

# Emic and Etic Measurement in Large-Scale Assessments: Towards an Integration

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# Structure

- Focus in large-scale assessment on asking identical questions (etic approach)
- Emic—etic distinction
  - Relevance for large-scale assessment
- From a dichotomy to complementarity
- Example: personality assessment
- Implications for large-scale assessment

# N of Countries in Large-Scale Assessment

- Programme for International Student Achievement (PISA): 78 countries (2018)
- Starting Strong Survey (3S): 9 countries (2018)
- Teaching and Learning International Survey (TALIS): 48 countries (2018)
- Programme for the International Assessment of Adult Competencies (PIAAC): 47 countries

# Current Paradoxes of Large-Scale Assessments Due to Growth

- General: Growth is accompanied by paradoxes/trade-offs
- Increase in number of countries (with increase in cultural variation) will simultaneously make such
  - studies more **informative** for all stakeholders (countries, policymakers, scientists,...)
  - studies more **difficult to conduct** (e.g., adaptation issues)

- Analysis paradox: more countries, fewer conclusions can be drawn
  - Scalar invariance as the desired/required, yet impossible goal
- Test design paradox: more countries, less cultural coverage
  - Focus on what has at least some relevance in all countries → Can easily gravitate towards Western-based stimuli (common to most OECD countries); Wober (1969): “How well can they do our tricks?”
- Test length paradox: more items, more design and analysis problems
  - Long instruments are both desirable and undesirable (paradox that long instruments are more informative, yet less likely to show high level of invariance)

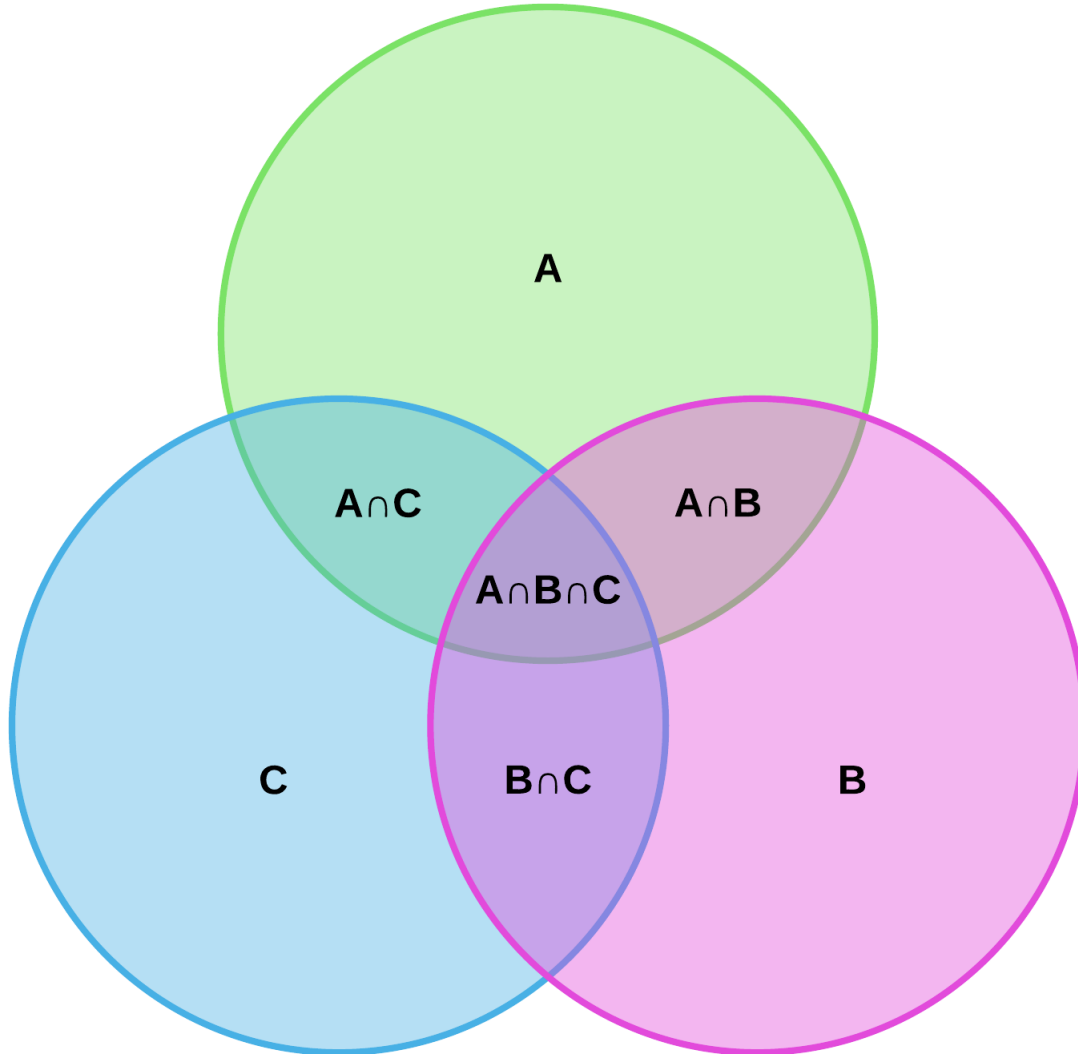
# Ways Forward?

