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Questionnaire Design

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Constructing a Questionnaire

Good questionnaires are difficult to construct;
Bad questionnaires are difficult to analyze.

Initial Planning ~ Prior to Writing any Questions

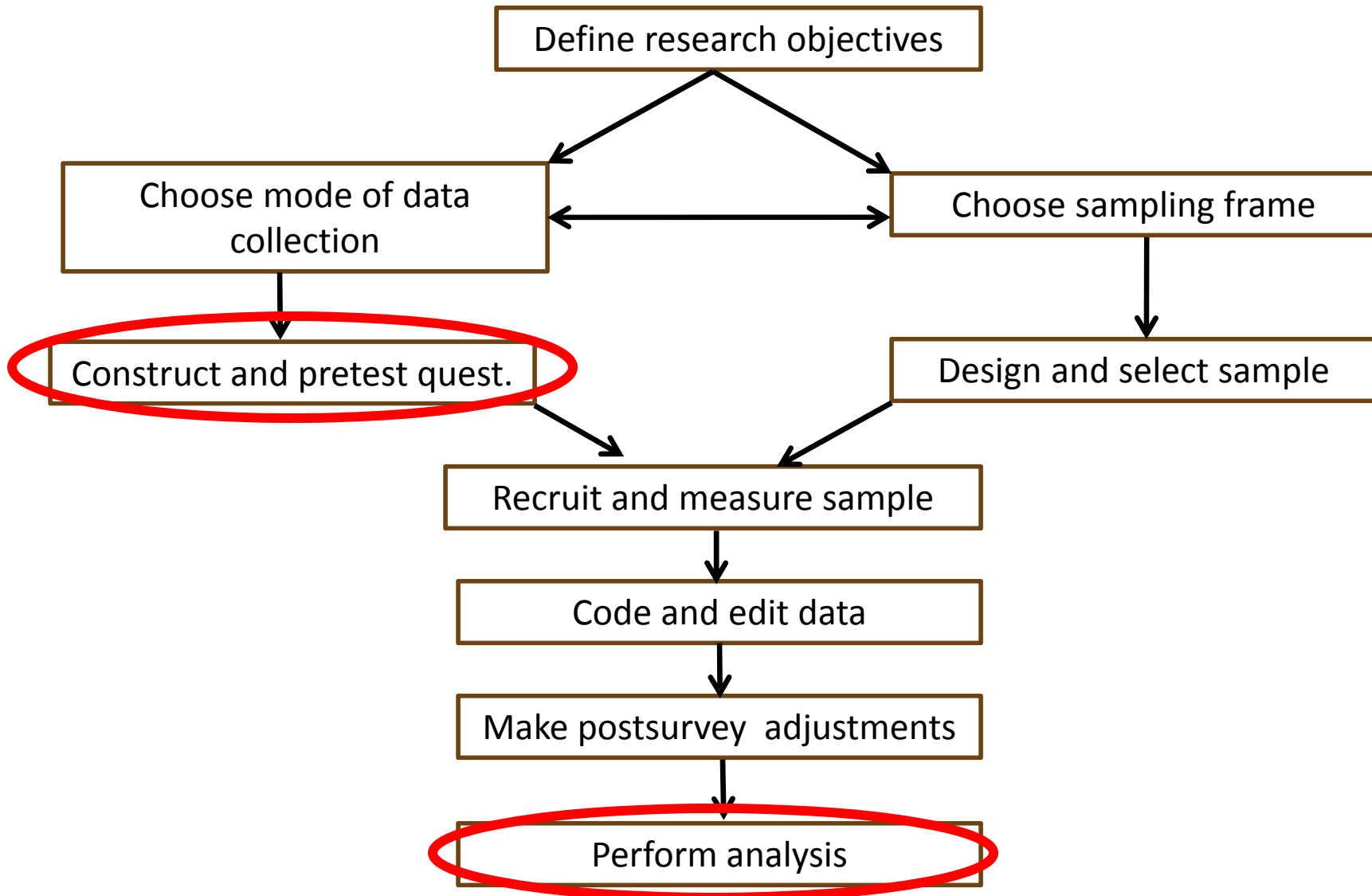
- Define the problem and specific aim (s) of the study/project (What? Whom? How? What?)
- Detailed list of the information to be collected and concepts to be measured
- Analysis plan (outline of how every item will be analyzed – levels of measurement - NOIR)
- Review the literature & existing surveys



