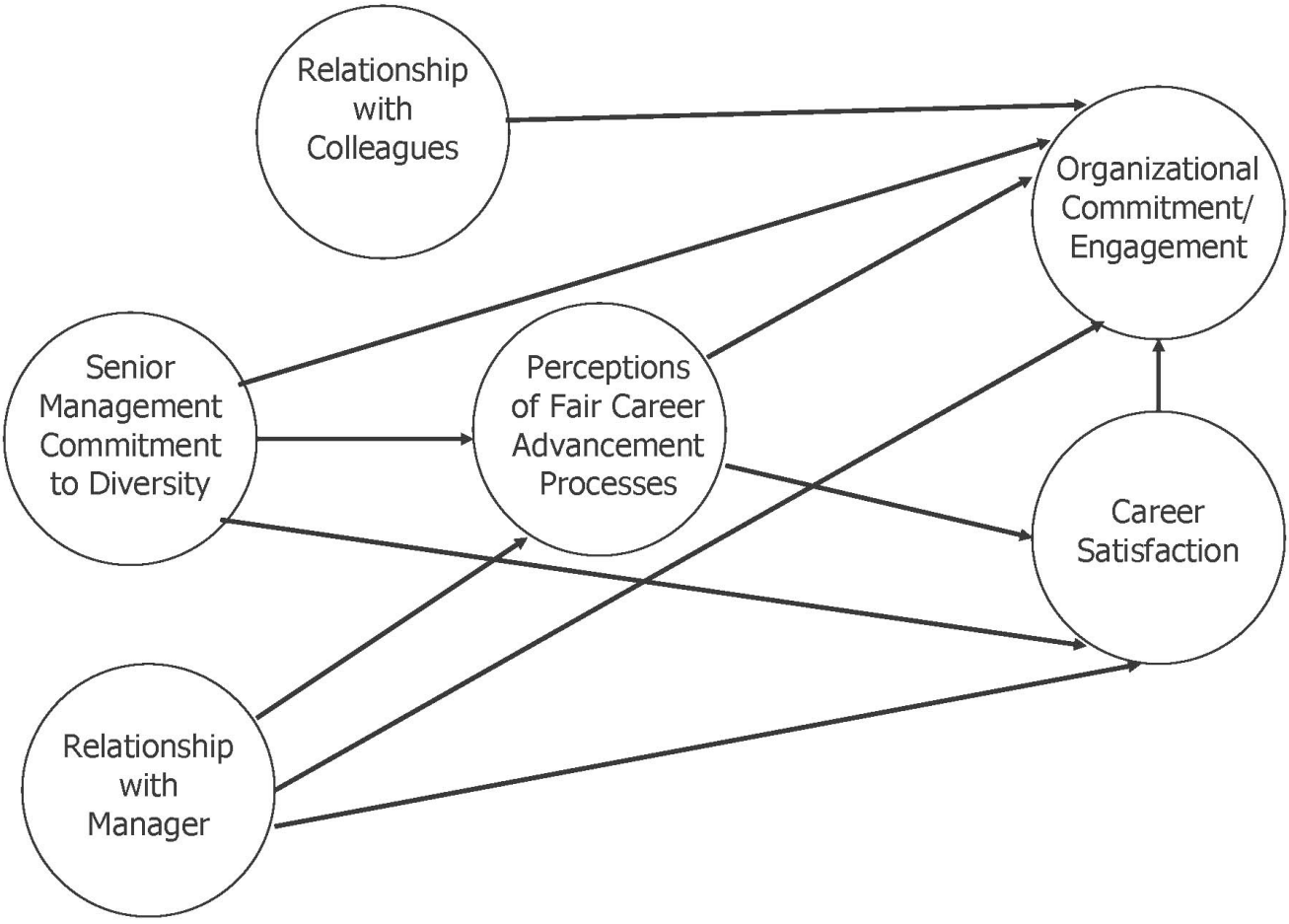
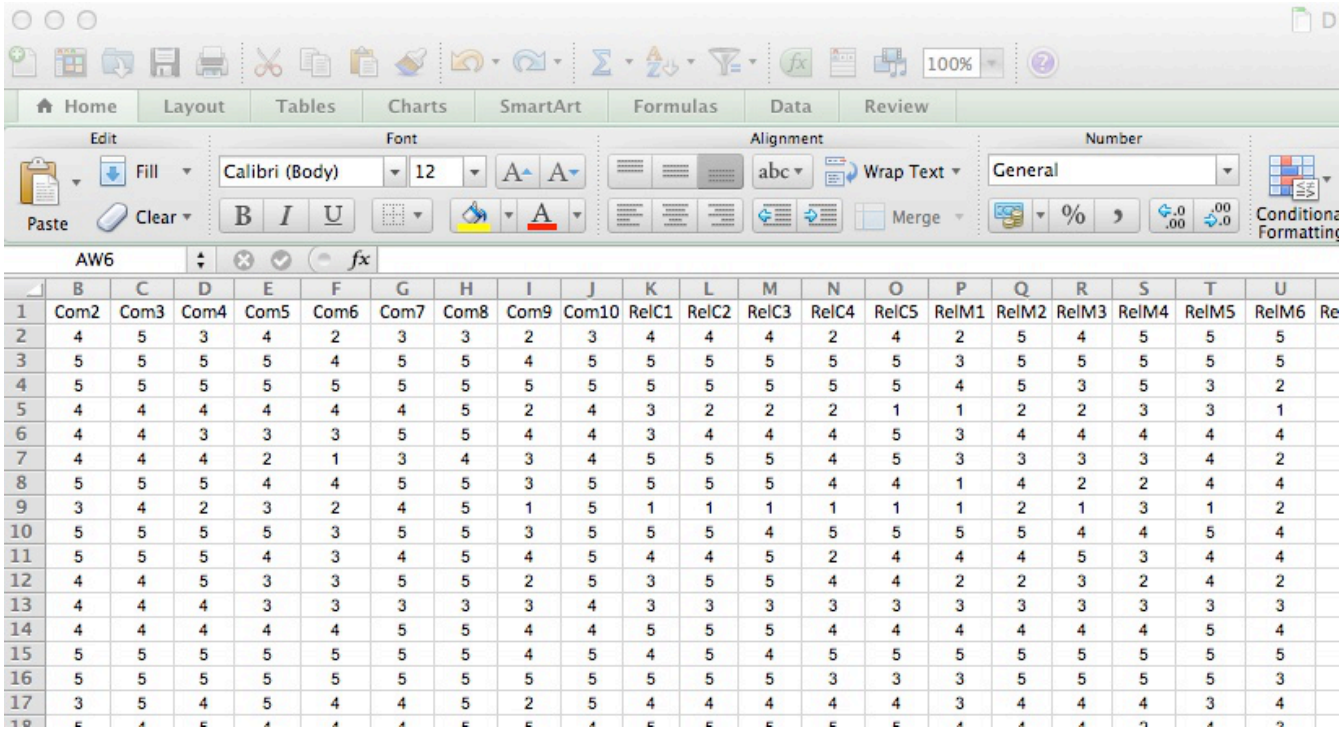
Diversity, Satisfaction and Commitment