- Maintain that more countries and longer instruments are more informative, but...
  - Adjust/refine invariance procedures
    - OECD conference later this year on this topic
- Relax the framework that only identical stimuli can be used and are informative as the framework will increasingly become a straitjacket
  - This approach will be further explored here

# Need to Combine Universal and Culture-Specific Elements

- Psychological phenomena are typically neither completely universal, nor completely culture specific
- More universalism at a higher level of abstraction (extroversion) than at a lower level (indicators of extroversion)

# As a Venn Diagram: Construct X in Three Countries



- Large-scale assessment now focuses on the intersection
- Yet, any subset can add validity to specific comparisons or enhance internal consistency



# Options

- **Adoption** (Close, “literal” translation)
  - Advantage: maintains metric equivalence
  - Disadvantage: adequacy (too) readily assumed, should be demonstrated
- **Adaptation (changing contents of one or more items so as to increase cultural appropriateness)**
  - Advantage: more flexible, more tailored to the context
  - Disadvantage: fewer statistical techniques available to compare scores across cultures
- **Assembly (composing a new instrument)**
  - Advantage: very flexible
  - Disadvantage: almost no comparability maintained

# Taxonomy of Adaptations

Adaptation as generic term;

Need for adaptation can be due to:

## Construct equivalence

- Similarity of construct in source and target culture

## Cultural equivalence

- Norms about interaction (modes of address)
- “Cultural fact sheet”

## Linguistic equivalence

- Translation accuracy: Retention of denotation and connotation

## Measurement equivalence

- Retention of psychometric features (response styles)
- Similarity of factors measured by a test and comparability of scores

# A Note on the Term “Adaptation”

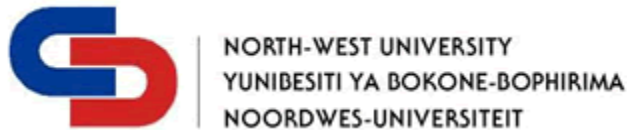
- Adaptations are always meant to enhance ecological validity, but...
- “Minimum definition”: In OECD studies placeholders are often used when developing instruments
  - Involving places where a close translation would not work, but where the rest of the item remains intact
- “Maximum definition”: Adaptation as inserting or replacing items

# Emic-etic in personality research



- Pike (1967):
  - "Emic": an emic account comes from a person within the culture; indigenous perspective
    - E.g., what is intelligence in rural Zambia?
  - "Etic": account is a description of a behavior or belief by an observer, in terms that can be applied to other cultures
    - E.g., is the structure of intelligence universal?
- Long considered to be conflicting

# Example: (In)completeness of the Five-Factor Model



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- The SAPI, an acronym for South African Personality Inventory, is a project that aims to develop an indigenous personality measure for all 11 official languages in South Africa. Participants are Byron Adams (University of Johannesburg and Tilburg University, the Netherlands), Deon de Bruin (University of Johannesburg), Karina de Bruin (University of Johannesburg), Carin Hill (University of Johannesburg), Leon Jackson (North-West University), Deon Meiring (University of Pretoria and University of Stellenbosch), Alewyn Nel (North-West University), Ian Rothmann (North-West University), Michael Temane (North-West University), Velichko Valchev (Tilburg University, the Netherlands), and Fons van de Vijver (North-West University and Tilburg University, the Netherlands).

