

Mplus VERSION 7
MUTHEN & MUTHEN
12/29/2023 8:24 PM

INPUT INSTRUCTIONS

TITLE: IC: CFA.

DATA: FILE = Master Data.dat;

VARIABLE:

NAMES = Dum_JK Dum_Rlg Dum_Ets Dum_SMhs Dum_SPT Dum_CYoS
ICSA_1-ICSA_14
BFL_1 BFL_2 BFL_3 BFL_4
IRX_1 IRX_2 IRX_3 IRX_4 IRX_5
IRS_1 IRS_2 IRS_3
MSS_1 MSS_2 MSS_3
IMT_1 IMT_2 IMT_3
IMM_1 IMM_2;

USEVARIABLES =

ICSA_1-ICSA_14
BFL_1-BFL_3
IRX_1-IRX_5
IRS_1-IRS_3
MSS_1-MSS_3
IMM_1 IMM_2
IMT_1 IMT_2

ANALYSIS: ESTIMATOR = MLR;

MODEL:

ICSA BY ICSA_1-ICSA_14;
BFL BY BFL_1-BFL_3;
IRX BY IRX_1-IRX_5;
IRS BY IRS_1-IRS_3;
MSS BY MSS_1-MSS_3;
IMT BY IMT_1 IMT_2;
IMM BY IMM_1 IMM_2;

OUTPUT: TECH4 STDYX MOD;

INPUT READING TERMINATED NORMALLY

IC: CFA.

SUMMARY OF ANALYSIS

Number of groups	1
Number of observations	589
Number of dependent variables	32
Number of independent variables	0
Number of continuous latent variables	7

Observed dependent variables

Continuous					
ICSA_1	ICSA_2	ICSA_3	ICSA_4	ICSA_5	ICSA_6
ICSA_7	ICSA_8	ICSA_9	ICSA_10	ICSA_11	ICSA_12

ICSA_13	ICSA_14	BFL_1	BFL_2	BFL_3	IRX_1
IRX_2	IRX_3	IRX_4	IRX_5	IRS_1	IRS_2
IRS_3	MSS_1	MSS_2	MSS_3	IMM_1	IMM_2
IMT_1	IMT_2				

Continuous latent variables

ICSA	BFL	IRX	IRS	MSS	IMT
IMM					

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

Input data file(s)
Master Data.dat

Input data format FREE

THE MODEL ESTIMATION TERMINATED NORMALLY

WARNING: THE LATENT VARIABLE COVARIANCE MATRIX (PSI) IS NOT POSITIVE DEFINITE. THIS COULD INDICATE A NEGATIVE VARIANCE/RESIDUAL VARIANCE FOR A LATENT VARIABLE, A CORRELATION GREATER OR EQUAL TO ONE BETWEEN TWO LATENT VARIABLES, OR A LINEAR DEPENDENCY AMONG MORE THAN TWO LATENT VARIABLES. CHECK THE TECH4 OUTPUT FOR MORE INFORMATION.
PROBLEM INVOLVING VARIABLE IMM.

MODEL FIT INFORMATION

Number of Free Parameters 117

Loglikelihood

H0 Value	-22681.660
H0 Scaling Correction Factor for MLR	1.3840
H1 Value	-22167.101
H1 Scaling Correction Factor for MLR	1.3273

Information Criteria

Akaike (AIC)	45597.320
Bayesian (BIC)	46109.596
Sample-Size Adjusted BIC (n* = (n + 2) / 24)	45738.161

Chi-Square Test of Model Fit

Value	784.212*
Degrees of Freedom	443
P-Value	0.0000
Scaling Correction Factor for MLR	1.3123

* The chi-square value for MLM, MLMV, MLR, ULSMV, WLSM and WLSMV cannot be used

for chi-square difference testing in the regular way. MLM, MLR and WLSM chi-square difference testing is described on the Mplus website. MLMV, WLSMV, and ULSMV difference testing is done using the DIFFTEST option.

