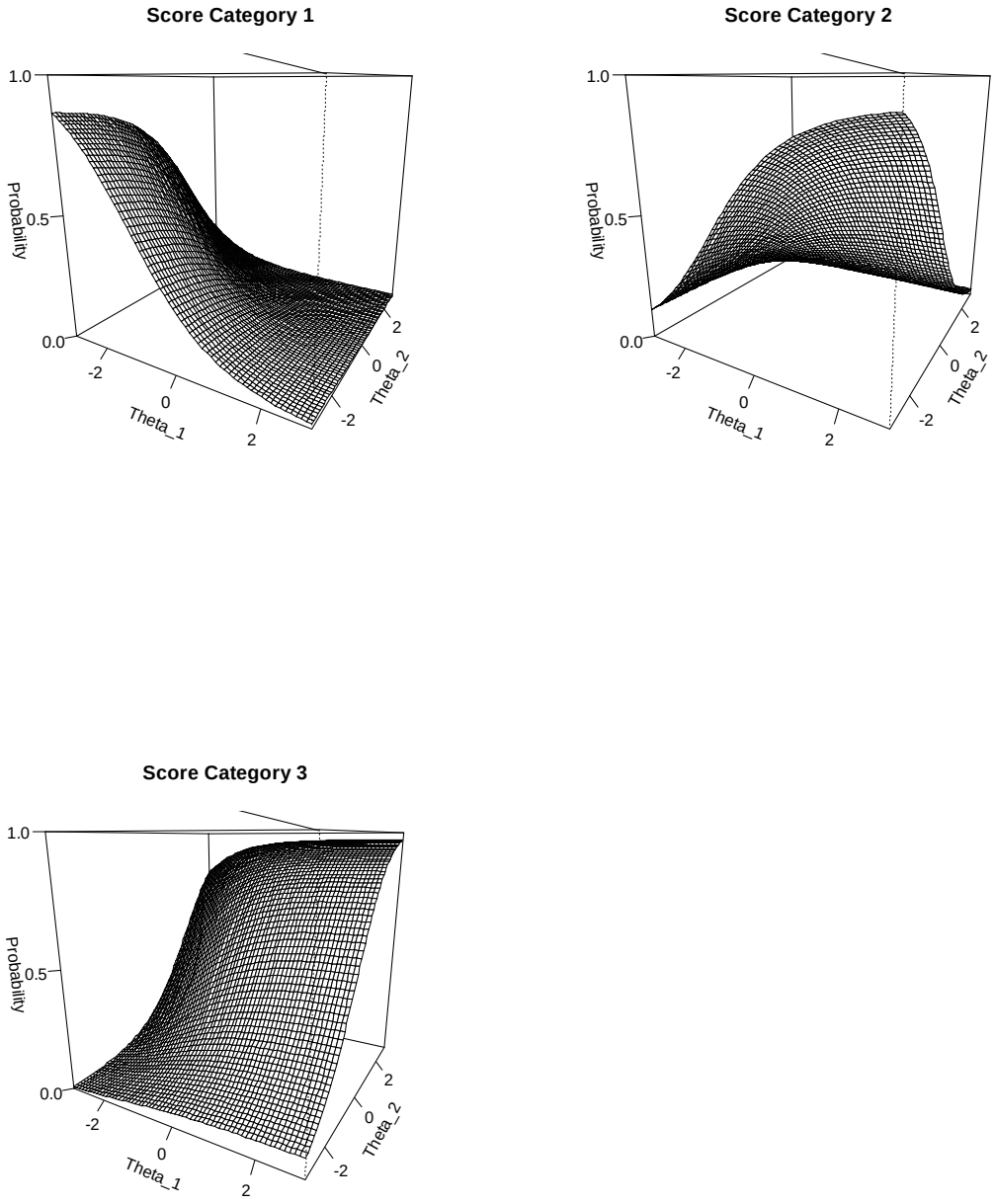
Supplementary Appendix. Latent Gold Syntax for Multidimensional Nominal Model,

