

Questionnaire Design

Tips on how to write better Survey Questionnaires

Tim Triplett
Statistical Methods Group

2008 IFDTC Conference
May 20, 2008



Presentation Overview

- Know your target respondents
- Mode of data collection
- Getting your foot in the door
- Writing the questionnaire
- Test and test, then pretest



Target Respondents

Before anything else !

“think about the people
who you expect to fill
out the questionnaire”



Target Respondents

- How receptive are they to being surveyed
- What mode(s) of data collection will work best
- Language comprehension
- Age & education
- Knowledge of subject matter
- Sensitivity to the subject matter



Mode of Data Collection

- Self-Administered Forms - Traditional Mail surveys (hand-outs)
- Self Administered computer aided forms - Web Surveys (touchtone, kiosk)
- Interviewer Administered - Telephone (CATI, Audio CASIC)
- Interviewer Administered - Face to Face, (CAPI)
- Mixed - Modes



Self-Administered Forms (Traditional Mail Surveys)

- Questions must be simple with little or no skip patterns
- Limited ability to probe or follow-up
- Well established education bias
- Questions using the same scale have higher correlations
- Scale questions cluster more towards the center
- Higher reporting on sensitive items



Self-Administered Computer Aided (Internet or Web Surveys)

- Methodology is still relatively new and rapidly evolving
- So we are not sure of the biases, but we know that they are changing
- Design issues are quite important
 - Scrolling, graphics, progress indicators, navigation, forced edit checks, personalization
- Visual and graphical displays can be used effectively
- Higher drop-out rates



Interviewer-Administered (Telephone Survey)

- Questions can be more complex and complex skip patterns are fine
- Higher response rate amongst less educated
- Interview effects on sensitive issues
- Satisficing effects for questions that ask about a positive attribute
- Sponsorship effects are larger
- Consistent rules needed for when to read options and what parts of the questions can be omitted



Interviewer-Administered (Face-Face Survey)

- Questions can be more complex
- Visual aides can be used
- Interview effects on sensitive issues
- Satisficing effects for questions that ask about a positive attribute
- Sponsorship effects are larger
- Questionnaire can be much longer
- Better at collecting qualitative or open ended data



Mixed Modes

- Mode effects can be minimized between various self administered modes
- Combining different interviewer modes is doable, but not as easy
- Combining a self administrative mode with a interviewer mode requires separate questionnaires
- Some random assignment would help uncover any biases



Getting Your Foot in the Door

- Bad introductions will kill good questionnaires
- Purpose of the study – make it exciting without introducing biasing
- Who, and how will the data be used
- Who is funding or sponsoring
- How does the individual benefits, are you offering an incentive



Do Incentives Help?

- Incentives improve response rates on all modes of data collection
- Incentives are more effective on self administered surveys
- Prepaid incentives are more effective on mail surveys than are promised incentives
- Response rate gains are the same when using prepaid or promised incentives in telephone or face-to-face surveys
- Money is more effective than gifts (equal in value) for all modes of data collection
- A positive linear relationship exists between money and response rate
- On average you get a 1/3 percentage point gain in response rate per dollar spent on incentives in telephone surveys
- On mail surveys incentives have been found to increase response rates as much as 20 percentage points
- The more burdensome a survey is, the more effective are incentives

❖ Also see: Singer, Eleanor. 2002. "The Use of Incentives to Reduce Nonresponse in Household Surveys"



Does your question wording break any of the following rules?

- ✓ Is your question asking about more than one thing (double barreled)?
- ✓ Are you using any terms that some respondents may not understand?
- ✓ Are your response options exhaustive and mutually exclusive?
- ✓ Are the response options good enough to disseminate respondents' views?
- ✓ Do your scale questions have balanced alternatives?
- ✓ Can you get the information from another source (reduce burden)?
- ✓ Will all respondents have the same interpretation of the question?
- ✓ Is the time frame clearly stated & reasonable for recall questions?
- ✓ Does the question contain double negatives?
- ✓ Is there an unnecessary neutral, don't know or no opinion option?
- ✓ Are you using reasonable intervals for numeric response options?
- ✓ Does the wording seem to advocate a particular answer (leading)?
- ✓ Are you using an acronym that has not yet been defined?
- ✓ Are you asking respondents to rank a series of items or some other task that appears burdensome?



