

Getting started: Model specification

Basic model specification has three steps:

- Specifying the level-1 model, which defines a set of level-1 coefficients to be computed for each level-2 unit.
- Specifying a level-2 structural model to predict each of the level-1 coefficients.
- Specifying the level-1 coefficients to be viewed as random or non-random.

After these three steps have been completed, a linear model is obtained. The next phase of model specification is to

- Select the type of outcome variable if running an HGLM model with HLM2 or HLM3.
- Select the level-1 error structure if running an HMLM/HMLM2 model.
- Provide names for the basic output file, the graphing equations file (if required) and to request residual files.

These selections are made using the modules' respective **Basic Settings** dialog boxes, which are accessed by clicking the **Basic Settings** option on the main menu bar or the **Outcome** button at the top left of the modeling window. Options available on this dialog box for the various modules are listed in the overview of modeling options in HLM modules, and the amount of output is controlled via the **Output Settings** option on the **Other Settings** menu.

In addition, various statistical options are available. Additionally, the iterative procedure and the amount and type of output can be controlled. Again, these differ by module. Access to the options are via the **Other Settings** option on the main menu bar. Options accessible via this option for the various modules are listed in the overview of modeling options in HLM modules.

Once model specification has been completed, the model can be saved to a command file (*.mlm file extension). This file can be retrieved for modification at a later stage, and contains all the information for a given model, including the name of the MDM file on which the analysis is based. To do so, use the **Save As** option on the **File** menu.

Data-based graphs, that can be used as a exploratory analysis tool prior to running the analysis, are accessed via the **Graph Data** option for HLM2 and HLM3 only. For more on data-based graphs, see the [data based graphs page](#).