

Mplus Example with Satorra-Bentler Rescaled χ^2 and Robust Standard Errors

Mplus VERSION 5
MUTHEN & MUTHEN
02/21/2008 11:51 AM

INPUT INSTRUCTIONS

```

title: CFA of three negative exchanges factors;

data: file=c:\jason\mplus\semclass\nonnorm1.dat;
      format=12f1.0;
      listwise=on;

variable: names = neg6 neg26 neg30 neg35
           neg11 neg12 neg13 neg14
           neg16 neg17 neg19 neg20;

usevariables=neg6 neg26 neg30 neg35
           neg11 neg12 neg13 neg14
           neg16 neg17 neg19 neg20;

analysis: type=general; estimator=mlm;

model: hostile by neg6-neg35;
       badadv by neg11-neg14;
       demands by neg16-neg20;

output: stdyx;

```

(excerpts from results)

CFA of three negative exchanges factors;

SUMMARY OF ANALYSIS

Number of groups	1
Number of observations	194
Estimator	MLM
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	90.344*
Degrees of Freedom	51
P-Value	0.0006
Scaling Correction Factor for MLM	1.463

* The chi-square value for MLM, MLMV, MLR, ULSMV, WLSM and WLSMV cannot be used for chi-square difference tests. MLM, MLR and WLSM chi-square difference testing is described in the Mplus Technical Appendices at www.statmodel.com. See chi-square difference testing in the index of the Mplus User's Guide.

Chi-Square Test of Model Fit for the Baseline Model

Value	870.347
Degrees of Freedom	66
P-Value	0.0000

CFI/TLI

CFI	0.951
TLI	0.937

H0 Value -2102.720
H1 Value -2036.636

Information Criteria

Number of Free Parameters 39
Akaike (AIC) 4283.440
Bayesian (BIC) 4410.886
Sample-Size Adjusted BIC 4287.342
($n^* = (n + 2) / 24$)

RMSEA (Root Mean Square Error Of Approximation)

Estimate 0.063

SRMR (Standardized Root Mean Square Residual)

Value 0.051

WRMR (Weighted Root Mean Square Residual)

Value 0.757

STANDARDIZED MODEL RESULTS

STDYX Standardization

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
HOSTILE BY				
NEG6	0.659	0.066	10.057	0.000
NEG26	0.875	0.030	29.379	0.000
NEG30	0.803	0.043	18.795	0.000
NEG35	0.720	0.059	12.229	0.000
BADADV BY				
NEG11	0.726	0.048	15.191	0.000
NEG12	0.761	0.043	17.600	0.000
NEG13	0.813	0.031	26.002	0.000
NEG14	0.831	0.038	21.952	0.000
DEMANDS BY				
NEG16	0.701	0.059	11.863	0.000
NEG17	0.812	0.043	18.951	0.000
NEG19	0.573	0.051	11.131	0.000
NEG20	0.667	0.054	12.288	0.000
BADADV WITH HOSTILE	0.734	0.050	14.673	0.000
DEMANDS WITH HOSTILE	0.831	0.056	14.880	0.000
BADADV	0.753	0.049	15.330	0.000
Intercepts				
NEG6	0.806	0.060	13.540	0.000
NEG26	0.734	0.052	14.050	0.000
NEG30	0.854	0.059	14.358	0.000
NEG35	0.601	0.045	13.442	0.000
NEG11	0.666	0.050	13.448	0.000
NEG12	0.651	0.050	13.071	0.000
NEG13	1.021	0.066	15.401	0.000
NEG14	0.907	0.058	15.687	0.000
NEG16	0.651	0.049	13.310	0.000
NEG17	0.555	0.046	11.927	0.000
NEG19	1.101	0.067	16.363	0.000
NEG20	0.862	0.058	14.974	0.000

Same Model without Robust Statistics

```

title: CFA of three negative exchanges factors;

data: file=c:\jason\mplus\semclass\nonnorm1.dat;
      format=12f1.0;
      listwise=on;

variable: names = neg6 neg26 neg30 neg35
          neg11 neg12 neg13 neg14
          neg16 neg17 neg19 neg20;

usevariables=neg6 neg26 neg30 neg35
          neg11 neg12 neg13 neg14
          neg16 neg17 neg19 neg20;

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

model: hostile by neg6-neg35;
       badadv by neg11-neg14;
       demands by neg16-neg20;

output: standardized;

```

STDYX Standardization

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
HOSTILE BY				
NEG6	0.659	0.045	14.565	0.000
NEG26	0.875	0.025	35.588	0.000
NEG30	0.803	0.031	25.724	0.000
NEG35	0.720	0.039	18.266	0.000
BADADV BY				
NEG11	0.726	0.039	18.391	0.000
NEG12	0.761	0.036	21.169	0.000
NEG13	0.813	0.031	26.245	0.000
NEG14	0.831	0.029	28.463	0.000
DEMANDS BY				
NEG16	0.701	0.044	16.085	0.000
NEG17	0.812	0.034	23.912	0.000
NEG19	0.573	0.054	10.520	0.000
NEG20	0.667	0.047	14.327	0.000
BADADV WITH HOSTILE	0.734	0.045	16.427	0.000
DEMANDS WITH HOSTILE	0.831	0.039	21.472	0.000
BADADV	0.753	0.047	16.064	0.000

Descriptive Statistics

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
neg6 Act angry or hostile	194	.59	.731	1.222	.175	1.821	.347
neg26 Behave insensitively toward you	194	.57	.774	1.332	.175	1.649	.347
neg30 Do thoughtless things	194	.64	.751	1.075	.175	1.248	.347
neg35 Make you feel inferior	194	.47	.783	1.969	.175	4.360	.347
neg11 Give you bad advice	194	.45	.683	1.401	.175	1.364	.347
neg12 interfere or meddle with problems	194	.44	.674	1.355	.175	.927	.347
neg13 Question your decisions	194	.85	.835	.719	.175	.122	.347
neg14 Give unwanted advice	194	.80	.889	1.021	.175	.785	.347
neg16 Not give help	194	.50	.770	1.822	.175	4.016	.347
neg17 Take advantage of you	194	.38	.690	2.111	.175	5.228	.347
neg19 Make demands or favors	194	1.00	.911	.749	.175	.250	.347
neg20 Ask for more help than you can give	194	.65	.756	.755	.175	-.602	.347
Valid N (listwise)	194						