Culture and Survey Behavior

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What is Culture?

- the “shared elements that provide the standards for perceiving, believing, evaluating, communicating, and acting among those who share a language, a historic period, and a geographic location” (Triandis, American Psychologist, 1996).
**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."

**Johnson et al. (1997)**

"We interpret culture to represent a social group with a shared language and set or norms, values, beliefs, expectations and life experiences."
Unpackaging Culture

- Research has focused on racial, ethnic, or cross-national differences.
- 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)
- Trompennars and Hampen-Turner (1998)
Geert Hofstede: Culture’s Consequences

- Individualism-Collectivism
- Power Distance
- Uncertainty Avoidance
- Masculinity and Femininity
- Long- vs. Short-Term Orientations

Individualism vs. Collectivism

- Self identity and personal goals vs. norms, obligations and duties
- In-groups vs. out-groups
- Individualists more commonly make cost-benefit decisions
- Collectivists more likely to monitor other’s behaviors and feelings
**Power Distance**

- Concerned with social inequality
- Hierarchy is emphasized
- The degree to which the less powerful accept that power is distributed unequally
- High power distance – less likely to question authority
- Greater acquiescence in countries high in power distance (va de Vijver, 2004)
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
- Cultures low in UA exhibit greater tolerance for nonconformity
- Extreme responding more common in high uncertainty avoidant nations

Masculinity vs. Femininity

- Concerned with distribution of roles between genders:
  - Masculine roles = more assertive
  - Feminine roles = modesty & caring
- In general, women’s values vary less across cultures than do those of men
- Greater gap in gender values within masculine societies
- More similarities in gender values within feminine societies
**Long- vs. Short-Term Orientations**

- Based on teachings of Confucius
- Distinguishes East-West countries
- Long-term orientation emphasizes:
  - Future rewards
  - Thrift & perseverance
- Short-term orientation emphasizes:
  - Past and present
  - Respect for tradition, fulfilling obligations

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**Shalom Schwartz: Cultural Value Orientations**

- Identifies 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
Tight Cultures

- Many rules & norms
- Violations are severely punished
  - Taliban may be prototypical tight culture
- Interdependent occupational structures
- Tightness associated with conformity

Loose Cultures

- Fewer rules & norms
- Independent occupational structures
- More tolerant
  - Thailand may be prototypical loose culture
Horizontal vs. Vertical Social Structures

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

Ron Ingelhart’s 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
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 Social Measurement in Cross-Cultural Research

1. Reliability
2. Validity
3. Equivalence

Types of Equivalence

1. Calibration
2. Complete
3. Conceptual
4. Construct
5. Construct Oper.
6. Content
7. Contextual
8. Credible
9. Criterion
10. Cross-cultural
11. Cross-national
12. Cultural
13. Definitional
14. Direct
15. Exact
16. Experiential
17. Factor
18. Factorial
19. Formal
20. Functional
21. Full
22. Grammatical-Syntactical
24. Idiomatic
25. Indicator
26. Item
27. Language
28. Lexical
29. Linguistic
30. Literal
31. Meaning
32. Measurement
33. Measurement unit
34. Metaphorical
35. Metric
36. Motivational
37. Normative
38. Operational
39. Pseudo
40. Psychological
41. Psychometric
42. Relational
43. Relative
44. Response
45. Scalar
46. Scale
47. Semantic
48. Situational
49. Stimulus
50. Structural
51. Substantive
52. Syntactic
53. Technical
54. Text
55. Theoretical
56. Translation
57. True-score
58. Verbal
59. Vignette
60. Vocabulary
**Question Comprehension/ Interpretation**

Emic (culture specific)

Etic (pancultural)

**Category Fallacy**

Assuming a question or concept is universally understood when in fact understanding is culturally conditioned
The meaning of words may evolve faster than most other aspects of culture.