Modes of Data Collection

1. In-person Interview
2. Mail Survey
3. Phone Survey
4. Web Survey
5. Mixed-Mode

The Survey Research Process

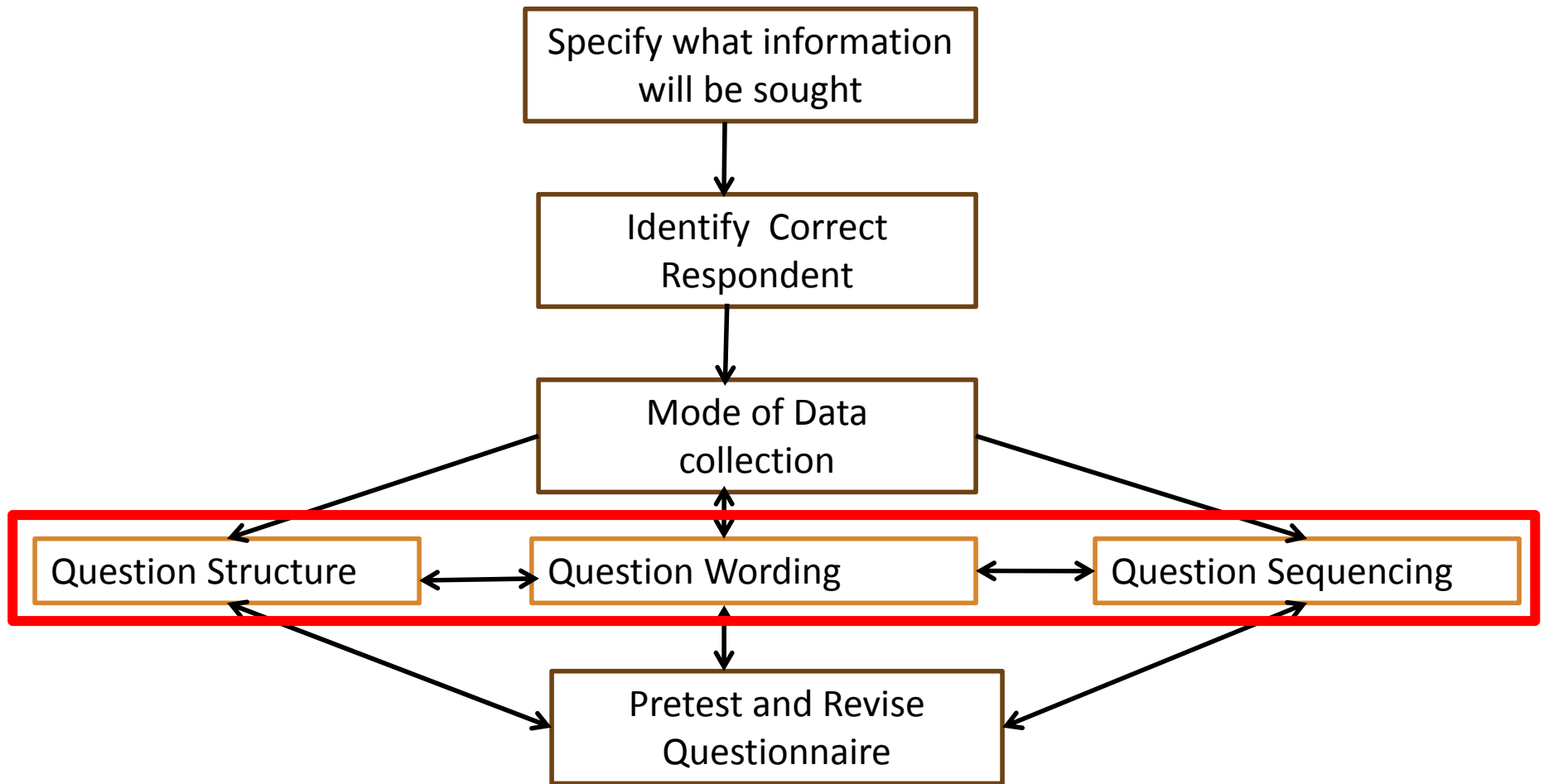


Constructing a Questionnaire

CHALLENGES

1. Respondents must understand the questions
2. Respondents must know the answers
3. Respondents must be willing and able to tell you the answers

Initial Planning ~ Prior to Writing any Questions



Question Wording ~ Tips for Improving Survey Writing

- Stay focused on objectives
- Include only one topic per question
- Consider alternative ways to ask sensitive questions
- Make sure the respondent has enough information (provide definition – screen questions)
- Give frame of reference
- Consider a “Don’t Know”; “no opinion”, not sure”, responses

Variable name Question Structure

Definition of the variable

2. Closed-ended question

SAFE1. How safe do you feel in shopping areas in Doha, Qatar at night? Would you say very safe, safe, unsafe, or very unsafe?

- 1 Very safe
- 2 Safe
- 3 Unsafe
- 4 Very unsafe
- 8 DON'T KNOW/UNABLE TO RATE
- 9 REFUSED

Variable attributes

Numerical Labels

Question Structure: Close-ended Questions

Advantages:

- Easy to answer and takes little time
- quicker/easier to respond to, responses easier to analyze
- Answers can be pre-coded (assigned a number) and easily transferred to a computer
- Answers are easy to compare
- provided pre-selected responses often help clarify the meaning of the question

Disadvantages

- May not be accurate – forced people to accept categories or puts too many people into other categories
