

Delete the fixed effect from a model

A user may find it useful at times to model a level-1 predictor as having a random effect but no fixed effect. For example, it might be that gender differences in educational achievement are, on average, null across a set of schools; yet, in some schools females outperform males while in other schools males outperform females. In this case, the fixed effect of gender could be set to zero while the variance of the gender effect across schools would be estimated.

The vocabulary analysis in *Hierarchical Linear Models* supplies an example of a level-1 predictor having a random effect without a corresponding fixed effect. For the age interval under study, it was found that, on average, the linear effect of age was zero. Yet this effect varied significantly across children. The level-1 model estimated was:

$$Y_{it} = \pi_{1i}(AGE_{it} - 12) + \pi_{2i}(AGE_{it} - 12)^2 + e_{it}$$

However, the level-2 model was:

$$\begin{aligned}\pi_{1i} &= r_{1i} \\ \pi_{2i} &= \beta_{20} + r_{2i}\end{aligned}$$

Notice that AGE – 12 has a random effect but no fixed effect.

To delete the fixed effect from a level-2 model

1. Select the equation from which the fixed effect is to be removed.
2. Click INTRCPT2 on the >>Level-2<< drop-down list. Click **delete variable from model**.

