- internal states vs. external states

We will always need to ask

- limitations of big data (fubu vs. nufu-nubu)
- internal states vs. external states
- inaccessibility of big data

We will always need to ask

- limitations of big data (fubu vs. nufu-nubu)
- internal states vs. external states
- inaccessibility of big data

But how we are going to ask is going to change

	Sampling	Interviews
1st era	Area probability	Face-to-face

	Sampling	Interviews
1st era	Area probability	Face-to-face
2nd era	Random digital dial probability	Telephone

	Sampling	Interviews
1st era	Area probability	Face-to-face
2nd era	Random digital dial probability	Telephone
3rd era		

	Sampling	Interviews
1st era	Area probability	Face-to-face
2nd era	Random digital dial probability	Telephone
3rd era	Non-probability	Computer-administered

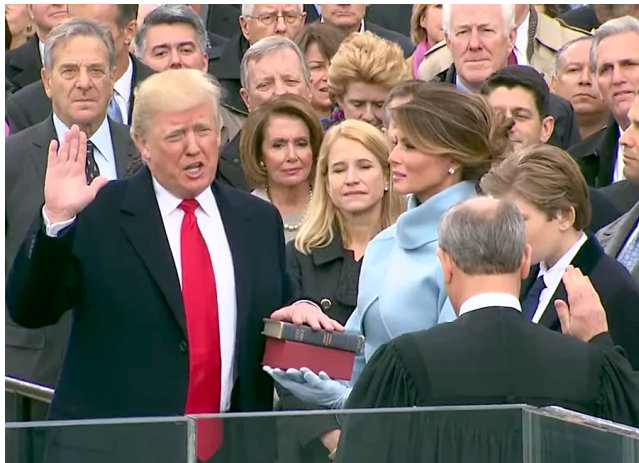|	Sampling	Interviews	Data environment
1st era	Area probability	Face-to-face	Stand-alone
2nd era	Random digital dial probability	Telephone	Stand-alone
3rd era	Non-probability	Computer-administered	Linked

	Sampling	Interviews	Data environment
1st era	Area probability	Face-to-face	Stand-alone
2nd era	Random digital dial probability	Telephone	Stand-alone
3rd era	Non-probability	Computer-administered	Linked

Total survey error framework

Total survey error framework

Who we ask (representation)

- ▶ sampling error
- ▶ coverage errors
- ▶ non-response error

How we ask (measurement)

- ▶ question wording
- ▶ question ordering
- ▶ social desirability bias

An Evaluation of 2016 Election Polls in the U.S.

Ad Hoc Committee on 2016 Election Polling

Courtney Kennedy, Pew Research Center
Mark Blumenthal, SurveyMonkey
Scott Clement, Washington Post
JoshUA d. Clinton, Vanderbilt University
Claire Durand, University of Montreal
Charles Franklin, Marquette University
Kyley McGeeney, Pew Research Center[1]

Lee Miringoff, Marist College
Kristen Olson, University of Nebraska-Lincoln
Doug Rivers, Stanford University, YouGov
Lydia Saad, Gallup
Evans Witt, Princeton Survey Research Associates
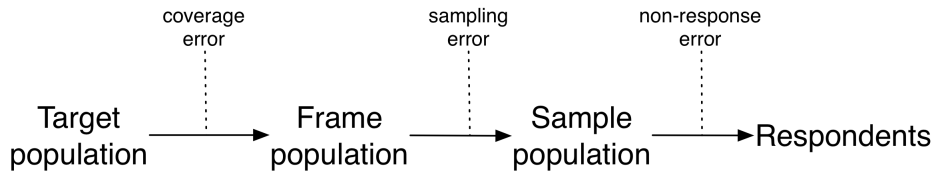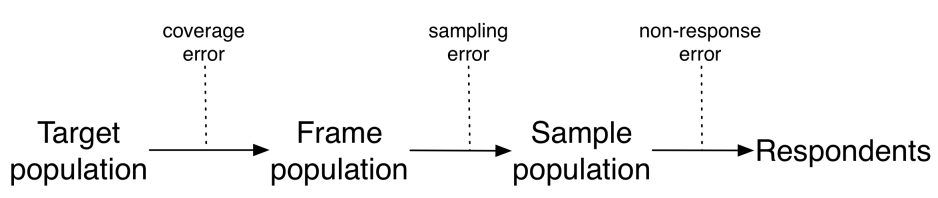Chris Wlezien, University of Texas at Austin

Who we ask (representation)