Triandis (2004) chapter in *Comparing Cultures, Dimensions of Culture in a Comparative Perspective*

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

![Bar chart showing health problems and social problems by ethnicity](chart.png)
Probability of Comprehension Difficulty by Race/Ethnicity

<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

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**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
Comprehension Difficulty by Response Format and Ethnicity

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Probability of Comprehension Difficulties</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>Yes-No: 0.02, Vague Quantifier: 0.05, Numeric: 0.15</td>
</tr>
<tr>
<td>African American</td>
<td>Yes-No: 0.02, Vague Quantifier: 0.05, Numeric: 0.15</td>
</tr>
<tr>
<td>Mexican American</td>
<td>Yes-No: 0.02, Vague Quantifier: 0.05, Numeric: 0.20</td>
</tr>
<tr>
<td>Puerto Rican</td>
<td>Yes-No: 0.02, Vague Quantifier: 0.05, Numeric: 0.15</td>
</tr>
</tbody>
</table>

**Measurement Artifacts in Survey Research**

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

- Self presentation
- Social desirability
- Interviewer effects

% Uncomfortable Discussing Alcohol Use with Interviewers from Same/Different Cultural Groups

![Bar chart showing percentage of uncomfortable discussions by cultural group and interview culture.](chart.png)
Available Methods for Addressing Cross-Cultural Equivalence

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
**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

**Behavior Codes Used to Identify Comprehension Problems**

- **Clarification (unspecified):** uncertainty about question, unclear if problem is related to construct or context.
- **Clarification (construct):** request for repeat or clarification of question, or statement indicating uncertainty about question meaning
- **Clarification (context):** uncertainty about question meaning within the context of the question as stated
- **Clarification (time frame):** uncertainty regarding question time frame.
- **Clarification (rewording):** rephrases question before answering.
Behavior Codes Used to Identify Mapping Problems

**Clarification (response format):** respondent indicates uncertainty about the format for responding.

**Inadequate Answer (general):** respondent gives answer that does not meet question objective.

**Imprecise Response (general):** respondent gives answer that only partially meets question objective (e.g. “well over 10 times,” “at least twice”).

**Imprecise Response (different response option):** respondent gives answer that does not use the response options provided with the question (e.g. “not so good health” instead of excellent, very good, etc.)

**Imprecise Response (range):** respondent answers question with a range rather than a single number.

Data Collection Phase

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

Common Goals of Cross-Cultural Analyses:
• Verify interpretive equivalence of measures
• Conduct substantive analyses using equivalent measures and procedures

Classification of Analysis Strategies by Sophistication of Statistical Technique

● Elementary and easy-to-use techniques
● Less elementary but still easy-to-use techniques
● Advanced techniques requiring some expertise and effort
**General Typology**

<table>
<thead>
<tr>
<th></th>
<th>Examining Interpretive Equivalence</th>
<th>Testing Models (Procedural Equivalence)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary and easy-to-use</td>
<td>- comparison of means</td>
<td>- applying statistical controls</td>
</tr>
<tr>
<td></td>
<td>- comparison of correlations</td>
<td></td>
</tr>
<tr>
<td>Less elementary but still</td>
<td>- traditional item analysis</td>
<td>- hierarchical linear models</td>
</tr>
<tr>
<td>easy-to-use</td>
<td>- exploratory factor analysis</td>
<td>- structural equation models</td>
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<tr>
<td></td>
<td>- correspondence analysis</td>
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<td></td>
<td>- multidimensional scaling</td>
<td></td>
</tr>
<tr>
<td>Advanced techniques</td>
<td>- confirmatory factor analysis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- differential item functioning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- multi-trait multi-method</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- vignette approach</td>
<td></td>
</tr>
</tbody>
</table>

**Elementary and Easy-to-Use Techniques**

- Comparison of means (or some other methods of central tendency) of different items across countries
- Comparison of correlations between the items under investigation with measures of the underlying dimension or with a benchmark items that can be assumed to represent the dimension
- Comparison of correlations between the items under investigation with external variables which are assumed to influence them (or are influenced by them)
Relationship of Four ISSP Items to Gender Ideology

Less Elementary But Still Easy-to-Use Techniques

- Traditional Item Analysis
- Exploratory Factor Analysis
- Correspondence Analysis
- Multidimensional Scaling
- Applying Statistical Controls
Advanced Techniques Requiring Some Expertise and Effort

- Multilevel (Hierarchical Linear) Modeling
- Multiple group confirmatory factor analysis
- Structural equation models
- Item-Response models
- Multi-Trait Multi-Method analyses

