Question:

I am trying to conduct a test of discriminant validity between 2 factors using MLR as my estimator, following the Satorra-Bentler chi-square test

My question is: If I run,

Model 1 = 2 factors (3 items each)
Model 2 = 1 factor (all 6 items)

(a) Is Model 2 considered a nested model which overcomes the issue of testing parameters on the border of admissible parameter space? (e.g., where the 2 factors have a correlation of 1)
(b) If I get a negative SB scaled chi-square difference (I do), what would be the modified parameter constraint added to Model 1 to obtain the 'c10' scaling correction factor (i.e., following 'Mplus Webnotes Number 12, Asparouhov & Muthen, 2013)?

Answer:

(a) Strictly speaking there is a bit of a problem in using LRT for this purpose (overfactoring) see

http://www.statmodel.com/download/Schmitt%202011-Jour%20of%20Psychoed%20Assmt%20-%20EFA%20and%20CFA.pdf

and

http://www.tandfonline.com/doi/abs/10.1080/10705510701301891

You might want to consider using BIC or just T-test for the correlation between the two factors being different from 1.

(b) M10 would be easiest to do if the factor variance in M0 is fixed to 1, then all you need to do in M10 is f1@1; f2@1; f1 with f2*1;