RMSEA (Root Mean Square Error Of Approximation)

Estimate	0.036	
90 Percent C.I.	0.032	0.040
Probability RMSEA <= .05	1.000	

CFI/TLI

CFI	0.889
TLI	0.876

Chi-Square Test of Model Fit for the Baseline Model

Value	3582.742
Degrees of Freedom	496
P-Value	0.0000

SRMR (Standardized Root Mean Square Residual)

Value	0.051
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MODEL RESULTS

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
ICSA BY				
ICSA_1	1.000	0.000	999.000	999.000
ICSA_2	1.250	0.170	7.336	0.000
ICSA_3	1.164	0.174	6.693	0.000
ICSA_4	1.211	0.184	6.586	0.000
ICSA_5	1.470	0.225	6.525	0.000
ICSA_6	1.318	0.205	6.434	0.000
ICSA_7	1.312	0.188	6.964	0.000
ICSA_8	1.380	0.192	7.203	0.000
ICSA_9	1.447	0.229	6.320	0.000
ICSA_10	1.336	0.168	7.955	0.000
ICSA_11	1.286	0.164	7.839	0.000
ICSA_12	1.362	0.188	7.230	0.000
ICSA_13	1.210	0.178	6.808	0.000
ICSA_14	1.389	0.171	8.142	0.000
BFL BY				
BFL_1	1.000	0.000	999.000	999.000
BFL_2	1.285	0.189	6.809	0.000
BFL_3	1.289	0.194	6.635	0.000
IRX BY				
IRX_1	1.000	0.000	999.000	999.000
IRX_2	1.267	0.147	8.637	0.000
IRX_3	1.435	0.171	8.378	0.000
IRX_4	1.152	0.144	8.011	0.000
IRX_5	0.969	0.163	5.933	0.000
IRS BY				
IRS_1	1.000	0.000	999.000	999.000
IRS_2	1.343	0.270	4.981	0.000
IRS_3	1.057	0.247	4.283	0.000

MSS	BY				
MSS_1		1.000	0.000	999.000	999.000
MSS_2		0.697	0.078	8.976	0.000
MSS_3		0.667	0.070	9.473	0.000
IMT	BY				
IMT_1		1.000	0.000	999.000	999.000
IMT_2		1.131	0.135	8.357	0.000
IMM	BY				
IMM_1		1.000	0.000	999.000	999.000
IMM_2		0.811	0.073	11.129	0.000
BFL	WITH				
ICSA		-0.003	0.013	-0.248	0.804
IRX	WITH				
ICSA		0.078	0.017	4.675	0.000
BFL		0.022	0.016	1.388	0.165
IRS	WITH				
ICSA		0.089	0.023	3.797	0.000
BFL		-0.004	0.014	-0.260	0.795
IRX		0.070	0.016	4.280	0.000
MSS	WITH				
ICSA		-0.003	0.019	-0.136	0.892
BFL		0.306	0.053	5.732	0.000
IRX		0.018	0.022	0.839	0.402
IRS		0.004	0.020	0.203	0.839
IMT	WITH				
ICSA		0.016	0.016	0.984	0.325
BFL		0.224	0.048	4.652	0.000
IRX		0.018	0.019	0.970	0.332
IRS		0.018	0.020	0.919	0.358
MSS		0.321	0.044	7.350	0.000
IMM	WITH				
ICSA		0.122	0.022	5.488	0.000
BFL		0.038	0.023	1.690	0.091
IRX		0.175	0.021	8.487	0.000
IRS		0.097	0.026	3.765	0.000
MSS		0.035	0.030	1.169	0.242
IMT		0.037	0.025	1.466	0.143
Intercepts					
ICSA_1		3.295	0.033	98.464	0.000
ICSA_2		3.842	0.039	98.830	0.000
ICSA_3		3.929	0.040	98.401	0.000
ICSA_4		3.710	0.038	97.976	0.000
ICSA_5		3.407	0.042	80.851	0.000
ICSA_6		3.204	0.040	79.208	0.000
ICSA_7		3.538	0.037	96.916	0.000
ICSA_8		3.606	0.035	103.564	0.000
ICSA_9		3.416	0.045	75.557	0.000
ICSA_10		3.319	0.042	79.680	0.000
ICSA_11		3.679	0.036	103.502	0.000
ICSA_12		3.375	0.039	86.347	0.000
ICSA_13		3.248	0.047	69.038	0.000
ICSA_14		3.324	0.046	72.715	0.000
BFL_1		3.182	0.043	74.688	0.000
BFL_2		2.679	0.044	60.857	0.000

