Non-Experimental Research: Overview of Conducting Surveys

EDF 811
Topic 12
03-Apr-01
Objectives:

- Provide an overview of how surveys are conducted and why they are done
- Consider the principles by which we can design good survey questions
- Give you the opportunity to work with others in your class to design a short survey
Part 1: Overview of Survey Design
Basic Steps in Conducting a Survey

Note: This discussion will focus on mail questionnaires. However, most of these principles apply for telephone surveys and structured interviews also.

1. Establish the overall goals and objectives of the project

   Determine the target population of interest

1. Conduct a review of the relevant literature

2. Decide on the specific research questions to be addressed by the study
4. **Design a methodology** appropriate to answering the research questions

Select a sample representative of the population and decide on a sampling plan. *(If census, design way to contact the entire population.)*

Develop the survey forms and other data collection materials

Decide on the specific procedures for data collection
Basic Steps in Conducting a Survey

5. Develop a plan for processing the survey materials and develop a data analysis scheme for addressing the research questions and develop a plan for reporting the findings

6. Conduct the survey

7. Process the data
Basic Steps in Conducting a Survey

8. Analyze the data using appropriate descriptive and/or inferential methods; interpret the findings in relation to the research questions being asked; conduct exploratory data analyses as desired.

9. Write a report which documents the study and presents the findings and conclusions; disseminate the report
Some Advantages of Surveys

- Cost is relatively low
- Possible to include large numbers of respondents over a wide area
- Relatively easy to contact respondents
- Respondents generally familiar with format
- Often able to promise anonymity or assure confidentiality
More Advantages of Surveys

- Easy to tabulate compared to other methods
- Same questions and response options presented to all
- Respondents can answer in privacy & take their time; can look up information when necessary
- Mail surveys insulate respondents from the expectations of an interviewer
Some Disadvantages of Surveys

Self-report data may not correspond to observational data.

Reliability and validity may be questionable in certain circumstances.

Methodology over-used and not appropriate for many research questions.
More Disadvantages of Surveys

- Not appropriate for some respondents
- Possibility of response bias
- Problems when there is a low response rate
- Difficult to probe and clarify
Mail surveys are a good choice when:

1. You have limited resources to do your study
2. You can write most of the questions in a closed-ended style
3. You are studying a sample that is “invested” in your study’s topic
Response Bias

Response bias can result from non-random factors in the return of responses

For example, volunteers may respond differently than non-volunteers

Response rate considerations: Low response rates may indicate response bias. (Ordinarily, we would look for a response rate more than 50%)
Four types of errors in surveys:

1- Sample selection bias (you pick the wrong sampling frame or use a technique that produces non-representative sample)
2- Biased responding sample (non-response error)
3- Item non-response (failure to answer individual responses)
4- Response error (participant didn’t understand the question or answered wrong intentionally)

In good survey design, we find ways to minimize these sources of error!
Sample Data Collection Materials

Address Labels from contact lists

Materials to be sent in envelope:
- Cover letter [MOTIVATES PARTICIPATION]
- Survey form
- Letter(s) of support
- Incentives (here, later, both, or neither)

Reminder materials

Follow-up letter (plus Survey Form, etc., as required)

Possible thank you letter/Feedback/Incentives
Cover Letter Considerations

**FORMAT**

- Memo vs. Letter
- Personalized vs. general salutation
- Length (not too long! 1 page?)
- Official stationary
- Appropriate signature
- Easy to Read (font, quality, language level)

**CONTENT**

- Identify who is conducting or sponsoring project and explain benefit to respondent; good first sentence
- Assure **confidentiality** (if necessary) or allow **anonymity**
- Explain what will be done with the findings
- Include return date
- Mention “enclosed Postage paid envelope” (IMPORTANT!)
- Give contact number or address for questions
Good design is important; keep neat and professional

Form should be as brief as possible to answer the research questions; do not include questions that cannot or will not be analyzed; only items should be included which are necessary and which meet the stated objectives
Make the form as easy for the respondent to fill out as possible

