Error Sources and Quality in Interviewer-Administered Surveys

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Traditional TSE Model

Modified from Groves et al. (2004)
Expansion of Measurement-Related Errors in TSE

Adapted from Groves et al. (2008)

Contributors to measurement error

- Validity
  - Does the concept exist?
  - Adaptation or operationalization of the construct

- Measurement error
  - Response process
    - Comprehension – Translation and adaption, context (e.g., question order)
    - Retrieval – Ecological factors, social determinants
    - Judgment and estimation – Declarative versus procedural knowledge, tendency to estimate
    - Response – Self-presentation, social desirability

Adapted from Tourangeau et al. (2008)

- Structural aspects
  - Frame/mode limitations
  - Interviewer/respondent interaction
  - Communication norms
  - Third party presence
  - Respondent burden

- Processing error
  - Varying capacity and practices for data editing
Question characteristics
- Sensitive
- Desirable
- Undesirable

Interviewer characteristics
- Age
- Gender
- Race
- Religious dress
- Attitudes

Lack of standardization in protocol adherence
- Requesting privacy during interview
- Following protocols in biomarker attainment

Falsification
- Inaccurate recording of gate (screener) questions
- Deletion of household members from roster

Interviewer characteristics
- Bad work ethics
- Inadequate remuneration
- Insufficient training

- Bad weather
- Unsafe neighborhoods

Privacy concerns
- Social desirability concerns
- Wariness of strangers

Difficult to implement quality assurance & quality control procedures
Measuring the Effect of Interview Context: Interviewer Attitudes
Comparative Study in the Middle East: Tunisia

• Do interviewer’s religious attitudes affect reporting of respondent’s corresponding attitudes (controlling for veil status of female interviewers)?

• Study Design
  — Face-to-face interviews in Tunisia in 2013 (N=3070)
  — First wave of nationally-representative panel data collection
  — Designed as one study site in a comparative survey
  — 60-minute questionnaire on political and religious attitudes
  — Interviewers completed the same survey as respondents
Measuring the Effect of Interview Context: Interviewer Attitudes
Comparative Study in the Middle East: Tunisia

Predicting Religious Attitudes: Coefficients (s.e.)
Linear & binomial multilevel regression models (Mneimneh, et al., 2018)

<table>
<thead>
<tr>
<th></th>
<th>Female Iwers</th>
<th></th>
<th>Male Iwers</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Illiberal</td>
<td>Religious</td>
<td>Self-</td>
<td>Islamic</td>
</tr>
<tr>
<td></td>
<td>attitudes</td>
<td>Intolerance</td>
<td>Described</td>
<td>Identity</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Religiosity</td>
<td>(Binomial)</td>
</tr>
<tr>
<td>Iwer Veiled</td>
<td>0.10 (0.05)</td>
<td>0.14 (0.10)</td>
<td>0.29 (0.27)</td>
<td>0.64 (0.23)</td>
</tr>
<tr>
<td>Iwer Attitude</td>
<td>0.22 (0.04)</td>
<td>0.17 (0.07)</td>
<td>-0.05 (0.12)</td>
<td>0.78 (0.20)</td>
</tr>
<tr>
<td>Iwer Attitude *</td>
<td>-0.14 (0.04)</td>
<td></td>
<td>0.17 (0.08)</td>
<td>-0.65 (0.13)</td>
</tr>
<tr>
<td>Female R</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Models also included Iwer age, education, experience, familiarity with PSU; and Respondent gender, age, gender, education, class, and urban/rural area. Red=p<0.05
Measuring the Effect of Interview Context: 3rd Party Presence Comparative Study in the Middle East: Tunisia, Turkey, Egypt, Jordan Saudi National Mental Health Survey

- Does third-party presence affect reporting of sensitive behaviors and attitudes?
- Study Design
  - Face-to-face interviews
    - 2016: Turkey (N=1,503); Jordan (N=3,008); Egypt (3,626)
    - 2015: Tunisia (N=2,391)
    - 2013 – 2015: Saudi Arabia (N=4,004)
Measuring the Effect of Interview Context: 3rd Party Presence

Reported third-party presence at any point in interview

- Turkey: 19%
- Jordan: 25%
- Tunisia: 26%
- Egypt: 1%
- Saudi Arabia: 36%
Measuring the Effect of Interview Context: 3rd Party Presence

Does third-party presence affect reporting of religious attitudes in Jordan, Turkey, and Tunisia?