Simulation Illustration 1.

```
model
options
   algorithm
      tolerance=1e-008 emtolerance=0.01 emiterations=250 nriterations=50;
   startvalues
      seed=0 sets=10 tolerance=1e-005 iterations=50;
   bayes
      categorical=1 variances=1 latent=1 poisson=1;
   montecarlo
      seed=0 replicates=500 tolerance=1e-008;
   quadrature  nodes=10;
   missing  excludeall;
   output
      parameters=effect standarderrors probmeans=posterior profile bivariateresiduals;
variables
   dependent V1 nominal, V2 nominal, V3 nominal, V4 nominal, V5 nominal,
      V6 nominal, V7 nominal, V8 nominal, V9 nominal, V10 nominal, V11 nominal,
      V12 nominal, V13 nominal, V14 nominal, V15 nominal, V16 nominal, V17 nominal,
      V18 nominal, V19 nominal, V20 nominal;
   latent
      CFactor1  continuous,
      CFactor2  continuous,
      Cluster nominal 1;
equations
   (1) CFactor1 ;
   (1) CFactor2 ;
   Cluster <- 1;
  V1 <- 1 + Cluster + (L1) CFactor1 + (L21) CFactor2;
   V2 <- 1 + Cluster + (L2) CFactor1 + (L22)  CFactor2;
   V3 <- 1 + Cluster + (L3) CFactor1 + (L23)  CFactor2;
   V4 <- 1 + Cluster + (L4) CFactor1 + (L24)  CFactor2;
   V5 <- 1 + Cluster + (L5) CFactor1 + (L25)  CFactor2;
   V6 <- 1 + Cluster + (L6) CFactor1 + (L26)  CFactor2;
   V7 <- 1 + Cluster + (L7) CFactor1 + (L27)  CFactor2;
   V8 <- 1 + Cluster + (L8) CFactor1 + (L28)  CFactor2;
   V9 <- 1 + Cluster + (L9) CFactor1 +  (L29) CFactor2;
   V10 <- 1 + Cluster + (L10) CFactor1 + (L30)  CFactor2;
   V11 <- 1 + Cluster + (L11) CFactor1 +  (L31) CFactor2;
   V12 <- 1 + Cluster + (L12) CFactor1 +  (L32) CFactor2;
   V13 <- 1 + Cluster + (L13) CFactor1 +  (L33) CFactor2;
   V14 <- 1 + Cluster + (L14) CFactor1 +  (L34) CFactor2;
   V15 <- 1 + Cluster + (L15) CFactor1 +  (L35) CFactor2;
   V16 <- 1 + Cluster + (L16) CFactor1 +  (L36) CFactor2;
   V17 <- 1 + Cluster + (L17) CFactor1 +  (L37) CFactor2;
   V18 <- 1 + Cluster + (L18) CFactor1 +  (L38) CFactor2;
   V19 <- 1 + Cluster + (L19) CFactor1 +  (L39) CFactor2;
   V20 <- 1 + Cluster + (L20) CFactor1 +  (L40) CFactor2;
  L1 = +;
    .  .
    .  .
  L40 = +;
end model
```

Supplementary Figure 1. Probability Surface Plots for a Hypothetical Item Generated in Simulation Dataset 1 (a_{11}=0, a_{21}=1, a_{31}=1, a_{12}=0, a_{22}=0, a_{32}=1, c_1 = 0, c_2 = 1, c_3 = .5).



