Culture and Comparability of Survey Measurements

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General information

- Please hold questions until the end of the presentation
- Slides available at http://www.srl.uic.edu/SEMINARS/semnotes.htm
- Please raise your hand so that I can see that you can hear me
**Brief History of Cross-Cultural Surveys**

- **US Strategic Bombing Surveys** *(USSBS, 1947)*
- **International communications (propaganda) surveys** *(Lazarsfeld, 1952-53)*
  - Research for Radio Free Europe
- **Academic research**
  - Effects of Cold War tensions in European Nations *(Katz & Hyman, 1954)*
  - Comparative public perceptions across nations *(Buchanan & Cantril, 1953)*

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**Demand for cross-cultural research grew ahead of necessary methodologies**

- Many complaints & frustrations among practitioners *(Duijker & Rokkan, 1954; Wallace & Woodward, 1948-49)*
- Researchers were „fumbling & stumbling“ *(Lowenthal, 1952-53)*
- Translation problems quickly recognized *(Buchanan & Cantril, 1953; Ervin & Bower, 1952-53; Stern, 1948-49)*
- In USA, health reporting found not to be comparable across race/ethnic groups *(Collins, 1946)*
Yet, experience with cross-cultural survey research grew quickly

- N=1600+ comparative academic research papers by 1968 (Frey et al, 1969)
- Focus on comparative methodology also developed:
  - *The Logic of Comparative Social Inquiry* (Przeworski & Teune, 1966)
  - *Comparative Survey Analysis* (Rokkan et al., 1969)
  - *The development of comparative research: Towards causal explanations* (Scheuch, 1968)

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*The Civic Culture: Political Attitudes and Democracy in Five Nations* (Almond & Verba, 1963)

Landmark study employing comparative survey design

- Carefully considered „problem of equivalence“
- „differences that are found in response patterns from nation to nation or group to group within nations have little meaning if they are artifacts of the interview situation“
Ongoing International Survey Programs now established:

- International Social Survey Programme (ISSP)
- World Values Survey (WVS)
- World Health Organization (WHO) Surveys
- AfroBarometer, Arab Barometer, Asian Barometer, EuroBarometer, Latin Barometer
- European Social Survey (ESS)
International Conference on Survey Methods in Multinational, Multiregional, and Multicultural Contexts (3MC)

Berlin Brandenburg Academy of Sciences and Humanities
Berlin Germany
June 25-26, 2008

The 3MC conference presents state-of-the-art research on all aspects of cross-national and cross-cultural survey methods related to design, data collection, quality assurance, analysis and archiving. The conference focuses on the methods, tools, strategies and protocols that help maximize compatibility across countries, languages and cultures. As a methodology conference for comparative research, 3MC promises to be a landmark.

It will bring together researchers and practitioners from around the globe, representing

http://csdiworkshop.org/index.php/3mc-2016
What is Culture?

 Hundreds of definitions exist...

 Most definitions include belief that:

 - Culture is a product of “adaptive interactions between humans and environments”
 - Culture consists of shared elements such as language, norms, values, beliefs, expectations and life experiences, and that these are passed down from generation-to-generation. (Triandis, 2007: 63-64)
**Brislin (1990)**

“Culture refers to widely shared ideals, values, formation and uses of categories, assumptions about life, and goal-directed activities that become unconsciously or subconsciously accepted as ‘right’ and ‘correct’ by people who identify themselves as members of a society.”

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**Hofstede (1991)**

Culture is the “collective programming of the mind” (i.e., mental software)
Unpacking Culture

Research has focused on racial, ethnic or cross-national differences in survey behavior.

With few exceptions, mechanisms responsible for these identity group differences have been unexplored.