Relationship with Colleagues:	RelC1-RelC5
Senior Management Commitment to Diversity:	SM1-SM3
Relationship with Manager:	RelM1-RelM12
Perceptions of Fair Career Advancement Processes:	Fair1-Fair6
Career Satisfaction:	Sat1-Sat4
Commitment to Organization:	Com1-Com10



	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	Com2	Com3	Com4	Com5	Com6	Com7	Com8	Com9	Com10	RelC1	RelC2	RelC3	RelC4	RelC5	RelM1	RelM2	RelM3	RelM4	RelM5	RelM6
2	4	5	3	4	2	3	3	2	3	4	4	4	2	4	2	5	4	5	5	5
3	5	5	5	5	4	5	5	4	5	5	5	5	5	5	3	5	5	5	5	5
4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	3	5	3	2
5	4	4	4	4	4	4	5	2	4	3	2	2	2	1	1	2	2	3	3	1
6	4	4	3	3	3	5	5	4	4	3	4	4	4	5	3	4	4	4	4	4
7	4	4	4	2	1	3	4	3	4	5	5	5	4	5	3	3	3	3	4	2
8	5	5	5	4	4	5	5	3	5	5	5	5	4	4	1	4	2	2	4	4
9	3	4	2	3	2	4	5	1	5	1	1	1	1	1	1	2	1	3	1	2
10	5	5	5	5	3	5	5	3	5	5	5	4	5	5	5	5	4	4	5	4
11	5	5	5	4	3	4	5	4	5	4	4	5	2	4	4	4	5	3	4	4
12	4	4	5	3	3	5	5	2	5	3	5	5	4	4	2	2	3	2	4	2
13	4	4	4	3	3	3	3	3	4	3	3	3	3	3	3	3	3	3	3	3
14	4	4	4	4	4	5	5	4	4	5	5	5	4	4	4	4	4	4	5	4
15	5	5	5	5	5	5	5	4	5	4	5	4	5	5	5	5	5	5	5	5
16	5	5	5	5	5	5	5	5	5	5	5	5	3	3	3	5	5	5	5	3
17	3	5	4	5	4	4	5	2	5	4	4	4	4	4	3	4	4	4	3	4

```
/* diversity1.sas */
options linesize=79 pagesize=500 noovp formdlim=' ';
title 'Diversity study: Based on Catalyst (2007)';

/* Read data directly from Excel spreadsheet */
proc import datafile="DiversityA.xls" out=HR dbms=xls;
            getnames=yes;
/* Input data file is DiversityA.xls
   Ouput data set is called HR (For Human Resources)
   dbms=xls The input file is an Excel spreadsheet.
            Necessary to read an Excel spreadsheet directly under unix/linux
            Works in PC environment too except for Excel 4.0 spreadsheets
            The xlsx file type is not supported as of SAS Version 9.2
            If there are multiple sheets, use sheet="sheet1" or something.
   getnames=yes   Use column names as variable names                    */


proc contents;  /* See what's in there. */
```

Alphabetic List of Variables and Attributes

#	Variable	Type	Len	Format	Label
45	Age	Num	8	BEST12.	Age
46	CAN_Foreign_Born	Num	8	BEST15.	CAN_Foreign_Born
1	Com1	Num	8	BEST6.	Com1
2	Com2	Num	8	BEST6.	Com2
3	Com3	Num	8	BEST6.	Com3
4	Com4	Num	8	BEST6.	Com4
5	Com5	Num	8	BEST6.	Com5
6	Com6	Num	8	BEST7.	Com6
7	Com7	Num	8	BEST6.	Com7
8	Com8	Num	8	BEST6.	Com8
9	Com9	Num	8	BEST6.	Com9
10	Com10	Num	8	BEST6.	Com10
43	EDUCLevel	Num	8	BEST12.	EDUCLevel
28	Fair1	Num	8	BEST6.	Fair1
29	Fair2	Num	8	BEST6.	Fair2
30	Fair3	Num	8	BEST6.	Fair3
31	Fair4	Num	8	BEST6.	Fair4
32	Fair5	Num	8	BEST7.	Fair5
33	Fair6	Num	8	BEST6.	Fair6
41	Gender	Num	8	BEST7.	Gender
44	MaritalStatus	Num	8	BEST12.	MaritalStatus
11	RelC1	Num	8	BEST5.	RelC1
12	RelC2	Num	8	BEST6.	RelC2
13	RelC3	Num	8	BEST6.	RelC3
14	RelC4	Num	8	BEST6.	RelC4
15	RelC5	Num	8	BEST6.	RelC5
16	RelM1	Num	8	BEST6.	RelM1
17	RelM2	Num	8	BEST6.	RelM2
18	RelM3	Num	8	BEST6.	RelM3
19	RelM4	Num	8	BEST6.	RelM4
20	RelM5	Num	8	BEST7.	RelM5
21	RelM6	Num	8	BEST7.	RelM6
22	RelM7	Num	8	BEST6.	RelM7
23	RelM8	Num	8	BEST6.	RelM8
24	RelM9	Num	8	BEST6.	RelM9
25	RelM10	Num	8	BEST7.	RelM10
26	RelM11	Num	8	BEST7.	RelM11
27	RelM12	Num	8	BEST7.	RelM12
38	SM1	Num	8	BEST7.	SM1
39	SM2	Num	8	BEST6.	SM2
40	SM3	Num	8	BEST6.	SM3
34	Sat1	Num	8	BEST6.	Sat1
35	Sat2	Num	8	BEST6.	Sat2
36	Sat3	Num	8	BEST6.	Sat3
37	Sat4	Num	8	BEST6.	Sat4
42	VisMinority	Num	8	BEST12.	VisMinority