BFL_3	2.902	0.043	67.645	0.000
IRX_1	3.883	0.027	144.378	0.000
IRX_2	3.861	0.030	129.451	0.000
IRX_3	3.635	0.035	102.710	0.000
IRX_4	3.711	0.033	112.297	0.000
IRX_5	3.684	0.031	119.588	0.000
IRS_1	3.759	0.034	111.291	0.000
IRS_2	4.253	0.028	149.354	0.000
IRS_3	4.256	0.026	161.060	0.000
MSS_1	2.725	0.043	62.787	0.000
MSS_2	3.041	0.039	77.430	0.000
MSS_3	2.747	0.035	77.729	0.000
IMM_1	3.698	0.030	122.482	0.000
IMM_2	3.716	0.029	126.880	0.000
IMT_1	3.076	0.039	79.342	0.000
IMT_2	3.148	0.041	77.645	0.000
Variances				
ICSA	0.148	0.035	4.197	0.000
BFL	0.324	0.067	4.834	0.000
IRX	0.127	0.028	4.541	0.000
IRS	0.147	0.042	3.452	0.001
MSS	0.479	0.064	7.500	0.000
IMT	0.281	0.055	5.123	0.000
IMM	0.236	0.037	6.354	0.000
Residual Variances				
ICSA_1	0.512	0.050	10.180	0.000
ICSA_2	0.659	0.066	9.938	0.000
ICSA_3	0.739	0.073	10.064	0.000
ICSA_4	0.628	0.052	12.133	0.000
ICSA_5	0.727	0.075	9.644	0.000
ICSA_6	0.707	0.058	12.252	0.000
ICSA_7	0.530	0.044	12.188	0.000
ICSA_8	0.433	0.042	10.330	0.000
ICSA_9	0.894	0.078	11.515	0.000
ICSA_10	0.758	0.067	11.306	0.000
ICSA_11	0.500	0.041	12.131	0.000
ICSA_12	0.626	0.060	10.354	0.000
ICSA_13	1.087	0.079	13.731	0.000
ICSA_14	0.946	0.075	12.656	0.000
BFL_1	0.745	0.061	12.248	0.000
BFL_2	0.606	0.066	9.192	0.000
BFL_3	0.545	0.072	7.592	0.000
IRX_1	0.299	0.031	9.607	0.000
IRX_2	0.320	0.035	9.009	0.000
IRX_3	0.476	0.042	11.278	0.000
IRX_4	0.475	0.042	11.185	0.000
IRX_5	0.440	0.034	13.043	0.000
IRS_1	0.525	0.053	9.887	0.000
IRS_2	0.214	0.035	6.111	0.000
IRS_3	0.248	0.036	6.907	0.000
MSS_1	0.631	0.056	11.297	0.000
MSS_2	0.676	0.046	14.739	0.000
MSS_3	0.523	0.037	14.216	0.000
IMM_1	0.301	0.040	7.603	0.000
IMM_2	0.350	0.035	9.926	0.000
IMT_1	0.604	0.052	11.681	0.000
IMT_2	0.608	0.059	10.314	0.000