# Cross-Cultural Personality Models

## Universality (etic approach)

- Using imposed etic concepts
- emphasizes universals or core similarities in all human beings
- Are the imposed etic personality constructs universally applicable?

## Cultural specificity (emic approach)

- Utilizes a culture-specific orientation - emic concepts
- Indigenous and culturally relevant constructs may be missing
- Are there personality characteristics that are important to the understanding of personality in the local culture that have been left out in Western measures?

# Personality: Evidence for Universality

- Evidence largely based on two lines of research
- 1. Five-Factor Model (Costa, McCrae)
  - Five factors: Neuroticism, Extroversion, Openness, Agreeableness, Conscientiousness
- 2. Three-Factor Model (Eysenck)
  - Three factors: Extroversion, Neuroticism, Psychoticism



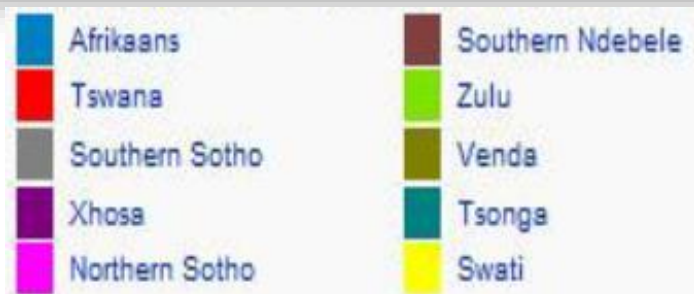
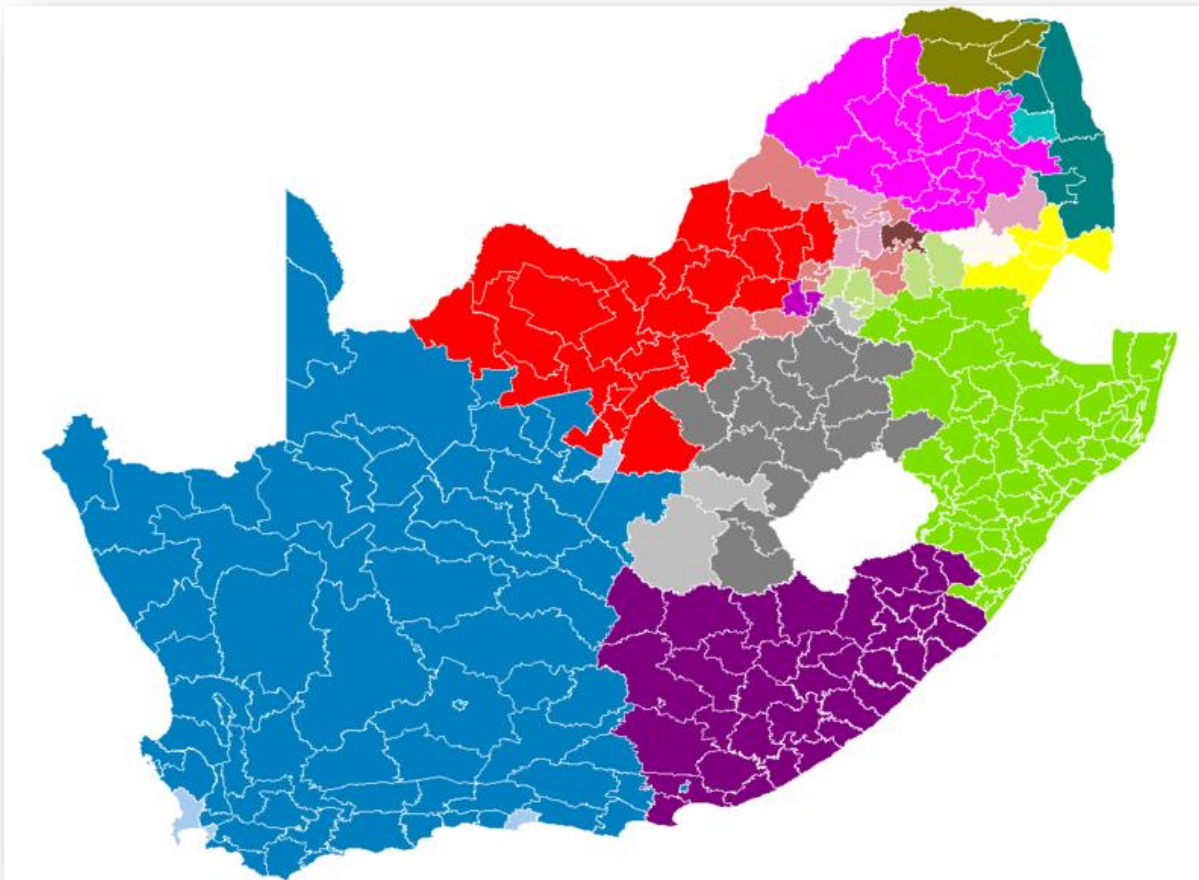
# Evidence for Cultural Specificity

