IRTPRO Version 2.0
Output generated by IRTPRO estimation engine Version 4.54 (32-bit)

Project:	
Description:	
Date:	31 May 2018
Time:	10:56 AM

Table of Contents

Graded Model Item Parameter Estimates, logit: $a\theta + c$

Item	Label	a	s.e.	c_1	s.e.	c_2	s.e.	c_3	s.e.	c_4	s.e.	c_5	s.e.	c_6	s.e.
1	tol1	[7] 3.66	0.24	[1] 3.19	0.25	[2] 0.24	0.19	[3] -1.97	0.21	[4] -3.31	0.25	[5] -4.78	0.31	[6] -6.96	0.44
2	tol2	[14] 3.99	0.27	[8] 2.93	0.26	[9] -0.17	0.20	[10] -2.17	0.23	[11] -3.38	0.27	[12] -5.15	0.34	[13] -7.67	0.50
3	tol4	[21] 3.81	0.26	[15] 2.99	0.25	[16] -0.17	0.20	[17] -2.21	0.23	[18] -3.51	0.27	[19] -5.00	0.33	[20] -6.84	0.43
4	tol5	[28] 3.00	0.20	[22] 2.11	0.19	[23] -0.20	0.16	[24] -1.53	0.18	[25] -2.66	0.20	[26] -4.07	0.25	[27] -6.13	0.37
5	tol6	[35] 3.56	0.25	[29] 1.31	0.20	[30] -1.07	0.20	[31] -2.81	0.24	[32] -3.99	0.28	[33] -5.21	0.34	[34] -7.21	0.47

Graded Model Item Parameter Estimates for Group 1, logit: $a(\theta - b)$ (Back to TOC)

Item	Label	a	s.e.	b_1	s.e.	b_2	s.e.	b_3	s.e.	b_4	s.e.	b_5	s.e.	b_6	s.e.
1	tol1	[7] 3.66	0.24	-0.87	0.07	-0.07	0.05	0.54	0.05	0.90	0.06	1.31	0.07	1.90	0.11
2	tol2	[14] 3.99	0.27	-0.73	0.06	0.04	0.05	0.54	0.05	0.85	0.06	1.29	0.07	1.92	0.11
3	tol4	[21] 3.81	0.26	-0.79	0.06	0.04	0.05	0.58	0.05	0.92	0.06	1.31	0.07	1.79	0.10
4	tol5	[28] 3.00	0.20	-0.70	0.07	0.07	0.05	0.51	0.06	0.89	0.06	1.36	0.08	2.04	0.12
5	tol6	[35] 3.56	0.25	-0.37	0.06	0.30	0.05	0.79	0.06	1.12	0.07	1.46	0.08	2.02	0.12

Factor Loadings for Group 1 (Back to TOC)

Item	Label	λ_1	s.e.
1	tol1	0.91	0.02
2	tol2	0.92	0.02
3	tol4	0.91	0.02
4	tol5	0.87	0.02
5	tol6	0.90	0.02

Summed-Score Based Item Diagnostic Tables and X^2s for Group 1 (Back to TOC)

S-X^2 Item Level Diagnostic Statistics

Item	Label	X^2	d.f.	Probability
1	tol1	142.62	75	0.0001
2	tol2	108.28	71	0.0029
3	tol4	132.38	71	0.0001
4	tol5	159.82	82	0.0001
5	tol6	129.45	72	0.0001

Group Parameter Estimates (Back to TOC)

Group	Label	μ	s.e.	σ^2	s.e.	σ	s.e.
1	Group 1	0.00	-----	1.00	-----	1.00	-----

Marginal fit (X^2) and Standardized LD X^2 Statistics for Group 1 (Back to TOC)

		Marginal				
Item	Label	X^2	1	2	3	4
1	tol1	3.1				
2	tol2	4.4	10.0			
3	tol4	2.3	7.5	10.5		
4	tol5	1.9	12.5	7.9	11.7	
5	tol6	2.2	8.6	9.0	9.7	10.2

Item Information Function Values for Group 1 at 15 Values of θ from -2.8 to 2.8 (Back to TOC)

		θ:														
Item	Label	-2.8	-2.4	-2.0	-1.6	-1.2	-0.8	-0.4	-0.0	0.4	0.8	1.2	1.6	2.0	2.4	2.8
1	tol1	0.01	0.05	0.21	0.81	2.38	3.55	3.36	3.81	3.93	4.18	4.10	3.83	3.38	1.60	0.46
2	tol2	0.00	0.02	0.10	0.47	1.85	4.01	3.84	4.45	4.75	4.95	4.74	4.31	4.02	1.78	0.45
3	tol4	0.01	0.03	0.14	0.60	2.06	3.75	3.42	4.03	4.28	4.53	4.47	4.27	3.20	1.20	0.30
4	tol5	0.02	0.05	0.18	0.53	1.35	2.30	2.52	2.68	2.83	2.85	2.79	2.64	2.50	1.73	0.76
5	tol6	0.00	0.01	0.04	0.15	0.59	1.85	3.34	3.52	3.79	3.95	4.00	3.79	3.51	2.10	0.70

Test Information:	1.04	1.16	1.66	3.56	9.24	16.46	17.48	19.49	20.59	21.46	21.11	19.86	17.61	9.40	3.67
Expected s.e.:	0.98	0.93	0.78	0.53	0.33	0.25	0.24	0.23	0.22	0.22	0.22	0.22	0.24	0.33	0.52

Marginal Reliability for Response Pattern Scores: 0.91

Likelihood-based Values and Goodness of Fit Statistics (Back to TOC)

Statistics based on the loglikelihood	
-2loglikelihood:	9017.20
Akaike Information Criterion (AIC):	9087.20
Bayesian Information Criterion (BIC):	9244.26

Statistics based on the full item x item x ... classification

The table is too sparse to compute the general multinomial goodness of fit statistics.

Statistics based on one- and two-way marginal tables

M_2	Degrees of freedom	Probability	RMSEA
2281.02	355	0.0001	0.09

Note: M_2 is based on full marginal tables.

Note: Model-based weight matrix is used.

Summary of the Data and Control Parameters (Back to TOC)

Sample Size	657
Number of Items	5
Number of Dimensions	1

Item	Label	Categories	Model
1	tol1	7	Graded
2	tol2	7	Graded
3	tol4	7	Graded
4	tol5	7	Graded
5	tol6	7	Graded

Parameter Estimation Control Values

Bock-Aitkin EM Algorithm		
Maximum number of cycles:	500	
Convergence criterion:	1.00e-005	
Maximum number of M-step iterations:	50	
Convergence criterion for iterative M-steps:	1.00e-006	
Number of rectangular quadrature points:	49	
Minimum, Maximum quadrature points:	-6.00	6.00
SEM algorithm tolerance:	1.00e-003	
Standard error computation algorithm:	Supplemented EM	

Miscellaneous Control Values

Print parameter numbers?	Yes
Z tolerance, max. abs. logit value:	50.00
Number of processor cores used:	1
Number of cycles completed:	136
Maximum parameter change:	0.00e+000
Number of free parameters:	35

Processing times (in seconds)

E-step computations:	0.09
M-step computations:	0.06
Standard error computations:	0.28
Goodness-of-fit statistics:	0.87
Total:	1.31

Output Files

HTML results and control parameters: E:\Scale Construction\Recoded for higher=tolerance\Study 2\s2.Test1-irt.htm

Convergence and Numerical Stability

Engine status:	Normal termination
SEM algorithm status:	Normal
First-order test:	Convergence criteria satisfied
Condition number of information matrix:	1.53e+002
Second-order test:	Solution is a possible local maximum