

3.5.2.3 The COUNT command 1 - Attachment to status quo

[Last updated: 24 Aug 2011, previous version 1 October 2009]

Exemplar:	Fifth form survey fifthx.sav
Variables:	v275 to v278 (Q34 o, p, q, r)
Variable to be derived:	Attachment to status quo
SPSS command:	COUNT
Previous tutorial	3.5.2.2 Data checks 1 - Status quo

As well as the basic variables defined during the file-creation stage, we have already seen how to create new or **derived** variables with the **RECODE ... INTO ...** and **RENAME VARIABLES** commands and with the **GET.../RENAME** sub-command.

It is also possible to create new variables by combining information from two or more existing variables, by copying from one variable to another, or even by overwriting the same variable.

First, let's look at how we can create a new variable by **counting** the number of times a value or set of values occurs in a given set of variables.

The **COUNT** command

COUNT creates additive indices. It counts, for each case, the number of times a specified value or set of values occurs for a variable or variables on a criterion variable list and enters this as the value for a new variable defined by the **COUNT** command.

The general format is:

COUNT <newvar> = <criteria varlist> (<value list>)

...in which the user has to supply the new **variable name**, the list of **variables to be scanned** and the list, **including the round brackets**, of **value(s) to be included** in the search and where **<value list>** must contain a single value, several individual values separated by commas or a range of values.

e.g. **COUNT** **Q34_Disagree = v275 to v278 (1 , 2)**

This creates a new variable **Q34_Disagree** initialized at 0: **SPSS scans** the four variables **v275** to **v278** and **adds 1 each time it finds a 1 or a 2, to yield a score in the range 0 – 4. The new variable is appended to the bottom of the working file, but will not be saved unless you also save the file.**

For example, in the fifth form survey, four items in question Q.34 (o, p, q, r) are replicated from a scale developed by Himmelweit to measure "attachment to status quo" among teenagers.

Q 34. Do you agree or disagree with the following statements: (Ring the numbers)		Disagree Strongly	Tend to Disagree	Tend to Agree	Agree Strongly	
o)	It is best to be like the others and not to stand out from the rest.	1	2	3	4	(75)
p)	People who are content with what they have will have a better life than those who are always trying to improve their position.	1	2	3	4	(76)
q)	We are all born to our various social positions and it won't do to change them.	1	2	3	4	(77)
r)	The greatest source of happiness in life is to be satisfied with whatever you have.	1	2	3	4	(78)

We can construct a crude index of this attitude by counting the number of "agree" or "agree strongly" responses (codes 3 or 4) to these items. The result will lie in the range 0 to 4 where 4 indicates high attachment to the status quo.

To use **COUNT** to generate a new variable containing the number of **Agree** or **Agree Strongly** responses (codes 3 and 4) to the items in the "Attachment to status quo" scale, we first need to decide on a name for it.

Remember, variable names in SPSS must begin with a letter of the alphabet. In 1981 they were limited to 8 characters, but now you can have up to 64. However, it's best to keep names short as otherwise the Data Editor gets very unwieldy. Let us call the new variable **STATQUO**. Next, we have to specify the existing variables to be included in the criterion list for **STATQUO**. These are **V275 V276 V277** and **V278**.

A small table helps:

New variable name <newvar>	Variables to be scanned <criteria varlist>	Values to be counted <value list>
STATQUO	V275 V276 V277 V278	3 and 4

Using the general format as a guide:

COUNT <newvar> = <criteria varlist> (<value list>)

in which **blue** indicates required **SPSS keywords and symbols** and **plum** things you have to **type in yourself**, we can write a command in SPSS:

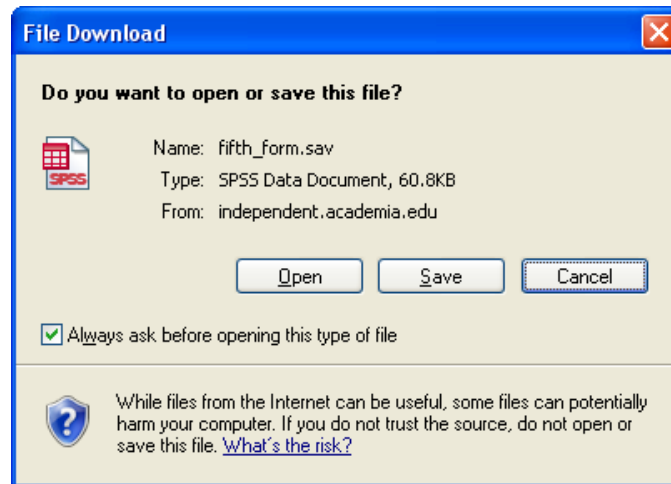
COUNT **STATQUO** = **V275 V276 v277 V278** (**3 , 4**).

...or, because the source variables are adjacent in the file,

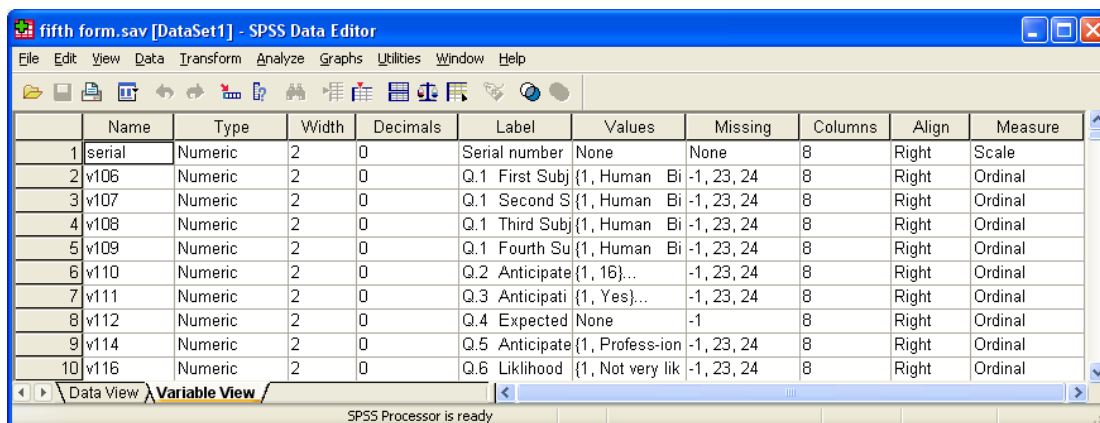
COUNT **STATQUO** = **V275 TO V278** (**3 , 4**).

First we need to access the SPSS saved file for the fifth form survey. You may already have the file open from the last tutorial: if not, start by downloading [fifthx.sav](#) (the SPSS saved file for the fifth form survey). Don't worry if you haven't got immediate access to SPSS, just follow the rest of the tutorial anyway

[NB: The file name in the following screenshots is **fifth_form.sav**, to be downloaded from a different website before October 2009, but the file is now on this website and contains the same data. It now downloads directly into SPSS, or opens SPSS if it is not already open.]



