ภาคผนวก ค

ผลการวิเคราะห์ด้วยโปรแกรม

ค่าการวิเคราะห์โมเดลสมการโครงสร้างแรก

Mplus

TITLE: Path Analysis Exam

Number of groups	1
Number of observations	320
Number of dependent variables	12
Number of independent variables	0
Number of continuous latent variables	3

Observed dependent variables

Continuous

X1	X2	X3	X4	Y1	Y2
Y3	Y4	Y5	Y6	Y7	Y8

Continuous latent variables

SM   CCSE   SSB

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

SAMPLE STATISTICS

Means

	X1	X2	X3	X4	Y1
1	4.368	4.468	4.419	4.312	4.470

Means

	Y2	Y3	Y4	Y5	Y6
1	4.201	4.269	4.474	4.534	4.403

Means

	Y7	Y8
1	4.075	4.460

Covariances

	X1	X2	X3	X4	Y1
X1	0.274				
X2	0.084	0.165			
X3	0.132	0.107	0.210		
X4	0.102	0.100	0.108	0.146	
Y1	0.140	0.115	0.164	0.100	0.215
Y2	0.006	0.026	0.037	0.026	0.032
Y3	0.066	0.109	0.113	0.153	0.105
Y4	0.107	0.093	0.130	0.076	0.160
Y5	0.024	0.028	0.019	0.016	0.015
Y6	0.028	0.021	0.011	0.005	0.013
Y7	0.030	0.019	0.017	0.021	0.016
Y8	0.056	0.025	0.023	0.024	0.021

Covariances

	Y2	Y3	Y4	Y5	Y6
Y2	0.208				
Y3	0.036	0.271			
Y4	0.069	0.100	0.164		
Y5	0.048	0.028	0.050	0.201	
Y6	0.104	0.024	0.064	0.138	0.206
Y7	0.093	0.024	0.030	0.016	0.035
Y8	0.030	0.003	0.032	0.152	0.110

Covariances

	Y7	Y8
Y7	0.108	
Y8	0.008	0.188

Correlations

	X1	X2	X3	X4	Y1
X1	1.000				
X2	0.393	1.000			
X3	0.549	0.576	1.000		
X4	0.510	0.645	0.620	1.000	
Y1	0.577	0.611	0.773	0.563	1.000
Y2	0.027	0.143	0.175	0.152	0.151
Y3	0.241	0.514	0.474	0.768	0.436
Y4	0.504	0.567	0.699	0.493	0.851
Y5	0.101	0.153	0.093	0.092	0.071
Y6	0.116	0.112	0.052	0.029	0.061
Y7	0.175	0.139	0.116	0.170	0.105
Y8	0.247	0.143	0.114	0.143	0.103

Correlations

	Y2	Y3	Y4	Y5	Y6
Y2	1.000				
Y3	0.151	1.000			
Y4	0.376	0.472	1.000		
Y5	0.236	0.121	0.276	1.000	
Y6	0.501	0.099	0.351	0.676	1.000
Y7	0.619	0.138	0.223	0.106	0.236
Y8	0.153	0.015	0.182	0.783	0.558

Correlations

	Y7	Y8
Y7	1.000	
Y8	0.056	1.000

THE MODEL ESTIMATION TERMINATED NORMALLY

MODEL FIT INFORMATION

Number of Free Parameters   39

Loglikelihood

     H0 Value   -1353.943

     H1 Value   -930.472

Information Criteria

     Akaike (AIC)   2785.886

     Bayesian (BIC)   2932.850

     Sample-Size Adjusted BIC   2809.149

      $(n^* = (n + 2) / 24)$

Chi-Square Test of Model Fit

     Value   846.941

     Degrees of Freedom   51

     P-Value   0.0000

RMSEA (Root Mean Square Error Of Approximation)

     Estimate   0.221

     90 Percent C.I.   0.208 0.234

     Probability RMSEA <= .05   0.000

CFI/TLI

     CFI   0.695

     TLI   0.605

Chi-Square Test of Model Fit for the Baseline Model

  Value   2673.804

  Degrees of Freedom 66

  P-Value   0.0000

SRMR (Standardized Root Mean Square Residual)