STANDARDIZED MODEL RESULTS

STDYX Standardization

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
ICSA BY				
ICSA_1	0.473	0.048	9.844	0.000
ICSA_2	0.509	0.047	10.896	0.000
ICSA_3	0.462	0.047	9.839	0.000
ICSA_4	0.507	0.044	11.581	0.000
ICSA_5	0.553	0.042	13.197	0.000
ICSA_6	0.516	0.042	12.407	0.000
ICSA_7	0.569	0.036	15.639	0.000
ICSA_8	0.628	0.039	16.076	0.000
ICSA_9	0.507	0.040	12.608	0.000
ICSA_10	0.508	0.043	11.793	0.000
ICSA_11	0.573	0.039	14.521	0.000
ICSA_12	0.552	0.039	14.061	0.000
ICSA_13	0.407	0.042	9.584	0.000
ICSA_14	0.481	0.043	11.240	0.000
BFL BY				
BFL_1	0.551	0.052	10.621	0.000
BFL_2	0.685	0.044	15.681	0.000
BFL_3	0.705	0.047	15.096	0.000
IRX BY				
IRX_1	0.547	0.053	10.359	0.000
IRX_2	0.624	0.042	14.824	0.000
IRX_3	0.596	0.041	14.582	0.000
IRX_4	0.512	0.047	10.944	0.000
IRX_5	0.462	0.050	9.260	0.000
IRS BY				
IRS_1	0.467	0.064	7.260	0.000
IRS_2	0.744	0.051	14.488	0.000
IRS_3	0.631	0.065	9.770	0.000
MSS BY				
MSS_1	0.657	0.038	17.192	0.000
MSS_2	0.506	0.046	11.000	0.000
MSS_3	0.538	0.043	12.620	0.000
IMT BY				
IMT_1	0.564	0.050	11.368	0.000
IMT_2	0.610	0.049	12.482	0.000
IMM BY				
IMM_1	0.663	0.047	14.225	0.000
IMM_2	0.554	0.050	11.063	0.000
BFL WITH				
ICSA	-0.015	0.060	-0.249	0.803
IRX WITH				
ICSA	0.569	0.055	10.419	0.000
BFL	0.110	0.072	1.517	0.129
IRS WITH				
ICSA	0.604	0.055	10.961	0.000
BFL	-0.016	0.063	-0.261	0.794
IRX	0.512	0.063	8.154	0.000
MSS WITH				

ICSA		-0.010	0.071	-0.136	0.891
BFL		0.776	0.062	12.560	0.000
IRX		0.075	0.088	0.852	0.394
IRS		0.015	0.074	0.204	0.838
IMT WITH					
ICSA		0.077	0.082	0.946	0.344
BFL		0.744	0.082	9.050	0.000
IRX		0.095	0.100	0.953	0.341
IRS		0.089	0.095	0.938	0.348
MSS		0.874	0.071	12.238	0.000
IMM WITH					
ICSA		0.652	0.059	11.124	0.000
BFL		0.138	0.078	1.770	0.077
IRX		1.013	0.059	17.172	0.000
IRS		0.521	0.084	6.197	0.000
MSS		0.103	0.089	1.168	0.243
IMT		0.144	0.102	1.418	0.156
Intercepts					
ICSA_1		4.057	0.196	20.662	0.000
ICSA_2		4.072	0.182	22.333	0.000
ICSA_3		4.055	0.210	19.306	0.000
ICSA_4		4.037	0.155	26.079	0.000
ICSA_5		3.331	0.149	22.389	0.000
ICSA_6		3.264	0.139	23.514	0.000
ICSA_7		3.993	0.172	23.217	0.000
ICSA_8		4.267	0.169	25.201	0.000
ICSA_9		3.113	0.138	22.582	0.000
ICSA_10		3.283	0.132	24.865	0.000
ICSA_11		4.265	0.187	22.805	0.000
ICSA_12		3.558	0.163	21.792	0.000
ICSA_13		2.845	0.119	23.953	0.000
ICSA_14		2.996	0.127	23.562	0.000
BFL_1		3.077	0.091	33.712	0.000
BFL_2		2.508	0.058	42.985	0.000
BFL_3		2.787	0.071	39.132	0.000
IRX_1		5.949	0.252	23.602	0.000
IRX_2		5.334	0.218	24.498	0.000
IRX_3		4.232	0.144	29.319	0.000
IRX_4		4.627	0.178	26.013	0.000
IRX_5		4.928	0.195	25.220	0.000
IRS_1		4.586	0.188	24.422	0.000
IRS_2		6.154	0.328	18.774	0.000
IRS_3		6.636	0.346	19.190	0.000
MSS_1		2.587	0.066	39.450	0.000
MSS_2		3.190	0.089	35.658	0.000
MSS_3		3.203	0.085	37.884	0.000
IMM_1		5.047	0.200	25.280	0.000
IMM_2		5.228	0.193	27.157	0.000
IMT_1		3.269	0.100	32.775	0.000
IMT_2		3.199	0.095	33.625	0.000
Variances					
ICSA		1.000	0.000	999.000	999.000
BFL		1.000	0.000	999.000	999.000
IRX		1.000	0.000	999.000	999.000
IRS		1.000	0.000	999.000	999.000
MSS		1.000	0.000	999.000	999.000
IMT		1.000	0.000	999.000	999.000
IMM		1.000	0.000	999.000	999.000

