To plot a graph of any kind in SPSS, you will need to use the Chart Builder:

Click **Graphs**

Click **Chart Builder**

Click **OK** (if a dialog pops up asking about measurement levels)...

1. Choose graph **type** in the “Choose from” box (1) in the bottom left.
2. Drag the picture of the graph you want (2) into the blank area (3) in the top right.
3. Drag variables from the variables list (4) onto the axes on your graph.
4. Click **OK**
Is Your Data Scale, Ordinal or Nominal?

- **Scale**: true numerical values, such as heights of individuals.
- **Ordinal**: categorical values that have a natural ordering to them, such as “Very Happy”, “Happy”, “Ambivalent”, “Sad”, “Very Sad”, “Miserable As Sin”.
- **Nominal**: categorical values that have no natural ordering to them, such as “Flatbread”, “Croissant”, “Bread Roll”.

Scale vs Scale

A scatterplot is typically the best way to compare scale variables against each other:

**Test statistic**: Correlation (Pearson’s or Spearman’s)
Scale (or Ordinal) vs Nominal (or Ordinal)

A boxplot is a great way to compare a nominal variable against a scale value. The nominal variable goes on the x-axis.

**Test Statistics:** $t$-test or Mann-Whitney (for two groups on the x-axis), ANOVA or Kruskal-Wallis (more than two groups). The parametric tests ($t$-test/ANOVA) may not work properly in cases where the data is not scale, or sample is small and not normally distributed.
Nominal (or Ordinal) vs Nominal (or Ordinal)

This can sometimes be the hardest one to get useful plots from in SPSS. The simplest way is a clustered bar chart, but this isn’t always clear. So I’ll also describe how to create mosaic plots.

Clustered Bar Charts

The important difference here is that, while one variable goes on the x-axis, the other one does not go on the y-axis. It should be placed in the “Cluster on X” box circled top-right below. You might want to experiment with which variable goes in which, as the charts will look different and one may be easier to read than the other.
Mosaic Plots (Recommended!)

These are often easier to read. To create a mosaic plot:

- Select the stacked bar graph type (1)
- Drag one variable onto the x-axis (2) and one into the “Stack” box (3)
- Change the “Statistic” (4) to “Percentage ()”
- Click “Set Parameters” (5)
- For “Denominator for Computing Percentage” (6) select “Total for Each X-Axis Category”
- Click Continue (7)
- Click Apply (8) – this step is easily forgotten!!
- Click OK (9)

Test Statistics: Chi Squared Test for Independence (nominal vs nominal), Mann-Whitney/Kruskal-Wallis (nominal vs ordinal), Spearman’s Correlation (ordinal vs ordinal).
<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Nominal (two categories)</th>
<th>Nominal</th>
<th>Ordinal</th>
<th>Scale</th>
<th>Scale (parametric)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal (two categories)</td>
<td>Test for association*†</td>
<td>Test for association*†</td>
<td>Mann-Whitney</td>
<td>Mann-Whitney</td>
<td>Independent Samp. t-Test</td>
</tr>
<tr>
<td>Nominal</td>
<td>Test for association*†</td>
<td>Test for association*†</td>
<td>Kruskal-Wallis</td>
<td>Kruskal-Wallis</td>
<td>ANOVA</td>
</tr>
<tr>
<td>Ordinal</td>
<td>Test for association*†</td>
<td>Test for association*†</td>
<td>Spearman Correlation†</td>
<td>Spearman Correlation†</td>
<td></td>
</tr>
<tr>
<td>Scale</td>
<td>Logistic Regression</td>
<td>Multinomial Regression</td>
<td>Ordinal Regression</td>
<td>Spearman Correlation†</td>
<td>Pearson Correlation†/Linear Regression</td>
</tr>
</tbody>
</table>

*Chi-squared test for association, also known as test for independence.
†These tests don’t really have an I.V. and a D.V. – they are not asking if one thing depends on the other, but whether the two things move together.

In **bold**, are the sorts of tests you’d find on an introductory stats course.