

# Scatterplots in Jamovi

## Cheatsheet

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## About

A scatterplot is a graph that shows the relationship between two variables by displaying data points on a Cartesian plane. Each point represents an observation with its position determined by the values of the two variables. Scatterplots help identify trends, clusters, and outliers in the data.

### Assumed knowledge

- You have Jamovi installed ideally 2.5.7.0 or later.
- You can follow instructions to select, click and drag elements in Jamovi.

### Data structure

The data should be in a **long format** (also known as tidy data), where each row is an observation and each column is a variable (Figure 1). If your data is not already structured this way, reshape it manually in a spreadsheet program or in R using the `pivot_longer()` function from the `tidyr` package.

Sex	BW		
F	2.15	F	M
M	2.55		
F	2.95	2.15	2.55
F	2.70	2.95	2.20
M	2.20	2.70	2.55
F	1.85	1.85	2.60
M	2.55		
M	2.60		


Figure 1: Data should be in long format (left) where each row is an observation and each column is a variable. This is the preferred format for most statistical software. Wide format (right) is also common, but may require additional steps to analyse or visualise in some instances.

## Data

For this cheatsheet we have two separate datasets. The first is part of the possums dataset used in [BIOL2022](#) labs. Two numerical variables are available: `ExpBLUP` and `AactiveTBLUP`. The data is available in the file `possums-blup.csv`.

The second dataset is data were collected and made available by Dr. Kristen Gorman and the Palmer Station, Antarctica LTER, a member of the Long Term Ecological Research Network. The data may be downloaded manually but is available below as `penguins.csv`.

## Import data

1. Click on the Menu icon: 
2. Select Open > Browse, and navigate to the downloaded file.
3. Click Open to load the data.

## Plot

1. Click on the **Analyses** tab.
2. Select **Exploration > Scatterplot**.
3. Drag the variables you want to plot into the X and Y boxes. The variables should both be numerical.

4. If you want to colour the points by a categorical variable, drag the categorical variable into the **Color** box.
5. Explore the options for **Regression Line** and **Marginals** by clicking on them. **Note:** *depending on the version of Jamovi, these options may be located in different places or will not be available. The point is that you can explore additional functionality with ease.*
6. Rename variables by clicking on the variable name in the **Variables** tab.

## Export

To export the plot, right click on the plot, select Image > Export... > Browse and rename the file before clicking on the Save button.

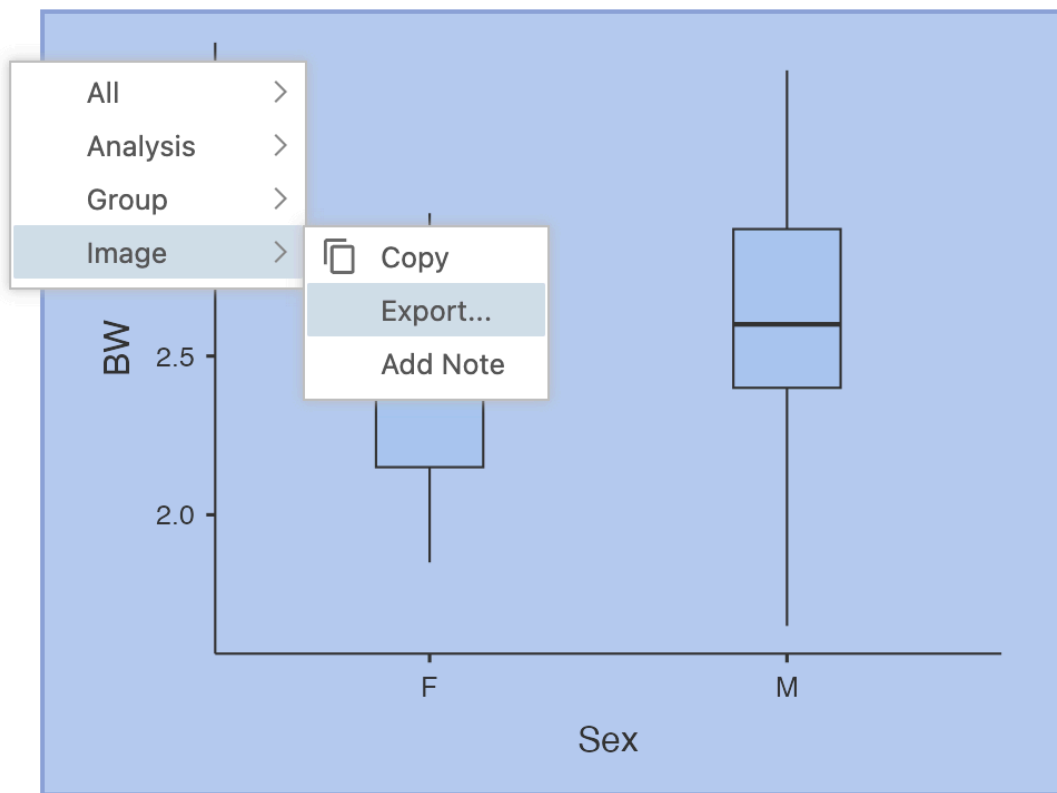


Figure 2: A popup window should appear when you right click on a plot, where you can export the image. Click on the image to expand it.