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L I S R E L 8.80

BY

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The following lines were read from file C:\Users\toshiba\Desktop\SIM.spj:

Raw Data from file 'C:\Users\toshiba\Desktop\PRE.psf'

Sample Size = 40

Latent Variables X Y

Relationships

X5-X8=X

X13-X14=X

Y1-Y7=Y

Y=X

Path Diagram

End of Problem

Sample Size = 40

Covariance Matrix

	Y1	Y2	Y3	Y4	Y5	Y6
	-----	-----	-----	-----	-----	-----
Y1	0.26					
Y2	0.21	0.55				
Y3	0.13	0.33	0.57			
Y4	0.17	0.15	0.06	0.28		
Y5	0.12	0.13	0.13	0.19	0.32	
Y6	0.19	0.18	0.18	0.18	0.13	0.29
Y7	0.06	0.15	0.32	0.03	0.14	0.07
X5	-0.10	0.07	0.11	-0.12	-0.15	0.13
X6	-0.14	-0.04	-0.01	-0.10	-0.07	-0.02
X7	-0.09	0.13	0.14	-0.06	-0.10	0.11
X8	-0.09	0.10	0.11	-0.06	-0.12	0.11
X13	-0.05	-0.04	-0.06	-0.04	-0.09	-0.01
X14	-0.04	0.03	0.02	-0.03	-0.07	0.01

Covariance Matrix						
	Y7	X5	X6	X7	X8	X13
	-----	-----	-----	-----	-----	-----
Y7	0.38					
X5	-0.07	1.55				
X6	0.06	0.87	0.97			
X7	-0.01	1.09	0.62	1.12		
X8	-0.05	1.14	0.62	0.97	1.10	
X13	-0.04	0.30	0.16	0.25	0.34	0.50
X14	-0.06	0.27	0.06	0.25	0.28	0.20

Covariance Matrix	
	X14

X14	0.30

Number of Iterations = 17

LISREL Estimates (Maximum Likelihood)

Measurement Equations

Y1 = 0.41*Y, Errorvar.= 0.085 , R² = 0.67
 (0.028)
 3.09

Y2 = 0.46*Y, Errorvar.= 0.35 , R² = 0.37
 (0.12) (0.086)
 3.86 4.03

Y3 = 0.38*Y, Errorvar.= 0.43 , R² = 0.25
 (0.12) (0.10)
 3.05 4.21

Y4 = 0.39*Y, Errorvar.= 0.12 , R² = 0.56
 (0.080) (0.034)
 4.90 3.58

Y5 = 0.34*Y, Errorvar.= 0.20 , R² = 0.36
 (0.090) (0.050)
 3.76 4.06

Y6 = 0.44*Y, Errorvar.= 0.094 , R² = 0.68
 (0.082) (0.031)
 5.45 3.03

Y7 = 0.21*Y, Errorvar.= 0.33 , R² = 0.12
 (0.10) (0.077)

2.06

4.33

X5 = 1.14*X, Errorvar.= 0.24 , R² = 0.84
(0.15) (0.077)
7.45 3.18

X6 = 0.65*X, Errorvar.= 0.55 , R² = 0.44
(0.14) (0.13)
4.61 4.25

X7 = 0.96*X, Errorvar.= 0.20 , R² = 0.82
(0.13) (0.059)
7.29 3.38

X8 = 1.00*X, Errorvar.= 0.094 , R² = 0.91
(0.13) (0.045)
8.00 2.09

X13 = 0.31*X, Errorvar.= 0.41 , R² = 0.19
(0.11) (0.093)
2.78 4.37

X14 = 0.26*X, Errorvar.= 0.23 , R² = 0.22
(0.085) (0.054)
3.07 4.36

Structural Equations

Y = - 0.035*X, Errorvar.= 1.00 , R² = 0.0012
(0.18) (0.34)
-0.20 2.94

Correlation Matrix of Independent Variables

X

1.00

Covariance Matrix of Latent Variables

	Y	X
	-----	-----
Y	1.00	
X	-0.03	1.00

Goodness of Fit Statistics

Degrees of Freedom = 64

Minimum Fit Function Chi-Square = 115.16 (P = 0.00)

Normal Theory Weighted Least Squares Chi-Square = 95.95 (P = 0.0060)

Estimated Non-centrality Parameter (NCP) = 31.95
90 Percent Confidence Interval for NCP = (9.55 ; 62.32)

Minimum Fit Function Value = 2.95
Population Discrepancy Function Value (F0) = 0.82
90 Percent Confidence Interval for F0 = (0.24 ; 1.60)
Root Mean Square Error of Approximation (RMSEA) = 0.11
90 Percent Confidence Interval for RMSEA = (0.062 ; 0.16)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.027

Expected Cross-Validation Index (ECVI) = 3.84
90 Percent Confidence Interval for ECVI = (3.27 ; 4.62)
ECVI for Saturated Model = 4.67
ECVI for Independence Model = 10.69

Chi-Square for Independence Model with 78 Degrees of Freedom = 391.03
Independence AIC = 417.03
Model AIC = 149.95
Saturated AIC = 182.00
Independence CAIC = 451.99
Model CAIC = 222.55
Saturated CAIC = 426.69

Normed Fit Index (NFI) = 0.71
Non-Normed Fit Index (NNFI) = 0.80
Parsimony Normed Fit Index (PNFI) = 0.58
Comparative Fit Index (CFI) = 0.84
Incremental Fit Index (IFI) = 0.84
Relative Fit Index (RFI) = 0.64

Critical N (CN) = 32.57

Root Mean Square Residual (RMR) = 0.070
Standardized RMR = 0.13
Goodness of Fit Index (GFI) = 0.73
Adjusted Goodness of Fit Index (AGFI) = 0.61
Parsimony Goodness of Fit Index (PGFI) = 0.51

The Modification Indices Suggest to Add an Error Covariance
Between and Decrease in Chi-Square New Estimate
Y7 Y3 16.4 0.26

Time used: 0.047 Seconds