- sampling error
- coverage errors
- non-response error
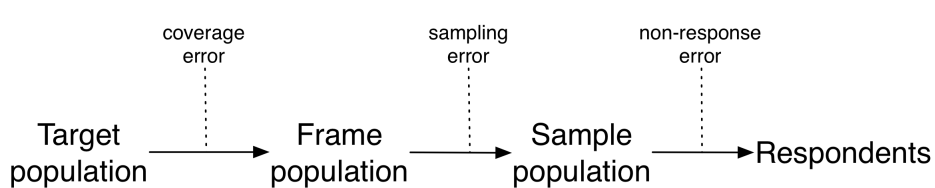
How we ask (measurement)

- question wording
- question ordering
- social desirability bias

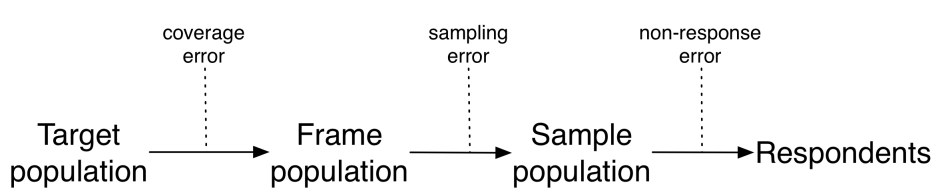- Target population

Target population → (coverage error) → Frame population → (sampling error) → Sample population → (non-response error) → Respondents

- Target population
- Frame population

- Target population
- Frame population
- Sample population

- Target population
- Frame population
- Sample population
- Respondents

Who we ask (representation)

- sampling error
- coverage errors
- non-response error

How we ask (measurement)

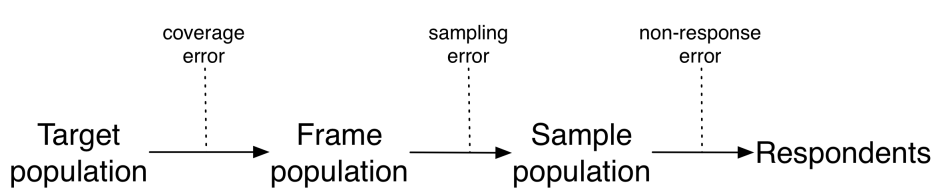- question wording
- question ordering
- social desirability bias

An Evaluation of 2016 Election Polls in the U.S.

Ad Hoc Committee on 2016 Election Polling

Courtney Kennedy, Pew Research Center
Mark Blumenthal, SurveyMonkey
Scott Clement, Washington Post
JoshUA d. Clinton, Vanderbilt University
Claire Durand, University of Montreal
Charles Franklin, Marquette University
Kyley McGeeney, Pew Research Center[1]

Lee Miringoff, Marist College
Kristen Olson, University of Nebraska-Lincoln
Doug Rivers, Stanford University, YouGov
Lydia Saad, Gallup
Evans Witt, Princeton Survey Research Associates
Chris Wlezien, University of Texas at Austin

http://www.aapor.org/Education-Resources/Reports/An-Evaluation-of-2016-Election-Polls-in-the-U-S.aspx

- National polls were generally correct and accurate by historical standards.

- National polls were generally correct and accurate by historical standards.
- State-level polls showed a competitive, uncertain contest . . .

- National polls were generally correct and accurate by historical standards.
- State-level polls showed a competitive, uncertain contest . . .
- . . . but clearly under-estimated Trump's support in the Upper Midwest.

"There are a number of reasons as to why polls under-estimated support for Trump. The explanations for which we found the most evidence are:"

- "Real change in vote preference during the final week or so of the campaign"

"There are a number of reasons as to why polls under-estimated support for Trump. The explanations for which we found the most evidence are:"

- ▶ "Real change in vote preference during the final week or so of the campaign"
- ▶ "Adjusting for over-representation of college graduates was critical, but many polls did not do it"

"There are a number of reasons as to why polls under-estimated support for Trump. The explanations for which we found the most evidence are:"

- "Real change in vote preference during the final week or so of the campaign"
- "Adjusting for over-representation of college graduates was critical, but many polls did not do it"
- "Some Trump voters who participated in pre-election polls did not reveal themselves as Trump voters until after the election, and they outnumbered late-revealing Clinton voters"

Full report: `http://www.aapor.org/Education-Resources/Reports/An-Evaluation-of-2016-Election-Polls-in-the-U-S.aspx`

Wrapping up:

Wrapping up:

- Total survey error framework helps us organize all the things that can go wrong

Wrapping up:

- ▶ Total survey error framework helps us organize all the things that can go wrong
- ▶ Total survey error framework also helps us think about how digital age can create new opportunities (who to ask and how to ask)

Wrapping up:

- ▶ Total survey error framework helps us organize all the things that can go wrong
- ▶ Total survey error framework also helps us think about how digital age can create new opportunities (who to ask and how to ask)
- ▶ To learn more: Groves et al (2009)

Questions