



Testing significance of level-1 variance

To test the significance of the level-1 variance, first make sure that full maximum likelihood estimation is used (see the **Other Settings, Estimation Settings** dialog box). The output will provide the standard error for the level-1 variance, and this may be used to construct a confidence interval.

One possible way to do this would be to use the **Fix Sigma** option from the **Other Settings** menu. Fix sigma to a small value, such as 0.001 and rerun the analysis.

The difference in the $-2\ln(L)$ values (*i.e.*, the deviance statistic) would be a chi-square with 1 degree of freedom. that can be used to evaluate whether σ^2 is significantly different from 0. As σ^2 is not bounded (*i.e.* could never be zero) a symmetric confidence interval is fine. The relevant sample size is approximately N , the total number of observations.