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This tutorial covers describing scatter plots. When describing scatter plots, there are three main things to keep in mind, direction, strength, and form. So for describing the scatter plots, each scatter plot we see, those are the three things that we're going to be doing.

On the first part, for direction, when we're talking about being a positive direction, in general, the variables are both going to be increasing or both going to be decreasing. So for example, if we have our x and y-axis and our scatter plot looks like this, then as this x-axis, as this variable is increasing, then the y-axis is also increasing. So this is a positive correlation.

Now on the other hand, with a negative correlation, in general, the variables are going to be moving in opposite directions. So if we have something like this, as this x variable is increasing, the y variable is decreasing. So this is going to be showing a negative relationship.

Now, the other thing that we're talking about with scatter plots is strength, how closely the two variables are associated with some curve or some line. So a strong relationship, the scatter plot would very carefully and very closely look essentially like a line or like a curve. If there is not very much strength, that it's a weak relationship, then it can still kind of start to give you the picture of a line or a curve, but the data is going to be a lot more spread out. It's not going to be as clear of a picture, as clear of an association with some sort of line.

Now, the other thing that we're going to be looking at is form. So we could talk about linear or non-linear. So in the examples that I just drew on this page, here this would be showing a linear relationship. The scatter plot is approximating a line.

Here, this would be showing a non-linear relationship. There is some sort of association for the data, but it's just not a line. It's not making a line. It's looking more like a curve.

The other thing to be careful of with form is for clusters or outliers. So if we had a scatter plot that had a cluster here and a cluster up here, we would want to note that and make a note of the fact that there are some significant clusters.

Same with outliers. If our scatter plot was essentially linear and then had one outlier, we would want to note that, as well. It's important to be aware of.

So finally, with describing scatter plots, we'd want to be aware of the times that there's no clear association. So for clouds of dots or horizontal lines, there's no clear association there, no clear

relationship. So the cloud of dots, essentially with the name, indicates these dots are kind of clumped all together. There we have our cloud of dots.

With a horizontal line, again, there's not going to be a clear association, whether it is a pretty straight line or a little bit weaker. I'll put some more dots above and below. That is still not going to have a clear association.

So this has been your tutorial on describing scatter plots. Again, when you're describing scatter plots, we want to be looking at the direction, the strength, and the form.