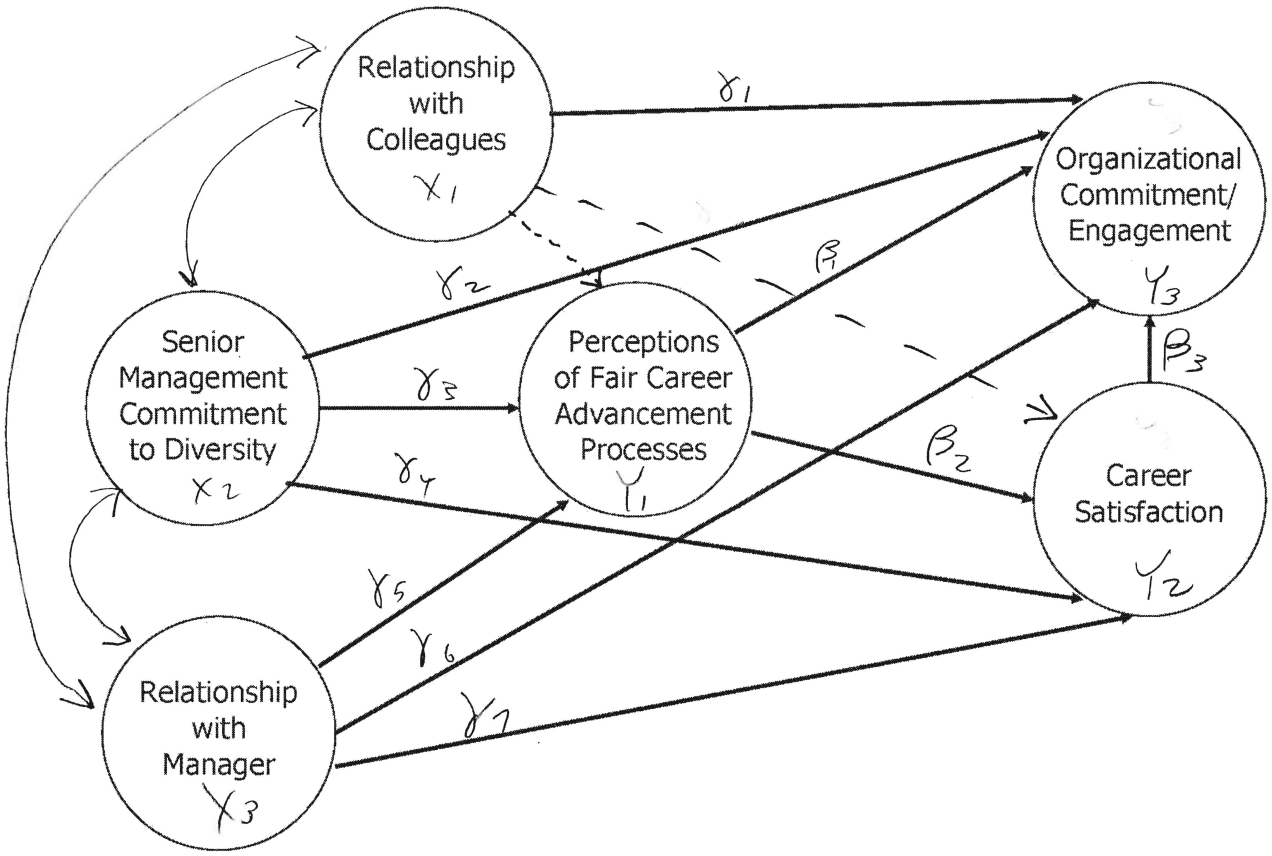
```
data diverse;
     set HR;
     commit1 = sum(of Com1-Com5);
     commit2 = sum(of Com6-Com10);
     relcoll1 = RelC1+RelC2+RelC3;
     relcoll2 = RelC4+RelC5;
     relman1  = sum(of RelM1-RelM6);
     relman2  = sum(of RelM7-RelM12);
     fairad1  = Fair1+Fair2+Fair3;
     fairad2  = Fair4+Fair5+Fair6;
     csat1    = Sat1+Sat2;
     csat2    = Sat3+Sat4;

/*
     label
          commit1  = 'Commitment to Organization 1'
          commit2  = 'Commitment to Organization 2'
          relcoll1 = 'Relationship with Colleagues 1'
          relcoll2 = 'Relationship with Colleagues 2'
          relman1  = 'Relationship with Manager 1'
          relman2  = 'Relationship with Manager 2'
          fairad1  = 'Fair Career Advancement 1'
          fairad2  = 'Fair Career Advancement 2'
          csat1    = 'Career Satisfaction 1'
          csat2    = 'Career Satisfaction 2'
          SM1      = 'Senior Mang Commit to Diversity 1'
          SM2      = 'Senior Mang Commit to Diversity 2'
          SM3      = 'Senior Mang Commit to Diversity 3';
*/


ods exclude Calis.ML.SqMultCorr (persist);

proc calis psummary;
     title2 'Measurement model only';
     var commit1 relcoll1 relman1 fairad1 csat1
         commit2 relcoll2 relman2 fairad2 csat2 SM1 SM2 SM3;
     lineqs
          commit1  = Fcommit   + e1,
          commit2  = lambda2*Fcommit   + e2,
          relcoll1 = Frelcoll + e3,
          relcoll2 = lambda4*Frelcoll + e4,
          relman1  = Frelman  + e5,
          relman2  = lambda6*Frelman  + e6,
          fairad1  = Ffairad  + e7,
          fairad2  = lambda8*Ffairad  + e8,
          csat1    = Fcsat    + e9,
          csat2    = lambda10*Fcsat    + e10,
          SM1      = FSM + e11,
          SM2      = lambda12*FSM + e12,
          SM3      = lambda13*FSM + e13;
     variance
          Fcommit Frelcoll Frelman Ffairad Fcsat FSM = 6*v__,
          e1-e13 = 13*omega__;
     cov
          Fcommit Frelcoll Frelman Ffairad Fcsat FSM = 15*c__;
     bounds
          v1-v6 omega01-omega13 > 0;
```