Some Models of Culture

- Hofstede (2001)
- Schwartz (1992)
- Triandis (1996)
- Ingelhart (1997)
- Trompenars and Hampen-Turner (1998)
**Geert Hofstede:**

**Culture’s Consequences**

- Individualism-Collectivism
- Power Distance
- Uncertainty Avoidance
- Masculinity and Femininity
- Long- vs. Short-term Orientation

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**Individualism vs. Collectivism**

- Self identity and personal goals vs. norms, obligations and duties
- In-groups vs. out-groups
- Individualists make cost-benefit decisions
- Collectivists make in- vs. out-group distinctions when deciding
Individualist
**Power Distance**

- Concerned with social inequality and its legitimation
  - The degree to which the less powerful accept that power is distributed unequally
- High power distance – less likely to question authority, conformity emphasized
- Low power distance – less authoritarian, independence emphasized
**Uncertainty Avoidance**

- Reflects:
  - tolerance for ambiguity
  - Degree of comfort with unstructured situations
- Cultures high in UA emphasize strict laws & rules, security measures and beliefs in absolute truth; consensus highly valued
- Cultures low in UA exhibit greater tolerance for nonconformity

**Shalom Schwartz: Cultural Value Orientations**

- Identified 3 bipolar dimensions of culture; each represents an alternative resolution to problems that confront all societies:
  - Embeddedness vs. autonomy
  - Hierarchy vs. egalitarianism
  - Mastery vs. harmony
Harry Triandis: Cultural Tightness

Reflects emphasis on heterogeneity and surveillance
Horizontal vs. Vertical Social Structures

- **Vertical cultures**
  - Emphasize social hierarchies
- **Horizontal cultures**
  - Emphasize egalitarianism

Honor Cultures

- Beliefs, attitudes, norms, values, behaviors that favor the use of aggression for self-protection, to defend one’s honor, and to socialize children so that they will react when challenged
**Ron Ingelhart’s Two Dimensions of National Culture**

- Traditional vs. secular-rational
  - Emphasizes acceptance of authority
- Survival vs. self-expression
  - Emphasis on physical & economic security vs. quality-of-life considerations

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**Trompenaars: Dimensions of Interpersonal Relations**

- Rule universalism vs. particularism
- Communitarianism vs. individualism
- Neutral vs. emotional expressions of feeling
- Diffuse vs. specific involvement in the affairs of others
- Status achievement vs. ascription
**Other Dimensions of Culture**

- Analytic-linear vs. holistic-dialectical cognitive styles
- Communication processes
  - Context requirements
  - Nonverbal behavior
  - Self-disclosure
- Social participation
  - Historical experience
  - Social distance

**Elements of Measurement in Social Research**

1. Reliability
2. Validity
Elements of Measurement in Cross-Cultural Social Research

1. Reliability
2. Validity
3. Equivalence

Types of Equivalence

1. Calibration
2. Category
3. Complete
4. Conceptual
5. Construct
6. Construct operationalization
7. Content
8. Contextual
9. Credible
10. Criterion
11. Cross-cultural
12. Cross-language
13. Cross-level
14. Cross-national
15. Cultural
16. Data
17. Definitional
18. Direct
19. Ethnographic
20. Exact
21. Experiential
22. External
23. Factor
24. Factorial
25. False
26. Formal
27. Foreign language
28. Full
29. Full measurement
30. Functional
31. Grammatical-syntactical
32. Group
33. Idiomatic
34. Interpretive
35. Indicator
36. Instrument
37. Item
38. Language
39. Lexical
40. Linguistic
41. Literal
42. Logical
43. Meaning
44. Measure
45. Measure equivalence
46. Measurement equivalence
47. Measurement unit
48. Metaphorical
49. Metric
50. Motivational
51. Normative
52. Operational
53. Operationalization
54. Partial
55. Procedural
56. Pseudo
57. Psychological
58. Psychometric
59. Relational
60. Relative
61. Response
62. Rough
63. Sampling
64. Scale
65. Scalar
66. Scalar/metric
67. Situational
68. Stimulus
69. Structural
70. Substantive
71. Syntactic
72. Technical
73. Text
74. Theoretical
75. Translation
76. Translational/Linguistic
77. True-score
78. Verbal
79. Vignette
80. Vocabulary
**Mohler & Johnson (2010)**

- Equivalence is an ideal concept not achievable in practice
- **Focus instead on:**
  - **Comparability of constructs**
    - Emphasis placed on similarity of constructs rather than similarity of questions
  - **Similarity of measures**
    - Concerned with overlap of measures in representing a construct across cultures or groups

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**Cognitive Model of Response Process**

- Question comprehension/interpretation
- Memory retrieval
- Judgment formation
- Response mapping
- Response editing
Question Comprehension/ Interpretation

Etic (pancultural) concepts

vs.