- Chinese concepts of *interpersonal relatedness*
- Japanese concept of *amae* (sweet indulgence)
- Korean concept of *chong* (affection)
- Indian concept of *selfless self*
- South-African concept of **Ubuntu**
- “Meaning”
  - *"humanity towards others"*
  - *"I am because we are"*
  - *"A person 'becomes human' through other persons"*
  - *"A person is a person because of other persons"*

# Emic *versus* Etic or Emic *and* Etic?

- Personality is neither completely universal, nor completely culture-specific
- In retrospect, it is difficult to see how only one perspective could be presented as THE perspective
- Emic and Etic instead of Emic vs. Etic
- How can we combine the two?
  - Much evidence in cross-cultural psychology that basic structure of psychological functioning is universal, but manifestations can differ across cultures

# Languages of South Africa



Language	%
Zulu	23.8%
Xhosa	17.6%
Afrikaans	13.3%
Northern Sotho	9.4%
Tswana	8.2%
English	8.2%
Sotho	7.9%
Tsonga	4.4%
Swati	2.7%
Venda	2.3%
Ndebele	1.6%
<b>Other languages</b>	<b>0.5%</b>

# SAPI Project

- **Aim**
  - No test available with demonstrated validity in all groups
  - Develop a personality instrument for South Africa that can accommodate its diversity
- **Stages**
  - 1. Qualitative Stage**
    - Identifying personality structure in an indigenous, comparative study
    - Generating and piloting items/scales
  - 2. Quantitative Stage**

# Method

## •Participants

- Adults from all eleven language groups
- Sample guidelines: Socio-economic Status, Education (low, medium, High), Males/Females, Age (18-35 yrs & 35 older)
- Interview done in participant's first language

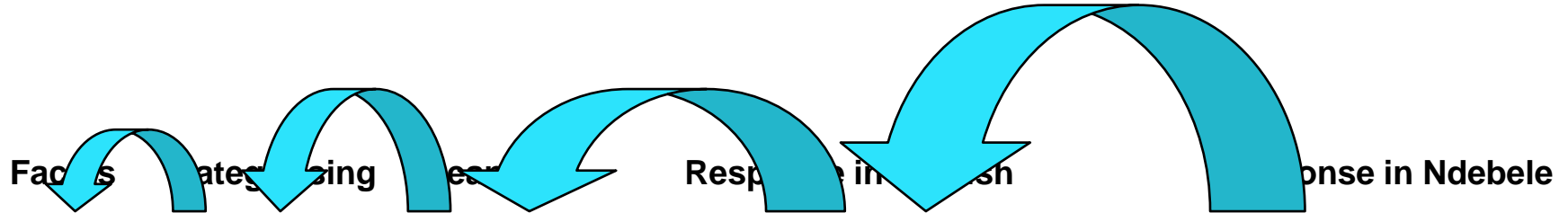
## •Instrument

- Person descriptions of familiar persons
  - Your own personality – Describe yourself
  - A parent
  - ....