Part of the list file

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Fit Summary

Modeling Info	N Observations	300
	N Variables	13
	N Moments	91
	N Parameters	41
	N Active Constraints	0
	Baseline Model Function Value	8.1424
	Baseline Model Chi-Square	2434.5707
	Baseline Model Chi-Square DF	78
	Pr > Baseline Model Chi-Square	<.0001
Absolute Index	Fit Function	0.1991
	Chi-Square	59.5253
	Chi-Square DF	50
	Pr > Chi-Square	0.1676
	Z-Test of Wilson & Hilferty	0.9644
	Hoelter Critical N	340
	Root Mean Square Residual (RMSR)	0.1602
	Standardized RMSR (SRMSR)	0.0271
	Goodness of Fit Index (GFI)	0.9704
Parsimony Index	Adjusted GFI (AGFI)	0.9462
	Parsimonious GFI	0.6221
	RMSEA Estimate	0.0252
	RMSEA Lower 90% Confidence Limit	0.0000
	RMSEA Upper 90% Confidence Limit	0.0470
	Probability of Close Fit	0.9722
	ECVI Estimate	0.4868
	ECVI Lower 90% Confidence Limit	0.4632
	ECVI Upper 90% Confidence Limit	0.5666
	Akaike Information Criterion	141.5253
	Bozdogan CAIC	334.3803
	Schwarz Bayesian Criterion	293.3803
	McDonald Centrality	0.9842
Incremental Index	Bentler Comparative Fit Index	0.9960
	Bentler-Bonett NFI	0.9755
	Bentler-Bonett Non-normed Index	0.9937
	Bollen Normed Index Rho1	0.9619
	Bollen Non-normed Index Delta2	0.9960
	James et al. Parsimonious NFI	0.6254