  Value   0.117

MODEL RESULTS

		Estimate	S.E.	Two-Tailed Est./S.E.	P-Value
SM	BY				
X1		1.000	0.000	999.000	999.000
X2		0.872	0.082	10.635	0.000
X3		1.188	0.096	12.330	0.000
X4		0.837	0.076	10.944	0.000
CCSE	BY				
Y1		1.000	0.000	999.000	999.000
Y2		0.275	0.062	4.431	0.000
Y3		0.645	0.063	10.168	0.000
Y4		0.849	0.034	24.946	0.000
SSB	BY				
Y5		1.000	0.000	999.000	999.000
Y6		0.735	0.053	13.958	0.000
Y7		0.091	0.044	2.072	0.038
Y8		0.810	0.048	16.949	0.000
SSB	ON				
CCSE		0.321	0.234	1.368	0.171
SM		-0.181	0.303	-0.598	0.550
CCSE	ON				
SM		1.180	0.098	12.083	0.000

Intercepts

X1	4.368	0.029	149.217	0.000
X2	4.468	0.023	196.512	0.000
X3	4.419	0.026	172.574	0.000
X4	4.312	0.021	201.945	0.000
Y1	4.470	0.026	172.338	0.000
Y2	4.201	0.025	164.962	0.000
Y3	4.269	0.029	146.578	0.000
Y4	4.474	0.023	197.814	0.000
Y5	4.534	0.025	180.809	0.000
Y6	4.403	0.025	173.553	0.000
Y7	4.075	0.018	221.751	0.000
Y8	4.460	0.024	184.162	0.000

Variances

SM	0.111	0.018	6.082	0.000

Residual Variances

X1	0.163	0.014	11.661	0.000
X2	0.081	0.007	10.954	0.000
X3	0.053	0.006	8.290	0.000
X4	0.068	0.006	10.662	0.000
Y1	0.029	0.005	5.925	0.000
Y2	0.193	0.015	12.517	0.000
Y3	0.194	0.016	12.133	0.000
Y4	0.030	0.004	7.441	0.000
Y5	0.014	0.008	1.683	0.092
Y6	0.105	0.009	11.102	0.000
Y7	0.107	0.008	12.635	0.000
Y8	0.065	0.007	9.018	0.000
CCSE	0.031	0.006	4.869	0.000

		Estimate	S.E.	Est./S.E.	P-Value
SSB		0.180	0.018	10.277	0.000

STANDARDIZED MODEL RESULTS

STDYX Standardization

				Two-Tailed	
		Estimate	S.E.	Est./S.E.	P-Value
SM	BY				
X1		0.636	0.037	17.314	0.000
X2		0.714	0.032	22.650	0.000
X3		0.864	0.019	44.319	0.000
X4		0.730	0.031	23.732	0.000
CCSE	BY				
Y1		0.929	0.013	69.649	0.000
Y2		0.261	0.056	4.655	0.000
Y3		0.534	0.043	12.449	0.000
Y4		0.905	0.015	61.018	0.000
SSB	BY				
Y5		0.966	0.021	46.153	0.000
Y6		0.701	0.032	21.621	0.000
Y7		0.120	0.057	2.101	0.036
Y8		0.810	0.025	31.914	0.000
SSB	ON				
CCSE		0.319	0.231	1.383	0.167
SM		-0.139	0.232	-0.600	0.548
CCSE	ON				
SM		0.912	0.019	46.923	0.000
Intercepts					
X1		8.341	0.334	24.942	0.000
X2		10.985	0.438	25.091	0.000
X3		9.647	0.385	25.031	0.000

X4	11.289	0.450	25.102	0.000
Y1	9.634	0.385	25.030	0.000
Y2	9.222	0.369	25.006	0.000
Y3	8.194	0.329	24.930	0.000
Y4	11.058	0.441	25.094	0.000
Y5	10.108	0.403	25.054	0.000
Y6	9.702	0.388	25.034	0.000
Y7	12.396	0.493	25.135	0.000
Y8	10.295	0.411	25.063	0.000

Variances

SM	1.000	0.000	999.000	999.000

Residual Variances

X1	0.595	0.047	12.740	0.000
X2	0.490	0.045	10.871	0.000
X3	0.254	0.034	7.532	0.000
X4	0.468	0.045	10.426	0.000
Y1	0.136	0.025	5.502	0.000
Y2	0.932	0.029	31.914	0.000
Y3	0.715	0.046	15.604	0.000
Y4	0.181	0.027	6.734	0.000
Y5	0.068	0.040	1.671	0.095
Y6	0.508	0.045	11.174	0.000
Y7	0.986	0.014	71.650	0.000
Y8	0.344	0.041	8.379	0.000
CCSE	0.169	0.035	4.768	0.000
SSB	0.960	0.027	34.968	0.000