Supplemental Table 1. Simulation Analysis, 2000 Examinees, 20 Items,
No. of Item Categories = 3, No. of Dimensions =2, Correlation Between Dimensions=.3

First Five Eigenvalues = 4.933, .988, .913, .910, .876; Factor Loadings = .22-.57

Model	Log-likelihood	Log-prior	Log-posterior	#pars	BIC	AIC	AIC3	CAIC
1D-Ordinal, Equal item	-38320.9	-23.7	-38344.6	41	76953.4	76723.7	76764.7	76994.4
1D-Ordinal	-38166.4	-24.0	-38190.3	60	76788.8	76452.7	76512.7	76848.8
2D-Ordinal, Equal Item	-38320.5	-25.1	-38345.6	42	76960.2	76725.0	76767.0	77002.2
2D-Ordinal	-38117.8	-25.7	-38143.5	80	76843.7	76395.6	76475.6	76923.7
3D-Ordinal, Equal Item	-38320.5	-25.6	-38346.0	43	76967.8	76726.9	76769.9	77010.8
3D-Ordinal	-38025.5	-35.0	-38060.5	100	76811.0	76250.9	76350.9	76911.0
1D-Nominal, Equal Item*	-37686.3	-24.2	-37710.6	41	75684.3	75454.7	75495.7	75725.3
1D-Nominal*	-37533.6	-24.5	-37558.1	61	75530.9	75189.3	75250.3	75591.9
2D-Nominal, Equal Item*	-36313.8	-28.1	-36341.9	42	72946.9	72711.6	72753.6	72988.9
2D-Nominal*	-36080.6	-28.5	-36109.1	82	**72784.6**	**72325.3**	**72407.3**	**72866.6**
3D-Nominal, Equal Item*	-36329.6	-28.4	-36357.9	43	72986.0	72745.1	72788.1	73029.0
3D-Nominal*	-36083.6	-28.9	-36112.5	101	72934.8	72369.1	72470.1	73035.8

*With monotonicity constraints applied; **BOLD** identifies best model

Generating item parameters

Item	s	c_1	c_2
1	0.89	-1.24	-1.19
2	0.89	-0.86	1.15
3	1.21	1.94	1.93
4	1.48	1.29	1.36
5	1.48	0.66	-0.05
6	1.34	0.87	1.92
7	1.37	-0.31	0.75
8	1.11	-1.10	0.30
9	1.38	-0.25	-0.80
10	1.47	-1.06	1.38
11	1.34	1.80	0.66
12	1.34	-0.37	1.34
13	1.36	1.63	0.97
14	0.88	-1.01	-1.79
15	0.94	-1.54	-0.22
16	1.06	1.71	1.70
17	1.39	-1.43	0.06
18	1.15	-0.48	-0.69
19	0.81	1.79	0.90
20	1.36	0.33	0.10

Supplemental Table 2. Simulation Analysis, 2000 Examinees, 20 Items,
No. of Item Categories = 3, No. of Dimensions =2, Correlation Between Dimensions=.6

First Five Eigenvalues = 5.064, 1.096, 1.015, .972, .950; Factor Loadings = .31-.50

Model	Log-likelihood	Log-prior	Log-posterior	#pars	BIC	AIC	AIC3	CAIC
1D-Ordinal, Equal item	-37467.3	-22.6	-37489.9	41	75246.2	75016.5	75057.5	75287.2
1D-Ordinal	-37397.1	-22.7	-37419.9	60	75250.3	74914.2	74974.2	75310.3
2D-Ordinal, Equal Item	-37466.8	-24.1	-37490.9	42	75252.8	75017.6	75059.6	75294.8
2D-Ordinal	-37370.8	-24.4	-37395.2	80	75349.2	74901.6	74981.6	75429.7
3D-Ordinal, Equal Item	-37466.6	-24.5	-37491.1	43	75260.0	75019.2	75062.2	75303.0
3D-Ordinal	-37339.7	-26.0	-37365.7	100	75439.5	74879.4	74979.4	75539.5
1D-Nominal, Equal Item*	-37344.9	-22.7	-37367.6	41	75001.4	74771.8	74812.8	75042.4
1D-Nominal*	-37251.3	-22.8	-37274.1	74	75065.0	74650.5	74724.5	75139.0
2D-Nominal, Equal Item*	-36409.7	-25.7	-36435.4	42	**73138.6**	72903.4	72945.4	**73180.6**
2D-Nominal*	-36295.1	-25.9	-36321.0	87	73251.6	**72764.3**	**72851.3**	73338.6
3D-Nominal, Equal Item*	-36411.0	-26.1	-36437.2	43	73148.9	72908.0	72951.0	73191.9
3D-Nominal*	-36273.4	-26.6	-36300.0	109	73375.3	72764.8	72873.8	73484.3