$$
\begin{aligned}
Y_1 &= \gamma_3 X_2 + \gamma_5 X_3 + \epsilon_1 \\
Y_2 &= \beta_2 Y_1 + \gamma_4 X_2 + \gamma_7 X_3 + \epsilon_2 \\
Y_3 &= \beta_1 Y_1 + \beta_3 Y_2 + \gamma_1 X_1 + \gamma_2 X_2 + \gamma_6 X_3 + \epsilon_3
\end{aligned}
$$

```
proc calis  pshort nostand;
     title2 'First model based on the path diagram';
     var commit1 relcoll1 relman1 fairad1 csat1
         commit2 relcoll2 relman2 fairad2 csat2 SM1 SM2 SM3;
     lineqs
          commit1  = Fcommit   + e1,
          commit2  = lambda2*Fcommit   + e2,
          relcoll1 = Frelcoll + e3,
          relcoll2 = lambda4*Frelcoll + e4,
          relman1  = Frelman  + e5,
          relman2  = lambda6*Frelman  + e6,
          fairad1  = Ffairad  + e7,
          fairad2  = lambda8*Ffairad  + e8,
          csat1    = Fcsat    + e9,
          csat2    = lambda10*Fcsat    + e10,
          SM1      = FSM + e11,
          SM2      = lambda12*FSM + e12,
          SM3      = lambda13*FSM + e13,
          Ffairad  = gamma3*FSM + gamma5*Frelman + epsilon1,
          Fcsat    = beta2*Ffairad + gamma4*FSM + gamma7*Frelman + epsilon2,
          Fcommit  = beta1*Ffairad + beta3*Fcsat +
                     gamma1*Frelcoll + gamma2*FSM + gamma6*Frelman + epsilon3;
     variance
          Frelcoll FSM Frelman = 3*v__,
          e1-e13 = 13*omega__,
          epsilon1-epsilon3 = 3*psi__;
     cov
          Frelcoll FSM Frelman = 3*c__;
     bounds
          v1-v3 omega01-omega13 psi1-psi3 > 0;
```

$$
\begin{aligned}
Y_1 &= \gamma_3 X_2 + \gamma_5 X_3 + \epsilon_1 \\
Y_2 &= \beta_2 Y_1 + \gamma_4 X_2 + \gamma_7 X_3 + \epsilon_2 \\
Y_3 &= \beta_1 Y_1 + \beta_3 Y_2 + \gamma_1 X_1 + \gamma_2 X_2 + \gamma_6 X_3 + \epsilon_3
\end{aligned}
$$

