Structural Equation Modeling Output

Syntax

Model 1

```
#latent variables
swb =~ sptot + hopewill + hopeway
mh =~ psstot + bsidep + bsianx
ese =~ esewalk + esebike + eseweek

#regressions
ese ~ swb + mh

#covariances
swb ~~ mh
```

Model 2

```
#latent variables

swb =~ sptot + hopewill + hopeway
mh =~ psstot + bsidep + bsianx
ese =~ esewalk + esebike + eseweek

#regressions
ese ~ swb + mh

#covariances
swb ~~ mh

#residual covariances
bsianx ~~ esewalk
```

Output

Model fit

				Baseline test			Difference test		
	AIC	**BIC**	**n**	**χ^2**	**df**	**p**	**$\Delta\chi^2$**	**Δdf**	**p**
Model 2	1465.435	1507.822	29	25.925	23	0.304			
Model 1	1470.679	1511.698	29	33.169	24	0.101	7.244	1	0.007

Fit indices

Index	Model 1	Model 2
Comparative Fit Index (CFI)	0.948	0.984
T-size CFI	0.744	0.817
Tucker-Lewis Index (TLI)	0.923	0.974
Bentler-Bonett Non-normed Fit Index (NNFI)	0.923	0.974
Bentler-Bonett Normed Fit Index (NFI)	0.845	0.879
Parsimony Normed Fit Index (PNFI)	0.563	0.561
Bollen's Relative Fit Index (RFI)	0.767	0.810
Bollen's Incremental Fit Index (IFI)	0.952	0.985
Relative Noncentrality Index (RNI)	0.948	0.984

Note. T-size CFI is computed for $\alpha = 0.05$

Note. The T-size equivalents of the conventional CFI cut-off values (poor < 0.90 < fair < 0.95 < close) are **poor < 0.551 < fair < 0.649 < close** for model: Model 2

Note. The T-size equivalents of the conventional CFI cut-off values (poor < 0.90 < fair < 0.95 < close) are **poor < 0.554 < fair < 0.651 < close** for model: Model 1

Information criteria

	Model 1	Model 2
Log-likelihood	-705.340	-701.718
Number of free parameters	30.000	31.000
Akaike (AIC)	1470.679	1465.435
Bayesian (BIC)	1511.698	1507.822
Sample-size adjusted Bayesian (SSABIC)	1418.357	1411.369

Other fit measures

Metric	Model 1	Model 2
Root mean square error of approximation (RMSEA)	0.115	0.066
RMSEA 90% CI lower bound	0.000	0.000
RMSEA 90% CI upper bound	0.202	0.172
RMSEA p-value	0.156	0.394
T-size RMSEA	0.206	0.175
Standardized root mean square residual (SRMR)	0.086	0.083
Hoelter's critical N ($\alpha = .05$)	32.838	40.344
Hoelter's critical N ($\alpha = .01$)	38.578	47.577
Goodness of fit index (GFI)	0.995	0.996
McDonald fit index (MFI)	0.854	0.951
Expected cross validation index (ECVI)	3.213	3.032

Note. T-size RMSEA is computed for $\alpha = 0.05$

Note. The T-size equivalents of the conventional RMSEA cut-off values (close < 0.05 < fair < 0.08 < poor) are **close < 0.164 < fair < 0.18 < poor** for model: Model 1

Note. The T-size equivalents of the conventional RMSEA cut-off values (close < 0.05 < fair < 0.08 < poor) are **close < 0.166 < fair < 0.181 < poor** for model: Model 2

R-Squared

	R^2	
	Model 1	**Model 2**
sptot	0.645	0.644
hopewill	0.983	0.985
hopeway	0.264	0.264
psstot	0.561	0.546
bsidep	0.923	0.946
bsianx	0.781	0.732
esewalk	0.848	0.873
esebike	0.417	0.457
eseweek	0.834	0.799
ese	0.191	0.144

Model 1

Factor Loadings

						95% Confidence Interval	
Latent	**Indicator**	**Estimate**	**Std. Error**	**z-value**	**p**	**Lower**	**Upper**
ese	esewalk	6.980	1.193	5.852	< .001	4.642	9.317
	esebike	4.650	1.248	3.728	< .001	2.205	7.095
	eseweek	4.976	0.858	5.801	< .001	3.295	6.658
mh	psstot	6.207	1.331	4.662	< .001	3.597	8.816
	bsidep	4.610	0.670	6.879	< .001	3.296	5.923
	bsianx	3.179	0.532	5.973	< .001	2.136	4.223
swb	sptot	8.421	1.640	5.134	< .001	5.207	11.636
	hopewill	1.803	0.252	7.154	< .001	1.309	2.296
	hopeway	1.076	0.367	2.931	0.003	0.357	1.795

Regression coefficients

						95% Confidence Interval	
Predictor	**Outcome**	**Estimate**	**Std. Error**	**z-value**	**p**	**Lower**	**Upper**
swb	ese	0.729	0.446	1.635	0.102	-0.145	1.602
mh	ese	0.341	0.426	0.800	0.424	-0.494	1.176