*With monotonicity constraints applied; **BOLD** identifies best model

Generating item parameters

Item	s	c_1	c_2
1	1.37	-1.37	-1.04
2	1.24	-1.71	-0.04
3	0.86	-1.82	-1.04
4	1.19	-1.74	-1.53
5	1.06	1.34	-1.59
6	0.93	-0.45	1.19
7	1.32	-1.16	0.81
8	1.28	-0.52	1.95
9	1.47	1.66	-1.21
10	1.28	0.63	1.64
11	1.40	1.25	-0.31
12	1.19	1.87	1.42
13	0.88	-0.98	0.54
14	1.19	1.89	-1.25
15	1.25	0.23	-1.90
16	1.30	0.28	1.80
17	0.83	1.68	-0.41
18	1.23	1.48	-0.96
19	0.94	0.52	0.48
20	0.91	-0.27	1.34

Supplemental Table 3. Simulation Analysis, 2000 Examinees, 20 Items,
No. of Item Categories = 3, No. of Simulated Dimensions =2, Correlation Between Dimensions = 1
First Five Eigenvalues = 5.323, 1.022, .984, .957, .943; Factor Loadings = .32-.50

Model	Log-likelihood	Log-prior	Log-posterior	#pars	BIC	AIC	AIC3	CAIC
1D-Ordinal, Equal item	-39789.1	-23.7	-39812.8	41	79889.8	79660.1	79701.1	79930.8
1D-Ordinal	-39696.0	-23.9	-39719.9	60	79848.0	79512.0	79572.0	79908.0
2D-Ordinal, Equal Item	-39789.1	-25.2	-39814.2	42	79897.4	79662.1	79704.1	79939.4
2D-Ordinal	-39678.8	-25.5	-39704.3	80	79965.7	79517.6	79597.6	80045.7
3D-Ordinal, Equal Item	-39789.4	-25.6	-39815.0	43	79905.7	79664.8	79707.8	79948.7
3D-Ordinal	-39647.6	-30.0	-39677.6	100	80055.2	79495.1	79595.1	80155.2
1D-Nominal, Equal Item*	-39043.7	-24.3	-39067.0	41	**78398.9**	78169.3	78210.3	**78439.9**
1D-Nominal*	-38962.3	-24.4	-38986.8	68	78441.5	**78060.7**	**78128.7**	78509.5
2D-Nominal, Equal Item*	-39040.6	-25.8	-39066.4	42	78400.4	78165.2	78207.2	78442.4
2D-Nominal*	-38936.6	-26.1	-38962.8	95	78595.4	78603.3	78158.3	78690.4
3D-Nominal, Equal Item*	-39040.6	-26.3	-39066.8	43	78407.9	78167.1	78210.1	78450.9
3D-Nominal*	-38915.1	-26.7	-38941.9	118	78727.2	78066.3	78184.3	78845.2

*With monotonicity constraints applied; **BOLD** identifies best model

Generating item parameters

Item	s	c_1	c_2
1	1.20	-1.56	1.92
2	0.90	-1.67	-1.42
3	1.40	1.91	0.42
4	1.21	-0.12	-0.70
5	1.02	-0.96	1.16
6	1.21	1.72	0.29
7	1.24	0.26	-0.04
8	1.26	0.46	-0.41
9	1.39	-0.34	1.30
10	0.86	-0.22	0.77
11	1.28	-1.47	-1.44
12	1.08	-1.62	0.77
13	1.41	0.25	-0.37
14	1.17	-0.10	0.18
15	1.17	-0.54	0.44
16	1.34	-1.39	0.22
17	1.42	-0.51	-0.91
18	1.11	-1.05	1.68
19	1.01	-1.37	-0.71
20	1.19	-0.38	1.61

