The longer, the better?
Selection of appropriate cross-national indicators of response quality in open-ended questions

Katharina Meitinger (GESIS & University of Mannheim)
Michael Braun & Dorothée Behr (GESIS)

CSDI, Mannheim. March 17, 2017
OPEN-ENDED QUESTIONS

Open-ended questions are an important addition to closed items in the toolkit of social scientists:

- Exploration of unknown topics
- Verbal probing for validity and equivalence assessment

Recent increase in open-ended questions due to advances in technology that facilitate data collection and analysis (Poncheri et al. 2008)

But: Open-ended questions are cognitively more demanding than closed questions → Issues of response quality (e.g., high levels of nonresponse [Barrios et al. 2010; Denscombe 2008; Meitinger & Behr 2016])

→ Need for methodological experiments to improve the design of open-ended questions to reduce problems with response qualities
ASSESSING RESPONSE QUALITY IN OPEN-ENDED QUESTIONS

Number of methodological studies on open-ended questions:

- **Survey stimuli:**
  - Size of the answer boxes (Christian & Dillman 2004; Smyth et al. 2009; Israel 2010; Emde & Fuchs 2012; Behr et al. 2014)
  - Number of answer boxes (Fuchs 2009; Keusch 2014; Hofelich Mohr, Sell, & Lindsay 2015)
  - Use of motivational sentences (Oudejans & Christian 2011; Smyth et al. 2009; Kaczmirek, Meitinger, & Behr 2017)
  - Clarification features (Kunz & Fuchs 2012; Metzler, Kunz, & Fuchs 2015)
  - Position of the open-ended question in the web survey (Miller & Dumford 2014)
  - Counters indicating the number of characters written (Emde & Fuchs 2012)
  - Mode (Denscombe 2008)

- **Respondents’ characteristics** (Andrews 2005; Barrios et al. 2010; Denscombe 2008; Miller & Dumford 2014; Smyth et al. 2009; Züll et al. 2015)

**Most common indicators:** Number of themes
Response length
Percentage of nonresponse
Response time

But: Most of these studies are based on a national sample. Do these indicators also work in a cross-national context?
What could possibly go wrong?
Response Length

Are longer responses always better than short responses?

Cross-national context:

- Cross-national differences in response length (Meitinger, Braun, & Behr, forthcoming)
- **Linguistic reasons:** Languages might differ in the number of words necessary to express the same opinion
  - Text expansion: Text length in-/decreases across languages
  - Text boundaries: No space between words (Asian languages), compound words (German) → *Donaudampfschifffahrtskapitänsmütze*
  - Information provided: No use of gender, little personal pronouns in Asian languages (Usunier & Roulin 2010)
  - Information density: Linguistic information per syllable (Pellegrino et al. 2011)
What could possibly go wrong?

Response Length

**Information density:** Linguistic information per syllable (Pellegrino et al. 2011)

<table>
<thead>
<tr>
<th>LANGUAGE</th>
<th>INFORMATION DENSITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>0.91 (± 0.04)</td>
</tr>
<tr>
<td>French</td>
<td>0.74 (± 0.04)</td>
</tr>
<tr>
<td>German</td>
<td>0.79 (± 0.03)</td>
</tr>
<tr>
<td>Italian</td>
<td>0.72 (± 0.04)</td>
</tr>
<tr>
<td>Japanese</td>
<td>0.49 (± 0.02)</td>
</tr>
<tr>
<td>Mandarin</td>
<td>0.94 (± 0.04)</td>
</tr>
<tr>
<td>Spanish</td>
<td>0.63 (± 0.02)</td>
</tr>
<tr>
<td>Vietnamese</td>
<td>1 (reference)</td>
</tr>
</tbody>
</table>
What could possibly go wrong?

Response Length II

Are longer responses always better than short responses?

Cross-national context:

- **Culture-specific communication styles**
  - “Overtness of message” (Hall 1976)
    - Low-context cultures: Explicit communication: simple, linear, clear
    - High-context cultures: Implicit communication: reading between the lines, metaphors
  - **Succinct, exacting, and elaborate communication styles** (Gudykunst, Ting-Toomey, & Chua 1988)
    - Succinct: Statements that go to the point, frequent pauses (e.g., Japan)
    - Exacting: Provide the exact information that is necessary (“neither more nor less”)
    - Elaborate: Richness in language, repetitions, and expressiveness (e.g., Middle East)

U.S. context:

- Long open-ended answers might reduce intercoder reliability (Conrad et al. 2016)
What could possibly go wrong?
Response Time

What does it mean if respondents take longer?

- “Flexibility of time”: Monochronic vs. polychronic time (Hall 1983)

- Closed items: Small group differences in response latencies between White Americans and Mexican Americans, African Americans as well as Korean Americans → Cultural differences in time perceptions and time utilization (Johnson et al. 2015)

- Response time in open-ended questions is related to response length. The longer the written response, the longer is the response time.
Latin America:

**Simpatía:** Respondents aims to be polite, agreeable, likeable, and respectful in conversations (Triandis, Marin, Lisansky, & Betancourt 1984)

→ Might have an impact on nonresponse behavior.
Online Probing

Approach: Application of probing techniques from cognitive interviewing in web surveys

Goals of online probing:
- Reveal respondents’ cognitive processes when answering a survey question
- Uncover equivalence problems in cross-national surveys

Three types of probes (Prüfer and Rexroth 2005; Willis 2005):
- **Category-selection**: Inquires about the reasons why a certain answer category has been chosen
- **Specific**: Asks for additional information on a particular detail in the question
- **Comprehension**: Requests a definition of a specific term
Research Questions

1) Are there cross-national differences with regard to the different indicators of response quality in open-ended questions?