# Stages in Data Analysis

- **Phase 1**
  - Preparing Data
    - Translations
    - Removing synonyms, ...
- **Phase 2**
  - Iterations of
    - Condensing data
    - Consulting language and cultural experts
- **Phase 3:**
  - Conceptual Cluster Analysis

# Condensing the Data



<b>abusive</b> (34)	abusive	abused	He is abused	Uhlukulumezekile epilweni
	abusive	abused him	he abused him even when abuse was not there	kade ambuser lokha ingekho
	abusive	abuses me	He abuses me	Uyangi hlukumeza
	abusive	Abusive person	An abusive person	Umntu ohlukumezako

## RELATIONSHIP HARMONY

Meddlesomeness

Conflict Seeking

Interpersonal  
Relatedness

Approachability

## SOFT-HEARTEDNESS

Hostility

Amiability

Gratefulness

Active  
support

Egoism

Empathy

## FACILITATING

Guidance

Encouraging  
others

## EXTRAVERSION

Dominance

Sociability

Expressiveness

Positive  
Emotionality

## CONSCIENTIOUSNESS

Dedication

Achievement  
Orientation

Thoughtlessness

Self-discipline

Orderliness

## INTEGRITY

Integrity

Fairness

## EMOTIONAL STABILITY

Ego Strength

Emotional  
Control

Neuroticism

Emotional  
Sensitivity

Balance

## OPENNESS

Materialism

Broad-  
mindedness

Epistemic  
Curiosity

Openness to  
Experience

## INTELLECT

Aesthetics

Reasoning

Skillfulness

Social  
Intellect



# Cluster: Relationship Harmony

Subcluster	Facet	Example Response (Language)
Approachability	Accommodating	Addressed us in English so we could understand (Xhosa)
	Approachable	She is approachable, I could speak to her about anything (S Sotho)
	Arrogant	He thinks he is better than all the other people (N Sotho)
	Flexible	Flexible to situation (Tswana)
	Humble	She is a humble and down to earth person (Ndebele)
	Open for Others	Accepts people for who and what they are (English)
	Proud	Is proud and thinks of herself better than others (Swati)
	Stubborn	Was stubborn, did not listen to anybody (Tswana)
	Tolerant	Tolerant (Afrikaans)
	Welcoming	Welcoming – to everyone (Venda)
Conflict-Seeking	Argumentative	Likes to quarrel (Xhosa)
	Provoking	Provocative and calls people names (Swati)
	Troublesome	Creates tension for nothing (Zulu)

# Cluster: Soft-Heartedness

Active Support	Community Involvement (11/143)	There is one person who is always looking after the community (Zulu)
	Heedful	She listens when you talk to her (S Sotho)
	Helpful	Is helpful when you are in need (Swati)
	Protective	Protective (Xhosa)
	Solving Problems of Others	If I have a problem, she knows how to solve it (Ndebele)
	Supportive	I like to give people my support (Tswana)
Amiability	Friendly	She is a friendly person (Tsonga)
	Irritating	He is annoying and irritating (S Sotho)
	Kind	Kind (Venda)
	Likeable	He is loved by everyone (S Sotho)
	Pleasant	He was a nice person to live with (Zulu)
	Stern	Always serious, not smiling (Xhosa)
Egoism	Generous	One who is generous and gives food when asked (Swati)
	Greedy	Greedy (Afrikaans)
	Jealous	A person who is jealous of other people's possessions (Zulu)
	Self-Centered	All revolves around her, she thinks (English)
	Selfish	Wants everything for himself (Xhosa)

# Quantitative Findings

- 262 items (incl. 12 SD items) administered to 1,364 students and community adults
- 671 Blacks, 198 Coloureds, 104 Indians, 391 Whites
- EFA per cluster; items with loadings  $< .30$  or  $.40$  were removed
- 158 items in latest version (incl. 12 Social Desirability items)
- 18 empirically derived scales
- EFA on scale scores

## Cronbach's alpha

Scale (# items)	Black	Coloured	Indian	White
Facilitating (10)	.84	.85	.87	.88
Integrity (12)	.76	.83	.84	.79
Social Intellect (4)	.71	.75	.82	.74
Interpersonal Relatedness (9)	.77	.81	.83	.78
Warm-Heartedness (12)	.83	.89	.83	.87
Deceitfulness (3)	.58	.59	.75	.53
Conflict-Seeking (6)	.67	.70	.71	.64
Hostility–Egoism (13)	.80	.84	.89	.83
Emotional Balance (8)	.71	.77	.73	.74
Negative Emotionality (10)	.75	.73	.76	.77
Playfulness (6)	.71	.76	.84	.81
Sociability (7)	.75	.80	.84	.86
Achievement Orientation (10)	.79	.78	.81	.82
Orderliness (11)	.81	.85	.88	.86
Traditionalism–Religiosity (4)	.57	.65	.78	.75
Intellect (10)	.74	.81	.79	.76
Broad-Mindedness (5)	.60	.66	.72	.75
Epistemic Curiosity (6)	.66	.77	.83	.80