Click on **Open** to get¹:



For now we don't need the last three columns. Use the mouse to drag the column separators for **Labels** and **Values** to the right to make the display easier to read, and to include only essential information (as far as **Missing**) then adjust the size of the pane to suit.

¹ The size of the Data Editor displayed will depend on how it was last used. You can drag the corners of the pane to reduce or enlarge it, and the edges up or down and left or right using the left mouse button. This pane is adjusted to display only the first few variables in the file.

	Name	Type	Width	Decimals	Label	Values	Missing
1	serial	Numeric	2	0	Serial number of questionnaire	None	None
2	v106	Numeric	2	0	Q.1 First Subject	{1, Human Biology}...	-1, 23, 24
3	v107	Numeric	2	0	Q.1 Second Subject	{1, Human Biology}...	-1, 23, 24
4	v108	Numeric	2	0	Q.1 Third Subject	{1, Human Biology}...	-1, 23, 24
5	v109	Numeric	2	0	Q.1 Fourth Subject	{1, Human Biology}...	-1, 23, 24
6	v110	Numeric	2	0	Q.2 Anticipated age of leaving school	{1, 16}...	-1, 23, 24
7	v111	Numeric	2	0	Q.3 Anticipating Further Education	{1, Yes}...	-1, 23, 24
8	v112	Numeric	2	0	Q.4 Expected Completion of Further Ed	None	-1
9	v114	Numeric	2	0	Q.5 Anticipated Job	{1, Professional}...	-1, 23, 24
10	v116	Numeric	2	0	Q.6 Likelihood of Anticipated Job	{1, Not very likely}...	-1, 23, 24

Scroll down to find variables **v275** to **v278** containing the data for the battery of items measuring attachment to status quo, Q34 o, p, q and r, and adjust the pane further vertically to reduce clutter and show only these variables:

	Name	Type	Width	Decimals	Label	Values	Missing
138	v275	Numeric	2	0	Q.34o Shouldn't be conspicuous	{1, Strongly disagree}...	-1, 23, 24
139	v276	Numeric	2	0	Q.34p Contentment brings better life	{1, Strongly disagree}...	-1, 23, 24
140	v277	Numeric	2	0	Q.34q Social positions fixed	{1, Strongly disagree}...	-1, 23, 24
141	v278	Numeric	2	0	Q.34r Happiness is satisfaction	{1, Strongly disagree}...	-1, 23, 24

Now you know why positional variable names and informative variable labels are so useful! The variables and question numbers are much easier to find inside the Data Editor than mnemonics and you (and, more important, other researchers) can work straight from the original questionnaire to the data set and *vice versa*. If you must use mnemonics, at least consider using the question numbers as variable names for the same reason, especially if you are using the GUI drop-down menus with variables displayed in alphabetical order.

To create our new variable **STATQUO** (attachment to status quo) we wrote a command in SPSS syntax:

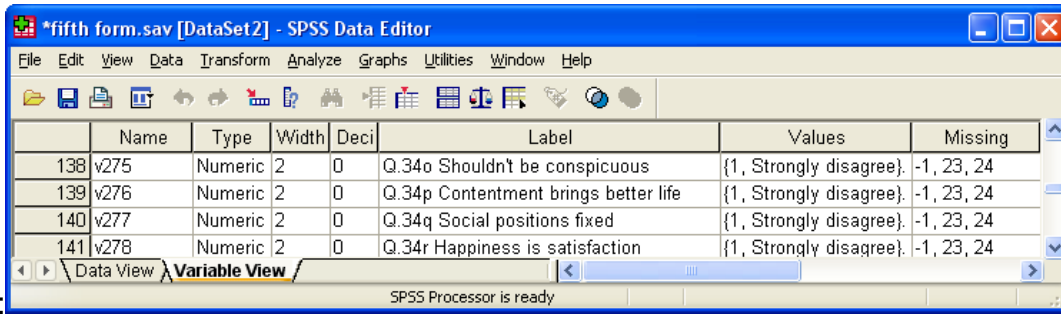
COUNT STATQUO = V275 V276 V277 V278 (3 , 4).

How do we get SPSS to execute this command?

It is possible, but **extremely tedious, confusing and tiresome**, to do this using the drop-down menus. In my experience it is much simpler, quicker and easier to do it directly using SPSS syntax. You will see why later.

The syntax way

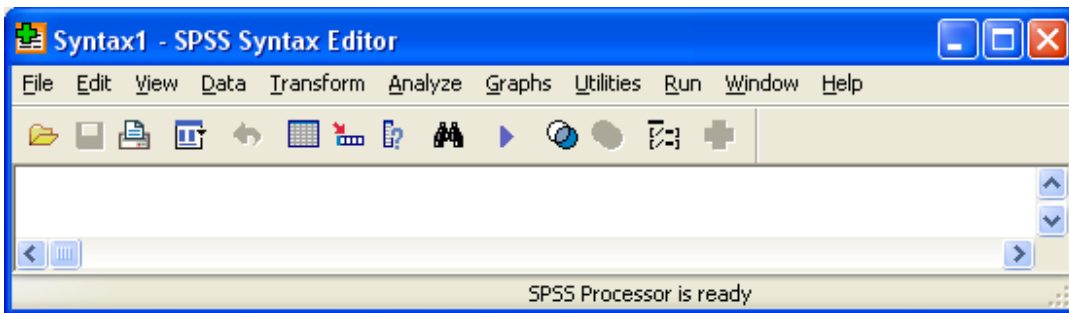
Go back to the Data Editor:



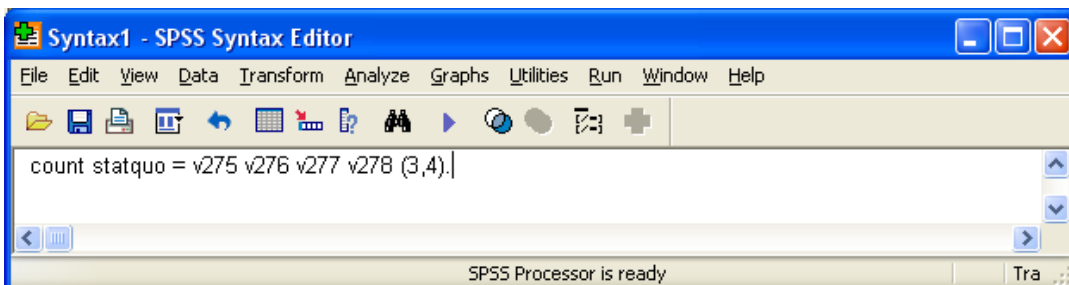
File

...New

...Syntax:



...and write in your SPSS command:

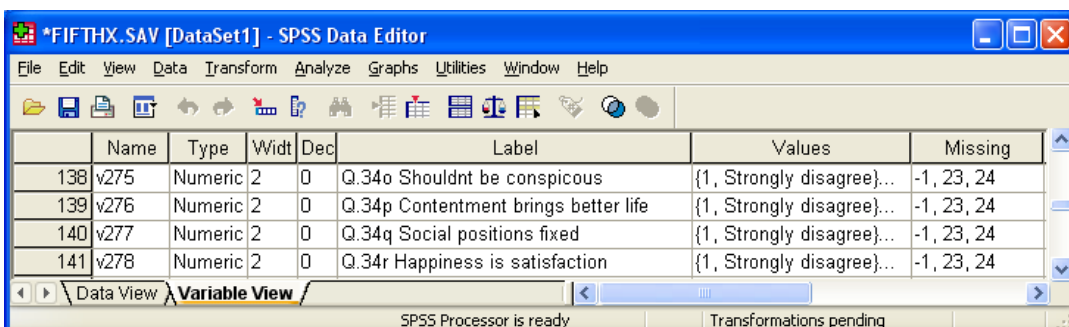


Don't forget the full stop! Leave the cursor in or on the line and run the job with [CTRL]+R or

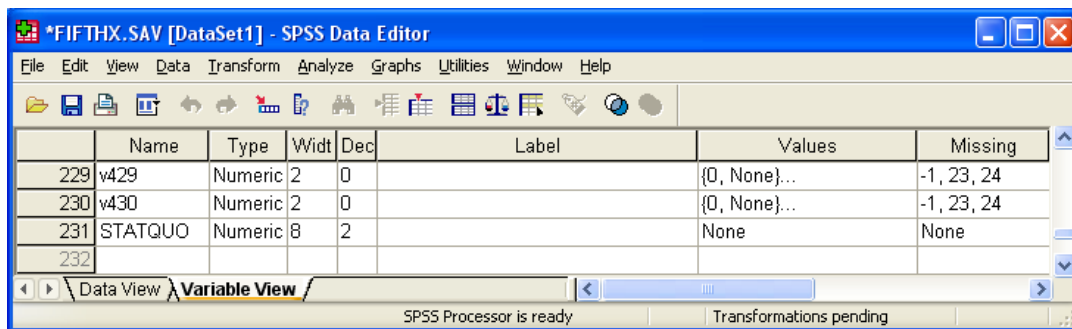
Run

...Current

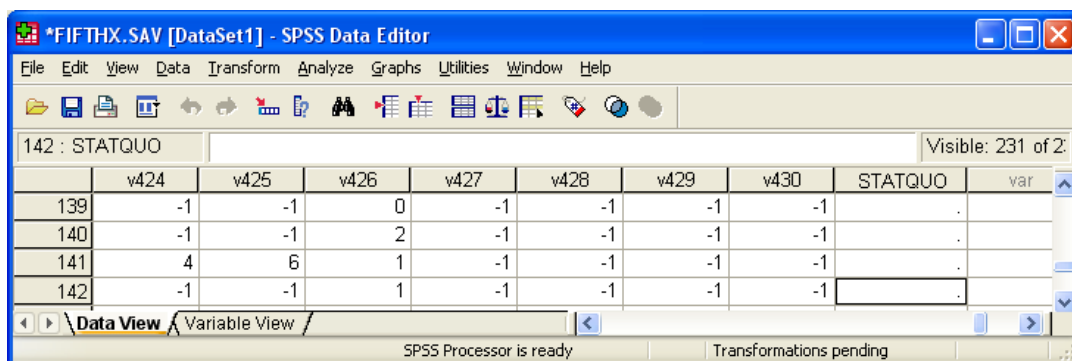
Nothing appears to happen, but if you go back to the data editor:



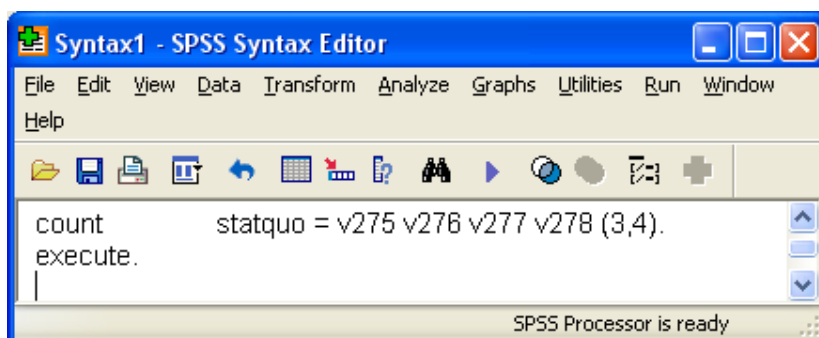
..and scroll down to the end:



STATQUO has now been defined and the name appended: if you click on **Data View** then **[CTRL] + ►** to see the last column, you will see that no values have been calculated yet.

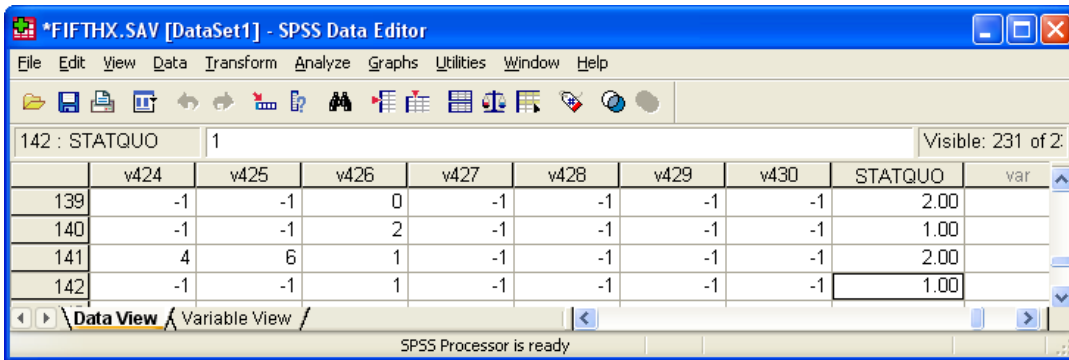


This is because SPSS is waiting for a statistical command such as **FREQUENCIES** or for an interim **EXECUTE**. Go back to the syntax file and type **EXECUTE** on the next line.

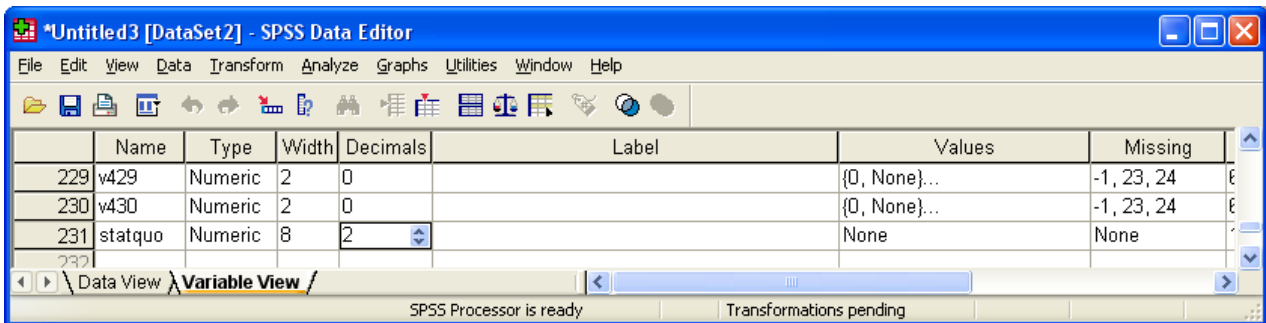


Don't forget the full stop. Leave the cursor in or on the line and click on **Run..Current** or **[CTRL]+R** to run the command.