Example of a question asking about more than one thing (double barreled)?

- How satisfied were you with the food and beverages?
 - *Or* is not a good fix
- Did you have any problems with the food *or* beverages that were served?
 - *Do it right*
- Did you Food?
- Did you Beverages?



Will the response options disseminate respondents' views

- There are cultural differences in responding to scale questions
- Foreign Born respondent's tend to avoid end points, especially Asians (except for India)
- Males more likely to choose extreme options
- Blacks more likely to choose extreme options



Is the Time Frame clearly stated and reasonable for recall questions

- Make sure the recall period is explicit
- Saliency is the key to recall
- Motivation is the other key
- Social desirability leads to telescoping
- Consider seasonal effects
- If possible, avoid changing the recall period
- Cognitive testing is important to knowing whether the recall period is reasonable



Will Everyone have the Same Interpretation of the Question

- This is a particular problem when writing agree/disagree or favor/oppose questions
- For example:
 - Do you favor or oppose IFDTC choosing locations independent of AAPOR locations?
- Everyone may know what APPOR is
 - But there are certainly different interpretations of this question



Should you offer respondents a “no opinion” or “don’t know option”?

- Less educated respondents are more likely to choose this category
 - Offering them increases the likelihood of nonresponse on other items
 - Studies have shown inclusion of these items does not improve the consistency of respondents’ attitudes over time
 - For questions that require some thought, these items discourage respondents from thinking about the issue
 - Respondents who do not have clearly formulated opinions usually lean in one direction or the other
 - Recent cognitive studies have shown that when encouraged, respondents who choose these options often provided substantive answers
- ❖ See also: Krosnick Jon A., et al., 2002 “The Impact of "No Opinion" Response Options on Data Quality: Non-Attitude Reduction or an Invitation to Satisfice?”
- ❖ McClendon & Alwin, 1993 “No Opinion Filters and Attitude Measurement Reliability”



Use Reasonable Intervals

- Because respondent's will assume that they are reasonable
 - For instance a study showed the similar distribution of watching TV when using the categories:
 - 0 to 1, 1 to 2, 2 to 3, 3 to 4, or 4+ hours
 - Versus
 - 0 to 2, 2 to 5, 5 to 8, 8 to 10, or 10+ hours



Question Sequence is Important

- It usually helps to ask the more specific items - for example:
 - Consider rating the following community services: Recycling Services and Garbage collection
 - Respondents' rating of garbage collection is likely to be influenced by the recycling services being provided
 - Asking first “How would you rate recycling services in your community” before asking “How would you rate garbage collection in your community” clues the respondent that you want them to consider garbage collection separate from the recycling services



Question Sequence is important

- Consider a lead-in statement for items in which there is likely to be order effect in either direction – for example:
 - Consider a respondent trying to evaluate how well the police, the courts, and local leaders have been doing in preventing crime in the community
 - No matter what order you choose, there is likely to be some order effect, so consider using a lead in statement similar to the following:
 - “Now, I’d like you to tell me how effective the police, the courts, and local leaders have been in preventing crime in your community: First, How about”



TEST, TEST and then PRETEST!

- Have the questionnaire reviewed by a panel of experts (usually the most effective approach)
- Conduct Cognitive Interviews to test question understanding
- Traditional Pretest – should not only test the questionnaire, but replicate the procedures
- Each testing procedure (expert, cognitive, traditional) will uncover different problems
- If the last test leads to major changes – another test should be done



Thank You

