

Mplus Output for Path Analysis (excerpts)

Mplus VERSION 6.12
 MUTHEN & MUTHEN
 01/26/2012 11:48 AM

INPUT INSTRUCTIONS

```

title: Data from social exchanges pretest;

data: file=path1.dat; format=free;
      listwise=on;

variable: names = sex hostile negaff;
          missing = sex-negaff (-99);

! analysis: type=basic;

analysis: type=general; estimator=ml; matrix=covariance;
          bootstrap = 1000;
          ! at least 500 bootstrap samples are recommended;

model: hostile on sex;
       negaff on hostile;

Model indirect: negaff ind sex;

output: stdyx ;
! cinterval can be added to the output line
! to obtain confidence intervals for indirect effects,
! but I omitted here to save space;
  
```

INPUT READING TERMINATED NORMALLY

Data from social exchanges pretest;

SUMMARY OF ANALYSIS

Number of groups	1
Number of observations	271
Number of dependent variables	2
Number of independent variables	1
Number of continuous latent variables	0

THE MODEL ESTIMATION TERMINATED NORMALLY

MODEL FIT INFORMATION

Number of Free Parameters 6

Chi-Square Test of Model Fit

Value	2.090
Degrees of Freedom	1
P-Value	0.1483

MODEL RESULTS

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
HOSTILE ON SEX	0.006	0.077	0.078	0.938
NEGAFF ON HOSTILE	0.344	0.090	3.824	0.000
Intercepts				
HOSTILE	0.578	0.054	10.768	0.000
NEGAFF	1.532	0.062	24.603	0.000
Residual Variances				
HOSTILE	0.405	0.054	7.428	0.000
NEGAFF	0.497	0.053	9.299	0.000

STANDARDIZED MODEL RESULTS

	StdYX Estimate
HOSTILE ON SEX	0.005
NEGAFF ON HOSTILE	0.296
Intercepts	
HOSTILE	0.909
NEGAFF	2.077
Residual Variances	
HOSTILE	1.000
NEGAFF	0.912

R-SQUARE

Observed Variable	Estimate
HOSTILE	0.000
NEGAFF	0.088

TOTAL, TOTAL INDIRECT, SPECIFIC INDIRECT, AND DIRECT EFFECTS

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
Effects from SEX to NEGAFF				
Total	0.002	0.028	0.075	0.940
Total indirect	0.002	0.028	0.075	0.940
Specific indirect				
NEGAFF				
HOSTILE				
SEX	0.002	0.028	0.075	0.940

STANDARDIZED TOTAL, TOTAL INDIRECT, SPECIFIC INDIRECT, AND DIRECT EFFECTS

STDYX Standardization

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
Effects from SEX to NEGAFF				
Total	0.001	0.019	0.075	0.940
Total indirect	0.001	0.019	0.075	0.940
Specific indirect				
NEGAFF				
HOSTILE				
SEX	0.001	0.019	0.075	0.940

I use the bootstrap approach here for testing the indirect effect. The bootstrap approach will generally produce preferable standard errors for the indirect effect test, but we will come back to this technique later.

Output for Amos (excerpts)

C:\jason\amos\semclass\path1.amw

Analysis Summary

Date and Time

Date: Thursday, January 21, 2010
Time: 10:56:55 AM

Title

path1: Thursday, January 21, 2010 10:56 AM

Groups

Group number 1 (Group number 1)

Notes for Group (Group number 1)

The model is recursive.
Sample size = 271

Variable Summary (Group number 1)

Your model contains the following variables (Group number 1)

Observed, endogenous variables

hostile

negaff

Observed, exogenous variables

sex

Unobserved, exogenous variables

e2

e1

Variable counts (Group number 1)

Number of variables in your model:	5
Number of observed variables:	3
Number of unobserved variables:	2
Number of exogenous variables:	3
Number of endogenous variables:	2

Result (Default model)

Minimum was achieved

Chi-square = 2.082

Degrees of freedom = 1

Probability level = .149

Group number 1 (Group number 1 - Default model)

Estimates (Group number 1 - Default model)

Scalar Estimates (Group number 1 - Default model)

Regression Weights: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
hostile <--- sex	.006	.078	.077	.938	
negaff <--- hostile	.344	.067	5.100	***	

Standardized Regression Weights: (Group number 1 - Default model)

	Estimate
hostile <--- sex	.005
negaff <--- hostile	.296

Total Effects (Group number 1 - Default model)

	sex	hostile
hostile	.006	.000
negaff	.002	.344

Standardized Total Effects (Group number 1 - Default model)

	sex	hostile
hostile	.005	.000
negaff	.001	.296

Indirect Effects (Group number 1 - Default model)

	sex	hostile
hostile	.000	.000
negaff	.002	.000

Standardized Indirect Effects (Group number 1 - Default model)

	sex	hostile
hostile	.000	.000
negaff	.001	.000

Sample write-up:

To investigate whether hostility mediates the relation between gender and negative affect, a path model was tested using Mplus Version 6.12 (Muthen & Muthen, 1998-2010). Results indicated that, although hostility significantly predicted negative affect ($b = .344$, $SE = .067$, $\beta = .296$, $p < .001$), gender was not significantly related to hostility ($b = .006$, $SE = .078$, $\beta = .005$, ns). As would be expected from these results, the indirect effect tested using bootstrapped standard errors was also nonsignificant ($b = .002$, $SE = .027$, ns). These findings do not support the hypothesized mediational model.