STDY Standardization

		Two-Tailed		
	Estimate	S.E.	Est./S.E.	P-Value
SM BY				
X1	0.636	0.037	17.314	0.000
X2	0.714	0.032	22.650	0.000
X3	0.864	0.019	44.319	0.000
X4	0.730	0.031	23.732	0.000
CCSE BY				
Y1	0.929	0.013	69.649	0.000
Y2	0.261	0.056	4.655	0.000
Y3	0.534	0.043	12.449	0.000
Y4	0.905	0.015	61.018	0.000
SSB BY				
Y5	0.966	0.021	46.153	0.000
Y6	0.701	0.032	21.621	0.000
Y7	0.120	0.057	2.101	0.036
Y8	0.810	0.025	31.914	0.000
SSB ON				
CCSE	0.319	0.231	1.383	0.167
SM	-0.139	0.232	-0.600	0.548
CCSE ON				
SM	0.912	0.019	46.923	0.000
Intercepts				
X1	8.341	0.334	24.942	0.000
X2	10.985	0.438	25.091	0.000
X3	9.647	0.385	25.031	0.000
X4	11.289	0.450	25.102	0.000
Y1	9.634	0.385	25.030	0.000
Y2	9.222	0.369	25.006	0.000

	Estimate	S.E.	Est./S.E.	P-Value
Y3	8.194	0.329	24.930	0.000
Y4	11.058	0.441	25.094	0.000
Y5	10.108	0.403	25.054	0.000
Y6	9.702	0.388	25.034	0.000
Y7	12.396	0.493	25.135	0.000
Y8	10.295	0.411	25.063	0.000

Variances

	Estimate	S.E.	Est./S.E.	P-Value
SM	1.000	0.000	999.000	999.000

Residual Variances

	Estimate	S.E.	Est./S.E.	P-Value
X1	0.595	0.047	12.740	0.000
X2	0.490	0.045	10.871	0.000
X3	0.254	0.034	7.532	0.000
X4	0.468	0.045	10.426	0.000
Y1	0.136	0.025	5.502	0.000
Y2	0.932	0.029	31.914	0.000
Y3	0.715	0.046	15.604	0.000
Y4	0.181	0.027	6.734	0.000
Y5	0.068	0.040	1.671	0.095
Y6	0.508	0.045	11.174	0.000
Y7	0.986	0.014	71.650	0.000
Y8	0.344	0.041	8.379	0.000
CCSE	0.169	0.035	4.768	0.000
SSB	0.960	0.027	34.968	0.000

STD Standardization

		Two-Tailed		
	Estimate	S.E.	Est./S.E.	P-Value
SM BY				
X1	0.333	0.027	12.163	0.000
X2	0.291	0.021	14.083	0.000

X3	0.396	0.021	18.685	0.000
X4	0.279	0.019	14.434	0.000
CCSE BY				
Y1	0.431	0.020	21.344	0.000
Y2	0.119	0.027	4.445	0.000
Y3	0.278	0.028	9.878	0.000
Y4	0.366	0.018	20.429	0.000
SSB BY				
Y5	0.433	0.021	21.115	0.000
Y6	0.318	0.023	13.749	0.000
Y7	0.040	0.019	2.079	0.038
Y8	0.351	0.021	16.620	0.000
SSB ON				
CCSE	0.319	0.231	1.383	0.167
SM	-0.139	0.232	-0.600	0.548
CCSE ON				
SM	0.912	0.019	46.923	0.000
Intercepts				
X1	4.368	0.029	149.217	0.000
X2	4.468	0.023	196.512	0.000
X3	4.419	0.026	172.574	0.000
X4	4.312	0.021	201.945	0.000
Y1	4.470	0.026	172.338	0.000
Y2	4.201	0.025	164.962	0.000
Y3	4.269	0.029	146.578	0.000
Y4	4.474	0.023	197.814	0.000
Y5	4.534	0.025	180.809	0.000
Y6	4.403	0.025	173.553	0.000
Y7	4.075	0.018	221.751	0.000
Y8	4.460	0.024	184.162	0.000