- Respondent's choice not among listed alternatives
- Choices listed communicate kind of responses wanted
- Wording of response choices may influence responses

Question Structure: Open-ended Questions

Advantages

- Respondent free to answer
- Fewer limits imposed by researcher regarding the response, but responses may be less complete
- Appropriate when list of possible answers is excessive

Disadvantages

- Respondents may say too much or too little
- Provide incomplete or unintelligible answers
- Usually require qualitative methods or special systems to code and analyze (which takes more time)

POL1. What democracy means to you?

Question Structure

Open and closed ended questions

What one issue mattered most to you in deciding how you voted for president?

(Pew Research Center, November 2008 Post election Survey)

	<i>Open-Ended (%)*</i>	<i>Closed-ended (%)**</i>
<i>The Economy</i>	35	58
<i>The War in Iraq</i>	5	10
<i>Health care</i>	4	8
<i>Terrorism</i>	6	8
<i>Energy policy</i>	-	6
<i>Other</i>	43	8
<i>Don't Know</i>	7	2
<i>Total</i>	100	100

**Unprompted first response to open-ended question*

*** First choice from five options read to respondents*

Questionnaire Construction

- Specify constructs
- Write questions
- Place questions in order
- Set up skip patterns



Question Wording: Suggestions

- (1) Use Complete Sentences
- (2) Include all necessary information
- (3) Each question should ask about only one concept or issue (i.e., no double-barreled questions)
- (4) Avoid bias in questions

Question Wording: More Suggestions

Avoid Mismatched Item and Response set

NMA1. Did you have back-pain last week?

