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TIME: 11:38

L I S R E L 8.30

BY

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The following lines were read from file D:\PISA\ENVIRO~1\ENVAWARE.SPJ:

Observed Variables

IBTEACH ENVAWARE JOYSCIE INSTSCIE SCIEEFF EPIST ESCS PVSCIE

Covariance Matrix from file envaware.cov

Sample Size 6513

Relationships

ENVAWARE = IBTEACH INSTSCIE ESCS JOYSCIE EPIST SCIEEFF PVSCIE

PVSCIE = ENVAWARE ESCS JOYSCIE EPIST

Path diagram

Options: SS EF

End of problem

Sample Size = 6513

Covariance Matrix to be Analyzed

ENVAWARE PVSCIE IBTEACH JOYSCIE INSTSCIE SCIEEFF

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ENVAWARE 260.12

PVSCIE -79.93 4015.00

IBTEACH 134.20 -70.43 231.74

JOYSCIE 202.71 -80.40 146.36 288.98

INSTSCIE 194.69 -79.51 149.08 233.04 292.19

SCIEEFF 209.10 -95.81 156.91 239.86 272.33 367.05

EPIST 172.45 -66.81 128.41 199.18 227.44 263.97

ESCS 0.26 28.21 0.27 0.07 0.09 0.38

Covariance Matrix to be Analyzed

EPIST ESCS

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EPIST 342.44

ESCS -0.06 1.24

Number of Iterations = 7

LISREL Estimates (Maximum Likelihood)

ENVAWARE = 0.029\*PVSCIE + 0.14\*IBTEACH + 0.39\*JOYSCIE + 0.14\*INSTSCIE + 0.14\*SCIEEFF + 0.031\*EPIST - 0.55\*ESCS,

(0.0075) (0.011) (0.013) (0.016) (0.013) (0.011) (0.21)

.= 3.79 13.48 29.73 8.57 10.20 2.91 -2.64

Errorvar.= 106.52, R² = 0.59

(2.52)

42.31

PVSCIE = - 1.08\*ENVAWARE + 0.39\*JOYSCIE + 0.13\*EPIST + 22.93\*ESCS, Errorvar.= 3424.05, R² = 0.15

(0.23) (0.15) (0.063) (0.65) (74.45)

-4.67 2.61 2.07 35.15 45.99

Covariance Matrix of Independent Variables

IBTEACH JOYSCIE INSTSCIE SCIEEFF EPIST ESCS

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IBTEACH 231.74

(4.06)

57.04

JOYSCIE 146.36 288.98

(3.69) (5.07)

39.71 57.04

INSTSCIE 149.08 233.04 292.19

(3.72) (4.62) (5.12)

40.10 50.46 57.04

SCIEEFF 156.91 239.86 272.33 367.05

(4.11) (5.01) (5.28) (6.44)

38.22 47.83 51.57 57.04

EPIST 128.41 199.18 227.44 263.97 342.44

(3.84) (4.62) (4.83) (5.48) (6.00)

33.46 43.15 47.09 48.17 57.04

ESCS 0.27 0.07 0.09 0.38 -0.06 1.24

(0.21) (0.23) (0.24) (0.26) (0.26) (0.02)

1.27 0.29 0.39 1.43 -0.25 57.04

Goodness of Fit Statistics

Degrees of Freedom = 2

Minimum Fit Function Chi-Square = 4.81 (P = 0.090)

Normal Theory Weighted Least Squares Chi-Square = 4.81 (P = 0.090)

Estimated Non-centrality Parameter (NCP) = 2.81

90 Percent Confidence Interval for NCP = (0.0 ; 13.39)

Minimum Fit Function Value = 0.00074

Population Discrepancy Function Value (F0) = 0.00043

90 Percent Confidence Interval for F0 = (0.0 ; 0.0021)

Root Mean Square Error of Approximation (RMSEA) = 0.015

90 Percent Confidence Interval for RMSEA = (0.0 ; 0.032)

P-Value for Test of Close Fit (RMSEA < 0.05) = 1.00

Expected Cross-Validation Index (ECVI) = 0.011

90 Percent Confidence Interval for ECVI = (0.011 ; 0.013)

ECVI for Saturated Model = 0.011

ECVI for Independence Model = 4.72

Chi-Square for Independence Model with 28 Degrees of Freedom = 30666.41

Independence AIC = 30682.41

Model AIC = 72.81

Saturated AIC = 72.00

Independence CAIC = 30744.67

Model CAIC = 337.38

Saturated CAIC = 352.14

Root Mean Square Residual (RMR) = 1.90

Standardized RMR = 0.0018

Goodness of Fit Index (GFI) = 1.00

Adjusted Goodness of Fit Index (AGFI) = 1.00

Parsimony Goodness of Fit Index (PGFI) = 0.056

Normed Fit Index (NFI) = 1.00

Non-Normed Fit Index (NNFI) = 1.00

Parsimony Normed Fit Index (PNFI) = 0.071

Comparative Fit Index (CFI) = 1.00

Incremental Fit Index (IFI) = 1.00

Relative Fit Index (RFI) = 1.00

Critical N (CN) = 12470.67

Standardized Solution

BETA

ENVAWARE PVSCIE

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ENVAWARE - - 0.11

PVSCIE -0.28 - -

GAMMA

IBTEACH JOYSCIE INSTSCIE SCIEEFF EPIST ESCS

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ENVAWARE 0.14 0.41 0.15 0.16 0.04 -0.04