Multiple Group Confirmatory Factor Analysis (CFA)

- Can be used to compare factor structure of sets of survey questions across multiple population groups
- Several advantages over exploratory factor analysis:
  - CFA enables overall assessment of model fit, and assessment of the cross-group equivalence of individual items.
Factor Analysis of Comprehension & Mapping Behavior Codes

<table>
<thead>
<tr>
<th>Behavior Code</th>
<th>One-Factor Model</th>
<th>Two-Factor Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>(30) Clarification (Unspecified)</td>
<td>1.00*</td>
<td>1.00*</td>
</tr>
<tr>
<td>(31) Clarification (Construct)</td>
<td>4.05**(0.97)</td>
<td>4.03**(0.96)</td>
</tr>
<tr>
<td>(32) Clarification (Context)</td>
<td>2.03**(0.48)</td>
<td>2.03**(0.48)</td>
</tr>
<tr>
<td>(33) Clarification (time frame)</td>
<td>3.84**(0.89)</td>
<td>3.90**(0.90)</td>
</tr>
<tr>
<td>(34) Clarification (rewording)</td>
<td>3.08**(0.72)</td>
<td>3.09**(0.72)</td>
</tr>
<tr>
<td>(35) Clarification (response format)</td>
<td>2.00**(0.51)</td>
<td>1.00*</td>
</tr>
<tr>
<td>(50) Inadequate answer (general)</td>
<td>2.20**(0.57)</td>
<td>1.09**(0.21)</td>
</tr>
<tr>
<td>(60) Imprecise response (general)</td>
<td>0.70* (0.35)</td>
<td>0.33* (0.15)</td>
</tr>
<tr>
<td>(61) Imprecise response (different response option)</td>
<td>0.78**(0.29)</td>
<td>0.48**(0.13)</td>
</tr>
<tr>
<td>(62) Imprecise response (range)</td>
<td>0.94* (0.42)</td>
<td>0.51**(0.18)</td>
</tr>
</tbody>
</table>

- Correlation between factors (standardized) 0.70**
- Degrees of Freedom (df) 35 34
- Chi Square 63.06 49.76
- Chi Square / df 1.80 1.46
- RMSEA 0.05 0.04
- GFI 0.97 0.97

*Factor loading fixed at 1.00.

Note: Unstandardized factor loadings from confirmatory factor analyses performed in LISREL 8.51 shown. Standard errors shown in parentheses. Factor analyses performed on polychoric correlations estimated in PRELIS from ordinal level counts of each behavioral code per respondent.

Structural Equation Models

- While confirmatory factor analysis focuses on the measurement model, structural equation modeling considers also the structural model.
- Can evaluate similarities and differences in theoretical models across multiple cultural groups.
**Multilevel (Hierarchical Linear) Modeling**

- Permits analyses of individuals nested within cultural groups
- Effects on dependent variables of measures assessed at multiple levels of analysis (i.e., respondent, culture, question) can be examined
- Recent book by van de Vijver et al.
### HLM Regression Model Estimates of Fixed Effects for Comprehension and Mapping Difficulties

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<tr>
<th>Equation</th>
<th>Coeff.</th>
<th>SE</th>
<th>Coeff.</th>
<th>SE</th>
<th>Coeff.</th>
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<td>Equation 2</td>
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<td>Equation 3</td>
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<td>Equation 4</td>
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<td>Question characteristics</td>
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<td>-0.0003</td>
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<td>0.10**</td>
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<td>0.10**</td>
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<td>Ref=(Concrete)</td>
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<td>0.02**</td>
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<td>0.02**</td>
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<td>0.31**</td>
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<td>-4.30**</td>
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<td>-3.72**</td>
<td>0.31</td>
<td>-3.69**</td>
<td>0.31</td>
</tr>
</tbody>
</table>

*p<.01  **p<.05  +p<.10

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### Item-Response (IRT) Models

- Can identify survey items that do and do not behave in a similar manner across cultures and across translations.
- Item characteristic curves (ICC) represent the conditional probabilities of responding in a given manner to a given question.
- Similar ICCs across groups interpreted as evidence of measurement equivalence
Some General Recommendations

1. Where possible, consider conducting analyses using multiple techniques to determine if findings are robust.

Preliminary 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.