Chapter 10: Moderation, mediation and more regression

Oliver Twisted

Please, Sir, can I have some more … centring?

Grand mean centring is really easy: we can simply use the *compute* command that we encountered in the book. First, we need to find out the mean score for callous traits and gaming. We can do this using some simple descriptive statistics. Choose Analyze Descriptive Statistics ▶ Descriptives… to access the dialog box shown below. Select **Vid_Games** and **CaUnTs** and drag them to the box labelled *Variable(s)*, then click on Options and select only the mean (we don't need any other information).

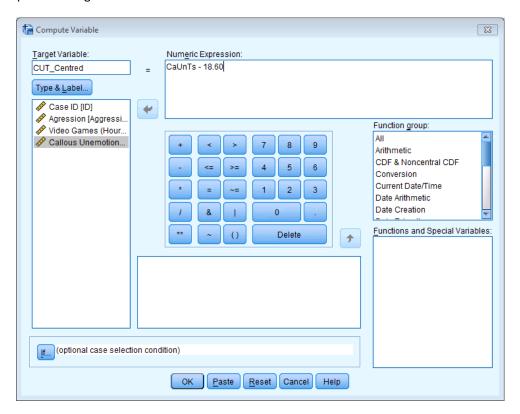The resulting **Error! Reference source not found.**output tells us that the mean for video game play was 21.84 hours per week, and for callous and unemotional traits was 18.60:
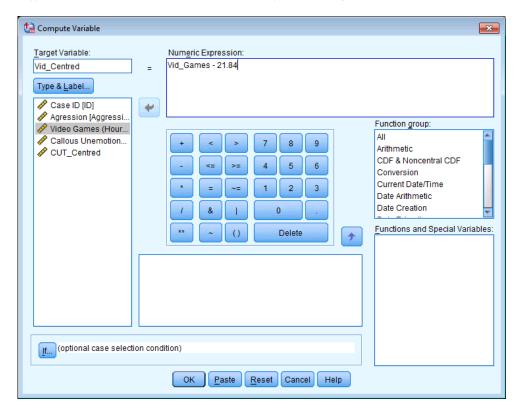
Descriptive Statistics

	N	Mean
Video Games (Hours per week)	442	21.84
Callous Unemotional Traits	442	18.60
Valid N (listwise)	442	

We use these value to centre the variable. Access the *compute* command by selecting Transform ⊞ Compute Variable…. In the resulting dialog box enter the name **CUT_Centred** into the box labelled *Target Variable* and then click on Type & Label… and give the variable a more descriptive name if you want to. Select the variable **CaUnTs** and drag it across to the area labelled *Numeric Expression*, then click on - and then type the value of the mean (18.60). Here is the completed dialog box:

Click on OK and a new variable will be created called **CUT_Centred**, which is centred around the mean of the callous unemotional traits variable. The mean of this new variable should be approximately 0: run some descriptive statistics to see that this is true.

To centre the video game variable, we again select Transform ▦ Compute Variable... . In the resulting dialog box enter the name **Vid_Centred** into the box labelled _Target Variable_ and then click on Type & Label... and give the variable a more descriptive name if you want to. Select the variable **Vid_Games** and drag it across to the area labelled _Numeric Expression_, then click on ⎕ and then type the value of the mean (21.84). The completed dialog box is as follows:

Click on ⎕OK⎕ and a new variable will be created called **Vid_Centred**, which is centred around the mean of the number of hours spent playing video games. The mean of this new variable should be approximately 0. You can centre both variables in a syntax window by executing:

COMPUTE CUT_Centred = CaUnTs −18.60.
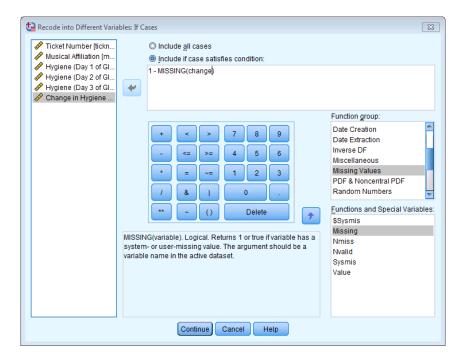
COMPUTE Vid_Centred = Vid_Games−21.84.

EXECUTE.

Please, Sir, can I have some more … recoding?

One of the problems with the Glastonbury data is that we didn't have hygiene scores for all of the people at day 3. Therefore, when we calculated the change scores (day 3 minus day 1) we likewise only had data for a subset of our sample. When we come to recode the 'music' variable, we should probably not recode the cases for which we don't have data for the 'change' variable. This is fairly simple to do by setting an IF command. That is, we want to tell SPSS 'IF there is a value for the variable **change** then recode the variable **music'**. To do this, click on [If...] to access the dialog box below:

By default SPSS will include all of the cases in the data, but we can use this dialog box to set conditions. So, we can tell SPSS 'recode these cases only if a certain condition is met'. The condition that we want to set is that we want to recode only cases for which there is a value for the variable **change** (i.e., we want to exclude cases for which there are missing values in the variable **change**). To specify this, first click on ⦿ Include if case satisfies condition: to activate the white box below. Rather like the *compute* command (see Chapter 5) we can type commands in this box, and select built-in commands from the boxes labelled *Function group* and *Functions and Special Variables*. You can see in the diagram that I have selected a command in the category 'Missing Values' called 'Missing'. To be specific, the condition that I have set is (1−MISSING(change)). MISSING is a built-in command that returns 'true' (i.e., the value 1) for a case that has a system-missing or user-defined missing value for the specified variable; it

returns 'false' (i.e., the value 0) if a case has a value. Hence, MISSING(change) returns a value of 1 for cases that have a missing value for the variable 'change' and 0 for cases that do have values. We want to recode the cases that do have a value for the variable change, therefore I have specified '1−MISSING(change)'. This command reverses MISSING(change) so that it returns 1 (true) for cases that have a value for the variable **change** and 0 (false) for system-missing or user-defined missing values. To sum up, the command DO IF (1−MISSING(change)) tells SPSS 'Do the following RECODE commands if the case has a value for the variable change'.