Emic (culture specific) concepts

Pseudo-etic concepts

- Assuming a question or concept is universally understood when in fact understanding is culturally conditioned

- Also known as a category fallacy
Memory Retrieval

- Episodic vs. semantic search strategies
- Memory cues

Ji, Schwarz & Nisbett (2000)

Collectivist societies attend more closely to the behavior of others, resulting in memories for behaviors of others that Americans can only estimate.
Judgment Formation/Mapping

- Accessibility
- Anchoring
- Response formatting
- Response styles

Measurement Artifacts in Survey Research

- Extreme response styles
- Acquiescence
- Non-differentiation
Response Editing

- Self presentation
- Social desirability
- Interviewer effects

Available Methods for Addressing Cross-Cultural Comparability

A. Question Development Phase
B. Questionnaire Pretesting Phase
C. Data Collection Phase
D. Data Analysis Phase
Question Development Stage

1. Expert consultation/collaboration
2. Ethnographic and other qualitative approaches
3. “Good” question-wording practices
4. “Good” translation practices
5. Facet analysis

Good Question Wording Practices

- Avoid vague quantifiers
- Avoid items with ambiguous or dual meanings
- Avoid hypothetical questions
- Use simple terms that are similarly understood
- Use clear and precise time references
- Avoid questions with highly abstract concepts
- See also recommendations by Brislin (1986)
Other Strategies

- Use both etic and emic items
- Use dichotomous response options
  - Likely results in loss of precision
- Substitute numerical or other nonverbal scales, although:
  - Many numeric scales are also difficult to use
  - Numeric scales also not invariant in meaning across groups
  - Beware of lucky and unlucky numbers
  - Alternative numbering schemes can influence reporting

Questionnaire Designs for Cross-Cultural Surveys (Harkness, van de Vijver & Johnson, 2003)

- Existing Instruments
  - Adopting
  - Adapting
- New Instruments
  - Sequential
  - Parallel
  - Simultaneous
Question Translation

The act or outcome of expressing the sense of a text written in one language in another language.

Question Translation

- Translation plays a fundamental role in cross-cultural survey research
- Details of how questionnaires were translated are seldom documented
- Many survey researchers are unable or unwilling to invest necessary resources
- Cost of translations are relatively low
  - Cost of poor translations are relatively high
**Back-Translation**

- a.k.a., double translation
- Described by Brislin (1970) – heavily cited
- Basic procedure calls for a bilingual person to translate a source questionnaire into a target language
- A second bilingual person translates the translated version back into the source language without knowledge of the original instrument.
- The initial and revised versions of the source language version are then compared, discrepancies are identified, and final revisions are made (second round sometimes necessary)

<table>
<thead>
<tr>
<th>Original English</th>
<th>Alternative wording used in final Spanish version</th>
<th>Back-Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health insurance plan</td>
<td>Plan de seguro médico</td>
<td>Medical insurance plan</td>
</tr>
<tr>
<td>Health provider</td>
<td>Profesional de salud</td>
<td>Health professional</td>
</tr>
<tr>
<td>Rating/rate</td>
<td>Calificación/califica</td>
<td>Grade/grade</td>
</tr>
<tr>
<td>Usually</td>
<td>Normalmente</td>
<td>Normally</td>
</tr>
<tr>
<td>Preventive health steps</td>
<td>Medidas de salud preventiva</td>
<td>Preventive health measures</td>
</tr>
<tr>
<td>Listen carefully</td>
<td>Escucharon atentamente</td>
<td>Listen attentively</td>
</tr>
<tr>
<td>Health care</td>
<td>Altención médica</td>
<td>Medical attention</td>
</tr>
<tr>
<td>Prescription medicine</td>
<td>Medicamentos recetados</td>
<td>Prescribed medicaments</td>
</tr>
<tr>
<td>Male or female</td>
<td>Niño o niña/hombre o mujer</td>
<td>Boy or girl/man or woman</td>
</tr>
<tr>
<td>Background</td>
<td>Ascendencia</td>
<td>Ascendancy</td>
</tr>
<tr>
<td>Grade</td>
<td>Año</td>
<td>Year</td>
</tr>
<tr>
<td>School</td>
<td>Estudios</td>
<td>studies</td>
</tr>
</tbody>
</table>
Alternatives to Back-Translation