Supplemental Table 4. Simulation Analysis, 2000 Examinees, 20 Items,
No. of Item Categories = 4, No. of Dimensions =2, Correlation Between Dimensions=.3

First Five Eigenvalues = 7.412, 1.039, .870, .794, .771; Factor Loadings = .43-.67

Model	Log-likelihood	Log-prior	Log-posterior	#pars	BIC	AIC	AIC3	CAIC
1D-Ordinal, Equal item	-38016.6	-32.2	-38048.8	61	76496.8	76155.1	76216.1	76557.8
1D-Ordinal	-37890.0	-32.5	-37922.5	80	76388.2	75940.1	76020.1	76468.2
2D-Ordinal, Equal Item	-37855.1	-36.1	-37891.2	62	76181.5	75834.3	75896.3	76243.5
2D-Ordinal	-37698.1	-37.0	-37735.1	100	76156.3	75596.2	75696.2	76256.3
3D-Ordinal, Equal Item	-37854.0	-36.5	-37890.5	63	76186.8	75834.0	75897.0	76249.8
3D-Ordinal	-37685.6	-37.6	-37723.2	120	76283.3	75611.2	75731.2	76403.3
1D-Nominal, Equal Item*	-37976.2	-32.3	-38008.5	63	76431.2	76078.4	76141.4	76494.2
1D-Nominal*	-37831.3	-32.6	-37863.9	120	76574.7	75902.6	76022.6	76694.7
2D-Nominal, Equal Item*	-37594.0	-36.9	-37630.9	66	**75689.6**	75320.0	75386.0	**75756.6**
2D-Nominal*	-37418.4	-37.5	-37455.9	173	76151.8	**75182.8**	**75355.8**	76324.8
3D-Nominal, Equal Item*	-37589.7	-37.2	-37626.9	69	75703.9	75317.4	75386.4	75772.9
3D-Nominal*	-37367.8	-38.3	-37406.1	233	76506.6	75201.6	75434.6	76739.6

*With monotonicity constraints applied; **BOLD** identifies best model

Generating item parameters

Item	s_1	c_1	c_2	c_3
1	1.25	0.88	1.66	0.29
2	1.04	1.87	1.56	-1.17
3	0.88	-1.86	-1.48	-0.99
4	1.18	-0.69	-1.12	1.56
5	0.94	-0.28	-0.64	-0.09
6	1.12	-0.97	-0.30	1.35
7	1.36	1.44	1.06	1.11
8	0.88	1.61	-1.46	-1.97
9	1.38	0.63	-1.03	1.88
10	0.82	-1.27	0.18	1.31
11	0.85	-1.13	-1.73	1.71
12	1.43	-1.13	1.43	1.41
13	1.06	-0.24	-1.91	-1.66
14	1.13	1.39	-1.86	0.36
15	1.08	1.85	1.82	1.78
16	1.09	0.82	-0.76	-1.11
17	1.48	0.37	1.14	-1.36
18	1.43	1.17	0.26	-1.02
19	1.12	1.07	-0.49	-1.97
20	1.34	-1.23	-1.34	-0.45

Supplemental Table 5. Simulation Analysis, 2000 Examinees, 20 Items,

No. of Item Categories = 4, No. of Dimensions =2, Correlation Between Dimensions=.6

First Five Eigenvalues = 9.018, 1.083, .658, .611, .605; Factor Loadings = .55-.75

