An Introduction to Effective Survey Design and Administration

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Things to Consider

- What is the goal?
  - What is the research question? Is it research?
- How do we want to accomplish our goal?
  - Survey, admin data, experimental design?
- Who do we want to collect data from?
  - Sample considerations?
- How will we collect data?
  - Modes of data collection
- How do we get people to tell us what we want to know?
  - The psychology of survey response and effective questionnaire design
What is the Goal?

- What is it you want to do?
- How are you going to use the data?
  - Program evaluation?
  - Research project?
- Has implications beyond methodological design.
  - IRB
    - “Research” with human subjects requires IRB approval
    - Not everything is “Research”
    - “A systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge.”
      - 45 CFR 46.102
How do you want to accomplish your goal?

- Any kind of data collection can be resource intensive.
- Important to match research question with appropriate type of methodology.
  - Administrative data
  - Focus Groups
  - Survey Designs
  - Intervention Designs (Pre/Post test)
Who do we want to collect data from?

- Population vs. sample
- Sampling is used for more than just survey research
- Probability vs. nonprobability sampling
- Quantitative research – probability
- Qualitative research – nonprobability
How will we collect data?
Modes of Data Collection

- **Self administered modes**
  - Paper and Pencil Surveys
  - Web Surveys
  - Portable Devices (Cell phones, Palms)

- **Interviewer administered modes**
  - Telephone Surveys
  - Personal Interviews
The Psychology of Survey Response

ESCRIME

- Encoding and Storage
- Comprehension of Question
- Retrieval of Information
- Judgment and Estimation
- Reporting an Answer
Problems in answering survey questions

- Failure to encode the information sought
- Misinterpretation of the questions
- Forgetting and other memory problems
- Flawed judgment or estimation strategies
- Problems in formatting answer
- Deliberate misreporting
- Failure to follow instructions
Question Construction

• Consideration of the logic of survey response is important when writing questions and responses for a questionnaire.

• As always in survey research the goal is to avoid error and through careful and thought out wording of questions which can reduce respondent burden and thereby error can be avoided.

• We want our measures to be valid and reliable.
  – Validity is the extent to which the survey question measures the property it is supposed to measure.
  – Reliability is the extent to which repeatedly measuring the same property produces the same result.
Principles for writing questions

• Do not “reinvent the wheel”!
• If possible, use questions that have already been developed, tested, and used effectively.
• Be cautious of proprietary measurement instruments.
  – Often applies to psychological and behavioral surveys.
  – If you are unsure ask.
Principles for writing questions

- Quality survey questions provide respondents with a context for the question (preamble) by including:
  - Topic
  - Definitions
  - Timeframe (e.g. past 3 months)
  - Task required (e.g. select one, select all that apply)
Principles for writing questions

- Avoid using complex terms or words that are difficult to understand or require complex definition.
  - Look for synonyms of more complex words
    - Tired for exhausted
    - Work for employment
  - Substitute simplified combinations for more complex combinations.
    - People who live here for occupants of this household
  - Spell out specialized words that might be common to discipline etc. but might have no meaning to respondent.
  - Some suggest writing the questions at an 8th grade level but this may not apply depending on who you are surveying.
Principles for writing questions

- Avoid shorthand (contractions, abbreviations, symbols)
- Do not frame questions in the negative – (e.g. How frequently do you not attend church?)
- Do not use double negatives – (e.g. Do you agree or disagree that the President should never not raise tuition costs?)
- Maintain neutrality whenever possible (no loaded questions)
Principles for writing questions

• A questionnaire gets people to express their feelings, perceptions, behaviors and experiences, both past and present; therefore you should avoid:
  – Asking secondhand information
  – Asking hypothetical questions
  – Asking about causation
  – Asking for solutions to complex issues
Principles for writing questions

- Questions should have only a single subject and a single verb. And should not combine two questions into one (double-barreled).
  - Avoid “and” and “or” when formatting questions.
- Be sure each question is technically and grammatically accurate.
Question types and response categories

• In tandem with question wording you need to take into consideration the types or responses you want which in part is based on your research questions but there are some general rules to follow
  – Open-ended questions can be useful but can complicate analysis and slow the administration of the instrument so you should keep them to a minimum
  – Closed questions where the respondents are given a standard set of responses are much easier to administer
Good closed-end response categories

- Should be mutually exclusive and exhaustive
  - Should include an “other: specify” option when not sure
- Avoid lumping responses into categories (this can be done in analysis)
- Likert items, for example (strongly agree, agree, undecided, disagree, strongly disagree) are very useful, but you need to provide variation to avoid acquiescence
- Keep ordered response categories to a minimum (7 categories maximum) and use words not numbers.
- Make sure responses make sense given the question.
- When measuring frequency of an event ask for actual number of times rather than “often, seldom, never.”
Design of self-administered questionnaire

- Questions should be ordered so as to seem logical to the respondent and logical to the flow of the survey
- First questions should be relevant and easy
- Questions are effectively ordered from most salient to least salient
- Demographic questions should not be covered at the beginning
- Group similar items together
- Potentially objectionable questions are placed near the end
Questionnaire Layout

• Create a navigational path
  – Instructions should be placed right where they are needed
  – Matrices are confusing: it is best to order questions from top to bottom, and left to right
  – Use larger font to attract attention
  – Use color shading to attract attention or show groupings
  – Use spacing and similarities to show groupings
Create a navigational path...

- Use symbols to identify the starting point (arrows)
- Number questions consecutively
- Use a consistent background
- Write questions in bold and answer responses in a lighter font
- Avoid banking responses into more than 1 column
Testing Survey Designs

- Always recommended that you test your design
  - Pilot
  - Cognitive interviews
  - Informed respondents

- Don’t just run through questions, look at data!
The Survey Research Center

Mission

- Provide survey services.
- Promote and contribute to the science of survey research methodology.
  - AAPOR/IFD&TC/AASRO Affiliate
- Help investigators prepare effective proposals for external funding.
- Educate the Penn State community about the best practices and emerging developments in survey research.
- Graduate education (through our new certificate program).
The Survey Research Center

http://www.ssri.psu.edu/survey

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