Introduction to Surveying

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Goals for this Lecture

• Define what we mean by the term “survey”
  – Characteristics of the types of surveys this class will focus on
  – Distinction between “polls” and “surveys”
• Learn some basic survey terminology
• Discuss the basic steps in conducting a rigorous research survey
• Examine some large-scale DoD surveys
What is a Survey?

• A survey is a:
  – systematic method for gathering information
  – from (a sample of) entities
  – for the purposes of constructing quantitative descriptors
  – of the attributes of the larger population of which the entities are members
What’s the Difference Between a Survey and Simple Data Collection?

• Surveys are just one form of data collection – but they are unique in that:
  – Data gathered via a process of question asking and answering
  – Data is often “generated” at the time the question is asked

• Hence, data accuracy very much depends on the survey design and the survey process
  – For example:
    • Does the survey design minimize human error?
    • Does the survey process engender the good will and motivate those taking the survey?
Focus of Class (and Text)

• There are lots of types of surveys
• We will focus on surveys where
  – Information is primarily gathered by asking people questions
  – Information is collected by either:
    • Interviewers asking questions and recording responses (i.e., “interviewer assisted” surveys)
    • Respondents reading and recording their own answers (i.e., “self-administered” surveys)
  – Information is only collected from a subset of the population – a sample – rather than from all members
Polls vs. Surveys

• There is no clear distinction between the two terms
  – “Poll” most often used for private sector opinion studies
    • Use many of the same design features as studies that would be called surveys
  – “Poll” rarely used to describe government or scientific surveys

• To me, the term poll implies either
  – a commercial or less-scientific study, or
  – a quick turn-around survey whose results may be of short-term interest
Survey Terminology

• **(Survey) Instrument.** The entire survey questionnaire, including instructions, questions and response scales

• **Item.** A question and its associated response scale in an instrument
  – In practice, the terms “item” and “question” often used interchangeably

• **Mode.** How survey participants are contacted, questions are administered, and responses are recorded
  – “Contact mode,” “response mode,” “follow-up mode)
• **Closed-ended question.** A survey question in which the response scale is a fixed set of pre-defined responses
  – **Likert scale.** Closed-ended response scale that allows the respondent to state how much they agree or disagree with a statement

• **Open-ended question.** A survey question designed to allow respondents to respond to the question in their own words
Survey Terminology (continued)

- **Validity.** The extent to which a survey question accurately measures the property it is supposed to measure

- **Bias.** A systematic error in the data
  - **Non-response bias:** units that do not answer your questions look different than those that do
  - **Selection bias:** units with a particular trait and/or strong opinions are favored
    - **Strong opinion**
    - **Access to survey mode (telephone, internet, etc.)**
  - **Sensitivity bias:** answers to questions of salary/sex/other social taboos might not be truthful
Survey Terminology (continued)

- **Population.** The group of people (or organizations) whose activities, beliefs or attitudes are being studied

- **Sampling Frame.** The list of people (or organizations) drawn from which the sample will be drawn
  - Explicit sampling frame: An actual list
  - Implicit sampling frame: A method for enumerating the population in order to select a sample
Survey Terminology (continued)

• **Sample.** The set of people drawn from the sampling frame
  – **Census.** A survey in which every member of a population is invited to respond

• **Respondent.** An individual providing answers to survey questions

• **Response rate.** The number of completed surveys divided by the number of eligible potential respondents contacted
Steps in Conducting a Survey – Part I

1. Clearly define research objective(s)
   – Write it down and make sure all parties agree!

2. Write an analysis plan

3. Decide on survey mode(s)
   – How will you contact potential respondents?
   – In what media will the survey be given?
   – How will you follow up with non-respondents?

4. Determine fielding strategy
   – What methods will you use to maximize response rates?

5. Design the survey questions and the instrument
   – Make sure the questions support the objective(s) and the analysis plan
     • Otherwise, don’t ask it!
Steps in Conducting a Survey– Part II

6. Determine sampling strategy and sample size

7. Obtain Institutional Review Board (IRB) and/or other approval as necessary
   - Are respondents promised anonymity? Confidentiality?
   - What is the impact if their survey responses become known?

8. Pre-test, pre-test, pre-test
   - Give the survey to some test subjects and get their feedback
     - What works and what doesn’t?
     - Are you getting correct data/information?
   - Revise and re-pre-test as necessary

9. *Iterate steps 1-8 until all bugs and issues are wrung out and worked through*
Steps in Conducting a Survey– Part III

10. Draw sample and field the survey
   - Follow up with non-respondents

11. Assemble the survey data
   - Clean data as necessary

12. Analyze the data and report results
   - Summarize the data
     - Weight as necessary and appropriate to infer back to population
     - Calculate and report margin of error
   - Evidence of bias?
     - Unit and item non-response

13. Communicate survey results to respondents (particularly if promised)
One View of the Steps

Figure 2.4 A survey from a process perspective.
Another View of the Steps

Stage 1: Planning and Development of Survey
- Collect background data for planning survey design
- Prepare questionnaire outline
- Plan preliminary operations
- Develop preliminary analysis plan and report outline

Stage 2: Pretest
- Draft preliminary sampling design
- Prepare sample frame
- Select pretest sample
- Draft questionnaire
- Prepare preliminary codes
- Prepare pretest questionnaire
- Pretests (2)

Stage 3: Final Survey Design and Planning
- Develop sampling plan
- Revise questionnaire
- Prepare final questionnaire
- Revise survey and design operations plan
- Revise analysis plan; Draft final report outline

Stage 4: Implementation of Survey and Data Collection
- Select sample
- Establish sample control
- Prepare final questionnaire
- Coordinate and manage project with subcontractor
- Collect data
- Collect data

Stage 5: Data Coding and Data-File Construction
- Reduce data
- Editing
- Coding
- Data entry
- Cleaning
- Check data quality
- Verification
- Validation
- Prepare raw data file

Stage 6: Research and Analysis of Data
- Analyze data
- Draft report
- Prepare final report

Adapted from Czaja and Blair (1996)

Excerpted from What is a Survey? by Fritz Scheuren

12/31/12
Some Examples of DoD Surveys

• Operational surveys
  – Surveys of local and indigenous populations in various AORs

• Personnel and quality of life surveys
  – Annual Active Duty Personnel Survey
  – Survey of MWR Services and Family Programs

• Recruiting surveys
  – Military Recruiter Quality of Life Survey
  – Adult Influencer Poll (AIP)
  – Youth Attitude Tracking Study (now JAMRS Youth Poll)
Other Data Collection Methods

• Surveys are not the only (nor necessarily the best) way to collect data

• Other methods include
  – Administrative records
  – Focus groups and qualitative investigations
  – Randomized experiments

• Which is “best” depends on the research question(s) and/or the purpose for which the data will be used
What We Have Covered

• Defined the term “survey,” including the
  – Characteristics of the types of surveys this class will focus on
  – Distinction between “polls” and “surveys”

• Defined additional basic survey terminology

• Discussed the basic steps in conducting a rigorous research survey

• Examined some large-scale DoD surveys