

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

Measuring aggression cross-culturally



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# Cultural Equivalence



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Image source: Druce, G. (1919). The elephant in medieval legend and art.  
*Journal of the Royal Archaeological Institute*, 76. London: 1919

# 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

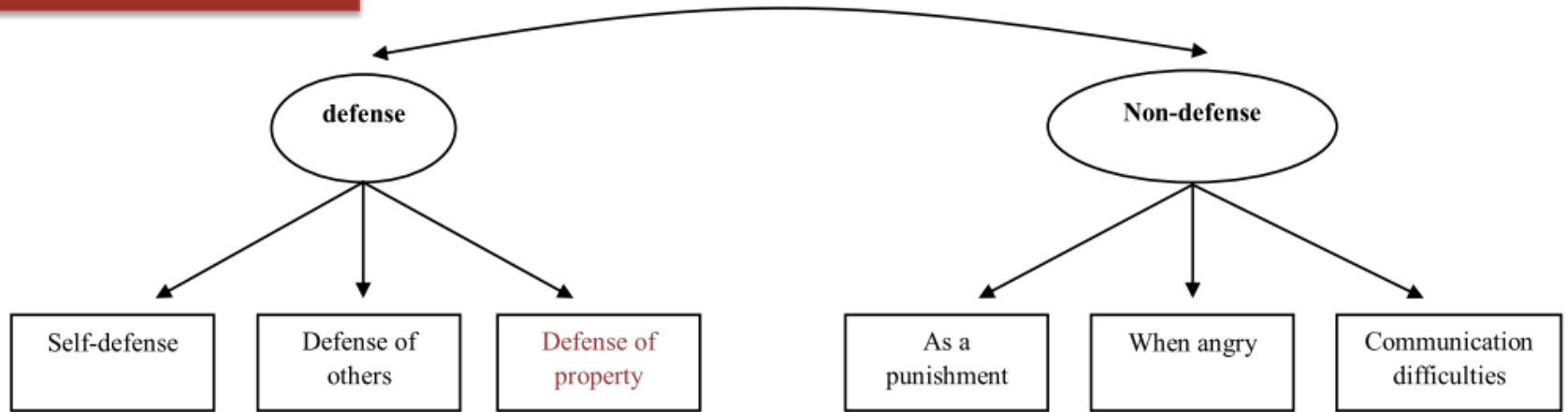
In self defense	To protect another person	When communication breaks down	When angry	To protect one's property	As a punishment
<b>To be ironical</b>		<b>Action scores</b>			
<b>To threaten</b>		<i>Situation scores</i>			
<b>To stop sb. from doing sth.</b>					
<b>To use torture</b>					
<b>To shout angrily</b>					
<b>To hit another person</b>					
<b>To get furious</b>					
<b>To kill another person</b>					

