**Transcript: Descriptive Statistics in SPSS**

In this video, we're going to go over how to calculate descriptive statistics in SPSS. You can see here our data set for this week, which is the same one that we used in the data visualization lab. We have different states in the US and some information about their public education system and achievements. We've got the state population. We've got the average score on the SAT, both in the verbal component and the math component. We have the percentage of students who take the SAT, the number of dollars spent on public education in thousands of dollars per student per year, and the average teacher salary in thousands of dollars per year.

We did some good visualizations last time, but sometimes it's also helpful to have some numerical descriptive statistics about these variables. In the lecture this week you learned about some of these, like mean, median, mode, range, standard deviation, and variance. So we're going to go over how to calculate those in SPSS.

We're going to go to “Analyze”, “Descriptive Statistics”, and “Frequencies...”. When you see this window, you can see that we've got all of our different variables. For you, it probably will look like this. And you can go ahead and move all of the variables that you want descriptive statistics for into this “Variable(s)” window. If you want descriptive statistics for multiple variables, you can do that one at a time, so you could move them over like this. Or you can select all of them using the shift key and move them all at once.

In order to get our descriptive statistics, we need to choose which ones we want to see using the “Statistics...” button. You can see here we have a lot of different options for the different descriptive statistics we could. What I selected here are the six that we're going to be looking at today, which are the ones covered in the lectures, which are, mean, median, mode, standard deviation, variance, and range. You could see some other options that you could select here, but these are the ones we're going to look at today. Once you selected the ones that you want, you can go ahead and click “Continue”. And we can also unselect this “Display frequency tables”. If you keep that selected then it will give you a table of every value for every variable, and so we don't necessarily want that clogging up our output. So, we'll just uncheck it. We can click “OK” then.

And we will get this frequency table. So, along the columns here we have our six different variables that we've selected. The first row that we have is “N”, which is the number of observations we've got. The number of valid observations and missing. You can see here we actually have no missing data, which is great. You can also see the mean, median, standard deviation, variance, and range.

So, let's say if we wanted to know what the median teacher salary is across the 51 U.S. states (including Washington DC). We could go to this “median” row and under “pay” we could see that it is $30,000 per year. Similarly, let's say we wanted to know the standard deviation of SAT verbal scores within the 51 states and Washington DC. We could go to the “standard deviation” row and see that it's 30.821.

I also want to note here this footnote for the mode, which says “multiple modes exist, the smallest value is shown”. This means that for the variables with the superscript “a”—population, SAT verbal, dollars, and pay—there are multiple modes, and the one that's displayed is the smallest of the values. So, it's important to look at the data more thoroughly if you need to know all of the values of the mode.

This will give you all of the standard deviation, range, variance, mean, median, and mode—all of the descriptive statistics that we want to see. And you could also do this using just one or a couple of the variables, if that's what you're interested in, but you can also produce this nice table that has all of them.

So that's how we look at our descriptive statistics within SPSS.