DATE: 8/ 6/2017

 TIME: 11:38

 L I S R E L 8.30

 BY

 Karl G. Jöreskog & Dag Sörbom

 This program is published exclusively by

 Scientific Software International, Inc.

 7383 N. Lincoln Avenue, Suite 100

 Chicago, IL 60646-1704, U.S.A.

 Phone: (800)247-6113, (847)675-0720, Fax: (847)675-2140

 Copyright by Scientific Software International, Inc., 1981-99

 Use of this program is subject to the terms specified in the

 Universal Copyright Convention.

 Website: www.ssicentral.com

 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

 -------- -------- -------- -------- -------- --------

 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

 -------- --------

 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

 -------- -------- -------- -------- -------- --------

 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

 -------- --------

 ENVAWARE - - 0.11

 PVSCIE -0.28 - -

 GAMMA

 IBTEACH JOYSCIE INSTSCIE SCIEEFF EPIST ESCS

 -------- -------- -------- -------- -------- --------

 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

 -------- -------- -------- -------- -------- --------

 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

 -------- --------

 EPIST 1.00

 ESCS 0.00 1.00

 PSI

 Note: This matrix is diagonal.

 ENVAWARE PVSCIE

 -------- --------

 0.41 0.85

 Regression Matrix Y on X (Standardized)

 IBTEACH JOYSCIE INSTSCIE SCIEEFF EPIST ESCS

 -------- -------- -------- -------- -------- --------

 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

 -------- -------- -------- -------- -------- --------

 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

 -------- -------- -------- -------- -------- --------

 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

 -------- --------

 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

 -------- --------

 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

 -------- -------- -------- -------- -------- --------

 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

 -------- -------- -------- -------- -------- --------

 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

 -------- --------

 ENVAWARE -0.03 0.11

 PVSCIE -0.27 -0.03

 Standardized Indirect Effects of Y on Y

 ENVAWARE PVSCIE

 -------- --------

 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