Variances

SM	1.000	0.000	999.000	999.000

Residual Variances

X1	0.163	0.014	11.661	0.000
X2	0.081	0.007	10.954	0.000
X3	0.053	0.006	8.290	0.000
X4	0.068	0.006	10.662	0.000
Y1	0.029	0.005	5.925	0.000
Y2	0.193	0.015	12.517	0.000
Y3	0.194	0.016	12.133	0.000
Y4	0.030	0.004	7.441	0.000
Y5	0.014	0.008	1.683	0.092
Y6	0.105	0.009	11.102	0.000
Y7	0.107	0.008	12.635	0.000
Y8	0.065	0.007	9.018	0.000
CCSE	0.169	0.035	4.768	0.000
SSB	0.960	0.027	34.968	0.000

R-SQUARE

Observed Variable	Estimate	S.E.	Two-Tailed Est./S.E.	P-Value
X1	0.405	0.047	8.657	0.000
X2	0.510	0.045	11.325	0.000
X3	0.746	0.034	22.160	0.000
X4	0.532	0.045	11.866	0.000
Y1	0.864	0.025	34.825	0.000
Y2	0.068	0.029	2.328	0.020
Y3	0.285	0.046	6.225	0.000
Y4	0.819	0.027	30.509	0.000
Y5	0.932	0.040	23.076	0.000

Y6	0.492	0.045	10.810	0.000
Y7	0.014	0.014	1.050	0.294
Y8	0.656	0.041	15.957	0.000

Latent Variable	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
CCSE	0.831	0.035	23.462	0.000
SSB	0.040	0.027	1.465	0.143

QUALITY OF NUMERICAL RESULTS

Condition Number for the Information Matrix   0.692E-04

(ratio of smallest to largest eigenvalue)

ค่าการวิเคราะห์โมเดลสมการโครงสร้างหลังปรับแก้

Mplus

TITLE: Path Analysis Exam

Path Analysis Exam

SUMMARY OF ANALYSIS

Number of groups	1
Number of observations	320
Number of dependent variables	12
Number of independent variables	0
Number of continuous latent variables	3

Observed dependent variables

Continuous

X1	X2	X3	X4	Y1	Y2
Y3	Y4	Y5	Y6	Y7	Y8

Continuous latent variables

SM   CCSE   SSB

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

SAMPLE STATISTICS

Means

	X1	X2	X3	X4	Y1
	_____	_____	_____	_____	_____
1	4.368	4.468	4.419	4.312	4.470

Means

	Y2	Y3	Y4	Y5	Y6
	_____	_____	_____	_____	_____
1	4.201	4.269	4.474	4.534	4.403

Means

	Y7	Y8
	_____	_____
1	4.075	4.460

Covariances

	X1	X2	X3	X4	Y1
	_____	_____	_____	_____	_____
X1	0.274				
X2	0.084	0.165			
X3	0.132	0.107	0.210		
X4	0.102	0.100	0.108	0.146	
Y1	0.140	0.115	0.164	0.100	0.215
Y2	0.006	0.026	0.037	0.026	0.032
Y3	0.066	0.109	0.113	0.153	0.105
Y4	0.107	0.093	0.130	0.076	0.160
Y5	0.024	0.028	0.019	0.016	0.015
Y6	0.028	0.021	0.011	0.005	0.013
Y7	0.030	0.019	0.017	0.021	0.016
Y8	0.056	0.025	0.023	0.024	0.021

Covariances

	Y2	Y3	Y4	Y5	Y6
	_____	_____	_____	_____	_____
Y2	0.208				
Y3	0.036	0.271			
Y4	0.069	0.100	0.164		
Y5	0.048	0.028	0.050	0.201	

Y6	0.104	0.024	0.064	0.138	0.206
Y7	0.093	0.024	0.030	0.016	0.035
Y8	0.030	0.003	0.032	0.152	0.110

Covariances

	Y7	Y8
	_____	_____
Y7	0.108	
Y8	0.008	0.188

Correlations

	X1	X2	X3	X4	Y1
	_____	_____	_____	_____	_____
X1	1.000				
X2	0.393	1.000			
X3	0.549	0.576	1.000		
X4	0.510	0.645	0.620	1.000	
Y1	0.577	0.611	0.773	0.563	1.000
Y2	0.027	0.143	0.175	0.152	0.151
Y3	0.241	0.514	0.474	0.768	0.436
Y4	0.504	0.567	0.699	0.493	0.851
Y5	0.101	0.153	0.093	0.092	0.071
Y6	0.116	0.112	0.052	0.029	0.061
Y7	0.175	0.139	0.116	0.170	0.105
Y8	0.247	0.143	0.114	0.143	0.103

