```
use "U:\)Teaching\SEM\issp2012_educ.dta", clear

rename _all, lower

. corr zreduc - zmeduc
(obs=879)

             |   zreduc  zreddur   zpeduc  zpeddur   zfeduc   zmeduc
-------------+------------------------------------------------------
      zreduc |   1.0000
     zreddur |   0.7369   1.0000
      zpeduc |   0.5967   0.4571   1.0000
     zpeddur |   0.4871   0.5591   0.7403   1.0000
      zfeduc |   0.4709   0.4329   0.3857   0.3854   1.0000
      zmeduc |   0.4576   0.4075   0.3983   0.3655   0.6948   1.0000

. pwcorr zreduc - zmeduc, obs

             |   zreduc  zreddur   zpeduc  zpeddur   zfeduc   zmeduc
-------------+------------------------------------------------------
      zreduc |   1.0000
             |     1299
             |
     zreddur |   0.7336   1.0000
             |     1272     1273
             |
      zpeduc |   0.4900   0.3910   1.0000
             |     1099     1077     1099
             |
     zpeddur |   0.5005   0.5713   0.7501   1.0000
             |      919      916      914      919
             |
      zfeduc |   0.4730   0.4289   0.2547   0.3843   1.0000
             |     1243     1225     1061      894     1253
             |
      zmeduc |   0.4584   0.3989   0.2665   0.3649   0.6932   1.0000
             |     1238     1221     1058      891     1239     1248
             |


. sem (RED -> zreduc@a) (RED -> zreddur@b) (PED -> zpeduc@a) (PED -> zpeddur@b) (FED
-> zfeduc@1) (MED -> zmeduc@1), var(e.zfeduc@0) var(e.zmeduc@0)
covar(e.zreduc*e.zpeduc) cov
> ar(e.zreddur*e.zpeddur)  iterate(100)  var(FED@1) var(MED@1) var(RED@1) var(PED@1)
method(mlmv)
(5 all-missing observations excluded)

Endogenous variables

Measurement:  zreduc zreddur zpeduc zpeddur zfeduc zmeduc

Exogenous variables

Latent:       RED PED FED MED
```

```
Fitting saturated model:

Iteration 0:   log likelihood = -8524.9509
Iteration 1:   log likelihood = -8372.5186
Iteration 2:   log likelihood =  -8335.056
Iteration 3:   log likelihood =  -8334.053
Iteration 4:   log likelihood = -8334.0493
Iteration 5:   log likelihood = -8334.0493

Fitting baseline model:

Iteration 0:   log likelihood = -10083.914
Iteration 1:   log likelihood = -10068.214
Iteration 2:   log likelihood = -10058.765
Iteration 3:   log likelihood = -10058.692
Iteration 4:   log likelihood = -10058.692

Fitting target model:

Iteration 0:   log likelihood = -8428.5357
Iteration 1:   log likelihood = -8375.7667
Iteration 2:   log likelihood = -8355.2491
Iteration 3:   log likelihood = -8349.8828
Iteration 4:   log likelihood = -8349.7347
Iteration 5:   log likelihood = -8349.7346

Structural equation model                       Number of obs      =      1309
Estimation method  = mlmv
Log likelihood     = -8349.7346

 ( 1)  [zreduc]RED - [zpeduc]PED = 0
 ( 2)  [zreddur]RED - [zpeddur]PED = 0
 ( 3)  [zfeduc]FED = 1
 ( 4)  [zmeduc]MED = 1
 ( 5)  [var(e.zfeduc)]_cons = 0
 ( 6)  [var(e.zmeduc)]_cons = 0
 ( 7)  [var(RED)]_cons = 1
 ( 8)  [var(PED)]_cons = 1
 ( 9)  [var(FED)]_cons = 1
 (10)  [var(MED)]_cons = 1
------------------------------------------------------------------------------
             |                 OIM
             |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
Measurement  |
  zreduc <-  |
         RED |   .9182274   .0241411    38.04   0.000     .8709117    .9655431
       _cons |   -.003598   .0281644    -0.13   0.898    -.0587993    .0516032
  -----------+----------------------------------------------------------------
  zreddur <- |
         RED |   .8572964   .0255005    33.62   0.000     .8073164    .9072764
       _cons |  -.0102005   .0287223    -0.36   0.722    -.0664952    .0460942
  -----------+----------------------------------------------------------------
```

zpeduc <-						
PED	.9182274	.0241411	38.04	0.000	.8709117	.9655431
_cons	-.0125147	.028902	-0.43	0.665	-.0691615	.0441321
zpeddur <-						
PED	.8572964	.0255005	33.62	0.000	.8073164	.9072764
_cons	-.2098398	.032398	-6.48	0.000	-.2733387	-.1463408
zfeduc <-						
FED	1	(constrained)				
_cons	-.0125084	.0280816	-0.45	0.656	-.0675475	.0425306
zmeduc <-						
MED	1	(constrained)				
_cons	-.0168481	.0281203	-0.60	0.549	-.0719628	.0382667
Variance						
e.zreduc	.1895829	.0309314			.1376959	.261022
e.zreddur	.3295729	.0288969			.2775354	.3913674
e.zpeduc	.1130406	.041544			.0550055	.2323072
e.zpeddur	.3483251	.0398864			.2783007	.4359685
e.zfeduc	0	(constrained)				
e.zmeduc	0	(constrained)				
RED	1	(constrained)				
PED	1	(constrained)				
FED	1	(constrained)				
MED	1	(constrained)				
Covariance						
e.zreduc						
e.zpeduc	.0388966	.0197564	1.97	0.049	.0001747	.0776184
e.zreddur						
e.zpeddur	.1513473	.0215293	7.03	0.000	.1091505	.193544
RED						
PED	.5298799	.0269655	19.65	0.000	.4770285	.5827312
FED	.5303092	.0215417	24.62	0.000	.4880883	.5725301
MED	.511841	.0219097	23.36	0.000	.4688988	.5547831
PED						
FED	.2989341	.0297538	10.05	0.000	.2406178	.3572504
MED	.3053096	.0290919	10.49	0.000	.2482905	.3623287
FED						
MED	.6936032	.0120491	57.56	0.000	.6699874	.7172189

LR test of model vs. saturated: chi2(7) = 31.37, Prob > chi2 = 0.0001