Don’t make respondent help in coding
Use boxes for “checks” and lines for write-in responses
All questions do not apply to each respondent-give a clear road map
**Design of the Form**

Organize the survey in logical order and in sections; number the items

**Item order is important**
- Least sensitive items should be first
- Most important items should be toward the front
- Open-ended questions should be last when possible
- General comments should be allowed at the end if space permits

Design of survey form and questions should take into consideration how the question will be processed and analyzed
Determine if respondent needs to give name; if so, determine if confidentiality is needed

Give a title to the survey form; repeat confidentiality statement from cover letter (if appropriate); instructions on the form are helpful; include a return address on the form
Design of the Form

- Obtain permission if borrowing items from other questionnaires
- If at all possible, the questionnaire should be pilot tested
General Considerations for the Design of Questions

Use clear and unambiguous questions; closed-end formats are easier for the respondent to deal with and easier to process and analyze.

There are many closed-end formats; formats should be matched to the nature of the information being sought.
General Considerations for the Design of Questions

- Keep response formats as similar and consistent as possible

- Do not ask for “leading” or “loaded” questions; try to keep the affect as neutral as possible; keep jargon to a minimum

- Do not ask for information that is already known -- unless you need verification
General Considerations for the Design of Questions

Do not make assumptions about your respondents; be sure that the respondent is, in fact, a member of your target population; define terms which may not be familiar to your respondents.

Include characteristics of respondents which may be related to topic being studied; on the other hand, do not include information which is not related to the study.
General Considerations for the Design of Questions

In multiple choice formats, be sure that the choices are responsive to the question; make sure all possibilities are covered; state “check all that apply”; include “other” responses if appropriate.
Sample survey items. Please comment:

How many tennis shoes does your child own?

- None
- 1
- 2
- 3
- 4
- More than 4
- Don’t know
Has today’s workshop been interesting and informative?

_____ Yes
_____ No

Are you still opposed to no-fault insurance?

___ Yes
___ No
Should the FAA permit mergers to reduce airline capacity problems?

_____ Yes
_____ No

Should a retail businessman purchase whole life policies?

_____ Yes
_____ No
The United States should remain on daylight savings time 12 months a year, shouldn’t it?

_____Yes
_____No

Does small business need a government wet nurse in all its daily activities?

_____Yes
_____No
What is your total family income?

- $10,000 - $20,000
- $20,000 - $30,000
- $30,000 - $40,000
- $40,000 or more

Why did you decide to come to Gallaudet University?

- Low Tuition
- Good Faculty
- Small Classes
- Social Life
What are your favorite hobbies?

_____ Collecting Stamps
_____ Fishing
_____ Reading books
_____ Watching TV
_____ Gardening
_____ Playing Computer Games
A real survey of e-mail use among Gallaudet faculty included the following questions:

Please check one:

// Deaf  // Hard of Hearing  // Hearing

Preferred language:

// ASL  // English  // Signed English
// Other (specify)__________________

On average, the number of times per day that I use the E-Mail system is:

// 6 or more  // 4 – 5  // 2 – 3  // Only once
// Never
Bad and good items:

My car on average gets:

_____ poor gas mileage

_____ average gas mileage

_____ good gas mileage

Problems:

Terms not defined (causing unreliability and invalidity!); assumes terms mean the same to all

Assumes respondents know the answer

Assumes respondents have a car
Better:

Do you own a car?

_____ Yes (continue)
_____ No (skip next question)

If yes, indicate the gas mileage of the car you drive most often:

___ 20 miles per gallon or less
___ more than 20 miles per gallon
___ Don’t know

Still not perfect. Why?
When you categorize, be careful:

How many hours a week do you generally study?

_____ 0
_____ 1-2
_____ 3-5
_____ 6-10
_____ 11 or more

Categories should be equal size if possible except for the first and last categories; also don’t forget the “Don’t study” category if appropriate.
Likert Scales
(ordinal scales sometimes treated as interval)

Have choices such as---

– Dislike a lot
– Dislike a little
– Neither dislike nor like
– Like a little
– Like a lot

Can be 5 or 7 choices; neutral in middle; extremes on end; labeling other choices optional