

Multiple Logistic Regression

Use to model the relationship two or more continuous or categorical explanatory variables has with a categorical outcome variable. Useful for estimating the probability of the occurrence of an event for different values of the explanatory variables.

Car Poll.jmp (Help > Sample Data Folder)

Multiple Logistic Regression Using Fit Model

1. From an open JMP® data table, select **Analyze > Fit Model**.
2. Click on a categorical variable from **Select Columns**, and click **Y** (nominal variables have red bars, ordinal variables have green bars).
3. Choose explanatory variables from **Select Columns**, and click **Add**.
4. Click **Run Model**.

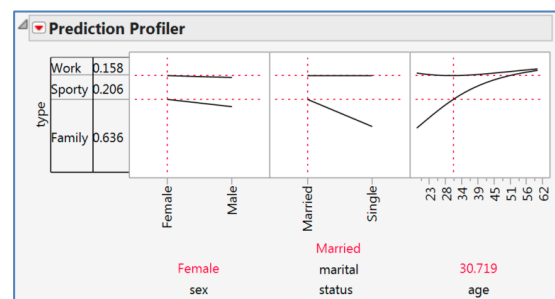
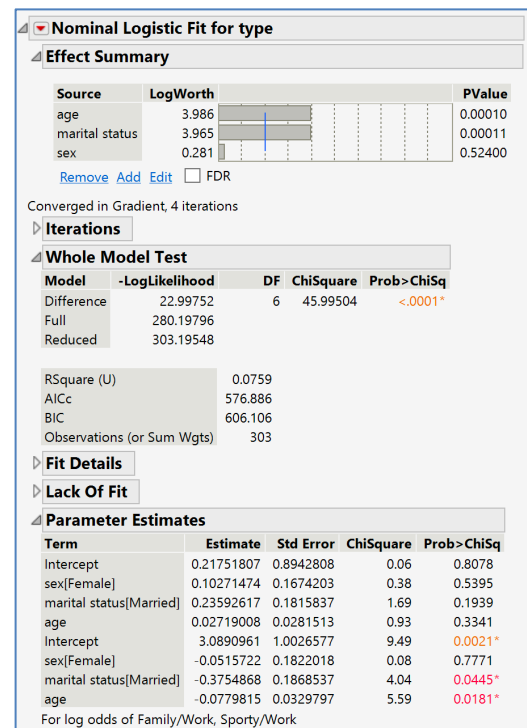
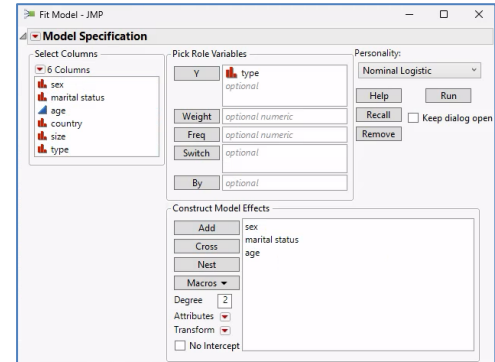
By default, JMP will provide the following results:

- The Iterations history (not shown).
- The Whole Model Test.
- Lack of Fit (not shown).
- Parameter Estimates for the model.
- Effect Likelihood Ratio Tests (not shown).

Tips:

- When the response is ordinal, an ordinal logistic model will be fit. When the response is nominal, as in this example, a nominal logistic model will be fit.
- To save the predicted probabilities to the data table, click on the **top red triangle**, select **Save Probability Formula**.
- To fit a model for grouped or summarized data, use **Freq** in the **Fit Model Specification** window - specify the variable that contains the frequency (count) for each level of the response.
- To view the effect of an explanatory variable on the predicted probabilities, click on the **top red triangle** and select **Profiler**.

In the **Prediction Profiler**, click and drag the vertical red line for a variable to change the level or value. The predicted probabilities are displayed.



Visit **Fitting Linear Models > Logistic Regression Models** in **JMP Help** to learn more.