2) Do these differences hold with different topics?

3) Do the indicators arrive at similar or contradictory conclusions with regard to response quality?
METHOD & DATA

Data:
- 2 Web surveys
  - Survey 1: May 2014, 2,685 respondents: ISSP Module on National Identity
  - Survey 2: June 2014, 2,689 respondents: ISSP Modules on Citizenship and Family and Gender Roles
- Respondents from non-probability online-access panels
- Quota: Age, gender, and education
- Countries: Germany, Great Britain, the U.S., Spain, and Mexico
- Languages: English, German, & Spanish

Used items:
- Gender item
- General national pride
- Specific pride: Democracy
- Specific pride: Social security benefits
- Specific pride: Fair & equal treat of all groups in society
- Patriotic feelings
RESULTS
RESPONSE LENGTH

Response length: Average number of characters

- **U.S.**: Shortest responses for each probe
- **Great Britain & Germany**: Depending on topic: long or middle-long responses
- **Mexico & Spain**: Longest responses
**Number of Themes**

**Number of themes:** Average number of themes mentioned by respondents

<table>
<thead>
<tr>
<th>Theme</th>
<th>Germany</th>
<th>Great Britain</th>
<th>U.S.</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>General national pride</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pride democracy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pride social security benefits</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pride fair &amp; equal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patriotism feeling</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**U.S.:** Lowest number of themes (exception: “Pride Democracy”)

**Other countries:** Dependent on topic
Nonresponse

Nonresponse: Percentage of respondents that refuse answering, leave empty answer boxes, or provide don’t know or unintelligible responses

Hard nonresponse: Respondents leave empty answer boxes

Mexico: Lowest nonresponse
Spain: Low nonresponse
Other countries: Dependent on topic
**Response Time (in seconds/median)**

**Absolute response time (ART):** Response time till last click

**Response latency (RL):** Response time till first key stroke

**Mexico:** Longest response time (exception: “Pride democracy”)

**U.S.:** Shortest response time (exception: “Patriotic feeling”)

---

**Gender**

<table>
<thead>
<tr>
<th>Country</th>
<th>ART</th>
<th>RL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>US</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MX</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ES</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**General national pride**

<table>
<thead>
<tr>
<th>Country</th>
<th>ART</th>
<th>RL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>US</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MX</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ES</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Pride democracy**

<table>
<thead>
<tr>
<th>Country</th>
<th>ART</th>
<th>RL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>US</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MX</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ES</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Pride social security benefits**

<table>
<thead>
<tr>
<th>Country</th>
<th>ART</th>
<th>RL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>US</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MX</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ES</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Pride fair & equal**

<table>
<thead>
<tr>
<th>Country</th>
<th>ART</th>
<th>RL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>US</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MX</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ES</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Patriotic feeling**

<table>
<thead>
<tr>
<th>Country</th>
<th>ART</th>
<th>RL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>US</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MX</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ES</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Do we arrive at similar conclusions with all indicators?

<table>
<thead>
<tr>
<th></th>
<th>Germany</th>
<th>Great Britain</th>
<th>U.S.</th>
<th>Mexico</th>
<th>Spain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>.40</td>
<td>.58</td>
<td>.44</td>
<td>.45</td>
<td>.36</td>
</tr>
<tr>
<td>General nat. pride</td>
<td>.61</td>
<td>.68</td>
<td>.57</td>
<td>.11</td>
<td>.66</td>
</tr>
<tr>
<td>Pride democracy</td>
<td>.42</td>
<td>.41</td>
<td>.49</td>
<td>.40</td>
<td>.69</td>
</tr>
<tr>
<td>Pride social security benefits</td>
<td>.08</td>
<td>.31</td>
<td>-.03</td>
<td>.22</td>
<td>.48</td>
</tr>
<tr>
<td>Pride fair &amp; equal</td>
<td>.09</td>
<td>.55</td>
<td>.52</td>
<td>.48</td>
<td>.42</td>
</tr>
<tr>
<td>Patriotic feeling</td>
<td>.47</td>
<td>.53</td>
<td>.50</td>
<td>.58</td>
<td>.57</td>
</tr>
</tbody>
</table>

Correlations change in size across topics and countries

→ Response length might not substitute for number of themes as an indicator
Why does this matter?
Depending on indicator different conclusions
CONCLUSION

&

FUTURE RESEARCH
CONCLUSION

- Clear cross-cultural differences with regard to the different indicators of response quality
- Extreme cases are Mexico and the U.S.
  - Mexico: Long responses, many themes, reduced nonresponse, longest response time
  - U.S.: Shortest responses, relatively few themes, shortest response time, inconsistent nonresponse
- This outcome is in line with:
  - Linguistic differences (response length & response time: Spanish language with low information density)
  - But: Differences within languages (Mexico vs. Spain; U.S. vs. GB) → Cultural factor
  - Culture-specific communication styles (response length: explicit communication in the U.S.)
  - Differences in time perception (response time: monochronic time use in the U.S.)
  - Cultural values (nonresponse: Simpatía in Mexico)
- Also: Correlations between indicators are not necessarily stable across questions and countries

→ Recommendation to use multiple indicators
FUTURE RESEARCH

- More fine-grained statistical analysis that controls for gender, age, education, etc.
- Check different types of open-ended answers
- Include more countries and languages
- Find more theoretical explanations for cross-cultural differences. Any suggestions?
Thank you!

Contact: katharina.meitinger@gesis.org
Publications about Online Probing


