

Thresholds/intercepts in twolevel mixture modeling.

This FAQ considers the placement of thresholds/intercepts in twolevel mixture modeling.

In UG ex 10.12 there are 2 latent class variables, none of which is declared as Between. The thresholds and their variation over the latent classes are mentioned on Between. This is done to be in agreement with the multilevel literature where fixed effects end up on the highest level in writing the models. It does not imply that the classes are defined by differences across between-level units as opposed to across within-level units. In fact, the input could just as well have placed the thresholds and their variation across classes on the within level. This is because there is only one set of thresholds.

For UG ex 10.13 we have a between-level cb latent class variable and two within-level c1, c2 latent class variables. There the thresholds are also mentioned on Between.

In the Henry-Muthen (2010) article on our website under multilevel mixtures Model 4a on page 214 is like UG ex 10.13 in that it has both between (cb) and within latent class variables. But here the variables are declared as Within and therefore the thresholds can be mentioned on Within. Model 4a could instead have been written as in UG ex 10.13. And UG ex 10.12 and 10.13 could have been written as Model 4a. The final model in the article on page 214 (bottom) and page 215 corresponds to Figure 6 on page 201 and is a model with random thresholds. Because there are random effects for the observed variables (the latent class indicators) the variables should not be on the Within list – the variables vary across between units due to the random effects - and the thresholds are required to be on the between level.