Correlations

	Y2	Y3	Y4	Y5	Y6
	_____	_____	_____	_____	_____
Y2	1.000				
Y3	0.151	1.000			
Y4	0.376	0.472	1.000		
Y5	0.236	0.121	0.276	1.000	

Y6	0.501	0.099	0.351	0.676	1.000
Y7	0.619	0.138	0.223	0.106	0.236
Y8	0.153	0.015	0.182	0.783	0.558

Correlations

	Y7	Y8
	_____	_____
Y7	1.000	
Y8	0.056	1.000

Number of Free Parameters   57

Loglikelihood

    H0 Value   -970.712

    H1 Value   -930.472

Information Criteria

    Akaike (AIC)   2055.424

    Bayesian (BIC)   2270.218

    Sample-Size Adjusted BIC   2089.425

    $(n^* = (n + 2) / 24)$

Chi-Square Test of Model Fit

    Value   80.479

    Degrees of Freedom   33

    P-Value   0.0531

RMSEA (Root Mean Square Error of Approximation)

    Estimate   0.067

    90 Percent C.I.   0.049 0.086

    Probability RMSEA <= .05   0.063

CFI/TLI

    CFI   0.982

    TLI   0.964

Chi-Square Test of Model Fit for the Baseline Model

    Value   2673.804

     Degrees of Freedom   66

     P-Value   0.0000

SRMR (Standardized Root Mean Square Residual)

    Value   0.095

MODEL RESULTS

		Estimate	S.E.	Two-Tailed Est./S.E.	P-Value
SM	BY				
X1		1.000	0.000	999.000	999.000
X2		0.837	0.083	10.143	0.000
X3		1.230	0.101	12.172	0.000
X4		0.773	0.070	11.103	0.000
CCSE	BY				
Y1		1.000	0.000	999.000	999.000
Y2		0.110	0.043	2.553	0.011
Y3		0.647	0.070	9.196	0.000
Y4		0.785	0.027	28.959	0.000
SSB	BY				
Y5		1.000	0.000	999.000	999.000
Y6		0.653	0.045	14.392	0.000
Y7		-0.041	0.036	-1.155	0.248
Y8		0.844	0.048	17.733	0.000
SSB	ON				
CCSE		0.030	0.221	0.136	0.892
SM		0.140	0.305	0.457	0.648

CCSE   ON

SM	1.260	0.102	12.416	0.000

Intercepts

X1	4.368	0.029	149.972	0.000
X2	4.468	0.023	196.425	0.000
X3	4.419	0.026	172.574	0.000
X4	4.312	0.022	199.530	0.000
Y1	4.470	0.026	172.414	0.000
Y2	4.201	0.026	162.558	0.000
Y3	4.269	0.030	143.371	0.000
Y4	4.474	0.022	200.395	0.000
Y5	4.534	0.025	181.349	0.000
Y6	4.403	0.024	183.505	0.000
Y7	4.075	0.019	220.085	0.000
Y8	4.460	0.024	183.904	0.000

Variances

SM	0.106	0.018	6.057	0.000

Residual Variances

X1	0.165	0.014	11.890	0.000
X2	0.091	0.008	11.414	0.000
X3	0.049	0.007	6.659	0.000
X4	0.086	0.007	11.597	0.000
Y1	0.015	0.013	1.163	0.245
Y2	0.211	0.017	12.609	0.000
Y3	0.200	0.017	11.696	0.000
Y4	0.036	0.008	4.623	0.000
Y5	0.019	0.008	2.541	0.011
Y6	0.107	0.009	11.570	0.000
Y7	0.109	0.009	12.488	0.000
Y8	0.059	0.007	8.491	0.000

	Estimate	S.E.	Est./S.E.	P-Value
CCSE	0.031	0.010	3.013	0.003
SSB	0.177	0.017	10.312	0.000

