

**Grouping Variables** This is the list of variables that are to be used to define the subgroups. The list can consist of one or more variables. The IDB Analyzer always includes IDCNTRY or its equivalent as the first grouping variable and there should always be at least one grouping variable. If the option “Exclude Missing from Analysis” is checked, only cases that have non-missing values in the grouping variables will be used in the analysis.

**Independent Variables** This is the list of analysis variables used as predictors in the linear regression model. The independent variables can be classified as categorical or continuous. Variables classified as categorical will be either dummy or effect contrast coded. Variables classified as continuous will be entered in the equation without further recoding. You can enter any combination of categorical or continuous variables.

For each variable classified as categorical you will need to enter the number of categories and the reference category. Reference categories are selected by sort order of the values for the variable. The program will automatically create dummy or effect coded variables for each of the non-reference categories. It will use the original variable name, plus a “D” or “E” followed by the category represented by the variable. For example, if you specify to effect code variable ASBG04, with 5 categories, and use the 3<sup>rd</sup> category as the reference category, the program will create the following variables: ASBG04\_E1, ASBG04\_E2, ASBG04\_E4 and ASBG04\_E5, and will use these in the analysis. Please note that ANY case with a missing value on any variable classified as categorical will be deleted from the analysis. If you want include these cases in the analysis you will need to recode the missing values to non-missing values.

**Dependent Variable** The dependent variable to be predicted by the list of independent variables. Only one dependent variable can be listed for each analysis specification.

**Weight Variable** The sampling weight that will be used in the analysis. The IDB Analyzer automatically selects the appropriate weight and replication variables for the analysis.

As an example, we will compute a linear regression equation predicting how much students like reading (ASBGSLR) as a function of the number of books they have in the home (ASBG04), and how confident they are in their reading (ASBGSCR). The variable “books in the home” has 5 categories and it will be effect coded, using the 3<sup>rd</sup> category as the reference category. The resulting regression coefficients will tell us the difference between the mean of the 5 group means, and categories 1, 2, 4 and 5 for the variable books in the home.

The data will be read from the data file **Merged\_PIRLS\_Data.sav** and the standard errors will be computed based on replicate weights.

The steps in the IDB Analyzer are as follows:

1. Open the Analysis Module of the IDB Analyzer (Start → All Programs → IEA → IDBAnalyzerV3 → IDBAnalyzer).