PVSCIE - - 0.10 - - - - 0.04 0.40

Correlation Matrix of Y and X

ENVAWARE PVSCIE IBTEACH JOYSCIE INSTSCIE SCIEEFF

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ENVAWARE 1.00

PVSCIE -0.08 1.00

IBTEACH 0.55 -0.07 1.00

JOYSCIE 0.74 -0.07 0.57 1.00

INSTSCIE 0.71 -0.08 0.57 0.80 1.00

SCIEEFF 0.68 -0.07 0.54 0.74 0.83 1.00

EPIST 0.58 -0.06 0.46 0.63 0.72 0.74

ESCS 0.01 0.40 0.02 0.00 0.00 0.02

Correlation Matrix of Y and X

EPIST ESCS

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EPIST 1.00

ESCS 0.00 1.00

PSI

Note: This matrix is diagonal.

ENVAWARE PVSCIE

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0.41 0.85

Regression Matrix Y on X (Standardized)

IBTEACH JOYSCIE INSTSCIE SCIEEFF EPIST ESCS

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ENVAWARE 0.13 0.41 0.14 0.16 0.04 0.01

PVSCIE -0.04 -0.01 -0.04 -0.04 0.03 0.40

Total and Indirect Effects

Total Effects of X on Y

IBTEACH JOYSCIE INSTSCIE SCIEEFF EPIST ESCS

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ENVAWARE 0.14 0.39 0.13 0.13 0.03 0.11

(0.01) (0.01) (0.02) (0.01) (0.01) (0.11)

13.50 30.21 8.58 10.21 3.22 0.94

PVSCIE -0.15 -0.04 -0.15 -0.14 0.09 22.82

(0.03) (0.07) (0.03) (0.03) (0.06) (0.64)

-4.54 -0.51 -4.20 -4.36 1.60 35.48

Indirect Effects of X on Y

IBTEACH JOYSCIE INSTSCIE SCIEEFF EPIST ESCS

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ENVAWARE 0.00 0.00 0.00 0.00 0.00 0.65

(0.00) (0.00) (0.00) (0.00) (0.00) (0.17)

-2.12 -0.55 -2.08 -2.10 1.28 3.76

PVSCIE -0.15 -0.42 -0.15 -0.14 -0.04 -0.11

(0.03) (0.09) (0.03) (0.03) (0.01) (0.12)

-4.54 -4.55 -4.20 -4.36 -2.56 -0.92

Total Effects of Y on Y

ENVAWARE PVSCIE

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ENVAWARE -0.03 0.03

(0.01) (0.01)

-2.18 4.00

PVSCIE -1.05 -0.03

(0.21) (0.01)

-5.00 -2.18

Largest Eigenvalue of B\*B' (Stability Index) is 1.171

Indirect Effects of Y on Y

ENVAWARE PVSCIE

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ENVAWARE -0.03 0.00

(0.01) (0.00)

-2.18 -1.39

PVSCIE 0.03 -0.03

(0.02) (0.01)

1.49 -2.18

Standardized Total and Indirect Effects

Standardized Total Effects of X on Y

IBTEACH JOYSCIE INSTSCIE SCIEEFF EPIST ESCS

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ENVAWARE 0.13 0.41 0.14 0.16 0.04 0.01

PVSCIE -0.04 -0.01 -0.04 -0.04 0.03 0.40

Standardized Indirect Effects of X on Y

IBTEACH JOYSCIE INSTSCIE SCIEEFF EPIST ESCS

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ENVAWARE 0.00 0.00 0.00 0.00 0.00 0.05

PVSCIE -0.04 -0.11 -0.04 -0.04 -0.01 0.00

Standardized Total Effects of Y on Y

ENVAWARE PVSCIE

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ENVAWARE -0.03 0.11

PVSCIE -0.27 -0.03

Standardized Indirect Effects of Y on Y

ENVAWARE PVSCIE

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ENVAWARE -0.03 0.00

PVSCIE 0.01 -0.03

The Problem used 21624 Bytes (= 0.0% of Available Workspace)

Time used: 0.008 Seconds