Model	Log-likelihood	Log-prior	Log-posterior	#pars	BIC	AIC	AIC3	CAIC
1D-Ordinal, Equal item	-38247.8	-33.7	-38281.5	61	76959.3	76617.6	76678.6	77020.3
1D-Ordinal	-38176.5	-33.9	-38210.4	80	76961.0	76513.0	76593.0	77041.1
2D-Ordinal, Equal Item	-38074.6	-38.1	-38112.7	62	76620.5	76273.2	76335.2	76682.5
2D-Ordinal	-37954.7	-39.0	-37993.6	100	76669.4	76109.4	76209.4	76769.4
3D-Ordinal, Equal Item	-38075.9	-38.4	-38114.3	63	76630.6	76277.7	76340.7	76693.6
3D-Ordinal	-37936.4	-40.0	-37976.3	120	76784.8	76112.7	76232.7	76904.8
1D-Nominal, Equal Item*	-38215.6	-33.8	-38249.4	63	76910.1	76557.2	76620.2	76973.1
1D-Nominal*	-38115.5	-34.1	-38149.6	120	77143.2	76471.1	76591.1	77263.2
2D-Nominal, Equal Item*	-37772.9	-38.7	-37811.6	66	**76047.5**	75677.9	**75743.9**	**76113.5**
2D-Nominal*	-37637.8	-39.2	-37677.0	176	76613.3	75627.6	75803.6	76789.3
3D-Nominal, Equal Item*	-37768.5	-39.1	-37807.7	69	76061.5	75675.0	75744.0	76130.5
3D-Nominal*	-37578.5	-40.3	-37618.9	232	76920.5	**75621.1**	75853.1	77152.5

*With monotonicity constraints applied; **BOLD** identifies best model

Generating item parameters

Item	s_1	c_1	c_2	c_3
1	1.36	2.00	1.52	0.27
2	1.07	-1.82	-1.60	-0.32
3	1.18	-0.57	1.24	-0.97
4	0.82	1.85	-1.06	1.80
5	1.33	0.56	1.99	-0.01
6	1.23	-1.66	0.93	-0.63
7	1.43	-1.98	0.14	-1.17
8	1.29	0.13	1.58	0.79
9	1.09	0.90	1.21	-0.35
10	0.99	0.37	0.81	-1.75
11	1.10	1.43	0.87	0.73
12	1.13	0.35	1.49	-0.93
13	1.29	1.76	1.06	0.48
14	1.30	-1.66	-1.57	-0.48
15	0.93	1.28	-0.01	-0.44
16	1.31	-1.03	1.84	1.98
17	1.15	0.50	0.35	-1.95
18	1.28	0.27	-0.95	-0.78
19	1.19	-0.43	1.27	1.28
20	1.45	1.35	-1.94	1.57

Supplemental Table 6. Simulation Analysis, 2000 Examinees, 20 Items,

No. of Item Categories = 4, No. of Dimensions =1

First Five Eigenvalues = 9.450, .972, .638, .628, .576; Factor Loadings = .58-.80

Model	Log-likelihood	Log-prior	Log-posterior	#pars	BIC	AIC	AIC3	CAIC
1D-Ordinal, Equal item	-43847.1	-27.2	-43874.4	61	**88157.9**	87816.2	87877.2	**88218.9**
1D-Ordinal	-43776.3	-27.4	-43803.7	80	88160.7	**87712.6**	**87792.6**	88240.7
2D-Ordinal, Equal Item	-43844.1	-28.7	-43872.8	62	88159.4	87812.1	87874.1	88221.4
2D-Ordinal	-43757.3	-29.1	-43786.4	100	88274.7	87714.6	87814.6	88374.7
3D-Ordinal, Equal Item	-43843.9	-29.2	-43873.1	63	88166.6	87813.7	87876.7	88229.6
3D-Ordinal	-43745.9	-30.1	-43775.9	120	88403.9	87731.8	87851.8	88523.9
1D-Nominal, Equal Item*	-43846.7	-27.2	-43873.9	63	88172.2	87819.3	87882.3	88235.2
1D-Nominal*	-43752.2	-27.4	-43779.6	120	88416.6	87744.5	87864.5	88536.6
2D-Nominal, Equal Item*	-43843.3	-28.8	-43872.0	66	88188.2	87818.5	87884.5	88254.2
2D-Nominal*	-43706.4	-29.1	-43735.5	168	88689.8	87748.8	87916.8	88857.8
3D-Nominal, Equal Item*	-43842.7	-29.2	-43871.9	69	88209.9	87823.5	87892.5	88278.9
3D-Nominal*	-43668.8	-29.8	-43698.6	216	88979.5	87769.7	87985.7	89195.5

