**Transcript: Variable Transformations in SPSS**

In this video, we're going to go over how to transform variables in SPSS. We're going to do the same three variable transformations we did in the R Commander video, plus learn how to create *z* scores. You can see here that we have our data imported already. This is the Davis data set that's the same one from the R Commander video, and we have our weight in kilograms and our height in centimeters.

In order to do our first transformation of converting height in centimeters to height in inches. We will navigate to “Transform” and “Compute Variable...”. This pulls up a similar window to what we saw in R Commander where we can type in our “Numeric Expression” or our formula for computing our new variable. We're going to fill in the name of our new variable, which is called the “Target Variable” in this case. Next, we can move on to writing the formula to compute this height in inches. If we select this “height” variable and click the arrow, it will move height over to the “Numeric Expression”. Remember that to convert height from centimeters to inches, we want to divide by 2.54. We can either type in our formula the same way we did for the R Commander variable conversions or we can use these buttons here. In this case I'm going to select the “divided by” symbol and 2.54. Once I click “OK”, it will convert height in centimeters to height in inches and create this variable.

Next, we're going to convert weight in kilograms to weight in pounds. Again, we will navigate to “Transform” and “Compute variable...”. We can change our target variable name to be “weight\_lbs” and erase the numeric expression from our last variable. Next, we will select “weight”, bring it over to the “Numeric Expression” field, and multiply it by 2.2. This gives us our numeric expression for converting kilograms to pounds. Once we click “OK”, we will again see that we've been able to convert weight in kilograms to weight in pounds.

Next, in order to create our BMI variable, we need to first transform height in centimeters to height in meters. We will bring up the same window and create a variable called “height\_m”. We will use this “height” variable and divide height by 100. This will give us our height in meters that we need to calculate BMI.

Lastly, to compute BMI we will again go to “Compute Variable...” and create a variable called “bmi”. First, we are going to take our weight in kilograms and we will divide it by height in meters squared. You can see here that if we're using more than one of our existing variables, we can just use the arrow each time to move it over to this “Numeric Expression”. In SPSS, exponents are represented by this double asterisk. So, this section of the expression reflects raising height in meters to the second power, which is also known as squaring height in meters. This will give us our formula for calculating BMI, and once we click “OK”, we will be able to see our BMI values here.

The last thing we're going to go over is how to calculate standardized scores or *z* scores in SPSS. To do that, we will navigate to “Analyze”, “Descriptive Statistics”, and “Descriptives...”. This time let's standardize our “height” variable. We can select the variable we want to standardize within this left field and use the arrow to move it into this “Variable(s)” field. In order to calculate *z* scores, we need to check this box that says “Save standardized values as variables”. Once we click “OK”, we will see some descriptive statistics for this variable, but what we're interested in in this case is this “Zheight”. This reflects the *z* scores for the “height” variable. So participant one has a *z* score of .998, which indicates that their height is 0.998 standard deviations above the mean for the sample.

This video has shown you how to do various transformations on variables that you might encounter when working with data in SPSS.