**Cronbach's alpha (interpret output)**

Okay, so this video is a continuation of our first Cronbach’s alpha video and we’re going to look at how to interpret the output that we obtained for all those options that we ticked in the statistics button. So you can see here I’ve got my case processing summary, my reliability statistics where I’ve got my Cronbach’s alpha, our items statistics, our inter item correlation and our summary items statistics, item total statistics and our scale statistics. Now I’m going to switch over to my PowerPoint slides just to make this a bit easier because then I can point to stuff. So our first is our case processing summary so we can see we had 191 valid cases and 248 were excluded for a total of 439. Now you see down here at the bottom there’s an A and it goes with the super script data here above excluded. It says Listwise deletion based on all variables in the procedure, and that means that if there was a missing value for any of the items of a participant, they were deleted completely so Listwise, going horizontally by a row, if a participant had one missing value, that participant was omitted from the Cronbach’s alpha calculation.

Okay, our next one was our reliability statistics. Now we’re going to raid the Cronbach’s alphas value and we are looking for something greater than .7. So .859 is pretty good, that’s what we’re looking for. Now in Julie Pallant’s book, the SPSS Survival Manual, she does note that if you have less than ten items on a scale, it is difficult to get a high alpha so you are looking for something that is above .5 or 0.5. If you have anything less than 0.5, then it would be a cause for concern. Maybe there’s items that need to be deleted from the scale.

Our next output is them item statistic, so here we can see mean and standard deviation as well the sample size for each of the items on our scale, and this is the same as if we’d run a frequencies or descriptive statistics and produce some means and standard deviations. Our next output is in the inter item correlation. So this is the correlation of every item with each other so for example the second row here is item two correlated with item one and you can see it’s quite strong because it is .75. Now you would expect all of these correlations to be positive because all of your questions should be worded in the same way. So remember I said all positively worded or all negatively worded, so if they’re all going in the same direction, these correlations should be positive, and the larger the value or closer to one, the stronger the relationship between the responses. Now just like if you run a regular correlation, you’re going to get ones along the diagonal and that’s because it’s a correlation of an item with itself so item one correlated with- item one is going to be a perfect correlation and also you’ll notice that its symmetric meaning that everything above the ones is the same as everything below the ones, so we only really need to read one half of this table.

Okay so our next table are the summary item statistics so this is where we have the item means and inter item correlations. So this is the mean for all items in your scale as well as the min, the max and the range. Now the range is the maximum minus the minimum value and we’ve got the variance and the number of items so we already know that there’s five items in this scale. Now, Julie Pallant suggests that if you have a low Cronbach’s alpha because you have few items in your scale, to report the inter item correlation here, which is this number, .552. If you have a high Cronbach’s alpha you don’t need to worry about it. If you have a low value, like below .7 or below .5 if you have a few items then do report the inter item correlation.

Our next table is the item total statistics. This middle column here is the correlation of each item with everything else combined, so item one correlated with items 2 – 5 combined together. Item two correlated with item one, combined with items three, four and five. So it might sound a bit confusing but if you think of it as each item by itself correlated with everything else grouped together. And the last column in this table that we want to look at are the Cronbach’s alpha, if the item is deleted from the scale. So if you’ve got a low Cronbach’s alpha, have a look at this column and see if I remove any particular item from this scale, does it significantly increase my Cronbach’s alpha? So if my item say, or my Cronbach’s alpha was below .7, I would have a look here, if I remove something, will it increase my Cronbach’s alphas to greater than .7? So that’s how we can interpret our statistics, outputted for our Cronbach’s alpha.

END.