Now check the Data Editor again:



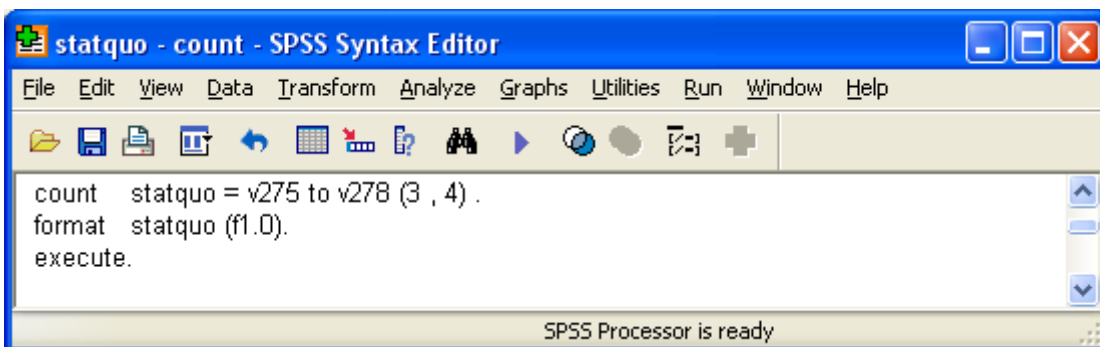
Scores have been entered, but we don't actually need two decimal places for the integer variable **STATQUO** so the file can be tidied up by clicking on **Variable View**



...and manually changing 2 to 0 in the Data Editor **Decimals** column for **STATQUO**.

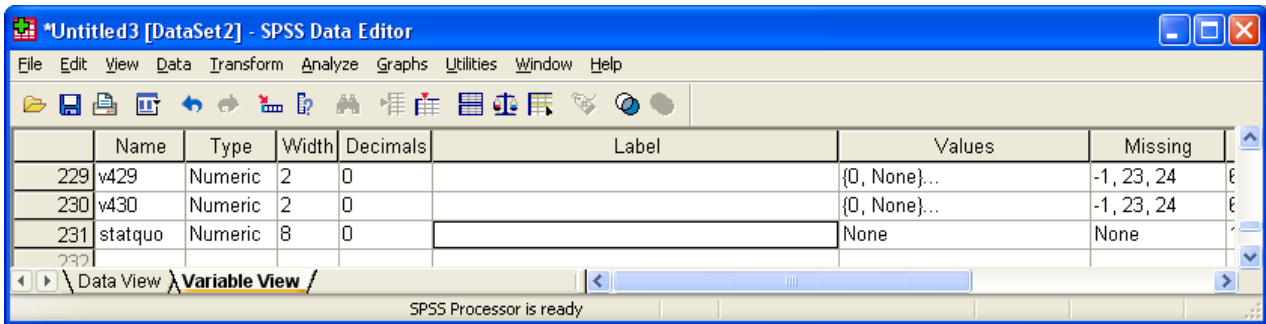


or by using the **FORMAT** command:

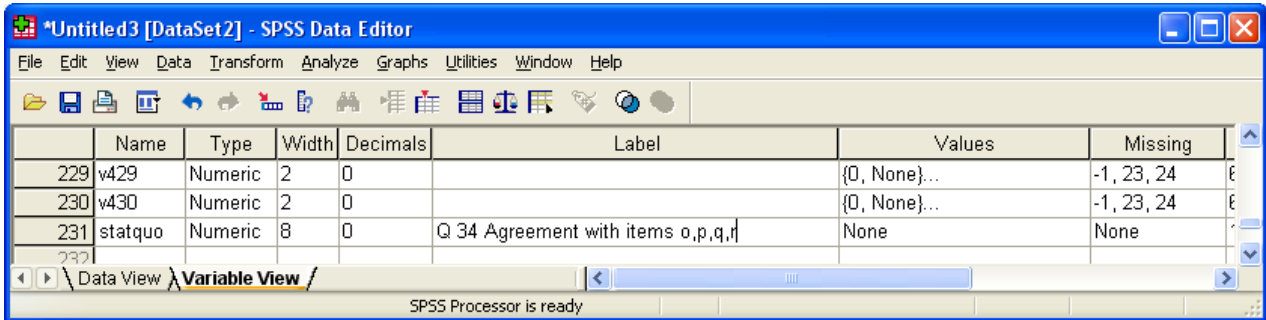


...and running the job again.

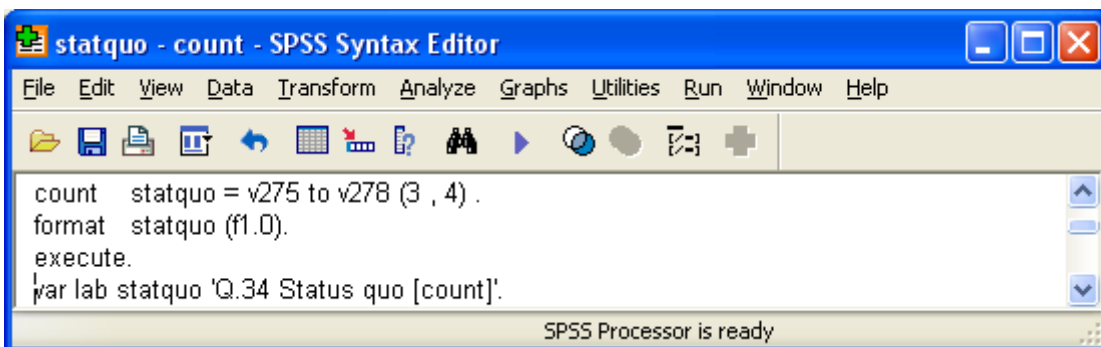
Although the **STATQUO** column has now filled up with scores generated by **COUNT**, if you go back to **Variable View** there is nothing to tell you (or other users) what **STATQUO** is, so it needs a label.