Residual Variances

ICSA_1	0.776	0.046	17.051	0.000
ICSA_2	0.741	0.048	15.563	0.000
ICSA_3	0.787	0.043	18.142	0.000
ICSA_4	0.743	0.044	16.772	0.000
ICSA_5	0.695	0.046	15.013	0.000
ICSA_6	0.734	0.043	17.079	0.000
ICSA_7	0.676	0.041	16.295	0.000
ICSA_8	0.606	0.049	12.352	0.000
ICSA_9	0.743	0.041	18.221	0.000
ICSA_10	0.742	0.044	16.945	0.000
ICSA_11	0.671	0.045	14.838	0.000
ICSA_12	0.696	0.043	16.063	0.000
ICSA_13	0.834	0.035	24.091	0.000
ICSA_14	0.768	0.041	18.647	0.000
BFL_1	0.697	0.057	12.211	0.000
BFL_2	0.531	0.060	8.885	0.000
BFL_3	0.503	0.066	7.637	0.000
IRX_1	0.701	0.058	12.161	0.000
IRX_2	0.610	0.053	11.596	0.000
IRX_3	0.645	0.049	13.228	0.000
IRX_4	0.738	0.048	15.390	0.000
IRX_5	0.786	0.046	17.051	0.000
IRS_1	0.782	0.060	13.017	0.000
IRS_2	0.447	0.076	5.857	0.000
IRS_3	0.602	0.081	7.397	0.000
MSS_1	0.568	0.050	11.322	0.000
MSS_2	0.744	0.047	15.958	0.000
MSS_3	0.711	0.046	15.505	0.000
IMM_1	0.561	0.062	9.092	0.000
IMM_2	0.693	0.055	12.514	0.000
IMT_1	0.682	0.056	12.207	0.000
IMT_2	0.628	0.060	10.556	0.000

R-SQUARE

Observed Variable	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
ICSA_1	0.224	0.046	4.922	0.000
ICSA_2	0.259	0.048	5.448	0.000
ICSA_3	0.213	0.043	4.920	0.000
ICSA_4	0.257	0.044	5.790	0.000
ICSA_5	0.305	0.046	6.598	0.000
ICSA_6	0.266	0.043	6.204	0.000
ICSA_7	0.324	0.041	7.820	0.000
ICSA_8	0.394	0.049	8.038	0.000
ICSA_9	0.257	0.041	6.304	0.000
ICSA_10	0.258	0.044	5.897	0.000
ICSA_11	0.329	0.045	7.261	0.000
ICSA_12	0.304	0.043	7.030	0.000
ICSA_13	0.166	0.035	4.792	0.000
ICSA_14	0.232	0.041	5.620	0.000
BFL_1	0.303	0.057	5.310	0.000
BFL_2	0.469	0.060	7.840	0.000
BFL_3	0.497	0.066	7.548	0.000
IRX_1	0.299	0.058	5.180	0.000
IRX_2	0.390	0.053	7.412	0.000
IRX_3	0.355	0.049	7.291	0.000
IRX_4	0.262	0.048	5.472	0.000
IRX_5	0.214	0.046	4.630	0.000
IRS_1	0.218	0.060	3.630	0.000
IRS_2	0.553	0.076	7.244	0.000
IRS_3	0.398	0.081	4.885	0.000

MSS_1	0.432	0.050	8.596	0.000
MSS_2	0.256	0.047	5.500	0.000
MSS_3	0.289	0.046	6.310	0.000
IMM_1	0.439	0.062	7.113	0.000
IMM_2	0.307	0.055	5.532	0.000
IMT_1	0.318	0.056	5.684	0.000
IMT_2	0.372	0.060	6.241	0.000