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Fit Summary

Modeling Info	N Observations	300
	N Variables	13
	N Moments	91
	N Parameters	39
	N Active Constraints	0
	Baseline Model Function Value	8.1424
	Baseline Model Chi-Square	2434.5707
	Baseline Model Chi-Square DF	78
	Pr > Baseline Model Chi-Square	<.0001
Absolute Index	Fit Function	0.2259
	Chi-Square	67.5550
	Chi-Square DF	52
	Pr > Chi-Square	0.0723
	Z-Test of Wilson & Hilferty	1.4597
	Hoelter Critical N	310
	Root Mean Square Residual (RMSR)	0.1955
	Standardized RMSR (SRMSR)	0.0350
	Goodness of Fit Index (GFI)	0.9668
Parsimony Index	Adjusted GFI (AGFI)	0.9420
	Parsimonious GFI	0.6446
	RMSEA Estimate	0.0316
	RMSEA Lower 90% Confidence Limit	0.0000
	RMSEA Upper 90% Confidence Limit	0.0513
	Probability of Close Fit	0.9362
	ECVI Estimate	0.4996
	ECVI Lower 90% Confidence Limit	0.4561
	ECVI Upper 90% Confidence Limit	0.5857
	Akaike Information Criterion	145.5550
	Bozdogan CAIC	329.0025
	Schwarz Bayesian Criterion	290.0025
	McDonald Centrality	0.9744
Incremental Index	Bentler Comparative Fit Index	0.9934
	Bentler-Bonett NFI	0.9723
	Bentler-Bonett Non-normed Index	0.9901
	Bollen Normed Index Rho1	0.9584
	Bollen Non-normed Index Delta2	0.9935
	James et al. Parsimonious NFI	0.6482

```
proc calis  pshort nostand;
     title2 'Second model: Saturated measurement part ';
     var commit1 relcoll1 relman1 fairad1 csat1
         commit2 relcoll2 relman2 fairad2 csat2 SM1 SM2 SM3;
     lineqs
          commit1  = Fcommit   + e1,
          commit2  = lambda2*Fcommit   + e2,
          relcoll1 = Frelcoll + e3,
          relcoll2 = lambda4*Frelcoll + e4,
          relman1  = Frelman  + e5,
          relman2  = lambda6*Frelman  + e6,
          fairad1  = Ffairad  + e7,
          fairad2  = lambda8*Ffairad  + e8,
          csat1    = Fcsat    + e9,
          csat2    = lambda10*Fcsat    + e10,
          SM1      = FSM + e11,
          SM2      = lambda12*FSM + e12,
          SM3      = lambda13*FSM + e13,
          Ffairad  = gamma3*FSM + gamma5*Frelman + gamma8*Frelcoll + epsilon1,
          Fcsat    = beta2*Ffairad + gamma4*FSM + gamma7*Frelman +
                     gamma9*Frelcoll + epsilon2,
          Fcommit  = beta1*Ffairad + beta3*Fcsat +
                     gamma1*Frelcoll + gamma2*FSM + gamma6*Frelman + epsilon3;
     variance
          Frelcoll FSM Frelman = 3*v__,
          e1-e13 = 13*omega__,
          epsilon1-epsilon3 = 3*psi__;
     cov
          Frelcoll FSM Frelman = 3*c__;
     bounds
          v1-v3 omega01-omega13 psi1-psi3 > 0;
```

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Fit Summary

Modeling Info	N Observations	300
	N Variables	13
	N Moments	91
	N Parameters	41
	N Active Constraints	0
	Baseline Model Function Value	8.1424
	Baseline Model Chi-Square	2434.5707
	Baseline Model Chi-Square DF	78
	Pr > Baseline Model Chi-Square	<.0001
Absolute Index	Fit Function	0.1991
	Chi-Square	59.5253
	Chi-Square DF	50
	Pr > Chi-Square	0.1676

Exactly the same as the measurement model.

The CALIS Procedure
Covariance Structure Analysis: Maximum Likelihood Estimation

Linear Equations

commit1 = 1.0000 Fcommit + 1.0000 e1

commit2 = 0.9863*Fcommit + 1.0000 e2
Std Err 0.0682 lambda2
t Value 14.4724

Linear Equations

relcoll1 = 1.0000 Frelcoll + 1.0000 e3

relcoll2 = 0.8732*Frelcoll + 1.0000 e4
Std Err 0.0801 lambda4
t Value 10.8951

Linear Equations

relman1 = 1.0000 Frelman + 1.0000 e5

relman2 = 1.0070*Frelman + 1.0000 e6
Std Err 0.0431 lambda6
t Value 23.3811

Linear Equations

fairad1 = 1.0000 Ffairad + 1.0000 e7

fairad2 = 0.9105*Ffairad + 1.0000 e8
Std Err 0.0596 lambda8
t Value 15.2749

Linear Equations

csat1 = 1.0000 Fcsat + 1.0000 e9

csat2 = 0.9775*Fcsat + 1.0000 e10
Std Err 0.0612 lambda10
t Value 15.9696

Linear Equations

```
SM1      =    1.0000 FSM      +  1.0000 e11


SM2      =    0.8798*FSM      +  1.0000 e12
Std Err       0.0585 lambda12
t Value      15.0279


SM3      =    0.9028*FSM      +  1.0000 e13
Std Err       0.0706 lambda13
t Value      12.7801
```