STANDARDIZED MODEL RESULTS

STDYX Standardization

		Two-Tailed		
	Estimate	S.E.	Est./S.E.	P-Value
SM BY				
X1	0.626	0.037	16.924	0.000
X2	0.671	0.034	19.556	0.000
X3	0.876	0.021	40.920	0.000
X4	0.652	0.036	18.157	0.000
CCSE BY				
Y1	0.965	0.031	31.385	0.000
Y2	0.106	0.041	2.590	0.010
Y3	0.543	0.044	12.453	0.000
Y4	0.880	0.029	30.744	0.000
SSB BY				
Y5	0.951	0.020	47.301	0.000
Y6	0.647	0.034	18.864	0.000
Y7	-0.053	0.045	-1.165	0.244
Y8	0.827	0.024	34.161	0.000
SSB ON				
CCSE	0.032	0.232	0.136	0.892
SM	0.107	0.234	0.457	0.648
CCSE ON				
SM	0.918	0.025	37.263	0.000
Intercepts				
X1	8.384	0.329	25.481	0.000
X2	10.980	0.438	25.079	0.000

X3	9.647	0.385	25.031	0.000
X4	11.154	0.444	25.107	0.000
Y1	9.638	0.385	25.065	0.000
Y2	9.087	0.360	25.251	0.000
Y3	8.015	0.318	25.175	0.000
Y4	11.202	0.426	26.316	0.000
Y5	10.138	0.405	25.041	0.000
Y6	10.258	0.364	28.208	0.000
Y7	12.303	0.500	24.610	0.000
Y8	10.281	0.404	25.442	0.000

Variances

SM	1.000	0.000	999.000	999.000

Residual Variances

X1	0.608	0.046	13.125	0.000
X2	0.549	0.046	11.923	0.000
X3	0.233	0.037	6.215	0.000
X4	0.575	0.047	12.277	0.000
Y1	0.069	0.059	1.159	0.246
Y2	0.989	0.009	113.344	0.000
Y3	0.705	0.047	14.866	0.000
Y4	0.226	0.050	4.498	0.000
Y5	0.096	0.038	2.500	0.012
Y6	0.581	0.044	13.071	0.000
Y7	0.997	0.005	207.079	0.000
Y8	0.316	0.040	7.878	0.000
CCSE	0.156	0.045	3.455	0.001
SSB	0.981	0.017	58.765	0.000

STDY Standardization

	Estimate	S.E.	Two-Tailed Est./S.E.	P-Value
SM BY				
X1	0.626	0.037	16.924	0.000
X2	0.671	0.034	19.556	0.000
X3	0.876	0.021	40.920	0.000
X4	0.652	0.036	18.157	0.000
CCSE BY				
Y1	0.965	0.031	31.385	0.000
Y2	0.106	0.041	2.590	0.010
Y3	0.543	0.044	12.453	0.000
Y4	0.880	0.029	30.744	0.000
SSB BY				
Y5	0.951	0.020	47.301	0.000
Y6	0.647	0.034	18.864	0.000
Y7	-0.053	0.045	-1.165	0.244
Y8	0.827	0.024	34.161	0.000
SSB ON				
CCSE	0.032	0.232	0.136	0.892
SM	0.107	0.234	0.457	0.648
CCSE ON				
SM	0.918	0.025	37.263	0.000
Intercepts				
X1	8.384	0.329	25.481	0.000
X2	10.980	0.438	25.079	0.000
X3	9.647	0.385	25.031	0.000
X4	11.154	0.444	25.107	0.000
Y1	9.638	0.385	25.065	0.000
Y2	9.087	0.360	25.251	0.000

Y3	8.015	0.318	25.175	0.000
Y4	11.202	0.426	26.316	0.000
Y5	10.138	0.405	25.041	0.000
Y6	10.258	0.364	28.208	0.000
Y7	12.303	0.500	24.610	0.000
Y8	10.281	0.404	25.442	0.000

Variances

SM	1.000	0.000	999.000	999.000

Residual Variances

X1	0.608	0.046	13.125	0.000
X2	0.549	0.046	11.923	0.000
X3	0.233	0.037	6.215	0.000
X4	0.575	0.047	12.277	0.000
Y1	0.069	0.059	1.159	0.246
Y2	0.989	0.009	113.344	0.000
Y3	0.705	0.047	14.866	0.000
Y4	0.226	0.050	4.498	0.000
Y5	0.096	0.038	2.500	0.012
Y6	0.581	0.044	13.071	0.000
Y7	0.997	0.005	207.079	0.000
Y8	0.316	0.040	7.878	0.000
CCSE	0.156	0.045	3.455	0.001
SSB	0.981	0.017	58.765	0.000

