Mosaic Plot and Contingency Table (Cross-tabs)

Use to examine the relationship between two categorical variables. A contingency table displays the frequency and percentages of the distribution of the data in a matrix format, while a mosaic plot graphically displays the information.

The Contingency Table Analysis

Car Poll.jmp (Help > Sample Folder)

1. From an open JMP® data table, select **Analyze > Fit Y by X**.
2. Click on a categorical variable from **Select Columns**, and click **Y, Response** (categorical variables have red or green bars).
3. Click on another categorical variable and click **X, Factor**.
4. Click **OK**. The Contingency Analysis output will display.
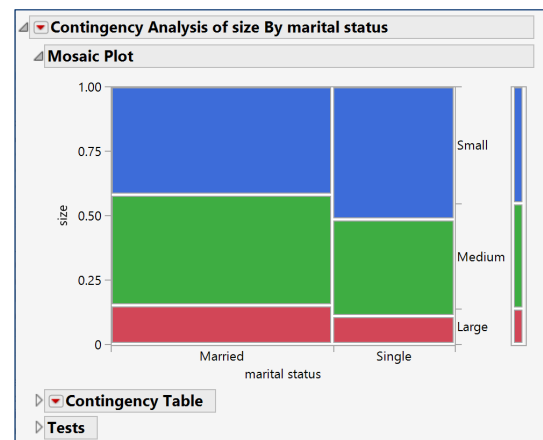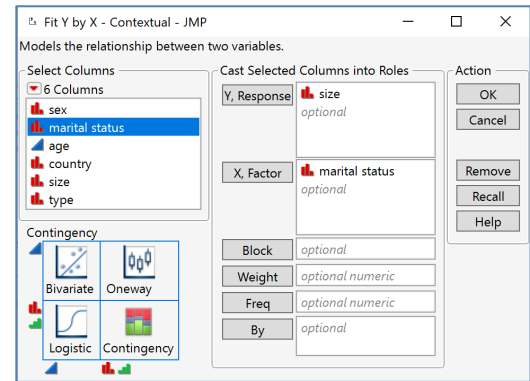
Mosaic Plot

The mosaic plot is a side-by-side divided bar chart that allows you to visually compare proportions of levels of one variable across the levels of a second variable.

Interpretation:

1. The widths of horizontal bars represent the proportions of the levels of the X variable (in this example, 65% Married, 35% Single).
2. The heights of vertical bars on the far right represent the proportions of the levels of the Y variable (in this example, 45% small, 41% Medium, 14% Large).
3. The cells in the plot represent the proportions for every combination of category levels. In this example, Married/Medium is the largest overall proportion (27.7%) and Single/Large has the smallest (4.0%)

Contingency Table

The body of the contingency table displays:

- **Count** – the cell frequencies (counts).
- **Total %** - the cell's percentage of the total count.
- **Col %** - the cell's percentage of the count for the column. The column variable is the Y variable, type.
- **Row %** - the cell's percentage of the count for the row. The row variable is the X variable, marital status.
- Borders display column and row totals.

Tips:

- Click on the **red triangle next to Contingency Table** to select or deselect display options.
- **Right-click** on the mosaic plot to change colors (**Set Colors**) or label cells (**Cell Labeling**).

Visit **Discovering JMP > Visualize Your Data** and **Essential Graphing** in **JMP Help** to learn more.