Running\_Our\_Model.R

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**library**(foreign)

## Warning: package 'foreign' was built under R version 3.3.3

**library**(lavaan)

## Warning: package 'lavaan' was built under R version 3.3.3

## This is lavaan 0.5-23.1097

## lavaan is BETA software! Please report any bugs.

**library**(psych)

## Warning: package 'psych' was built under R version 3.3.3

##

## Attaching package: 'psych'

## The following object is masked from 'package:lavaan':

##

## cor2cov

data\_AllModels = read.spss("C:/Users/danib/Desktop/FALL 2017/DataJam/Wave 1 & Wave 2 final Data.sav", to.data.frame=TRUE)

## re-encoding from UTF-8

modelOne\_CovMat <- cov(data\_AllModels[, c(2,3,4,5,6,7) ], use = "pairwise.complete.obs" )

nComp1 <- count.pairwise(data\_AllModels[, c(2,3,4,5,6,7) ])

model\_One <- '

SoSupFM1~~SELFESTW1

SCLBELNG2W1~SoSupFM1+SELFESTW1

COLEXP1~SoSupFM1+SELFESTW1+SCLBELNG2W1

STRBLW1~SoSupFM1+SELFESTW1+SCLBELNG2W1+COLEXP1

CGPAT1~SCLBELNG2W1+COLEXP1+STRBLW1+SoSupFM1+SELFESTW1

'

sem\_ModelOne <- sem(model\_One,sample.cov=modelOne\_CovMat,sample.nobs=min(nComp1))

sem\_ModelOne

## lavaan (0.5-23.1097) converged normally after 47 iterations

##

## Number of observations 4102

##

## Estimator ML

## Minimum Function Test Statistic 0.000

## Degrees of freedom 0

## Minimum Function Value 0.0000000000000

summary(sem\_ModelOne,standardized=T,fit=T,rsquare=T)

## lavaan (0.5-23.1097) converged normally after 47 iterations

##

## Number of observations 4102

##

## Estimator ML

## Minimum Function Test Statistic 0.000

## Degrees of freedom 0

## Minimum Function Value 0.0000000000000

##

## Model test baseline model:

##

## Minimum Function Test Statistic 3658.775

## Degrees of freedom 15

## P-value 0.000

##

## User model versus baseline model:

##

## Comparative Fit Index (CFI) 1.000

## Tucker-Lewis Index (TLI) 1.000

##

## Loglikelihood and Information Criteria:

##

## Loglikelihood user model (H0) -36056.970

## Loglikelihood unrestricted model (H1) -36056.970

##

## Number of free parameters 21

## Akaike (AIC) 72155.939

## Bayesian (BIC) 72288.643

## Sample-size adjusted Bayesian (BIC) 72221.914

##

## Root Mean Square Error of Approximation:

##

## RMSEA 0.000

## 90 Percent Confidence Interval 0.000 0.000

## P-value RMSEA <= 0.05 NA

##

## Standardized Root Mean Square Residual:

##

## SRMR 0.000

##

## Parameter Estimates:

##

## Information Expected

## Standard Errors Standard

##

## Regressions:

## Estimate Std.Err z-value P(>|z|) Std.lv Std.all

## SCLBELNG2W1 ~

## SoSupFM1 -0.204 0.009 -21.776 0.000 -0.204 -0.338

## SELFESTW1 0.238 0.019 12.758 0.000 0.238 0.198

## COLEXP1 ~

## SoSupFM1 0.245 0.029 8.499 0.000 0.245 0.152

## SELFESTW1 -0.182 0.055 -3.291 0.001 -0.182 -0.057

## SCLBELNG2W1 -0.304 0.046 -6.679 0.000 -0.304 -0.114

## STRBLW1 ~

## SoSupFM1 -0.368 0.041 -8.993 0.000 -0.368 -0.151

## SELFESTW1 0.234 0.078 3.004 0.003 0.234 0.048

## SCLBELNG2W1 1.154 0.064 17.958 0.000 1.154 0.286

## COLEXP1 -0.153 0.022 -6.959 0.000 -0.153 -0.101

## CGPAT1 ~

## SCLBELNG2W1 -0.062 0.022 -2.841 0.004 -0.062 -0.049

## COLEXP1 0.130 0.007 17.859 0.000 0.130 0.271

## STRBLW1 -0.046 0.005 -8.900 0.000 -0.046 -0.144

## SoSupFM1 0.038 0.014 2.767 0.006 0.038 0.049

## SELFESTW1 0.089 0.026 3.476 0.001 0.089 0.058

##

## Covariances:

## Estimate Std.Err z-value P(>|z|) Std.lv Std.all

## SoSupFM1 ~~

## SELFESTW1 -0.300 0.011 -26.552 0.000 -0.300 -0.456

##

## Variances:

## Estimate Std.Err z-value P(>|z|) Std.lv Std.all

## .SCLBELNG2W1 0.374 0.008 45.288 0.000 0.374 0.785

## .COLEXP1 3.180 0.070 45.288 0.000 3.180 0.933

## .STRBLW1 6.266 0.138 45.288 0.000 6.266 0.809

## .CGPAT1 0.678 0.015 45.288 0.000 0.678 0.872

## SoSupFM1 1.310 0.029 45.288 0.000 1.310 1.000

## SELFESTW1 0.331 0.007 45.288 0.000 0.331 1.000

##

## R-Square:

## Estimate

## SCLBELNG2W1 0.215

## COLEXP1 0.067

## STRBLW1 0.191

## CGPAT1 0.128

modelTwo\_CovMat <- cov(data\_AllModels[, c(8,9,10,11,12,13) ], use = "pairwise.complete.obs" )

nComp2 <- count.pairwise(data\_AllModels[, c(8,9,10,11,12,13) ])

model\_Two <- '