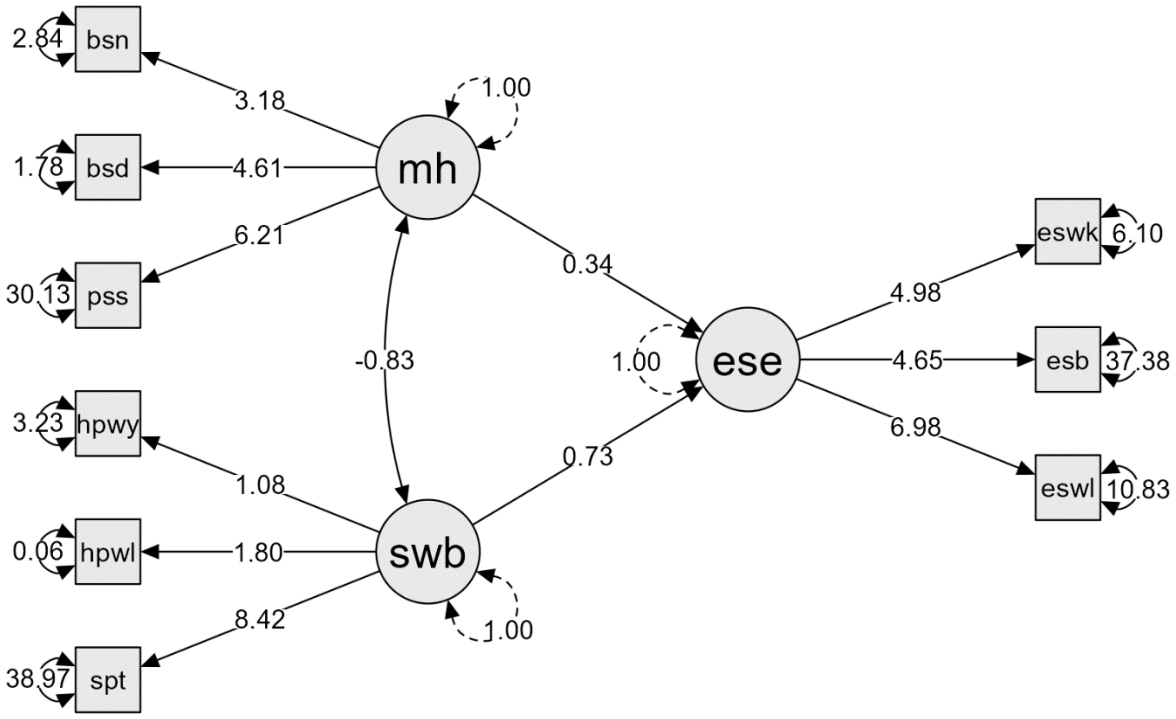
Factor covariances

					95% Confidence Interval	
Variables	**Estimate**	**Std. Error**	**z-value**	**p**	**Lower**	**Upper**
swb - mh	-0.827	0.074	-11.106	< .001	-0.973	-0.681

Residual variances

					95% Confidence Interval	
Variable	**Estimate**	**Std. Error**	**z-value**	**p**	**Lower**	**Upper**
sptot	38.973	11.826	3.296	< .001	15.794	62.151
hopewill	0.056	0.268	0.210	0.834	-0.470	0.582
hopeway	3.232	0.858	3.768	< .001	1.551	4.914
psstot	30.126	8.558	3.520	< .001	13.353	46.900
bsidep	1.778	1.428	1.245	0.213	-1.021	4.577
bsianx	2.838	1.003	2.830	0.005	0.873	4.804
esewalk	10.830	7.948	1.363	0.173	-4.747	26.407
esebike	37.378	10.486	3.564	< .001	16.825	57.931
eseweek	6.095	4.100	1.487	0.137	-1.940	14.131

Model 1



Model 2

Factor Loadings

						95% Confidence Interval	
Latent	**Indicator**	**Estimate**	**Std. Error**	**z-value**	**p**	**Lower**	**Upper**
ese	esewalk	7.311	1.122	6.515	< .001	5.112	9.510
	esebike	5.011	1.247	4.017	< .001	2.566	7.456
	eseweek	5.013	0.858	5.840	< .001	3.331	6.696
mh	psstot	6.123	1.334	4.590	< .001	3.509	8.738
	bsidep	4.668	0.662	7.047	< .001	3.369	5.966
	bsianx	2.928	0.492	5.948	< .001	1.963	3.893
swb	sptot	8.410	1.643	5.120	< .001	5.191	11.630
	hopewill	1.805	0.252	7.152	< .001	1.310	2.299
	hopeway	1.076	0.367	2.931	0.003	0.356	1.795

Regression coefficients

						95% Confidence Interval	
Predictor	**Outcome**	**Estimate**	**Std. Error**	**z-value**	**p**	**Lower**	**Upper**
swb	ese	0.533	0.390	1.366	0.172	-0.232	1.297
mh	ese	0.164	0.382	0.429	0.668	-0.584	0.912

Factor covariances

					95% Confidence Interval	
Variables	**Estimate**	**Std. Error**	**z-value**	**p**	**Lower**	**Upper**
swb - mh	-0.820	0.076	-10.845	< .001	-0.968	-0.672

Residual variances

					95% Confidence Interval	
Variable	**Estimate**	**Std. Error**	**z-value**	**p**	**Lower**	**Upper**
sptot	39.155	11.928	3.283	0.001	15.777	62.532
hopewill	0.049	0.276	0.178	0.859	-0.491	0.589
hopeway	3.233	0.858	3.769	< .001	1.552	4.914
psstot	31.154	8.704	3.579	< .001	14.094	48.213
bsidep	1.239	1.372	0.903	0.367	-1.451	3.929
bsianx	3.143	1.009	3.114	0.002	1.165	5.122
esewalk	9.100	7.625	1.193	0.233	-5.845	24.045
esebike	34.802	9.729	3.577	< .001	15.734	53.871
eseweek	7.372	3.731	1.976	0.048	0.059	14.684

Residual covariances

					95% Confidence Interval	
Variables	**Estimate**	**Std. Error**	**z-value**	**p**	**Lower**	**Upper**
bsianx - esewalk	4.093	1.724	2.374	0.018	0.714	7.472

Model 2