<table>
<thead>
<tr>
<th></th>
<th>Jordan</th>
<th>Turkey</th>
<th>Tunisia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency of prayer</td>
<td>-0.409</td>
<td>0.179</td>
<td>-0.380</td>
</tr>
<tr>
<td>Mosque attendance</td>
<td>-0.239</td>
<td>0.160</td>
<td>0.259</td>
</tr>
<tr>
<td>Self-described religiosity</td>
<td>0.012</td>
<td>0.136</td>
<td>-0.004</td>
</tr>
<tr>
<td>Importance of God</td>
<td>-0.691</td>
<td>0.249</td>
<td>0.084</td>
</tr>
<tr>
<td>Intolerance</td>
<td>0.016</td>
<td>0.027</td>
<td>0.084</td>
</tr>
<tr>
<td>Nature of deity</td>
<td>0.025</td>
<td>0.019</td>
<td>0.085</td>
</tr>
<tr>
<td>Literalism</td>
<td>0.034</td>
<td>0.020</td>
<td>0.070</td>
</tr>
</tbody>
</table>

Predicting Religious Attitudes: Coefficients, s.e. from linear & binomial regression models

Jordan, Turkey: third party presence collected after the religion section; Tunisia: third party presence collected at the end of the interview

Models controlled for respondent age, gender, education, social class, rural/urban area, HH size
Does third-party presence affect reporting of sensitive behaviors in KSA?

Weighted Estimates from Random Intercept Three Level Logistic Regression Model Predicting Each of the Behaviors

<table>
<thead>
<tr>
<th></th>
<th>Ever Smoke</th>
<th>Ever Suicide</th>
<th>Anger attack: Hit or Threaten</th>
<th>Ever Abuse</th>
<th>Ever Abused</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Conformity</td>
<td>-0.217**</td>
<td>0.083</td>
<td>-0.102</td>
<td>0.120</td>
<td>-0.336**</td>
</tr>
<tr>
<td>Parent(-in-law) present</td>
<td>-0.180*</td>
<td>1.053</td>
<td>-0.173</td>
<td>0.550</td>
<td>-0.184</td>
</tr>
<tr>
<td>Adult family present</td>
<td>0.506</td>
<td>0.854</td>
<td><strong>1.334</strong></td>
<td>0.503</td>
<td><strong>0.686</strong></td>
</tr>
<tr>
<td>Child/Teenager present</td>
<td>0.123</td>
<td>0.996</td>
<td>-0.576</td>
<td>0.838</td>
<td>-0.157</td>
</tr>
<tr>
<td>Other present</td>
<td>-1.254*</td>
<td>0.636</td>
<td>0.272</td>
<td>0.554</td>
<td>0.111</td>
</tr>
<tr>
<td>Other*Social Conformity</td>
<td>0.669**</td>
<td>0.257</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

Model also controls for respondent sociodemographics (gender, marital status, age, education, social phobia, disability, household size, timing of interview, use of ACASI, and interviewer attitudes about respect for privacy in KSA). Only significant interactions were entered in the model; * p< 0.05; ** p< 0.01, --- Not included in the model
Does third-party presence affect reporting of sensitive attitudes in KSA?

Weighted Estimates from Random Intercept Three Level Logistic Regression Model Predicting Each of the Attitudes

<table>
<thead>
<tr>
<th></th>
<th>Higher marriage rating</th>
<th>Polygamy ok if finances not an issue</th>
<th>Higher polygamy endorsement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coef.</td>
<td>S.E.</td>
<td>Coef.</td>
</tr>
<tr>
<td>Social Conformity</td>
<td>0.147*</td>
<td>0.064</td>
<td>-0.344**</td>
</tr>
<tr>
<td>Parent(-in-law)</td>
<td>1.713*</td>
<td>0.729</td>
<td>-0.251</td>
</tr>
<tr>
<td>Parent(-in-law) * Social Conformity</td>
<td>-1.460**</td>
<td>0.266</td>
<td>0.377</td>
</tr>
<tr>
<td>Adult Family</td>
<td>0.818</td>
<td>0.764</td>
<td>2.480</td>
</tr>
<tr>
<td>Child/Teenager</td>
<td>1.310*</td>
<td>0.600</td>
<td>-3.235**</td>
</tr>
<tr>
<td>Child/Teenager * Social Conformity</td>
<td>-0.284</td>
<td>0.289</td>
<td>1.323*</td>
</tr>
<tr>
<td>Other</td>
<td>1.162</td>
<td>0.752</td>
<td>2.292*</td>
</tr>
<tr>
<td>Other*Social Conformity</td>
<td>-0.607*</td>
<td>0.279</td>
<td>-0.814*</td>
</tr>
</tbody>
</table>

Model also controls for respondent sociodemographics (gender, marital status, age, education, social phobia, disability, household size, timing of interview, use of ACASI, and interviewer attitudes about respect for privacy in KSA). Only significant interactions were entered in the model; * p< 0.05; ** p< 0.01; --- Not included in the model.
Conclusion: Quality in Interviewer-Administered Surveys

• Limitations
  – Challenges of quantification in the TSE context and difficulty in quantifying effects on comparability where relevant

• Practical approaches
  – Continuous improvement in paradata capture and analyses
  – Systematic data collection of interviewer demographics, religious physical appearance, attitudes, and 3rd party presence
  – Transfer of knowledge to data users

• Future research
  – Understand contextual variations and the mechanism of effects
  – Develop more effective interviewer training materials
THANK YOU!

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References

• Composite International Diagnostic Interview (CIDI 3.0) (Kessler and Üstün, 2004): http://www.hcp.med.harvard.edu/wmhcidi/

• The World Mental Health Survey Initiative: http://www.hcp.med.harvard.edu/wmh