*With monotonicity constraints applied; **BOLD** identifies best model

Generating item parameters

Item	s_1	c_1	c_2	c_3
1	1.03	-1.24	1.46	-0.78
2	1.23	-1.14	-0.32	-0.01
3	1.03	0.42	0.63	-0.26
4	1.35	0.10	-1.94	-1.08
5	1.28	-1.64	-0.57	1.39
6	0.92	1.41	0.03	-0.10
7	1.09	0.48	0.17	-0.96
8	0.98	0.32	0.01	-0.32
9	0.91	1.43	0.95	-0.87
10	0.87	0.97	1.32	0.31
11	0.88	-1.10	-1.42	-1.93
12	1.16	1.82	0.20	0.87
13	0.83	-0.45	0.02	1.52
14	1.12	-1.24	-1.72	1.44
15	0.97	1.45	1.57	1.11
16	1.04	-1.39	0.52	-0.08
17	1.02	0.84	-1.49	-0.89
18	1.31	-0.59	-1.97	1.48
19	1.49	1.97	-0.78	-1.50
20	1.19	0.87	-0.35	1.56

Supplemental Table 7. Simulation Analysis, 2000 Examinees, 20 Items,
No. of Item Categories = 4, No. of Dimensions =3, Correlation Between Dimensions=.3

First Five Eigenvalues = 6.934, 1.056, .868, .813, .783; Factor Loadings = .34-.66

Model	Log-likelihood	Log-prior	Log-posterior	#pars	BIC	AIC	AIC3	CAIC
1D-Ordinal, Equal item	-42404.1	-30.2	-42434.3	61	85271.9	84930.2	84991.2	85332.9
1D-Ordinal	-42294.0	-30.5	-42324.5	80	85196.1	84748.0	84828.0	85276.1
2D-Ordinal, Equal Item	-42371.1	-32.3	-42403.4	62	85213.5	84866.2	84928.2	85275.5
2D-Ordinal	-42226.6	-32.9	-42259.5	100	85213.3	84653.2	84753.2	85313.3
3D-Ordinal, Equal Item	-42372.5	-32.7	-42405.1	63	85223.8	84870.9	84933.9	85286.8
3D-Ordinal	-42202.6	-34.2	-42236.7	120	85317.2	84645.1	84765.1	85437.2
1D-Nominal, Equal Item*	-42399.2	-30.2	-42429.4	63	85277.2	84924.4	84987.4	85340.2
1D-Nominal*	-42274.8	-30.5	-42305.3	120	85461.6	84789.5	84909.5	85581.6
2D-Nominal, Equal Item*	-41738.8	-33.1	-41771.9	65	83971.6	83607.6	83672.6	84036.6
2D-Nominal*	-41583.7	-33.5	-41617.2	169	84452.0	83505.5	83674.5	84621.0
3D-Nominal, Equal Item*	-41503.5	-33.8	-41537.3	67	**83516.2**	83140.9	**83207.9**	**83583.2**
3D-Nominal*	-41307.3	-34.3	-41341.6	220	84286.7	**83054.5**	83274.5	84506.7

