Evaluating Survey Questions

Professor Ron Fricker
Naval Postgraduate School
Monterey, California
Goals for this Lecture

• Overview of methods for evaluating survey questions
  – Types of evaluation standards
  – Brief discussion of evaluation methods
    • Description
    • Pros and cons
• More detail on cognitive interviews and focus groups to follow
What’s the Point?

• Drafting survey questions is **only the first step**
• Must then carefully assess how good the questions are and revise as necessary
  – Remember GIGO: Poor questions just facilitate “garbage in”
  – Most people – me included – cannot simply sit down and write good questions
• Clear, robust questions come from careful review by people with alternative viewpoints
• And, good survey data starts with good questions…
1. What the question means and the kind of answer that will meet the question and survey objectives must be consistently understood by all respondents.

2. Respondents must be willing and able to perform the tasks to answer the question.

3. Survey question protocol (questions and answers) must be consistent across all respondents and (when involved) interviewers.

Evaluation Standards

• **Content standards**
  – Are the questions asking about the right things?

• **Cognitive standards**
  – Do respondents understand the questions consistently?
  – Are they willing and able to formulate answers to the questions?

• **Usability standards**
  – Can respondents (and interviewers) complete the questionnaire easily and as they were intended to?
Evaluation Methods

- Expert reviews
- Focus group discussions
- Cognitive interviews
- Field pretests
- Experiments
Expert Reviews

• Two types
  – Survey and questionnaire design experts
    • Make sure the instrument and questions up to best practices in survey research
  – Substantive (subject matter) experts
    • Make sure the facts are right and the survey will meet research objectives

• Experts can provide guidance on things like:
  – Does the survey flow, are the response sets reasonable, etc.
  – Is the wording technically correct and appropriate?
  – Will all questions be understood in the same way by all respondents?
  – Does this understanding match what the survey designers intended?
Focus Groups

• A moderated discussion among 10-12 individuals
  – Groups often selected to be relatively homogeneous
  – Researcher structures the discussion topics
  – Group members encouraged to express their viewpoint(s)

• Often conducted prior to developing questions and instrument to:
  – Learn about what respondents know about a subject/topic
  – Develop a deeper understanding of a topic or issue
  – Understanding terminology
  – Narrow focus of survey to specific relevant topics/issues
Cognitive Interviews

• Structured way to gain insight into how respondents:
  – Understand/interpret questions
  – Think though issues
  – Arrive at answers

• Useful for “getting inside the respondent’s head”
  – Remember, it’s not what the question says, or what the researcher intended…it’s what the respondent thinks it means
Types of Cognitive Interviews

- Concurrent think-alouds
- Retrospective think-alouds
- Confidence ratings
- Paraphrasing
- Definition
- Probes
Fielding Pretests

- Small-scale rehearsals
- Purpose is to evaluate the instrument (and the fielding methods) under actual fielding conditions
  - How long does it take respondents to complete the survey?
  - Are errors being made?
    - E.g., is there a high level of missingness for one or more items?
  - Are there items with no variation?
Experiments

• Can experimentally compare different:
  – Methods of data collection
  – Fielding procedures
  – Versions of questions

• Wrt questions, experiment can demonstrate that there are differences, generally cannot resolve which question produces better data
  – Exception: when survey responses can be validated against external data
Evaluation Hierarchy

- Focus groups
- Expert reviews
- Cognitive interviews
- Field pretests

Early

Late

Design phase

Fielding phase
Expert Review Pros and Cons

• Pros:
  – Good for evaluating instrument construction
  – Least expensive and easiest to do

• Cons:
  – Experts may disagree
  – Poor at determining which questions are best, particularly in terms of questions respondents can most accurately answer
Focus Group Pros and Cons

• Pros:
  – Efficient way to get at ideas, understand issues
  – Can uncover topics and issues unknown to researchers

• Cons:
  – Not useful for testing questions
  – Not useful for investigating how individuals understand and/or answer specific questions
Cognitive Interviewing Pros and Cons

• Pros:
  – Useful for understanding how individuals interpret and/or answer specific questions

• Cons:
  – Usually only involves a small number of people who may not be representative of entire population
  – Different cognitive interviewers may produce different results
  – Interviewees may respond differently in cognitive interview than actual survey respondents
Field Pre-testing Pros and Cons

• Pros:
  – Useful for finding out how instrument and fielding procedures work under realistic conditions
  – May help uncover problem questions

• Cons:
  – Because process is trying to replicate realistic survey procedures, little flexibility to investigate problems as they occur
So, Why Do Pre-testing?

So, you’re not this person!
What We Have Covered

• Brief discussion of types of evaluation standards

• Overview of various methods for evaluating survey questions and instruments:
  – Expert reviews
  – Focus group discussions
  – Cognitive interviews
  – Field pretests
  – Experiments