# Sample & Measurement

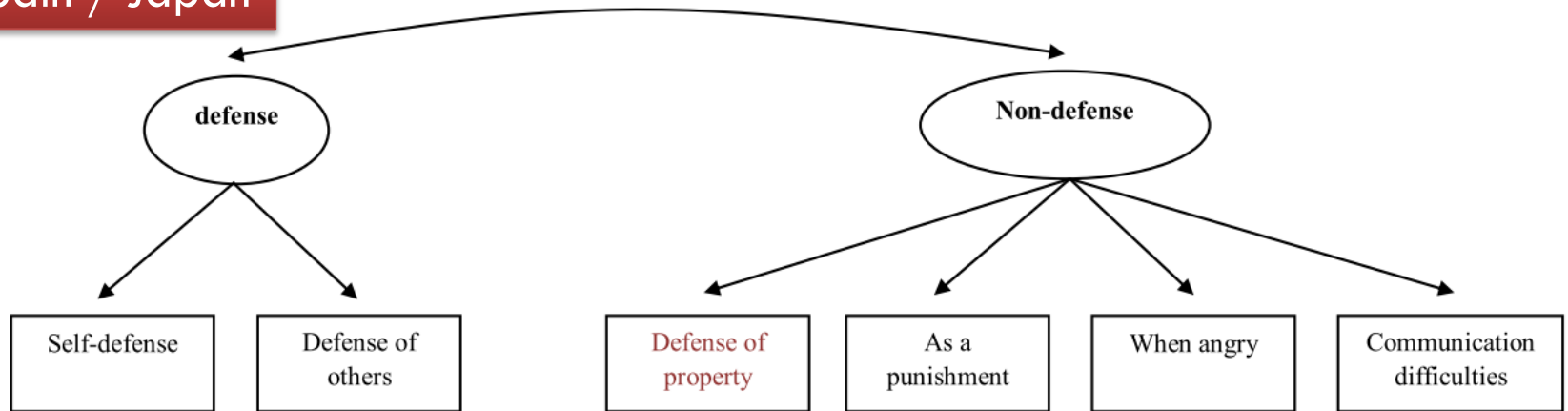
- Testing the structural equivalence of the CAMA
  - Situation Scores
  - Action Scores
- Sample:
  - 117 German social studies students (mean age 23,1 [19-38], 74% female)
  - Presented German translation of CAMA
    - 6 point-likert scale (never justified – always justified)
- Statistical Method:
  - Confirmatory Factor Analysis
  - Mplus 5.21

# Situation-Score Models

Sit I: USA / Hong Kong



Sit II: Spain / Japan





# Situation-Score Models: Results

## Sit I: USA / Hong Kong

ML:

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

GLS:

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

→ no sufficient fit

## Sit II: Spain / Japan

ML:

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

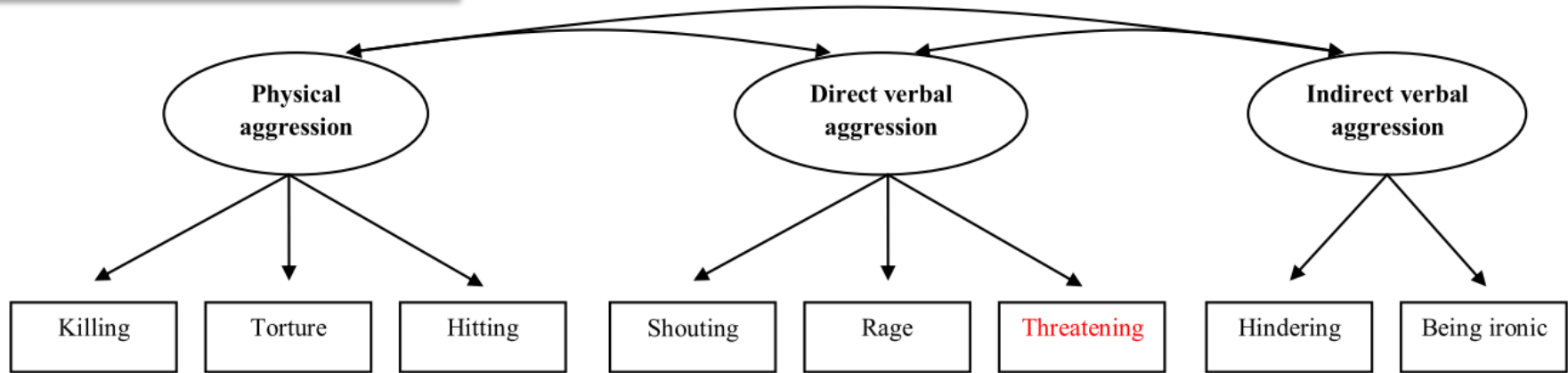
GLS:

