

## One-Factor CFA Example in Mplus

Mplus VERSION 5  
MUTHEN & MUTHEN  
01/30/2008 2:50 PM

### INPUT INSTRUCTIONS

```
title: Self-esteem CFA Example--One Factor;

! below I use a fixed format for the data file.
! I recommend using free format with tab-delimited data, however;
data: file=c:\jason\spsswin\arc\s1.dat; format=6f2.0;
listwise=on;

variable: names = rnotworr rnumqal ramfailr ramable rnotprdr rfelpos;

! For now, use the following analysis commands to estimate using ML, non-robust,
! with no missing data estimation and no meanstructure (the default in most packages);

analysis: type=general; estimator=ml;
model=nomeanstructure; information=expected;

model: se by rnotworr-rfelpos;

output: stdyx ;
```

### INPUT READING TERMINATED NORMALLY

Self-esteem CFA Example--One Factor;

### SUMMARY OF ANALYSIS

Number of groups	1
Number of observations	118
Number of dependent variables	6
Number of independent variables	0
Number of continuous latent variables	1

### Observed dependent variables

Continuous					
RNOTWORR	RNUMQAL	RAMFAILR	RAMABLE	RNOTPRDR	RFELPOS

### Continuous latent variables

SE

Estimator	ML
Information matrix	EXPECTED
Maximum number of iterations	1000
Convergence criterion	0.500D-04
Maximum number of steepest descent iterations	20

### THE MODEL ESTIMATION TERMINATED NORMALLY

### TESTS OF MODEL FIT

#### Chi-Square Test of Model Fit

Value	19.454
Degrees of Freedom	9
P-Value	0.0216

Chi-Square Test of Model Fit for the Baseline Model

Value	131.265
Degrees of Freedom	15
P-Value	0.0000

CFI/TLI

CFI	0.910
TLI	0.850

Loglikelihood

H0 Value	-757.201
H1 Value	-747.474

Information Criteria

Number of Free Parameters	12
Akaike (AIC)	1538.402
Bayesian (BIC)	1571.650
Sample-Size Adjusted BIC	1533.715
(n* = (n + 2) / 24)	

RMSEA (Root Mean Square Error Of Approximation)

Estimate	0.099	
90 Percent C.I.	0.036	0.160
Probability RMSEA <= .05	0.086	

SRMR (Standardized Root Mean Square Residual)

Value	0.061
-------	-------

MODEL RESULTS

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
SE BY				
RNOTWORR	1.000	0.000	999.000	999.000
RNUMQAL	0.637	0.159	4.012	0.000
RAMFAILR	0.969	0.220	4.405	0.000
RAMABLE	0.265	0.202	1.309	0.190
RNOTPRDR	1.262	0.279	4.522	0.000
RFELPOS	0.478	0.174	2.751	0.006
Variances				
SE	0.231	0.094	2.460	0.014
Residual Variances				
RNOTWORR	0.793	0.111	7.134	0.000
RNUMQAL	0.228	0.033	6.866	0.000
RAMFAILR	0.300	0.050	6.029	0.000
RAMABLE	0.860	0.112	7.650	0.000
RNOTPRDR	0.116	0.051	2.268	0.023
RFELPOS	0.488	0.065	7.496	0.000

STANDARDIZED MODEL RESULTS

STDYX Standardization

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
SE BY				
RNOTWORR	0.475	0.083	5.725	0.000
RNUMQAL	0.539	0.078	6.899	0.000
RAMFAILR	0.647	0.071	9.173	0.000
RAMABLE	0.136	0.100	1.361	0.173
RNOTPRDR	0.872	0.062	14.069	0.000
RFELPOS	0.312	0.093	3.349	0.001
Variances				
SE	1.000	0.000	999.000	999.000
Residual Variances				
RNOTWORR	0.775	0.079	9.833	0.000
RNUMQAL	0.709	0.084	8.415	0.000
RAMFAILR	0.581	0.091	6.354	0.000
RAMABLE	0.982	0.027	36.219	0.000
RNOTPRDR	0.240	0.108	2.218	0.027
RFELPOS	0.903	0.058	15.525	0.000

R-SQUARE

Observed Variable	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
RNOTWORR	0.225	0.079	2.862	0.004
RNUMQAL	0.291	0.084	3.449	0.001
RAMFAILR	0.419	0.091	4.586	0.000
RAMABLE	0.018	0.027	0.681	0.496
RNOTPRDR	0.760	0.108	7.035	0.000
RFELPOS	0.097	0.058	1.675	0.094