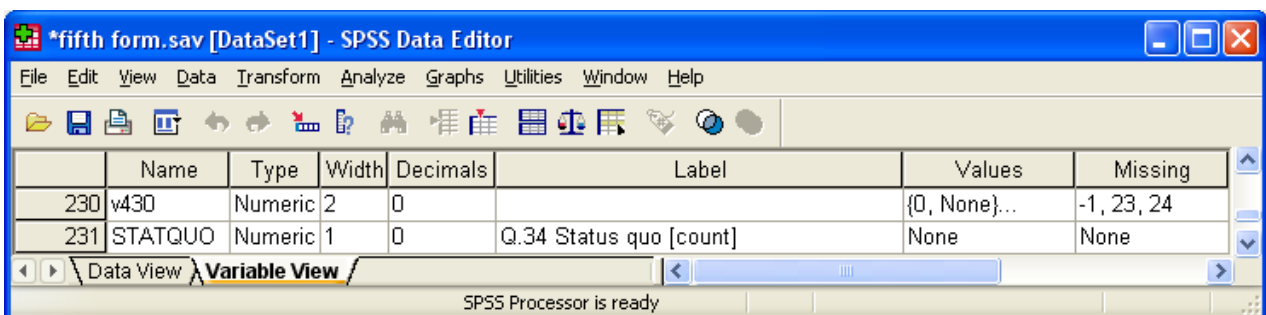
You can write a label directly into the **Data Editor** (easy for just one variable) but if you have a large number of variables it's better to use syntax.



Syntax is much easier to edit, especially if you use Word to compose it. Remember, you can use lower case and abbreviations for commands and subcommands. SPSS normally only reads the first 3 or 4 characters anyway. So for **VARIABLE LABELS** you can simply write **var lab**. You soon get used to it and you're less likely to get RSI²!



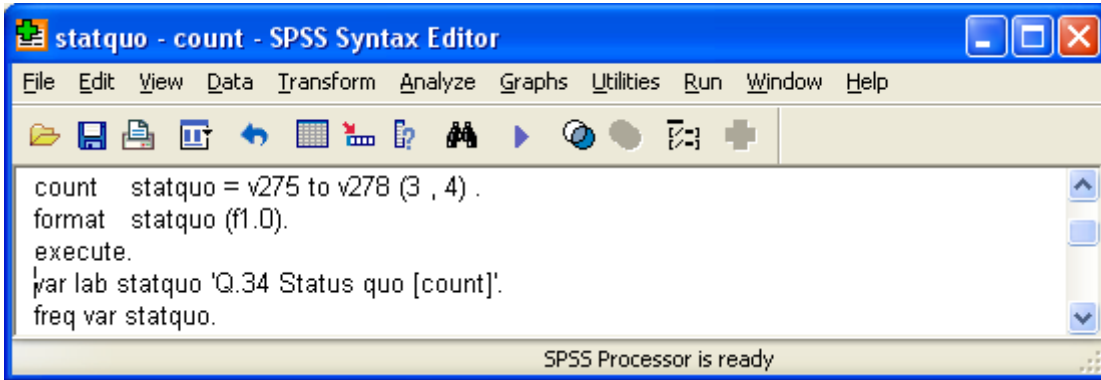
Run the command to get:



So far, so good. The new variable **STATQUO** has been created as an integer (no decimal places) at the end of the file, together with a descriptive label. but we still need an analysis to check what the distribution looks like.

² Repetitive Strain Injury

A simple frequency count will do. Again, it is sufficient to write **freq** instead of **FREQUENCIES**



Run the command to produce:

Statistics

Q.34 Agreement with items o,p,q,r.

N	Valid	142
	Missing	0

Attachment to status quo

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	29	20.4	20.4	20.4
	1	33	23.2	23.2	43.7
	2	48	33.8	33.8	77.5
	3	28	19.7	19.7	97.2
	4	4	2.8	2.8	100.0
	Total	142	100.0	100.0	

We have just produced a new variable **STATQUO** (a score of attachment to the status quo developed for teenagers by Himmelweit) with values in the range 0 to 4.

We still need to think about how to deal with the problem of missing values which are coded as '-1' for all items on Q.34 and which have already been declared as missing in the file.

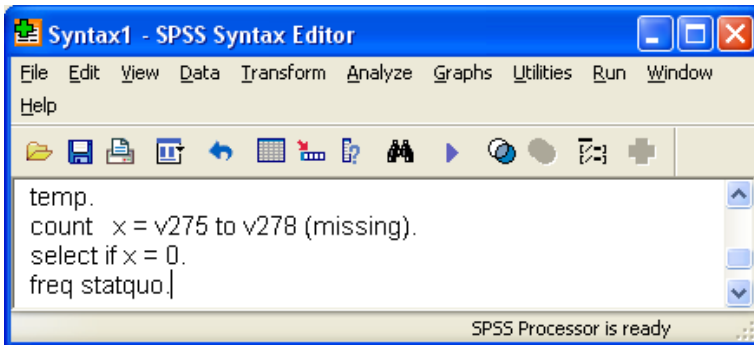
SPSS ignores these when using **COUNT** and can therefore give misleading results. It is potentially inaccurate because it gives a **STATQUO** score to every case even if one or more constituent items is missing. Thus a score of 2 could indicate agreement with any two items out of two to four replies. Moreover, this measure is quite crude because it only takes into account information from half the response on each item in the scale. Because some pupils have not answered some or all of the items, any score for them may not be a "true" score. For simplicity and accuracy we really ought to leave these pupils out of the analysis.

It is possible to leave out pupils with missing items by counting the number of items with missing values and then selecting out only those pupils with no items missing.

With **COUNT** you'd have to do something like:

```
COUNT          X=V275 to v278 (MISSING).
SELECT IF     (X EQ 0).
```

...before tabulating the **STATQUO** score, but, as with data all transformations (unless you use **TEMPORARY**) you need to be **very careful** you don't inadvertently make them permanent. If you save the **Data Editor** use a different name: that way the original file remains intact.



Run this set of commands to produce:

Statistics

Q.34 Agreement with items o,p,q,r.

N	Valid	106
	Missing	0

Q 34 Agreement with items o,p,q,r

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	10	9.4	9.4	9.4
	1	26	24.5	24.5	34.0
	2	38	35.8	35.8	69.8
	3	28	26.4	26.4	96.2
	4	4	3.8	3.8	100.0
	Total	106	100.0	100.0	

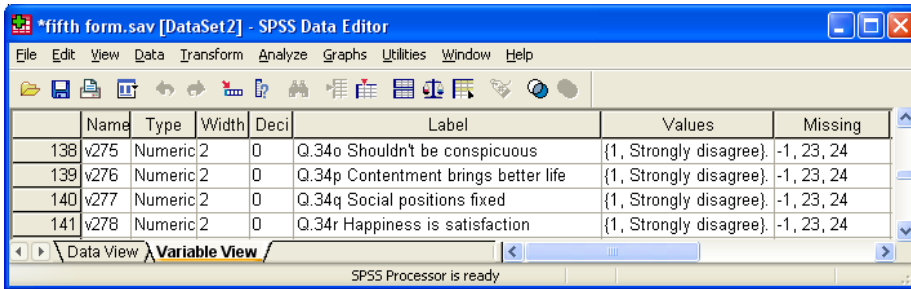
..from which we see that our sample has been drastically reduced from 142 to 106. In other words only 106 out of 142 pupils answered all four items.

