Module 3: Questionnaire Design
Video 1 of 6: Module Overview and Length

Prof. Dr. Frauke Kreuter
At the End of the Module One Should…

• …know how to structure a CATI questionnaire
• …understand cognitive challenges associated with answering questions
• …internalize the aim to have every respondent understand the question and be able to answer it reliably
• …be familiar with effects of wording choices
• …be sensitized to avoid ambiguities in wording, double-barreled question, or double negatives
• …be aware of question order effects
Lecture overview

- Video 1: Overview, from construct to questions, length of survey
- Video 2: Writing Questions (Facts and Attitudes)
- Video 3: Flow of Sections and Questions
- Video 4: Respondent (Cognition, Basics)
- Video 5: Respondent (Sensitive Questions)
- Video 6: Levels, Informants, Summary
From construct to question

Questionnaire Design
Goal of questionnaire development

- To develop measures that are:
  - Reliable (consistent)
  - Valid (accurate)
  - Standard (comparable across people)
  - Practical (easy to administer)
Goal of questionnaire development

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Specifying goals, constructs, concepts

DEFINE WHAT SHOULD BE MEASURED
THEORY DRIVEN APPROACH (TOP-DOWN)
DATA DRIVEN APPROACH (BOTTOM-UP)
Specifying goals, constructs, concepts

Meeting with sponsors and experts

Literature review / past surveys

Focus groups

Note: there will always be more requests than space on the questionnaire

Note: many online resources (Worldbank, RTI, JPal, c4ed etc.)

Note: often beneficial to talk to the target population
Survey Lifecycle from a Quality Perspective

**Measurement**
- Construct $\mu_i$
- Measurement $Y_i$
- Response $y_i$
- Edited Response $y_{ip}$

- **Validity**
- **Measurement Error**
- **Processing Error**

**Representation**
- Target Population $\bar{Y}$
- Sampling Frame $\bar{Y}_C$
- Sample $\bar{y}_a$
- Respondents $\bar{y}_r$
- Postsurvey Adjustments $\bar{y}_{rw}$

- **Coverage Error**
- **Sampling Error**
- **Nonresponse Error**
- **Adjustment Error**

Source: Groves et al. (2009)
Survey Lifecycle from a Design Perspective

Measurement

Construct

Measurement

Response

Edited Response

Survey Statistic

Social Distancing
“… the research objectives of many studies are surprisingly ill defined. Asking a researcher what exactly should be measured by a question for which purpose frequently elicits vague answers – if not different answers from different researchers involved in the same project.”

(Schwarz 1997, p. 30)
Survey Lifecycle from a Design Perspective

Measurement

Construct

Social distancing

Measurement

Response

“Last week, did you avoid groups of more than 10 people such as family gatherings, parties, church or mosque, funerals, etc.?”

Edited Response

Survey Statistic
Measurement

• Linking theoretical constructs to observable variables
  – Ways to gather information about constructs
  – Examples: questions, observations, soil samples, blood pressure readings

• Some constructs consist of just one attribute
  – E.g., gender, age

• Some constructs are multi-dimensional consisting of several attributes
  – Need more than one question to measures construct
  – E.g., socio economic status, social desirability

• Usually, there are numerous (competing) ways of how to measure construct
Measurement

* To determine how members of target population think about and talk about a given topic
  – What do/don’t respondents know about topic?
  – How do they think about this topic?
  – What do respondents consider important and unimportant?
  – What language do respondents use?
  – Are there aspects of topic we have missed?
Survey Lifecycle from a Design Perspective

**Measurement**

- **Construct**

  **Measurement**

  **Response**

  **Edited Response**

  **Survey Statistic**

Social distancing

“Last week, did you avoid groups of more than 10 people such as family gatherings, parties, church or mosque, funerals, etc.?”

“Monday, I was at the market. There were many people at the food stand.” – Interviewer records 0 for “No”.
Path from Construct to Measurement …

Behavioral and Distancing

- Hand Washing
- Meeting People
- Mask Wearing

How often?  How many?  How long?

Other household members …

... can be long

Section 4. Behavior and Social Distancing

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<th>Baseline Only</th>
<th>Baseline Only</th>
<th>Baseline Only</th>
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<tr>
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<td>Last week, did you wash your hands with soap more often than you used to?</td>
<td>Last week, did you avoid handshakes or physical greetings?</td>
<td>Last week, did you avoid groups of more than 10 people such as family gatherings, parties, church or mosque, funerals, etc?</td>
<td>In the last 7 days, how often did you wash your hands with soap after being in public?</td>
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<td>YES.....1</td>
<td>YES......1</td>
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<td>NO.......2</td>
<td>NO........2</td>
<td>MOST OF THE TIME.......2</td>
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<td>N/A.....3</td>
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<td>ABOUT HALF OF THE TIME........3</td>
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<td>SOME OF THE TIME.......4</td>
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<td></td>
<td>NONE OF THE TIME.......5</td>
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<td></td>
<td>I HAVE NOT BEEN IN PUBLIC DURING THE LAST 7 DAYS...........6</td>
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Length

Questionnaire Design
Why short?

- Interviewers cannot see the setting the respondent is in (and can for example not see if respondent is distracted)
- Talking on the phone in particular cell phone is harder than talking in person
- Battery life can limit the length of the conversation
- There are no visual aids to give to respondents (scales, pictures)
- Respondents have to memorize what they hear
How long should a survey take?

• Schnell (2019) recommends:

Maximal Length (in minutes):

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<td>20</td>
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Target < 7 minutes; < 30 minutes

CATI surveys lack visual stimuli to help the respondent stay focused, understand the question and remember the answer categories.

However, unlike on the Web interviewers help the respondents to stay engaged.

Drop-off rates in Survey Monkey web surveys
https://www.surveymonkey.com/curiosity/survey_questions_and_completion_rates/
END OF VIDEO 1