STD Standardization

		Two-Tailed		
	Estimate	S.E.	Est./S.E.	P-Value
SM BY				
X1	0.326	0.027	12.114	0.000
X2	0.273	0.021	13.029	0.000
X3	0.401	0.022	18.609	0.000
X4	0.252	0.020	12.466	0.000
CCSE BY				
Y1	0.448	0.024	18.987	0.000
Y2	0.049	0.019	2.593	0.010
Y3	0.289	0.029	10.017	0.000
Y4	0.351	0.020	18.004	0.000
SSB BY				
Y5	0.425	0.020	20.804	0.000
Y6	0.278	0.020	13.898	0.000
Y7	-0.018	0.015	-1.155	0.248
Y8	0.359	0.021	17.330	0.000
SSB ON				
CCSE	0.032	0.232	0.136	0.892
SM	0.107	0.234	0.457	0.648
CCSE ON				
SM	0.918	0.025	37.263	0.000
Intercepts				
X1	4.368	0.029	149.972	0.000
X2	4.468	0.023	196.425	0.000
X3	4.419	0.026	172.574	0.000
X4	4.312	0.022	199.530	0.000
Y1	4.470	0.026	172.414	0.000
Y2	4.201	0.026	162.558	0.000

Y3	4.269	0.030	143.371	0.000
Y4	4.474	0.022	200.395	0.000
Y5	4.534	0.025	181.349	0.000
Y6	4.403	0.024	183.505	0.000
Y7	4.075	0.019	220.085	0.000
Y8	4.460	0.024	183.904	0.000

Variances

SM	1.000	0.000	999.000	999.000

Residual Variances

X1	0.165	0.014	11.890	0.000
X2	0.091	0.008	11.414	0.000
X3	0.049	0.007	6.659	0.000
X4	0.086	0.007	11.597	0.000
Y1	0.015	0.013	1.163	0.245
Y2	0.211	0.017	12.609	0.000
Y3	0.200	0.017	11.696	0.000
Y4	0.036	0.008	4.623	0.000
Y5	0.019	0.008	2.541	0.011
Y6	0.107	0.009	11.570	0.000
Y7	0.109	0.009	12.488	0.000
Y8	0.059	0.007	8.491	0.000
CCSE	0.156	0.045	3.455	0.001
SSB	0.981	0.017	58.765	0.000

R-SQUARE

Observed Variable	Estimate	S.E.	Two-Tailed Est./S.E.	P-Value
X1	0.392	0.046	8.462	0.000
X2	0.451	0.046	9.778	0.000
X3	0.767	0.037	20.460	0.000

X4	0.425	0.047	9.078	0.000
Y1	0.931	0.059	15.692	0.000
Y2	0.011	0.009	1.295	0.195
Y3	0.295	0.047	6.226	0.000
Y4	0.774	0.050	15.372	0.000
Y5	0.904	0.038	23.651	0.000
Y6	0.419	0.044	9.432	0.000
Y7	0.003	0.005	0.583	0.560
Y8	0.684	0.040	17.081	0.000

Latent Variable	Estimate	S.E.	Two-Tailed Est./S.E.	P-Value
CCSE	0.844	0.045	18.631	0.000
SSB	0.019	0.017	1.117	0.264

QUALITY OF NUMERICAL RESULTS

Condition Number for the Information Matrix   0.652E-05

(ratio of smallest to largest eigenvalue)

TOTAL, TOTAL INDIRECT, SPECIFIC INDIRECT, AND DIRECT EFFECTS

	Estimate	S.E.	Two-Tailed Est./S.E.	P-Value
Effects from CCSE to SSB				
Total	0.030	0.221	0.136	0.892
Total indirect	0.000	0.000	999.000	0.000
Direct				
SSB				
CCSE	0.030	0.221	0.136	0.892

Effects from SM to SSB

Total	0.177	0.083	2.148	0.032
Total indirect	0.038	0.278	0.136	0.892
Specific indirect				
SSB				
CCSE				
SM	0.038	0.278	0.136	0.892
Direct				
SSB				
SM	0.140	0.305	0.457	0.648

Effects from SM to CCSE

Total	1.260	0.102	12.416	0.000
Total indirect	0.000	0.000	999.000	0.000
Direct				
CCSE				
SM	1.260	0.102	12.416	0.000

