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Ten (or so) Pointers About Surveying

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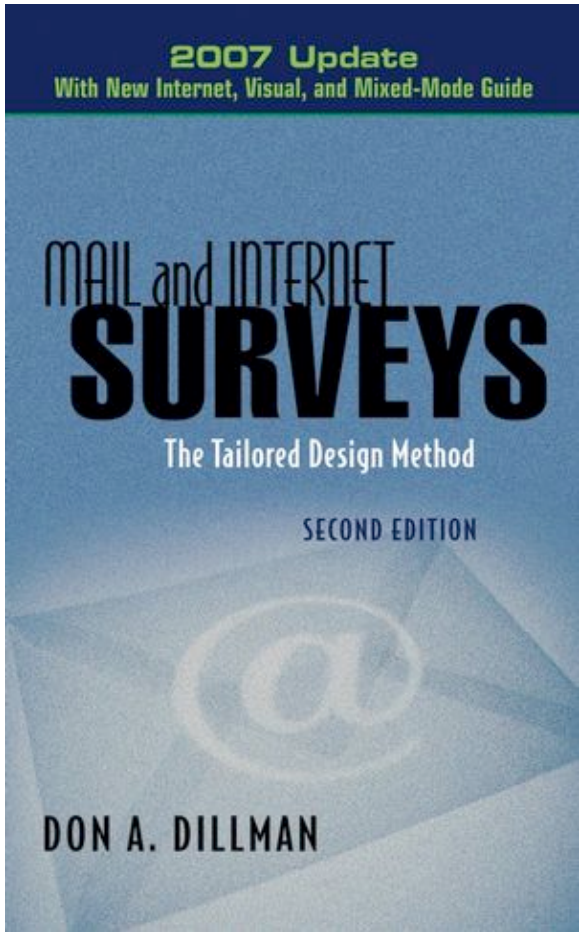
A Rigorous Research Survey Takes Many Steps and Attention to Detail

- State research objective(s)
- Determine fielding and sampling strategies
- Design the survey
- Obtain IRB and/or other approval as necessary
- Pre-test, pre-test, pre-test
- Field the survey
- Follow up with non-respondents
- Assemble and clean the data
- Analyze and report results



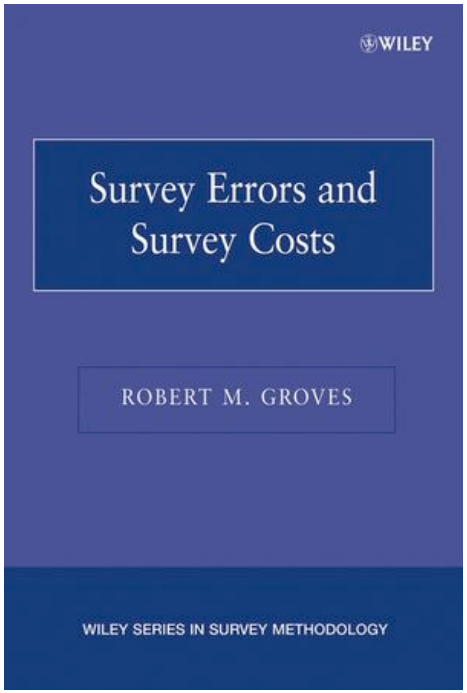
Lots of (Inexpensive) Software Available for Internet-based Surveys

The Fundamental Goal of a Survey is to Collect Accurate Information

- Instrument must be "respondent friendly"
  - Easy to understand and navigate
  - Encourage response
- Questions must be:
  - Clear
  - Unambiguous
  - Minimize possible bias
    - E.g., questions with socially desirable answers
- The harder it is for the respondents, the higher the survey non-response rate

"Accurate" Means Minimizing "Total Survey Error" (Groves, 2004)

Source of Error	Definition
Coverage	'...from the failure to give any chance of sample selection to some persons in the population'.
Sampling	'...from heterogeneity on the survey measure among persons in the population'.
Nonresponse	'...from the failure to collect data on all persons in the sample'.
Measurement	'...from inaccuracies in responses recorded on the survey instruments. These arise from: (a) effects of interviewers on the respondents' answers to survey questions; (b) error due to respondents, from the inability to answer questions, lack of requisite effort to obtain the correct answer, or other psychological factors; (c) error due to the weakness in the wording of survey questionnaires; and, (d) error due to effects of the mode of data collection, the use of face to face or telephone communications'.



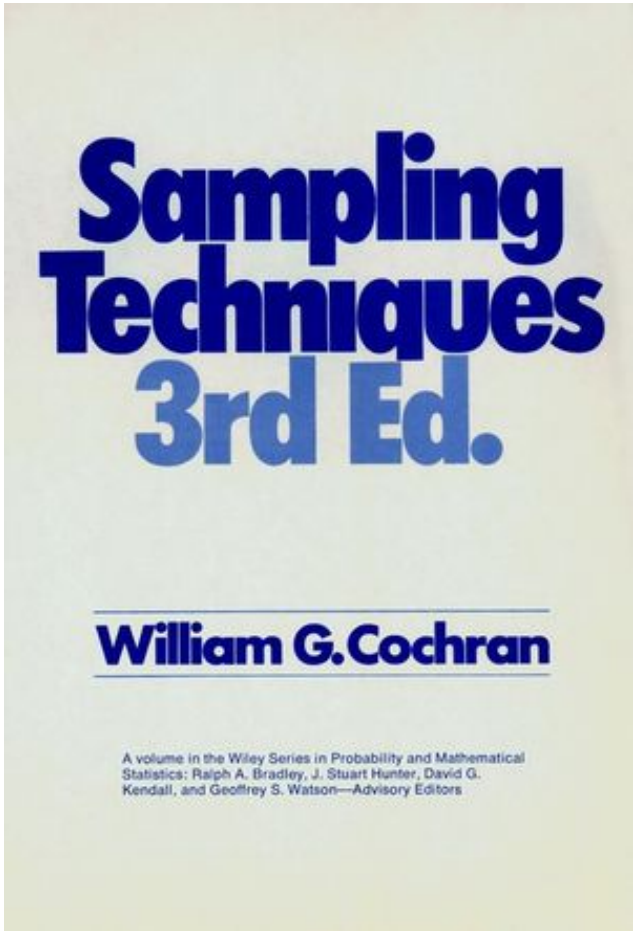
Often, Samples Can Provide More Accurate Data than a "Census"