- 1 Never
 - 2 Seldom
 - 3 Often
 - 4 Very often
- 

Question Wording: More Suggestions

Reduce The Effect of Social Desirability

Tendency for respondents to distort answers in ways that they will make them look better or will avoid making them look bad

Sensitive answers (reporting of drug use may pose a risk to respondent)

In talking to people about elections, we often find that a lot of people were not able to vote because they were not registered, they were sick, or they just didn't have the time. How about you – did you vote in the elections this November? (Source: American National Elections)

Question Wording: More Suggestions

Beware of Languages Differences

- Assure that items have the same meaning when the questionnaire is to be administrated to populations speaking different languages.
- Simple direct translation of validated scale items into another language (e.g. Arabic, Hindu) may not create a valid scale in the other language.



How to Organize Surveys: Question Sequencing

Question Sequencing

- Frame the survey briefly but carefully;
- Early questions should be easy and pleasant to answer, and should build rapport between the respondent and the researcher;
- Questions at the very beginning of a questionnaire should explicitly address the topic of the survey, as it was described to the respondent prior to the interview (consistent with cover letter – in the case of mail survey);

Question Sequencing

- Questions on the same topic should be grouped together;
- Questions on the same topic should proceed from general to specific;
- Questions on sensitive topics that might make respondents uncomfortable should be placed at the end of the questionnaire;
- Filter questions should be included, to avoid asking respondents questions that do not apply to them; and
- End with “thank you” and follow-up information

Sequencing

Use transitional statements:

- To signal a new topic is beginning
- To start new pages (mail survey)
- To break up the monotony of long series of questions

- Next we would like to ask you several questions about



Cognitive Process of Survey Response

Cognitive Steps in Question Answering

- 1) Understand intent of question.
- 2) Search memory for information.
- 3) Integrate information into summary judgment.
- 4) Translate judgment onto response alternatives.

“Optimizing”

Satisficing

- Weak Satisficing: Incomplete or biased
Steps #2 and 3
- Strong Satisficing: Skip Steps #2 and 3 altogether

Look to the question and situation for cues pointing to apparently-plausible answers that would be easy to justify without thinking.

Forms of Satisficing

- Selecting the first reasonable response
- Agreeing with assertions
- Non-differentiation in ratings
- Saying “don’ t know”
- Mental coin-flipping

Causes of Satisficing

- Task difficulty
- Respondent ability
- Respondent motivation



Modes of Data Collection: Advantages & Disadvantages

Modes of Data Collection (Mail): Advantages & Disadvantages

- **Advantages of Mail-in Surveys:**
 - Advantage: Low costs.
 - Advantage: Low social desirability bias.
- **Disadvantages of Mail-in Surveys:**
 - Disadvantage: Lower response rates.
 - Disadvantage: More item non-response.
 - Disadvantage: Difficult to determine respondent eligibility.

Source: Groves, Fowler, Couper, Lepkowski, Singer, and Tourangeau

Modes of Data Collection (F2F): Advantages & Disadvantages

- **Advantages of Face-to-Face Surveys:**
 - Advantage: High response rates.
 - Advantage: Lower levels of item non-response.
 - Advantage: Less satisficing (compared to other modes).
- **Disadvantages of Face-to-Face Surveys:**
 - Disadvantage: Relatively high costs.
 - Disadvantage: Social desirability bias (compared to mail).

Source: Groves, Fowler, Couper, Lepkowski, Singer, and Tourangeau

Modes of Data Collection (Phone): Advantages & Disadvantages


- **Advantages of Telephone Surveys:**
 - Advantage: Relatively low costs (compared to F2F).
 - Advantage: Fewer interviewer effects (compared to F2F).
- **Disadvantages of Telephone Surveys:**
 - Disadvantage: Relatively low response rates.
 - Disadvantage: More social desirability (compared to mail & F2F).
 - Disadvantage: More satisficing (compared to F2F)

Source: Groves, Fowler, Couper, Lepkowski, Singer, and Tourangeau

Modes of Data Collection (Internet): Advantages & Disadvantages

- **Advantages of Internet Surveys:**
 - Advantage: Relatively low costs (compared to F2F).
 - Advantage: Less social desirability bias (compared to phone, F2F).
 - Advantage: Fewer interviewer effects (compared to phone, F2F).
- **Disadvantages of Internet Surveys:**
 - Disadvantage: Lower response rates.
 - Disadvantage: Lower accuracy rates for non-probability Internet surveys (compared to F2F).