- Modified direct translation
- Modified back-translation strategies
- Parallel blind technique
- De-centering strategy
- “Triandis” procedure
- Translation by committee

Questionnaire Pretesting Phase

1. Cognitive interviews/structured probes
2. Comparative response scale calibration
3. Comparative behavior coding
4. Compare alternative data collection modes
5. Use of comparative vignettes
**Cognitive Interviewing**

- First employed to understand survey response processes in the early 1980s
- Useful for identifying comprehension, retrieval, judgment, and mapping problems
- Now commonly used to investigate cross-cultural comparability of survey questions
- See POQ review by Gordon Willis (2015)

**“In this question, what does the word ‘stress’ mean to you?”**

![Bar chart showing responses to the question by different ethnic groups.](chart.png)

- **Health Problems**
- **Social Problems**
**Behavior coding**

- The systematic coding of interviewer and respondent behavior
- Provides an objective and replicable technique for measuring what happens in a survey interview.
- Problems in comprehension and ability to provide answers can be identified from behaviors of both respondents and interviewers in consistent and interpretable ways.

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Probability of Comprehension Difficulty</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>0.066</td>
</tr>
<tr>
<td>African American</td>
<td>0.086*</td>
</tr>
<tr>
<td>Mexican American</td>
<td>0.099***</td>
</tr>
<tr>
<td>Puerto Rican</td>
<td>0.093**</td>
</tr>
</tbody>
</table>

* p<.05; **p<.01; ***p<.001 significantly different from White
Nonexistent policies or objects:
Q118. “Do you support or oppose a law to ban the import of fotams into the U.S.?”

Mismatch of question and response options:
Q119. “How many times in the past 12 months have you walked to work? Would you say much more frequently, somewhat more frequently, about the same amount, somewhat less frequently, or much less frequently?”
Data Collection Phase

1. Use multiple indicators
2. Use both emic and etic questions
3. Respondent/interviewer matching

Self-reported past 18-month drug use prevalence by interviewer-respondent social distance index

Data Analysis Phase

Common Goals of Cross-Cultural Analyses:
• Verify comparability of measures
• Conduct substantive analyses using comparable measures and procedures

1. Comparative item analyses
   1. Distributions across response categories, including nonresponse
   2. Means, medians
   3. Correlations with benchmark items/explanatory variables

2. Interaction plots

3. Exploratory factor analysis

4. Comparative reliability assessments

5. Multiple correspondence analysis (MCA)

6. Multidimensional scaling (MDS)

7. Multilevel modeling

8. Item response theory (IRT) models

9. Multi-group structural equation modeling & confirmatory factor analysis

10. Multi-level structural equation modeling

11. Multi-level latent class analysis

12. Multi-trait-multi-method (MTMM) analysis

13. Application of statistical controls
Conclusions

1. Culture matters.
2. Should assume variability until proven otherwise.
3. Consider how measurement variability might influence results.
4. There are many tools now available to address this problem prospectively.
5. But, no magic solutions.
Evaluation questionnaire coming

Upcoming Spring 2016 SRL webinars

- **Pros and Cons of Non-Probability Sampling**  
  Wednesday, March 30, noon CST

- **Survey Question Response Scale Construction**  
  Wednesday, April 6, noon CST

- **Fundamentals of Survey Data Set Construction**  
  Wednesday, April 13, noon CST
Thank you!

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