Linear Equations

```
Ffairad  =    0.2319*FSM      +  0.2838*Frelman  +  0.2372*Frelcoll
Std Err       0.0972 gamma3      0.0311 gamma5      0.0974 gamma8
t Value       2.3859             9.1277             2.4355

     +  1.0000 epsilon1
```

Linear Equations

```
Fcsat    =    0.4807*Ffairad  + -0.0173*FSM      +  0.0274*Frelman
Std Err       0.0811 beta2       0.0767 gamma4      0.0318 gamma7
t Value       5.9273            -0.2256             0.8623

     +  0.0747*Frelcoll +  1.0000 epsilon2
        0.0764 gamma9
        0.9772
```

Linear Equations

```
Fcommit  =    0.5178*Ffairad  +  0.1887*Fcsat    +  0.2079*Frelcoll
Std Err       0.1732 beta1       0.1641 beta3       0.1436 gamma1
t Value       2.9900             1.1498             1.4472

     +  0.2775*FSM      +  0.0173*Frelman  +  1.0000 epsilon3
        0.1444 gamma2      0.0577 gamma6
        1.9223             0.3003
```

```
proc calis  pshort nostand;
     title2 'Third model: Drop some links based on Z-tests';
     var commit1 relcoll1 relman1 fairad1 csat1
         commit2 relcoll2 relman2 fairad2 csat2 SM1 SM2 SM3;
     lineqs
          commit1  = Fcommit   + e1,
          commit2  = lambda2*Fcommit   + e2,
          relcoll1 = Frelcoll + e3,
          relcoll2 = lambda4*Frelcoll + e4,
          relman1  = Frelman  + e5,
          relman2  = lambda6*Frelman  + e6,
          fairad1  = Ffairad  + e7,
          fairad2  = lambda8*Ffairad  + e8,
          csat1    = Fcsat    + e9,
          csat2    = lambda10*Fcsat    + e10,
          SM1      = FSM + e11,
          SM2      = lambda12*FSM + e12,
          SM3      = lambda13*FSM + e13,
          Ffairad  = gamma3*FSM + gamma5*Frelman + gamma8*Frelcoll + epsilon1,
          Fcsat    = beta2*Ffairad + gamma4*FSM + gamma7*Frelman +
                     gamma9*Frelcoll + epsilon2,
          Fcommit  = beta1*Ffairad + beta3*Fcsat +
                     gamma1*Frelcoll + gamma2*FSM + gamma6*Frelman + epsilon3;
     variance
          Frelcoll FSM Frelman = 3*v__,
          e1-e13 = 13*omega__,
          epsilon1-epsilon3 = 3*psi__;
     cov
          Frelcoll FSM Frelman = 3*c__;
     bounds
          v1-v3 omega01-omega13 psi1-psi3 > 0;
     lincon beta3=0, gamma1=0, gamma4=0, gamma6=0, gamma7=0, gamma9=0;
```

Chi-Square	64.5174
Chi-Square DF	56
Pr > Chi-Square	0.2034

Linear Equations

Ffairad	=	0.2107*FSM	+ 0.2804*Frelman	+ 0.2695*Frelcoll	
Std Err		0.0919 gamma3	0.0296 gamma5	0.0918 gamma8	
t Value		2.2928	9.4590	2.9345	

+ 1.0000 epsilon1

Linear Equations

Fcsat	=	0.5797*Ffairad	+ 0*FSM	+ 0*Frelman
Std Err		0.0486 beta2	0 gamma4	0 gamma7
t Value		11.9193	.	.

+ 0*Frelcoll + 1.0000 epsilon2
0 gamma9
.

Linear Equations

Fcommit	=	0.7809*Ffairad	+ 0*Fcsat	+ 0*Frelcoll
Std Err		0.0848 beta1	0 beta3	0 gamma1
t Value		9.2069	.	.

+ 0.2628*FSM + 0*Frelman + 1.0000 epsilon3
0.1452 gamma2 0 gamma6
1.8103 .