**Transcript: Conducting Factorial ANOVA in SPSS**

In this video, we will go over how to conduct factorial ANOVA in SPSS. You can see here the variables that we used in the one-way ANOVA video, including the “subCat” variable that we created using the “Automatic Recode...” function.

We need to do the same thing to “condition”, which is the other variable that we will be using in this analysis. Once again, we will navigate to “Transform” and “Automatic Recode...”. First, we need to move the variable that we already recoded back into the left side of this window so that we're not trying to recode it again. Once we click the arrow, we'll see that we have a blank field for the variable that we're going to recode next. Similar to how we recoded the “substance” variable, we will select “condition” and use the arrow to move it into the right-hand field. Then we need to add the new name. To do this, we will highlight the variable by clicking on it and type in the new name into the “New Name” field. You can use whatever name you want, but I'm going to use “condCat” for “condition category” to have a similar structure to the “subCat” variable that we created before. I will select “Add New Name” and “OK”, and that will recode our variable similar to how we recoded the “substance” variable. We can see here that we have our old value, our new value and our value labels.

The next thing that we're going to do is conduct our factorial ANOVA. We will navigate to “Analyze”, “General Linear Model”, and “Univariate...”. This will bring up a window that will allow us to specify the variables we're going to use in our factorial ANOVA. The first thing we need to specify is our dependent variable. This is “bam”, so we will use the arrow to move it into the “Dependent Variable” field. The next thing we need to add is our “Fixed Factor(s)”. These are our predictors in our factorial ANOVA. We're going to select “subCat” and “condCat”. You can use the shift key on your keyboard to highlight both of them and move them into the “Fixed “Factor(s)” field at the same time, or you can move them in one at a time.

Next, we are going to specify that we want to create an interaction plot by going into “Plots”. The first thing we need to do is specify our horizontal axis. In this case, we might want to look at BAM scores by condition (or treatment or control condition), so we can select that variable and move it into the “Horizontal Axis” line. To make an interaction plot, we want to have separate lines for each value of our other variable. So, we will select our “subCat” variable and move it into the “Separate Lines” field. Then we can click “Add”, and you can see that we have a plot added here. This is going to allow us to visualize the interaction between “condition” and “substance”, which is represented here with an asterisk. Next, we can click Continue”.

In order to get SPSS to report effect sizes for this model, we can go into “Options...” and select the check box for “Estimates of effect size”. Next, we can click “Continue” and “OK” and SPSS will produce our output for our factorial ANOVA model.

In the next video, we will go over how to interpret this output, as well as the output from R Commander.