Source: Groves, Fowler, Couper, Lepkowski, Singer, and Tourangeau



Limitations of Surveys: Order Effects, Wording Effects, Interviewer Effects

Limitations of Surveys: Question Order Effects

- Responses can differ depending on when the question is asked.
- This includes...
 - where the question arises on the survey.
 - and which question comes before or after it.
- There are a few kinds of question order effects (e.g. Consistency and Contrast).

Question Order Effects

More Overall Dissatisfaction When Asked After Bush Approval

Asked First

Overall Satisfaction

Satisfied	17%
Dissatisfied	78%
Don't know	5%

Bush Approval

Approve	25%
Disapprove	67%
Don't Know	8%

Asked Second

Bush Approval

Approve	24%
Disapprove	68%
Don't Know	8%

Overall Satisfaction

Satisfied	9%
Dissatisfied	88%
Don't Know	3%

Question Order Effects

SPE (1). Taking things all together, how would you describe your marriage? Would you say that your marriage is very happy, pretty happy, or not too happy ?

Gen (2). Taken altogether, how would you say things are these days? Would you say that you are very happy, pretty happy, or not too happy?

Schuman and Presser (1981)

(respondents were less likely to say they were very happy)

-

contrast effects

-

(respondents were more likely to say they were very happy)

Question Order Effects: Consistency Effects

- Consistency Effect = When respondents answer subsequent question like the previous question.
- Example (1): “Do you think the U.S. should let Communist newspaper reporters from other countries come in here and send back to their papers the news as they see it?”
- Example (2): “Do you think Communist countries like Russia should let American newspaper reporters come in and send back to America the news as they see it?”

Question Order Effects: Contrast Effects

- "Do you think that driving standards amongst younger drivers are lower than they used to be, or higher than they used to be, or about the same?"
- "Do you think that driving standards generally are lower than they used to be, or higher than they used to be, or about the same?"

Kalton, Collins & Brook (1978)

Question Wording Effects

- Small, yet substantive, changes can have big effects.
- Example (1): “If the full House votes to send impeachment articles to the Senate for a trial, then do you think it would be better for the country if Bill Clinton resigned from office or not?”
- Example (2): “If the full House votes to impeach Bill Clinton, then do you think it would be better for the country if Bill Clinton resigned from office or not?”

Question Wording Effects

Form A

If the full House votes to send impeachment articles to the Senate for a trial, then do you think it would be better for the country if Bill Clinton resigned from office or not?

Resign: 33%

Don't Resign: 62

Form B

If the full House votes to impeach Bill Clinton, then do you think it would be better for the country if Bill Clinton resigned from office or not?

Question Wording Effects

Form A

If the full House votes to send impeachment articles to the Senate for a trial, then do you think it would be better for the country if Bill Clinton resigned from office or not?

Resign: 33%

Don't Resign: 62

Form B

If the full House votes to impeach Bill Clinton, then do you think it would be better for the country if Bill Clinton resigned from office or not?

Resign: 57%

Don't Resign: 38

Limitations of Surveys: Interviewer Effects

- Every society has some observable characteristic that has social meaning.
 - This can involve race, nationality, language, age, gender, class, etc.
- These interviewer characteristics can influence how survey respondents answer questions.
- These effects do not apply to all questions, but mostly to items related to socially important group characteristics.

Dealing with Survey Limitations

- Despite the limitations we identified, surveys can provide useful information.
- One of the main uses for surveys is comparisons.
 - For example, we might want to compare different hypotheses, or different groups within the survey such as men and women.
- Some of the limitations we identified are less important if they apply equally across groups.
 - For example, most question order and question wording effects are not systematically different for men and women.
- Interviewer effects can be reduced with self-administered questionnaires.

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Thank you!