

Topics in Measurement for the Social and Health Sciences

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(talk in “Foundations in Global Health” class, HSPH, 9/16/11)

The Evidence Base of Social Science: The Last 50 Years

① Survey Research

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- 2 Aggregate Government (& other) Statistics

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- do not measure long-term change.

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- *The march of quantification*: through academia, professions, government, & commerce (*SuperCrunchers*, *The Numerati*, *MoneyBall*)

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- ⑬ **Scholarly data:** the replication movement in academia is massively increasing data sharing

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 - Will we wait to be replaced? or put in the effort to convert and learn how to use the new information?

One Approach to Improve Surveys: Anchoring Vignettes

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- Can we be understood by a survey respondent if we can't be understood by our spouse, siblings, and parents?

Readings on Anchoring Vignettes

- Daniel Hopkins and Gary King “Improving Anchoring Vignettes: Designing Surveys to Correct Interpersonal Incomparability,” *Public Opinion Quarterly*, 2010, 1–22.
- Gary King and Jonathan Wand. “Comparing Incomparable Survey Responses: Evaluating and Selecting Anchoring Vignettes,” *Political Analysis*, 15, 1 (Winter, 2007): 46–66.
- Gary King; Christopher J.L. Murray; Joshua A. Salomon; and Ajay Tandon. “Enhancing the Validity and Cross-cultural Comparability of Measurement in Survey Research,” *American Political Science Review*, Vol. 98, No. 1 (February, 2004): 191–207.
- More information: <http://GKing.Harvard.edu/vign>

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- In some countries, responses to this survey question correlate negatively with objective measures of health status (Sen, 2002).

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- In some countries, responses to this survey question correlate negatively with objective measures of health status (Sen, 2002).

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Examples of Interpersonal Incomparability

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- Was this massive opinion change, or was the same question interpreted differently?

Anchoring Vignettes & Self-Assessments: Political Efficacy (about voting)

How much say [does 'name' / do you] have in getting the government to address issues that interest [him / her / you]?

(a) Unlimited say, (b) A lot of say, (c) Some say, (d) Little say, (e) No say at all

Anchoring Vignettes & Self-Assessments: Political Efficacy (about voting)

- “[Alison] lacks clean drinking water. She and her neighbors are supporting an opposition candidate in the forthcoming elections that has promised to address the issue. It appears that so many people in her area feel the same way that the opposition candidate will defeat the incumbent representative.”

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- “[Moses] lacks clean drinking water. He would like to change this, but he can't vote, and feels that no one in the government cares about this issue. So he suffers in silence, hoping something will be done in the future.”

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Does R_1 or R_2 have More Political Efficacy?

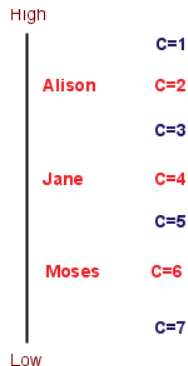


- The only reason different respondents do not agree on vignette positions: Different standards
- Why assumptions hold: investigator creates Alison, Jane & Moses

A Simple, Nonparametric Method

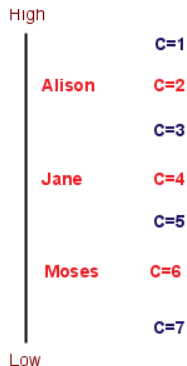
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Define self-assessments *relative* to vignettes:



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- (Special procedures for vignette ties and inconsistencies)

Comparing China and Mexico

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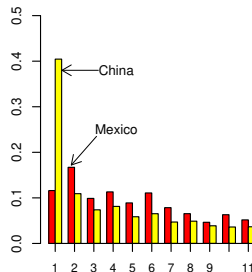
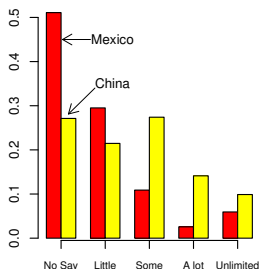
Opposition leader Vicente Fox elected President.
71-year rule of PRI party ends.
Peaceful transition of power begins.

Plenty of political efficacy

China: How much say do you have in getting the government to address issues that interest you?



Nonparametric Estimates of Political Efficacy



- The left graph is a histogram of the observed categorical self-assessments.
- The right graph is a histogram of C , our nonparametric DIF-corrected estimate of the same distribution.

A Methodological Problem

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- For every question on your survey now: add 3-12 vignettes

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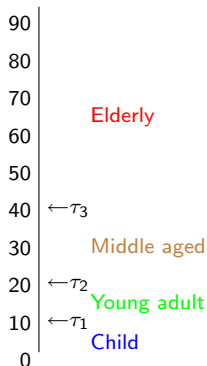
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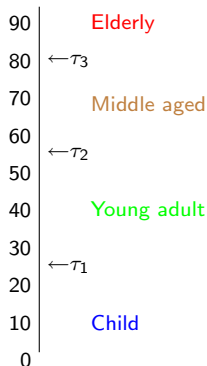
- For every question on your survey now: add 3-12 vignettes
- Too expensive, especially for public health surveys in many countries.
- A second method allows: vignettes asked of a small subset of respondents, or in a different survey

Categorizing Years of Age

Respondent 1



Respondent 2



- If thresholds vary, categorical answers are meaningless.
- Our parametric model works by estimating the thresholds.
- Vignettes provide identifying information for the τ 's.

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3. In other words: we allow response-category DIF but assume stem question equivalence.

Self-Assessments v. Medical Tests

Self-Assessment:

In the last 30 days, how much difficulty did [you/name] have in seeing and recognizing a person you know across the road (i.e. from a distance of about 20 meters)?

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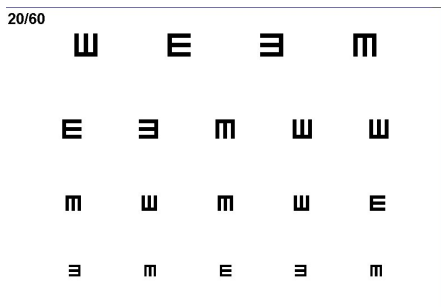
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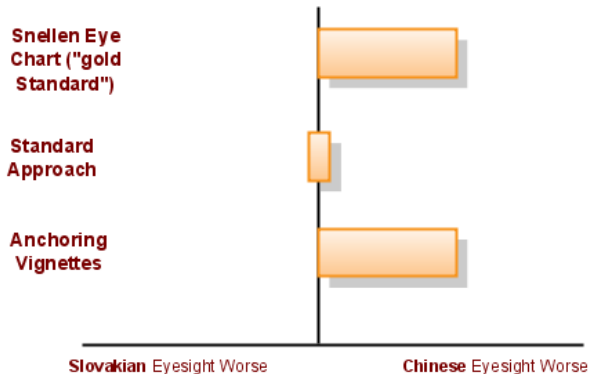
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The Snellen Eye Chart Test:





Fixing DIF in Self-Assessments of Visual (Non)acuity

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	Mean	(s.e.)	μ	(s.e.)	μ	(s.e.)
Slovakia	8.006	(.272)	.660	(.127)	.286	(.129)
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- Chopit reproduces the same result as the medical test (though on different scale)

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<http://GKing.Harvard.edu/vign>

Includes:

- Academic papers
- Anchoring vignette examples by researchers in many fields,
- Frequently asked questions,
- Videos
- Conferences
- Statistical software