- Poorly constructed surveys suffer from bias
  - Bias: There is something systematically wrong with the study
  - Poorly done censuses almost surely suffer from non-response bias
- Variance is a feature of all surveys
  - If you did the study again you'd get a different answer
  - Relevant question: how precise are your estimates?
- In an Internet-based survey based on an e-mail invitation to everyone in the population,

  non-response bias may be significantly greater than sampling error from a (much) smaller sample

If You Are Going to Sample, Talk to a Statistician First

- There are lots of ways to sample
  - Mathematics can get tricky
- "Power calculations" important:
  - How big of a sample do I need to answer "X"
  - Can I afford to do the survey?
- Always easier to devise proper sampling strategy first
  - Much more painful to try to patch up poorly executed survey

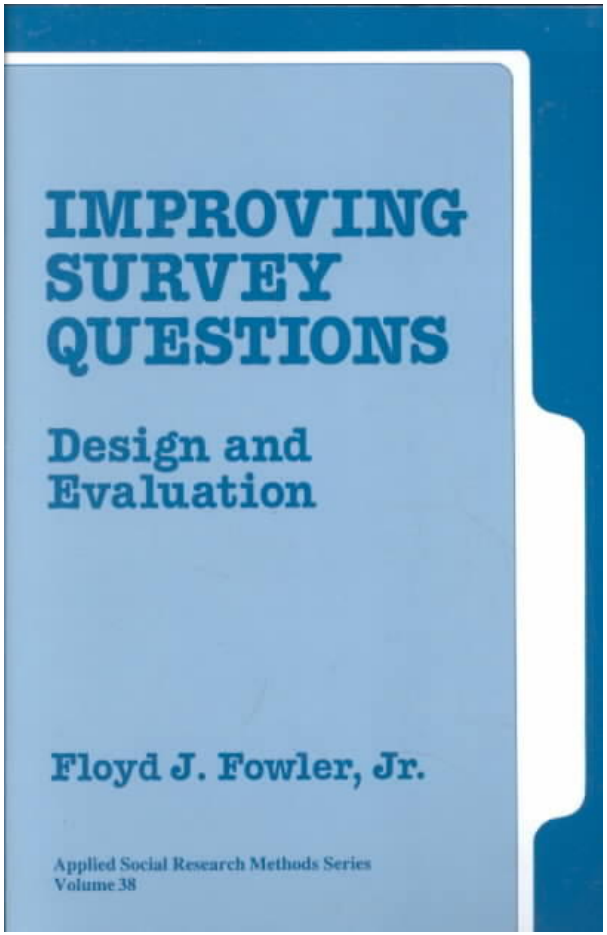


Good Survey Question Design is an Art *and* a Science

For a good question:

- ✓ You must ask the right question
- ✓ Respondents must understand your question
- ✓ Respondents must know the answer
- ✓ Respondents must be willing and able to tell you the answer

Remember, *always* pretest!



External Surveys Require Approval

- "Surveys of DoD Personnel," DoD Instruction 1100.13, 21 November 1996:
  - Surveys within one military Service require that Service's approval
  - Surveys across multiple Services require OSD approval
- "Department of Defense Procedures for Management of Information Requirements," DoD Instruction 8910.1-M, June 1998:
  - Surveys across branches of the Federal government require GSA approval
  - Surveys of the general public require OMB approval
    - Depending on the survey, "general public" can include Federal employees, reservists, active duty personnel and their families
- And don't forget the NPS Institutional Review Board…

Ethics (& IRBs) Require Informing and Protecting Survey Participants

- Surveys should be conducted in a manner that minimizes risks to participants
  - No one should suffer any adverse consequences because of participation
- Informed consent: Always *honestly* disclose:
  - The purpose of the survey
  - How the results will be used
  - Participation is voluntary (if it is)
  - Whether the responses will be kept confidential
- If you promise confidentiality, <u>keep your promise</u>

You are Legally and Ethically Obligated to Safeguard Survey Data

- If you collect personal information, you are ethically and legally obligated to safeguard it
  - DoD 5400.11-R, "Department of Defense Privacy Program"
- A good strategy:
  - Give all respondents a unique ID and remove identifying information (e.g., names, SSNs, addresses, etc) from the analysis file
  - Create a separate file that links IDs to identifying information
    - Store in a locked cabinet
    - Limit access to those with a need to know
  - Once analysis is complete, link file with identifying information should be destroyed

- Survey Research Methods coming Winter 2008
- Course outline:
  - Week 1: Introduction to survey methodology
  - Week 2: Types of surveys and methods of data collection
  - Week 3: Instrument and question design
  - Week 4: Sample design and simple random sampling
  - Week 5: Stratified and cluster sampling
  - Week 6: *Class project survey design and fielding initiation*
  - Week 7: Analytical issues in research surveys
  - Week 8: Categorical data analysis in complex surveys
  - Week 9: Regression with complex survey data
  - Week 10: *Class survey project analysis*
  - Week 11: *Class survey project write-up and report out*

Back-up Slides

An Inferential Question: *Given a sample of O-5 SWOs, what is the average time deployed for all O-5 SWOs in the Navy?*