Demo: Creating Histograms in JMP

In this video, we show how to create histograms using the Distribution platform in JMP for the Impurity data. We also show how to interact with linked histograms to explore potential relationships between variables.

To start, we select Distribution from the Analyze menu.

We select Impurity through Reaction Time for Y, Columns, and select the Histograms Only box. This option turns off other graphical and numerical summaries that display by default in the Distribution platform.

We click OK to create histograms for the four variables.

By default, vertical histograms are displayed. Vertical histograms enable you to display output for many variables at a time in the same window. You can easily change the layout of the histograms from vertical to horizontal, and can also stack the histograms.

We select Stack from the top red triangle to create horizontal histograms that are stacked one on top of the other. To display these histograms in a row, we use the Arrange in Rows option from the top red triangle.

Let's say, for example, that we want to display these histograms in two rows, with two histograms in each row. We enter 2 in the box and click OK to display two histograms per row.

Note that, if you prefer horizontal and stacked histograms, you can set a preference. To do this, we go to File and then Preferences (or JMP and then Preferences on a Mac). We select Platforms from the Preference Group, and select Distribution from the Platforms list. Then we select Stack from the Options list. Finally, we click OK to accept this change and close the Preferences window. Next time you run this analysis, the histograms will be both horizontal and stacked.

Let's return to our example. The histograms enable you to see the shape, centering, and spread of the distributions for the four variables.

Notice, for example, that Impurity is slightly right-skewed, and that Temp is mounded in shape and symmetric around this central peak.

To look more closely at the distribution of a variable, let's select the grabber tool and click and drag to take a closer look at the distribution of Impurity. Notice that as we drag up and down, the width of the bins in the histogram changes, enabling us to see more of the details in the distribution. When we drag left to right over the histogram, the bins shift with the grabber.

We'll change the tool back to the arrow.

The histograms are linked, so selecting values in one graph highlights the corresponding values in the other graphs. For example, we can see that low values of Impurity tend to correspond with low values of Temp and Catalyst Conc, and high values of Impurity correspond with high values of these variables.

We can add information to the histograms using the red triangle for a variable and then Histogram Options. For example, Show Percents shows the percent of the Impurity observations within each bar.

We can also broadcast a command to the other histograms.

For example, let's say we want to change the histogram color for all four histograms at one time. We click the control key, or the command key on a Mac, and then select Histogram Options and Histogram Color. The color you select is applied to all four histograms.

To apply these changes, like showing percents or using a different histogram color, to future analyses, we can set these options using Preferences.

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