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

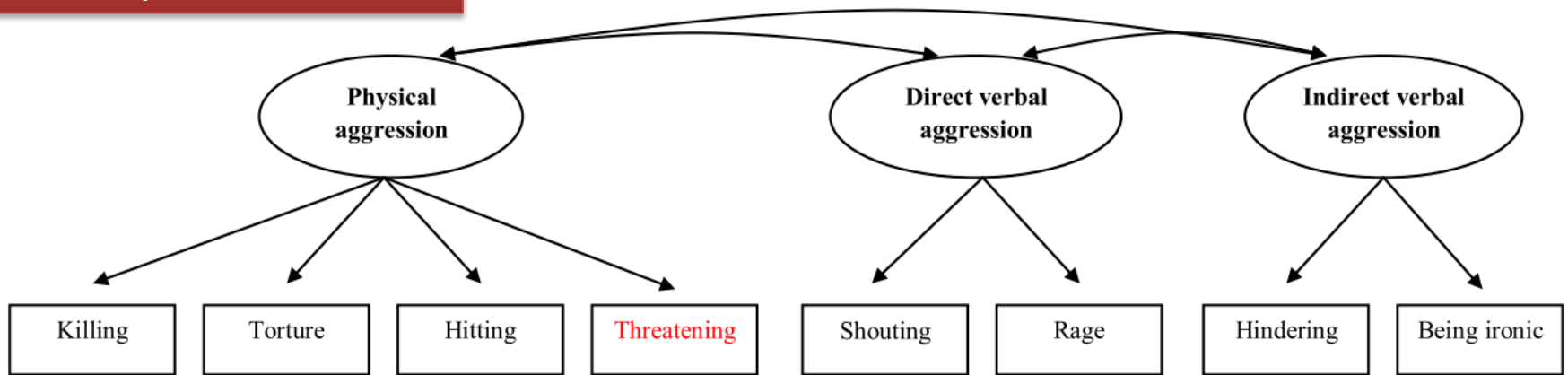
→ good - sufficient fit

# Action-Score Models

Act I: USA / Spain



Act II: Japan



# 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

→ no sufficient  
fit

## Act II: Japan

ML:

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

WLS:

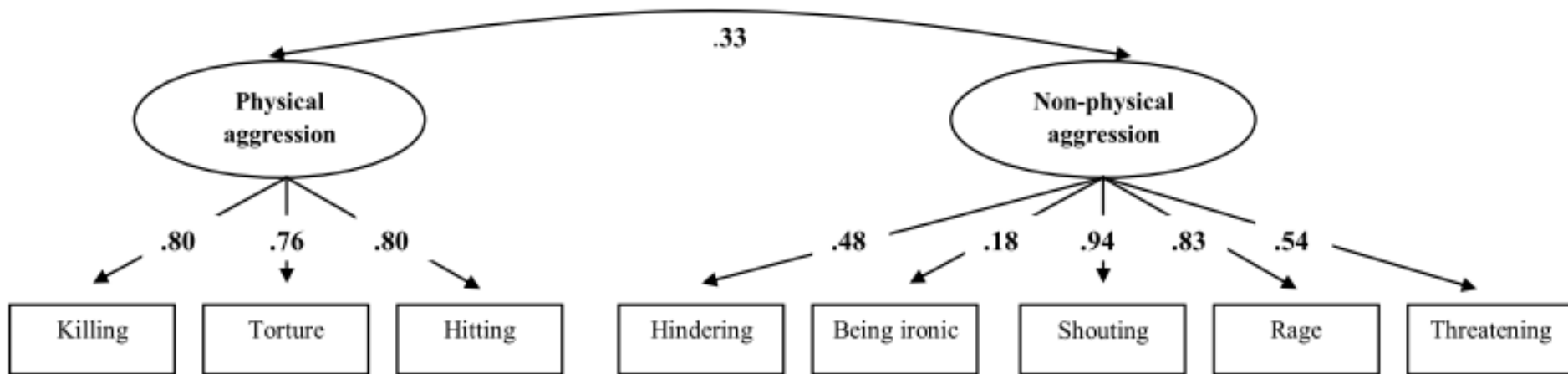
- CFI: 0.90
- RMSEA: 0.13
- SRMR: 0.09

→ 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<sup>nd</sup> 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

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