Gregory Arief D. Liem posted on Wednesday, April 06, 2011 - 7:48 pm

Hi Linda,

If I understand correctly, the computation of CFI and TLI in LISREL and Mplus is based on different null/baseline models' chi squares. That is, in LISREL, all the observed variables are not correlated, whereas in Mplus all observed variables are correlated (i.e., covariances among observed variables are estimated or fixed to 0). Am I right?

My question is: Is there a way that we can do a baseline model in Mplus with observed variables are not estimated at all (i.e., covariances among observed variables are not correlated nor fixed to zero – i.e., a baseline model in LISREL)?

Really appreciate your answer.

Linda K. Muthen posted on Thursday, April 07, 2011 - 7:39 am

If the model does not contain covariates, Mplus and Lisrel should get the same results. If they do not, the models or data must be different.

In the case of a model with covariates, the Mplus baseline model is means of x and y, variances of x and y, and covariances among the x's. Lisrel sets the covariances among the x's at zero. This makes it easier to get good model fit if the x's have large correlations because then the baseline model is poorly fitting. We do not believe that model fit should be influenced by the correlations among the x variables because the model is not concerned with the correlations among the x's. It is estimated conditioned on the x variables as in regression analysis.

The baseline in Mplus cannot be changed but one can run two analyses to achieve this.

Paige Lancaster posted on Friday, August 12, 2011 - 8:27 am

My colleague and I noticed different values for the CFI when he analyzed data with EQS while I used Mplus. We find the same values for the chi square and df but are not sure why the CFI differs.

Do you know if this is a difference in the 2 programs? Thanks!

Linda K. Muthen posted on Friday, August 12, 2011 - 8:39 am

You probably have a model with covariates. In this case, we use a different baseline model than EQS. We use means and variances of all variables and covariances among the independent variables. EQS uses only means and variances and holds the covariances among the independent variables at zero.

J.D. Haltigan posted on Saturday, August 20, 2011 - 8:38 pm

Am I correct in overviewing this thread that in a classical CFA model (congeneric indicators) that the baseline model for Mplus calculates covariances among all indicators whereas in LISREL/EQS the baseline sets these to zero? The discussion of covariates above got me a bit confused (unless referencing say a MIMIC model).

Many thanks.

Linda K. Muthen posted on Monday, August 22, 2011 - 3:04 pm

The baseline model for Mplus is means and variances of both dependent and independent variables and the covariances of independent variables. Factor indicators are dependent variables.

LISREL uses a baseline model of means and variances of all variables and no covariances among any variables.

J.D. Haltigan posted on Wednesday, August 24, 2011 - 3:40 pm

Above it is mentioned that the baseline models can not be changed in Mplus but that 'one can run two analyses to achieve this' [i.e., different CFI values]. Is the idea here to run two models (one with constrained v. free relations against the covariates) and then compare this to the CFA-specified model, calculating a new CFI? In short, how would I go about mimicking the LISREL CFI results (if possible) via Mplus.

Linda K. Muthen posted on Wednesday, August 24, 2011 - 5:06 pm

Run your H0 model and LISREL's baseline model.

J.D. Haltigan posted on Wednesday, August 24, 2011 - 11:11 pm

To be sure this would be my CFA model (baseline) with all covariates allowed to associate with each other (and the factors?) and a model where essentially only the factor means and variances are estimated and all other loadings are constrained to zero? I realize this question is pedantic but I am still grasping at the specifics of the baseline models.

Linda K. Muthen posted on Thursday, August 25, 2011 - 7:11 am

The CFA model is your H0 model. The baseline model it is compared to is a model of means and variances for all dependent and independent variables. I believe this is what you will get if you have no MODEL command. Try it and see.