2. Select the data file named **Merged_PIRLS_Data.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. For the correct weight and jackknifing variables, please refer to the technical documentation specific to the study.

4. From the **Statistic Type** dropdown menu, select **Linear Regression**. From the **Plausible Values Option** dropdown menu, choose **Use PVs**. Leave the other dropdown menus unchanged.

5. Note that there are three options under the **Missing Data Option** dropdown menu – **Pairwise, Listwise** and **MeanSubstitution**[19]. Depending on how you want to treat the missing data, you might change it. For the time being, we will leave it as default (listwise). When choosing **Pairwise**, all available data are used in the analysis, when choosing **Listwise** only cases with complete data are used in the analysis, when choosing **MeanSubstitution** missing data will be replaced with the mean for the variable. We do not recommend the use of **MeanSubstitution** when entering categorical variables in your analysis. This option is only used to select cases based on the continuous variables. Cases with missing values in any of the categorical variables are deleted from the analysis file.

6. In the next steps all variables for the analysis are selected:

    - As **Grouping Variable**, the software always selects variable IDCNTRY by default. No other variable needs to be added for this example.

    - Next the independent variables need to be identified. To activate this section, click into the area of the **Independent Variables** field. Now you will need to select variable ASBG01 as a categorical variable, select "Dummy Coding", 2 for the "Number of Categories", and 1 as your reference category. As your continuous independent variable for the analysis choose ASBGSCR.

    - Next the dependent variable needs to be specified. To activate this section, you will need to click into the area of the **Dependent Variables** section and select the button for "Plausible Values". This time you will need to select variable ASRREA01-05 from the list of variables and move it to the **Plausible Values** section of the dependent variables by pressing the right arrow button in this section.

7. The weight variable is automatically defined by the software. As this is an example for analysis on student level, the weight TOTWGT is selected by default. For the correct weight and jackknifing variables, please refer to the technical documentation specific to the study.

8. Click on the **Define/Modify** button next to **Output Files** and specify the name of the output files. For our example we will use the name "LinearRegression_wPV". This filename will be used to create an SPSS file with the syntax to perform the analysis, a set of SPSS and Excel files with the statistics from the analysis (one with model statistics, one with descriptive statistics, and one with the linear regression coefficients), and the SPSS output file with summary statistics from the analysis. The suffixes _Desc, _Model or _Coef are added to the filename to identify the statistics contained in the

[19] For information about how SPSS treats data under each of these options, please review the documentation for the MISSING subcommand within the REGRESSION command.