Because **STATQUO** is an interval scale variable (actually a ratio scale because it has a true zero point) it can legitimately be used in statistical procedures like **MEANS, T-TEST, ONEWAY** and **CORRELATION**. This is methodologically risky for reasons which were explained above.

With such a small sample, we can't do much anyway, but it suffices as a learning exercise.

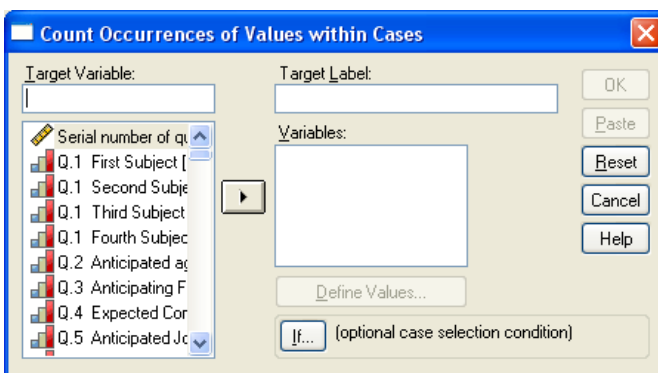
The point-and-click way

If you prefer, you can generate **STATQUO** using the drop-down menus instead, but it takes a lot longer. Go back to the Data editor:

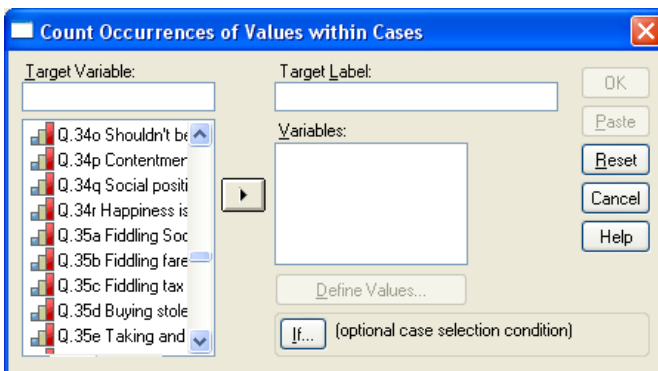


	Name	Type	Width	Deci	Label	Values	Missing
138	v275	Numeric	2	0	Q.34o Shouldn't be conspicuous	{1, Strongly disagree}	-1, 23, 24
139	v276	Numeric	2	0	Q.34p Contentment brings better life	{1, Strongly disagree}	-1, 23, 24
140	v277	Numeric	2	0	Q.34q Social positions fixed	{1, Strongly disagree}	-1, 23, 24
141	v278	Numeric	2	0	Q.34r Happiness is satisfaction	{1, Strongly disagree}	-1, 23, 24

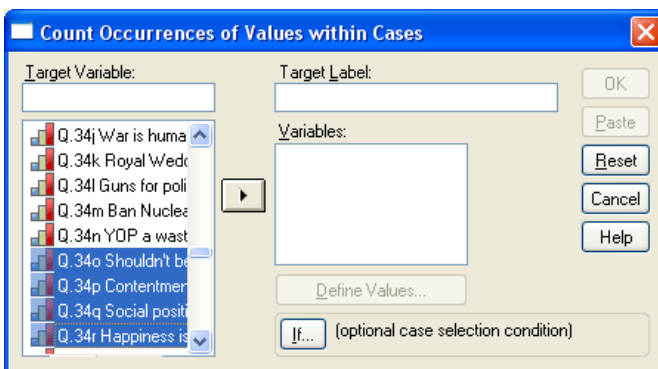
Transform ...Count values within cases




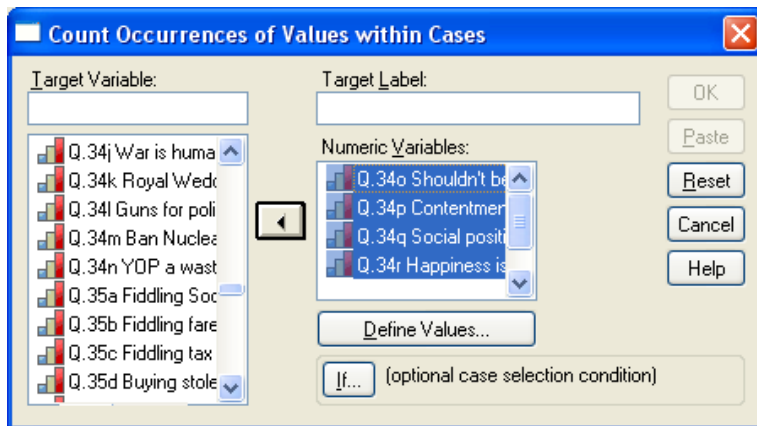
As before, scroll down to find items Q.34o to Q.34r



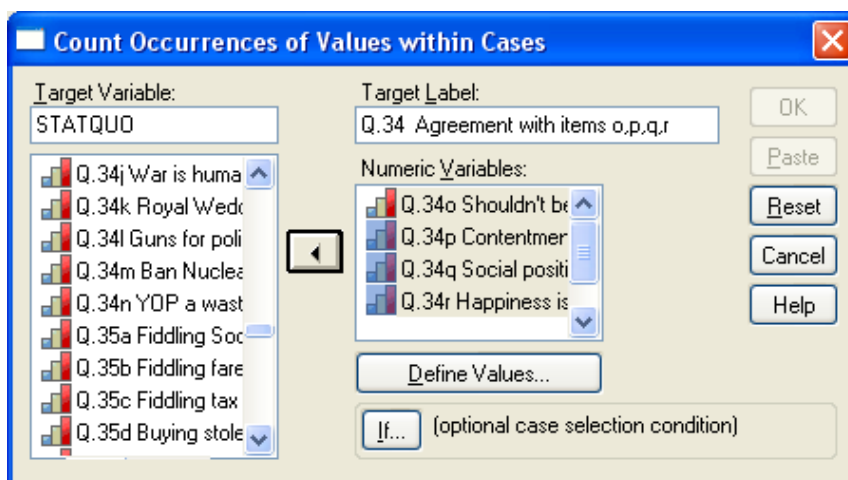
...highlight them



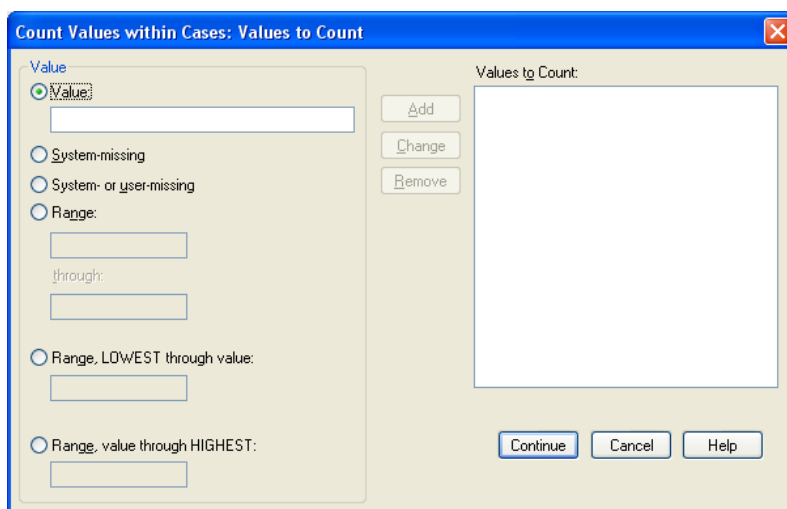
...and click  to drag them across to the **Numeric Variables** box.