*With monotonicity constraints applied; **BOLD** identifies best model

Generating item parameters

Item	s_1	c_1	c_2	c_3
1	1.05	-1.85	-1.70	0.30
2	1.29	1.41	1.86	1.89
3	.99	1.86	-1.79	-1.30
4	.88	0.14	-0.94	-0.88
5	1.24	-0.31	1.66	1.49
6	1.10	0.38	1.64	-1.69
7	.95	-0.49	1.53	-1.09
8	1.40	-0.89	1.38	-0.83
9	1.15	-1.58	-1.59	-1.60
10	1.43	1.56	0.71	-0.30
11	1.01	-0.35	1.71	-0.76
12	1.32	0.91	0.18	1.77
13	1.41	1.22	0.74	-1.63
14	1.19	0.18	1.52	-1.25
15	1.42	1.30	-1.50	0.51
16	1.45	-0.08	-0.92	-1.92
17	1.32	1.67	-1.84	-0.17
18	.95	0.08	-1.84	0.66
19	1.44	-0.03	-1.48	-0.36
20	.99	-1.57	0.62	1.49

Supplemental Table 8. Simulation Analysis, 2000 Examinees, 20 Items,
No. of Item Categories = 4, No. of Dimensions =3, Correlation Between Dimensions=.6

First Five Eigenvalues = 8.459, 1.072, .766, .760, .722; Factor Loadings = .49-.73

Model	Log-likelihood	Log-prior	Log-posterior	#pars	BIC	AIC	AIC3	CAIC
1D-Ordinal, Equal item	-40254.5	-31.5	-40286.1	61	80972.7	80631.1	80692.1	81033.7
1D-Ordinal	-40115.0	-31.8	-40146.8	80	80838.0	80390.0	80470.0	80918.0
2D-Ordinal, Equal Item	-40165.8	-34.5	-40200.4	62	80802.9	80455.7	80517.7	80864.9
2D-Ordinal	-39972.4	-35.7	-40008.1	100	80705.0	80144.9	80244.9	80805.0
3D-Ordinal, Equal Item	-40166.7	-35.0	-40201.7	63	80812.2	80459.4	80522.4	80875.2
3D-Ordinal	-39954.0	-36.4	-39990.4	120	80820.1	80148.0	80268.0	80940.1
1D-Nominal, Equal Item*	-40250.4	-31.5	-40282.0	63	80979.7	80626.8	80689.8	81042.7
1D-Nominal*	-40086.3	-31.9	-40118.1	120	81084.7	80412.6	80532.6	81204.7
2D-Nominal, Equal Item*	-39872.9	-34.9	-39907.8	66	80247.5	79877.8	79943.8	80313.5
2D-Nominal*	-39643.9	-35.9	-39679.8	178	80640.7	79643.8	79821.8	80818.7
3D-Nominal, Equal Item*	-39776.2	-35.5	-39811.7	68	**80069.2**	79688.3	79756.3	**80137.2**
3D-Nominal*	-39513.9	-36.6	-39550.5	225	80738.0	**79477.8**	**79702.8**	80963.0

*With monotonicity constraints applied; **BOLD** identifies best model

Generating item parameters

Item	s_1	c_1	c_2	c_3
1	1.25	-1.64	0.82	1.01
2	1.04	-0.29	-0.13	0.14
3	0.88	0.87	0.72	0.52
4	1.18	0.32	0.71	0.32
5	0.94	-1.52	-0.81	0.81
6	1.12	-0.91	-1.59	0.32
7	1.36	-0.37	-1.44	-0.09
8	0.88	-0.42	1.55	1.02
9	1.38	-1.33	1.27	-1.18
10	0.82	1.77	-0.67	1.85
11	0.85	0.53	-0.89	1.86
12	1.43	-0.45	-1.36	-0.25
13	1.06	0.21	-0.65	1.84
14	1.13	1.03	-1.52	-0.75
15	1.08	-0.04	1.73	0.45
16	1.09	1.48	-1.37	-0.94
17	1.48	0.67	1.11	-1.31
18	1.43	1.72	1.99	-0.92
19	1.12	-1.24	-0.06	-0.66
20	1.34	1.76	-0.79	1.50