Cultural Equivalence of the Questionnaire on Moral Attitudes Toward Aggression (CAMA) Using Structural Equation Modeling in a German University Context

Measuring aggression cross-culturally
Cultural Equivalence

Cultural Equivalence

Cultural Equivalence: level of comparability of measurement outcomes across different cultures

Levels of equivalence:
- Structural equivalence
- Metric equivalence
- Scalar equivalence

Testing equivalence:
- Hierarchical Confirmatory Factor Analysis (Vandenberg & Lance, 2000)

van de Vijver & Leung, 2011
Goal of the study

Assess the structural equivalence of the Questionnaire on Moral Attitudes toward Aggression (CAMA) for the German context

using factor structures from:

• USA, Spain, Japan (Fujihara et al., 1999)
• Hong Kong (Ramírez et al., 2011)
CAMA

- Questionnaire on Moral Attitudes Toward Aggression (Ramírez & Folgado 1985; Fraczek et al., 1985)
- Based on SAI (Lagerspetz & Westman, 1980)
- Applied since 1980’s in Eastern and Southern Europe, Africa, Asia, North and South America
<table>
<thead>
<tr>
<th>In self defense</th>
<th>To protect another person</th>
<th>When communication breaks down</th>
<th>When angry</th>
<th>To protect one's property</th>
<th>As a punishment</th>
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<tbody>
<tr>
<td>To be ironical</td>
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<tr>
<td>To threaten</td>
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<td>To stop sb. from doing sth.</td>
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<td>To use torture</td>
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<td>To shout angrily</td>
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<td>To hit another person</td>
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<td>To get furious</td>
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<tr>
<td>To kill another person</td>
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Sample & Measurement

• Testing the structural equivalence of the CAMA
  – Situation Scores
  – Action Scores

• Sample:
  – 117 German social studies students (mean age 23.1 [19-38], 74% female)
  – Presented German translation of CAMA
    • 6 point-likert scale (never justified – always justified)

• Statistical Method:
  – Confirmatory Factor Analysis
  – Mplus 5.21
Situation-Score Models

Sit I: USA / Hong Kong

- Defense
  - Self-defense
  - Defense of others
  - Defense of property

- Non-defense
  - As a punishment
  - When angry
  - Communication difficulties

Sit II: Spain / Japan

- Defense
  - Self-defense
  - Defense of others
  - Defense of property

- Non-defense
  - As a punishment
  - When angry
  - Communication difficulties
Situation-Score Models: Results

Sit I: USA / Hong Kong

ML:
- CFI: 0.91
- RMSEA: 0.17
- SRMR: 0.08

GLS:
- CFI: 0.81
- RMSEA: 0.12
- SRMR: 0.08

Sit II: Spain / Japan

ML:
- CFI: 0.92
- RMSEA: 0.16
- SRMR: 0.06

GLS:
- CFI: 0.68
- RMSEA: 0.16
- SRMR: 0.12

→ no sufficient fit

→ good - sufficient fit

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**Action-Score Models**

**Act I: USA / Spain**

- Physical aggression
  - Killing
  - Torture
  - Hitting
  - Shouting
  - Rage
  - Threatening

**Act II: Japan**

- Physical aggression
  - Killing
  - Torture
  - Hitting
  - Threatening
  - Shouting
  - Rage
  - Hindering
  - Being ironic
Action-Score Models: Results

Act I: USA / Spain

ML:
- CFI: 0.88
- RMSEA: 0.13
- SRMR: 0.09

GLS:
- CFI: 0.72
- RMSEA: 0.10
- SRMR: 0.14

Act II: Japan

ML:
- CFI: 0.88
- RMSEA: 0.13
- SRMR: 0.09

WLS:
- CFI: 0.90
- RMSEA: 0.13
- SRMR: 0.09

→ no sufficient fit
Action-Score Model for the German context

• no sufficient fit for either action model

→ Exploratory Factor Analysis
  • to develop a German structural model
Action-Score Model for the German context: Results

- 2 factors
  - Differentiated by use of physical forms of aggression
  - 61% explained variance
Summary

• **Goal:**
  
  – assess structural equivalence of CAMA
    
    – Situation models (defense – non-defense)
    
    – Action models (physical aggression, indirect verbal aggression, direct verbal aggression)

• **Results:**
  
  – Situation model:
    
    – Fit for defense – non-defense model

  – Action model:
    
    – No fit for action models

  ➔ new action model for German context (physical aggression – non-physical aggression)
Discussion

• **Method / further study:**
  – Replication needed
    – Larger & more representative sample
    – “True“ 2\(^{nd}\) order model
    – Verification of German factor structure for action model
  – Comparison of justification of aggression between Germany and other cultures

• **Suggestions for further assessment:**
  – Elaboration of the role of irony
  – Focus on specific combinations of actions and situations (e.g. Ramírez, 1993)
  – Use of scenarios
Literature