Effects from SM to SSB

Sum of indirect	0.038	0.278	0.136	0.892
Specific indirect				
SSB				
CCSE				
SM	0.038	0.278	0.136	0.892

Effects from CCSE to SSB

Sum of indirect	0.000	0.000	999.000	0.000
Specific indirect				
SSB				
SM				
CCSE	0.000	0.000	999.000	0.000

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

STDYX Standardization

	Estimate	S.E.	Two-Tailed Est./S.E.	P-Value
Effects from CCSE to SSB				
Total	0.032	0.232	0.136	0.892
Total indirect	0.000	0.000	0.000	1.000
Direct				
SSB				
CCSE	0.032	0.232	0.136	0.892
Effects from SM to SSB				
Total	0.136	0.063	2.174	0.030
Total indirect	0.029	0.213	0.136	0.892
Specific indirect				
SSB				
CCSE				
SM	0.029	0.213	0.136	0.892
Direct				
SSB				
SM	0.107	0.234	0.457	0.648
Effects from SM to CCSE				
Total	0.918	0.025	37.263	0.000
Total indirect	0.000	0.000	0.000	1.000
Direct				
CCSE				
SM	0.918	0.025	37.263	0.000

Effects from SM to SSB

Sum of indirect	0.029	0.213	0.136	0.892
Specific indirect				
SSB				
CCSE				
SM	0.029	0.213	0.136	0.892

Effects from CCSE to SSB

Sum of indirect	0.029	0.213	0.136	0.892
Specific indirect				
SSB				
SM				
CCSE	0.029	0.213	0.136	0.892

STDY Standardization

	Estimate	S.E.	Two-Tailed Est./S.E.	P-Value
Effects from CCSE to SSB				
Total	0.032	0.232	0.136	0.892
Total indirect	0.000	0.000	0.000	1.000
Direct				
SSB				
CCSE	0.032	0.232	0.136	0.892
Effects from SM to SSB				
Total	0.136	0.063	2.174	0.030
Total indirect	0.029	0.213	0.136	0.892

Specific indirect

    SSB

    CCSE

    SM   0.029   0.213   0.136   0.892

Direct

    SSB

    SM   0.107   0.234   0.457   0.648

Effects from SM to CCSE

Total   0.918   0.025   37.263   0.000

Total indirect   0.000   0.000   0.000   1.000

Direct

    CCSE

    SM   0.918   0.025   37.263   0.000

Effects from SM to SSB

Sum of indirect 0.029   0.213   0.136   0.892

Specific indirect

  SSB

  CCSE

  SM   0.029   0.213   0.136   0.892

Effects from CCSE to SSB

Sum of indirect 0.029   0.213   0.136   0.892

Specific indirect

    SSB

    SM

    CCSE   0.029   0.213   0.136   0.892

STD Standardization

	Estimate	S.E.	Two-Tailed Est./S.E.	P-Value
Effects from CCSE to SSB				
Total	0.032	0.232	0.136	0.892
Total indirect	0.000	0.000	0.000	1.000
Direct				
SSB				
CCSE	0.032	0.232	0.136	0.892
Effects from SM to SSB				
Total	0.136	0.063	2.174	0.030
Total indirect	0.029	0.213	0.136	0.892
Specific indirect				
SSB				
CCSE				
SM	0.029	0.213	0.136	0.892
Direct				
SSB				
SM	0.107	0.234	0.457	0.648
Effects from SM to CCSE				
Total	0.918	0.025	37.263	0.000
Total indirect	0.000	0.000	0.000	1.000
Direct				
CCSE				
SM	0.918	0.025	37.263	0.000
Effects from SM to SSB				
Sum of indirect	0.029	0.213	0.136	0.892

Specific indirect

    SSB

    CCSE

    SM   0.029   0.213   0.136   0.892

Effects from CCSE to SSB

 Sum of indirect 0.029   0.213   0.136   0.892

 Specific indirect

     SSB

    SM

    CCSE   0.029   0.213   0.136   0.892

MODEL MODIFICATION INDICES

NOTE: Modification indices for direct effects of observed dependent variables

regressed on covariates may not be included. To include these, request

MODINDICES (ALL).

Minimum M.I. value for printing the modification index   10.000

	M.I.	E.P.C.	Std E.P.C.	StdYX E.P.C.

BY Statements

SSB   BY Y2   16.936   0.255   0.109   0.235

RESULTS SAVING INFORMATION