

to use these cases 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. The dependent variable must be dichotomous. When estimating the equation, SPSS will predict membership to the highest category of the dependent variable. You cannot use plausible values as a dependent variable.
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 logistic regression predicting whether students respond “Agree a lot” when asked “What do you think about your school? Tell us how much you agree with the statement: I like being in school.” (Question G8a in the PIRLS 2011 Student Background Questionnaires, variable ASBG08A). Since the student had 4 response options, we recoded them into a binary variable where a 2 signifies “Agree a lot” and a 1 signifies “Does Not Agree a Lot.” You can see how this variable was recoded in this file “RecodeLikingSchool.sps” located in the [Examples folder](#).

We will compute a logistic regression equation predicting the log of the odds of a student agreeing a lot that they like school (ASBG08A\_r) as a function of their gender (ASBG01), the scales on being bullied at school (ASBGSBS) and being engaged in reading lessons (ASBGERL), and their reading plausible value (ASRREA01-05). We will also calculate the interaction effects between gender and being bullied at school, as well as the interaction between engagement in reading lessons and the reading score.

The data will be read from the data file **Merged\_PIRLS\_Data\_r.sav** which contains the recoded dependent variable, 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).
2. Select the data file named **Merged\_PIRLS\_Data\_r.sav**.
3. As type of the analysis, select **PIRLS (Using Student Weights)**. The weight variable is automatically selected by the software. As this is an example for analysis on student level, the weight TOTWGT is selected by default. Additionally the variance estimation procedure is defined according to the technical specifications of the study.
4. From the **Statistic Type** dropdown menu, select **Logistic Regression**.
5. Note that there is no **Missing Data Option available for Logistic Regression**. Logistic regression excludes all cases with missing values on any of the independent.
6. In the next steps, all variables for the analysis are selected:
  - As **Grouping Variables**, the software always selects variable IDCNTRY by default. No other variable needs to be added for this example.
  - Next the independent variables and interactions need to be identified. To activate this section, click into the area of the **Independent Variables** field. Now you will