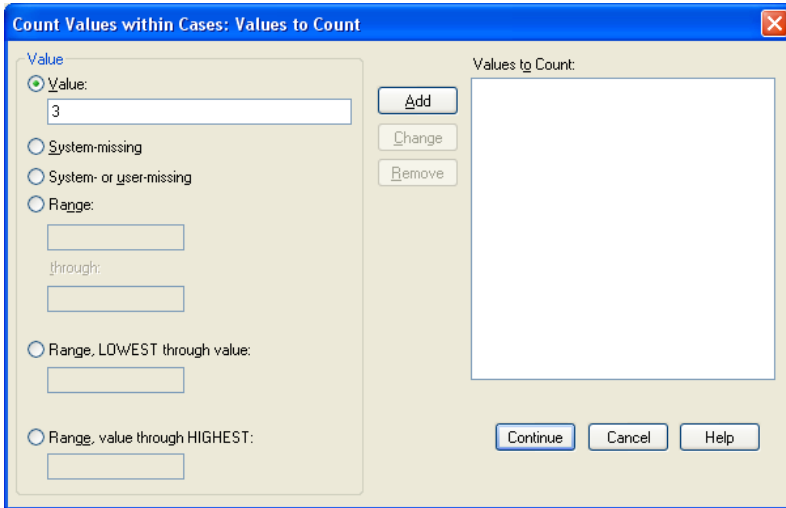
Now write **STATQUO** in the **Target Variable** box and **your own label** in the **Target Label** box.



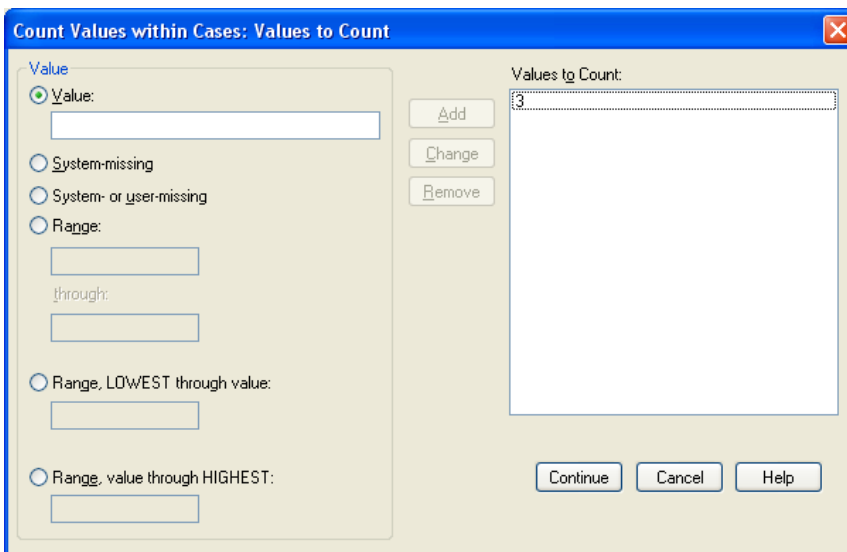
Click on **Define Values**:



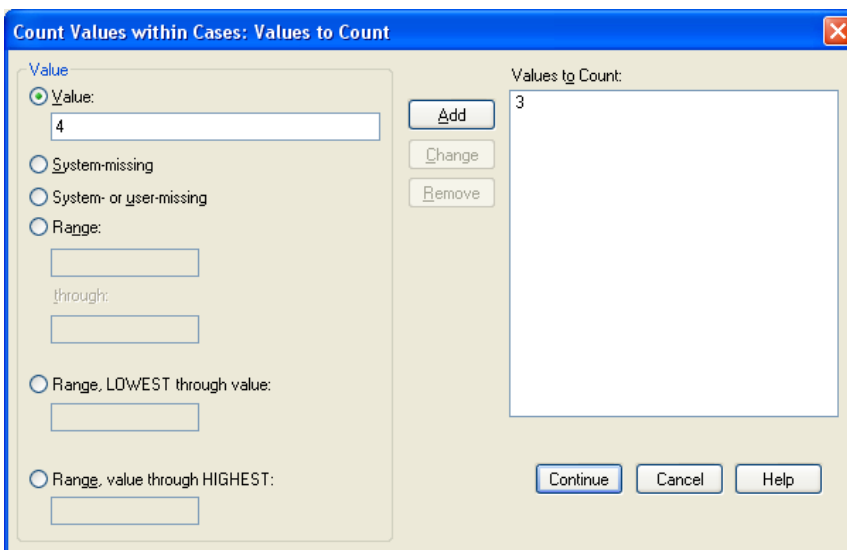
The dialog is already set for entry of values so type **3** in the **Value** box

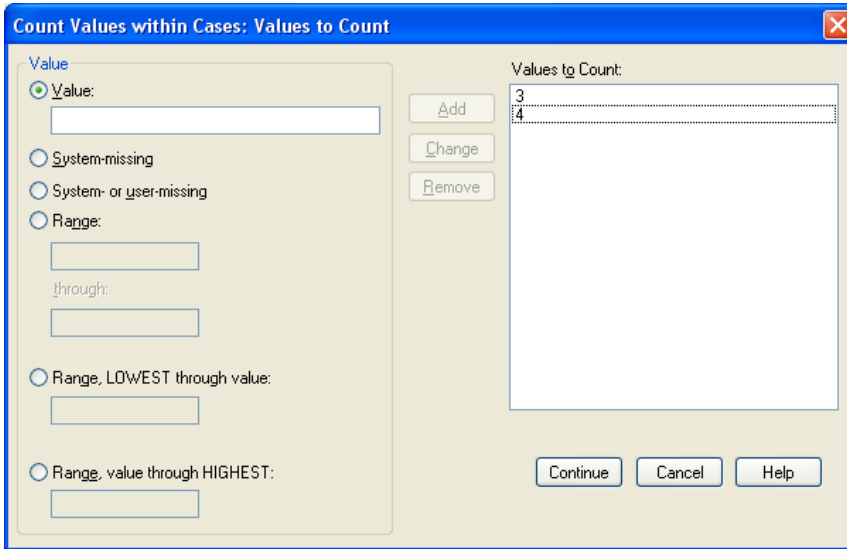


...and click on **Add** to transfer it to the **Values to Count** box:

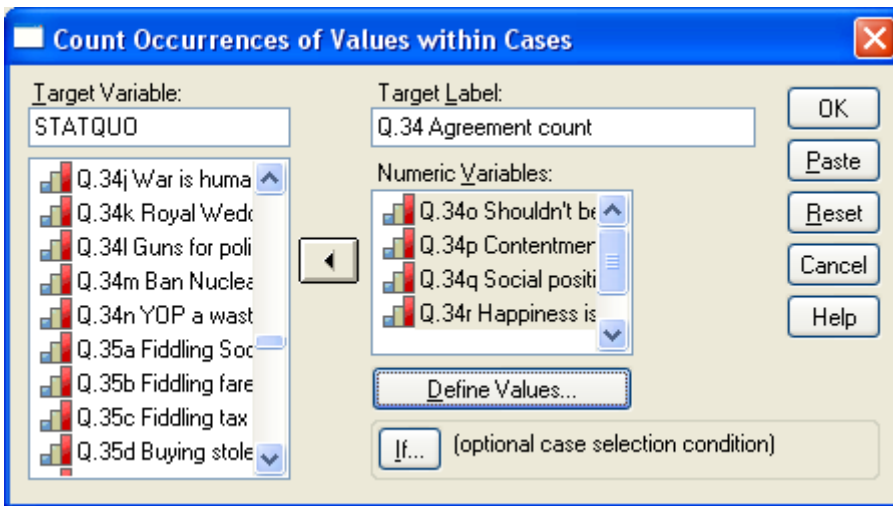


Now do the same with the value **4**

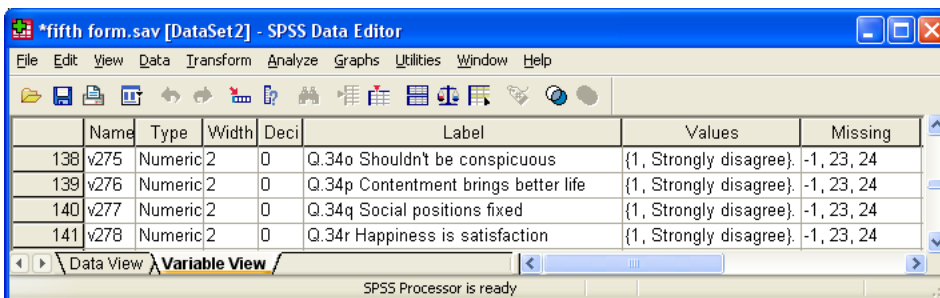




..and click **Continue**



Bit of a surprise, eh? I expected to be taken back to the Data Editor. If you click **Define Values** again, you'll see your selection is still there, but it still gave me a bit of a fright. Now Click **OK**



Another surprise! I thought it would have gone straight to the location of the new variable. What's going on? Don't worry, your new variable **STATQUO** has been created and is appended in the last row of the **Data Editor**. Scroll down to see it:

	Name	Type	Wid	Deci	Label	Values	Missing
229	v429	Numeric	2	0		{0, None}...	-1, 23, 24
230	v430	Numeric	2	0		{0, None}...	-1, 23, 24
231	STATQUO	Numeric	8	2	Q.34 Agreement with items o,p,q,r	None	None
232							

..and then look at the syntax generated (automatically pasted to the Viewer window):

```

COUNT
  STATQUO = v275 v276 v277 v278 (3) v275 v276 v277 v278 (4) .
VARIABLE LABELS STATQUO 'Q.34 Agreement with items o,p,q,r' .
EXECUTE .

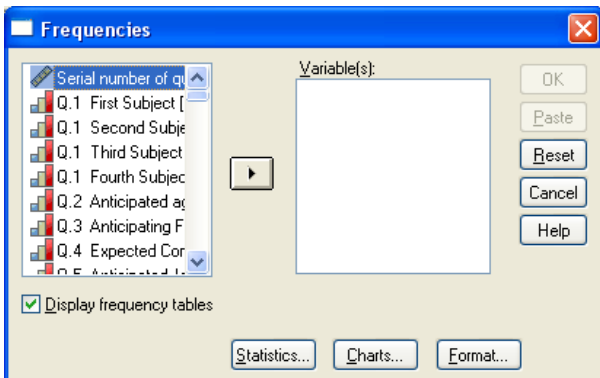
```

You'll have to change the print format manually by changing 2 to 0 in the **Decimals** column

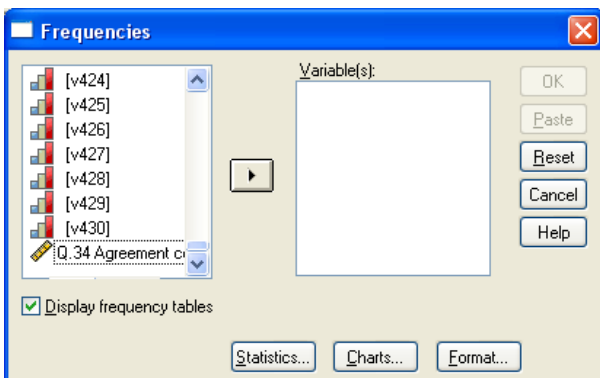
To get the same tables as before:


Analyze

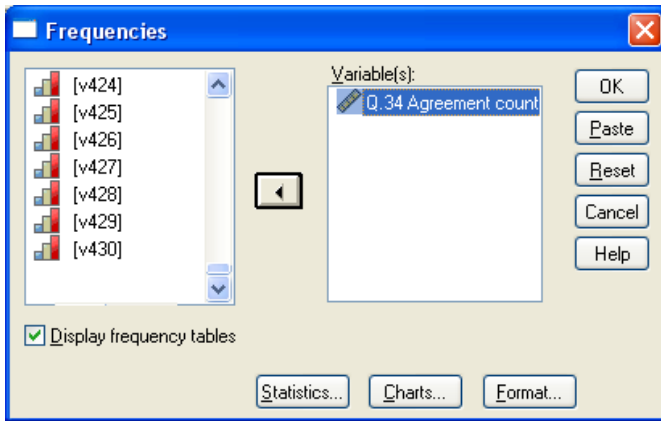
- ...Descriptive statistics
- ...Frequencies



Press [CTRL] + [END] to skip to the end of the list:



Highlight **STATQUO** and click  to transfer it to the **Variables** box:



Click **OK** to get the tables.

...but it's **so much quicker and easier in syntax!**

Next tutorial: [3.5.2.4 The COMPUTE command 1 - Attachment to status quo](#)

Feedback on ease of understanding and use of tutorial, please, to: johnhall@orange.fr