NONLINEAR UNIDIMENSIONALITY IN COMMUNICATION SCIENCE

Nonlinear Unidimensionality in Communication Science:

Tests, Examples, and Implications

Supplementary Tables

NONLINEAR UNIDIMENSIONALITY IN COMMUNICATION SCIENCE

Supplementary Table 1

Example of Guttman Indicators

Table 1a		ITEN	M 2	
		INCORRECT	CORRECT	TOTAL
ITEM 1	CORRECT	1	8	9
	INCORRECT	1	0	1
	TOTAL	2	8	10
Table 1b		ITEN	M 3	
		INCORRECT	CORRECT	TOTAL
ITEM 1	CORRECT	8	1	9
	INCORRECT	1	0	1
	TOTAL	9	1	10
Table 1c		ITEN	M 3	
		INCORRECT	CORRECT	TOTAL
ITEM 2	CORRECT	7	1	8
	INCORRECT	2	0	2
	TOTAL	9	i	10

Supplementary Table 2

Inter-item Correlations, Item Means, and Item-Strength Predictions

	ITEM 1	ITEM 2	ITEM 3	ITEM MEAN
ITEM 1		.67	.11	.90
ITEM 2	.67		.17	.80
ITEM 3	.11	.17		.10

Note: Coefficients in the lower diagonal display inter-item correlations; coefficients in the upper diagonal display item strength predictions used in testing the fit of the Guttman model.

Supplementary Table 3

Fourfold Table Notation

		ITEM i		
		INCORRECT	CORRECT	
ITEM	CORRECT	a	b	р
ITEM j	INCORRECT	С	d	q
		q′	p'	1.0

Supplementary Table 4

Original Items from Cho et al. (2014) and Means and Inter-Item Correlations Computed from a

Sample (N=366)

Original Items	М	1	2	3	4	5
1. The story showed something that could happen in real life.	4.31	1.00				
2. The event in the story portrayed real life situations.	4.16	.75	1.00			
3. The story could actually happen in real life.	4.28	.79	.73	1.00		
4. Real people would not do the things shown in this story.*	3.71	.34	.30	.36	1.00	
5. The story is not something that would happen in real life.*	3.92	.43	.37	.45	.63	1.00

Note: *indicates a reverse-scored item.

NONLINEAR UNIDIMENSIONALITY IN COMMUNICATION SCIENCE

Supplementary Table 5

Item Pair	Absolute MD	Strength Ratio	r
1,2	.15	.79	.75
1,3	.03	.95	.79
1,4	.60	.46	.34
1,5	.39	.58	.43
2,3	.12	.83	.73
2,4	.44	.58	.30
2,5	.24	.73	.37
3,4	.57	.48	.36
3,5	.36	.61	.45
4,5	.20	.80	.63

Note: Absolute MD indicates the absolute value of the mean difference between items; *r* indicates the inter-item correlation.