SoSupFM2~~SELFESTW2

SCLBELNGW2~SoSupFM2+SELFESTW2

COLEXP2~SoSupFM2+SELFESTW2+SCLBELNGW2

STRBLW2~SoSupFM2+SELFESTW2+SCLBELNGW2+COLEXP2

CGPAT2~SCLBELNGW2+COLEXP2+STRBLW2+SoSupFM2

'

sem\_ModelTwo <- sem(model\_Two,sample.cov=modelTwo\_CovMat,sample.nobs=min(nComp2))

sem\_ModelTwo

## lavaan (0.5-23.1097) converged normally after 54 iterations

##

## Number of observations 4304

##

## Estimator ML

## Minimum Function Test Statistic 1.763

## Degrees of freedom 1

## P-value (Chi-square) 0.184

summary(sem\_ModelTwo,standardized=T,fit=T,rsquare=T)

## lavaan (0.5-23.1097) converged normally after 54 iterations

##

## Number of observations 4304

##

## Estimator ML

## Minimum Function Test Statistic 1.763

## Degrees of freedom 1

## P-value (Chi-square) 0.184

##

## Model test baseline model:

##

## Minimum Function Test Statistic 3318.376

## Degrees of freedom 15

## P-value 0.000

##

## User model versus baseline model:

##

## Comparative Fit Index (CFI) 1.000

## Tucker-Lewis Index (TLI) 0.997

##

## Loglikelihood and Information Criteria:

##

## Loglikelihood user model (H0) -35716.389

## Loglikelihood unrestricted model (H1) -35715.508

##

## Number of free parameters 20

## Akaike (AIC) 71472.779

## Bayesian (BIC) 71600.125

## Sample-size adjusted Bayesian (BIC) 71536.573

##

## Root Mean Square Error of Approximation:

##

## RMSEA 0.013

## 90 Percent Confidence Interval 0.000 0.045

## P-value RMSEA <= 0.05 0.975

##

## Standardized Root Mean Square Residual:

##

## SRMR 0.004

##

## Parameter Estimates:

##

## Information Expected

## Standard Errors Standard

##

## Regressions:

## Estimate Std.Err z-value P(>|z|) Std.lv Std.all

## SCLBELNGW2 ~

## SoSupFM2 -0.254 0.015 -16.986 0.000 -0.254 -0.232

## SELFESTW2 0.452 0.016 28.894 0.000 0.452 0.395

## COLEXP2 ~

## SoSupFM2 0.703 0.058 12.143 0.000 0.703 0.192

## SELFESTW2 -0.332 0.064 -5.186 0.000 -0.332 -0.087

## SCLBELNGW2 -0.313 0.057 -5.466 0.000 -0.313 -0.093

## STRBLW2 ~

## SoSupFM2 -0.460 0.073 -6.318 0.000 -0.460 -0.099

## SELFESTW2 0.393 0.080 4.937 0.000 0.393 0.081

## SCLBELNGW2 0.928 0.071 13.069 0.000 0.928 0.219

## COLEXP2 -0.102 0.019 -5.410 0.000 -0.102 -0.081

## CGPAT2 ~

## SCLBELNGW2 -0.112 0.022 -5.185 0.000 -0.112 -0.081

## COLEXP2 0.112 0.006 18.476 0.000 0.112 0.272

## STRBLW2 -0.046 0.005 -9.425 0.000 -0.046 -0.141

## SoSupFM2 0.080 0.023 3.450 0.001 0.080 0.053

##

## Covariances:

## Estimate Std.Err z-value P(>|z|) Std.lv Std.all

## SoSupFM2 ~~

## SELFESTW2 -0.100 0.005 -18.594 0.000 -0.100 -0.296

##

## Variances:

## Estimate Std.Err z-value P(>|z|) Std.lv Std.all

## .SCLBELNGW2 0.310 0.007 46.390 0.000 0.310 0.735

## .COLEXP2 4.368 0.094 46.390 0.000 4.368 0.917

## .STRBLW2 6.680 0.144 46.390 0.000 6.680 0.879

## .CGPAT2 0.688 0.015 46.390 0.000 0.688 0.855

## SoSupFM2 0.354 0.008 46.390 0.000 0.354 1.000

## SELFESTW2 0.323 0.007 46.390 0.000 0.323 1.000

##

## R-Square:

## Estimate

## SCLBELNGW2 0.265

## COLEXP2 0.083

## STRBLW2 0.121

## CGPAT2 0.145