# SAPI Structure

	SR- Pos	SR- Neg	N	E	C	O
Facilitating	<b>.78</b>					
Integrity	<b>.37</b>				<b>.35</b>	
Social Intelligence	<b>.55</b>					
Interpersonal Relatedness	<b>.83</b>					
Warm-Heartedness	<b>.88</b>					
Deceitfulness		<b>.65</b>				
Conflict-Seeking		<b>.75</b>				
Hostility–Egoism		<b>.92</b>				
Emotional Balance			<b>-.38</b>			
Negative Emotionality			<b>.81</b>			
Playfulness				<b>-.64</b>		
Sociability				<b>-.83</b>		
Achievement Orientation					<b>.63</b>	<b>-.32</b>
Orderliness					<b>.81</b>	
Traditionalism–Religiosity					<b>.36</b>	
Intellect						<b>-.43</b>
Broad-Mindedness						<b>-.59</b>
Epistemic Curiosity						<b>-.48</b>
Tucker's phi						
Blacks ( $M = .94$ )	<b>.95</b>	<b>.99</b>	<b>.94</b>	<b>.97</b>	<b>.85</b>	<b>.92</b>
Coloureds ( $M = .97$ )	<b>.99</b>	<b>.99</b>	<b>.98</b>	<b>.97</b>	<b>.96</b>	<b>.95</b>
Indians ( $M = .95$ )	<b>.96</b>	<b>.97</b>	<b>.98</b>	<b>.97</b>	<b>.89</b>	<b>.92</b>
Whites ( $M = .98$ )	<b>.99</b>	<b>.99</b>	<b>.97</b>	<b>.98</b>	<b>.97</b>	<b>.99</b>
Mean ( $M = .96$ )	<b>.97</b>	<b>.99</b>	<b>.97</b>	<b>.97</b>	<b>.92</b>	<b>.95</b>

# Qualitative

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Orderliness

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Ego Strength

Courage

Emotional  
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Openness to  
Experience

## INTELLECT

Aesthetics

Reasoning

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Social  
Intellect

# Quantitative

## SOCREL POSITIVE

Facilitating

Interpersonal  
Relatedness

Warm-  
Heartedness

Social  
Intelligence

## SOCREL NEGATIVE

Conflict Seeking

Deceitfulness

Hostile  
Egoism

## EXTRAVERSION

Playfulness

Sociability

## CONSCIENTIOUSNESS

Integrity

Orderliness

Emotional Maturity

Achievement  
Orientation

Traditionalism -  
Religiosity

## NEUROTICISM

Negative  
Emotionality

## INTELLECT / OPENNESS

Intellect

Epistemic  
Curiosity

Broad-  
mindedness

# Conclusion

- Both emic and etic factors were found
  - Emic notably in the social-relational domain
- Five Factor Model well replicated for N, E, O, C
- If we would have started by applying a standard Big Five/FFM instrument, the salience of social relational aspects would never have been found



# Emic and Etic in Large-Scale Studies

- Etic/one-size-fits-all approach has **strengths**
  - Allows for cross-cultural comparisons
  - Is efficient (can use short instruments)
  - Can often rely on tried-and-tested instruments
- Etic/one-size-fits-all approach has **limitations**
  - Focus on short instruments
    - Construct coverage can become problematic
  - Focus on what is shared across cultures, which will become less and less when cultural variation is increased

- Combined emic—etic approach would amount to adding culture-specific items to etic measures
  - Note: different from international option that involves all items about a construct
- Emic approach can help to
  - Increase ecological validity of instruments
  - Increase construct coverage
  - Enhance validity and internal consistency in cultures
  - Overcome the criticism that large-scale assessments can show Western bias
- Note: item response theory can deal with the combination of etic and emic items (cf. matrix designs)

# Global Conclusion

- From *emic versus etic* to *emic and etic*
- Emphasis on identical questions in large-scale assessment (“one-size-fits-all”) becomes problematic with the increased cultural/linguistic diversity of large-scale assessments
- Culture-specific items may help policy makers