QUALITY OF NUMERICAL RESULTS

Condition Number for the Information Matrix 0.875E-04
 (ratio of smallest to largest eigenvalue)

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					
ICSA	BY IRS_1	17.100	0.656	0.252	0.308
IRX	BY ICSA_7	16.185	0.617	0.220	0.248
IRX	BY BFL_1	11.509	0.486	0.173	0.168
MSS	BY ICSA_2	10.600	0.217	0.150	0.159
MSS	BY BFL_1	29.985	1.083	0.749	0.725
MSS	BY BFL_2	13.875	-0.909	-0.629	-0.589
IMT	BY ICSA_2	11.870	0.308	0.163	0.173
IMT	BY BFL_1	29.756	1.311	0.695	0.673
IMT	BY BFL_2	19.651	-1.269	-0.673	-0.630
IMM	BY ICSA_7	16.155	0.483	0.235	0.265
IMM	BY BFL_1	11.564	0.353	0.171	0.166

WITH Statements

ICSA_8	WITH ICSA_4	14.060	0.102	0.102	0.196
ICSA_10	WITH ICSA_5	14.814	-0.146	-0.146	-0.196
ICSA_11	WITH ICSA_4	12.857	-0.103	-0.103	-0.184
ICSA_11	WITH ICSA_10	16.846	0.129	0.129	0.210
ICSA_14	WITH ICSA_13	11.268	0.168	0.168	0.166
BFL_3	WITH BFL_1	22.312	-0.222	-0.222	-0.349
BFL_3	WITH BFL_2	41.022	0.394	0.394	0.685
IRX_1	WITH ICSA_12	10.287	-0.071	-0.071	-0.164
IRX_2	WITH IRX_1	13.292	0.066	0.066	0.212
IRS_3	WITH IRS_2	19.025	0.141	0.141	0.613
IMT_2	WITH IRS_3	12.228	-0.081	-0.081	-0.208

TECHNICAL 4 OUTPUT

ESTIMATES DERIVED FROM THE MODEL

ESTIMATED MEANS FOR THE LATENT VARIABLES

	ICSA	BFL	IRX	IRS	MSS
1	0.000	0.000	0.000	0.000	0.000

ESTIMATED MEANS FOR THE LATENT VARIABLES

	IMT	IMM
1	0.000	0.000

ESTIMATED COVARIANCE MATRIX FOR THE LATENT VARIABLES

	ICSA	BFL	IRX	IRS	MSS
ICSA	0.148				
BFL	-0.003	0.324			
IRX	0.078	0.022	0.127		
IRS	0.089	-0.004	0.070	0.147	
MSS	-0.003	0.306	0.018	0.004	0.479
IMT	0.016	0.224	0.018	0.018	0.321
IMM	0.122	0.038	0.175	0.097	0.035

ESTIMATED COVARIANCE MATRIX FOR THE LATENT VARIABLES

	IMT	IMM
IMT	0.281	
IMM	0.037	0.236

ESTIMATED CORRELATION MATRIX FOR THE LATENT VARIABLES

	ICSA	BFL	IRX	IRS	MSS
ICSA	1.000				
BFL	-0.015	1.000			
IRX	0.569	0.110	1.000		
IRS	0.604	-0.016	0.512	1.000	
MSS	-0.010	0.776	0.075	0.015	1.000
IMT	0.077	0.744	0.095	0.089	0.874
IMM	0.652	0.138	1.013	0.521	0.103

ESTIMATED CORRELATION MATRIX FOR THE LATENT VARIABLES

	IMT	IMM
IMT	1.000	
IMM	0.144	1.000

DIAGRAM INFORMATION

Use View Diagram under the Diagram menu in the Mplus Editor to view the diagram. If running Mplus from the Mplus Diagrammer, the diagram opens automatically.

Diagram output

d:\research\pdp 2023\data\mplus\icc cfa.dgm

Beginning Time: 20:24:00
 Ending Time: 20:24:01
 Elapsed Time: 00:00:01

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