Survey Analysis Workshop

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Block 2: Analysing one variable

2.3 Data transformations

2.3.1.2b2 Select, rename and recode specimen answer [Draft only: 7 June 2013]

Previous session: 2.3.1.2b1 Select, rename and recode homework

- **Exemplar:** British Social Attitudes 1989
- Task 1: a) Retrieve file <u>newbsa89.sav</u>
 - b) Select out demographic variables v1408 v1411 and v1412 and rename them.
 - c) Save the file as bsa89rename1.sav in folder e:\weebly downloads\
- Task 2:a) Create a new variable by recoding age into agegroup with four categories:18 -29, 30 -44, 45 -59, 60 and over.
 - b) Save the file as bsa89rename2.sav in folder e:\weebly downloads\

Preliminary step: More housekeeping

Navigate to folder e:\weebly downloads\

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 Task 1:
 Rename demographic variables

Old name	New name
v1408	marital
v1411	sex
v1412	age

If you navigate to drive **e: e:\weebly downloads** and open file <u>newbsa89.sav</u> by double-clicking you will get all 631 variables, but we only want three variables, v1510, v1511 and v1512. To limit the number of variables in the active file, use instead the SPSS command:

GET¹ command with **/ KEEP ~ ~ ~** .



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¹ **format: GET '**<filename>'. /KEEP <varlist>.

If your SPSS settings don't open a new Syntax Editor on start-up, click on File > New > Syntax to open a new Syntax Editor:

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Type in:

title 'select, rename and recode homework'. get file 'e:\weebly downloads\newbsa89.sav' /keep v1408 v1411 v1412 .

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2	v1411	Numeric	1	0	Respondent's	{0, Skpd,n	77 - HI	6	■ Right	🗞 Nominal
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Despite my predilection for positional variable names, certain demographic variables used repeatedly in data analysis merit mnemonic names. Thus marital, sex and age are much more convenient to remember than v1411, v1408 and v1412.

Also variables with many values, such as **age**, need to be grouped into fewer categories for tabulation purposes. Standard practice is to keep demographic variables together in a block, often at or near the end of the file, so that they can be used with the **TO** keyword, eg **sex to agegroup**.

In the Syntax Editor type in:

```
rename variables
( v1408 = marital)
(v1411 = sex)
(v1412 = age ) .
```

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[NB: This command can also be written:

```
rename variables
( v1408 v1411 v1412 = marital sex age).
```

... but make sure there are the same number of (implied) variables each side of the = sign.]

Run the rename command to get:

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Drag the column separators to see the labels more clearly:

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	2	sex	Numeric	1	0	Respondent's sex	Q901aNI901a	{0, Skpd,no further person}	77 - HI	6	■ Right	🗞 Nominal	
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The existing variable labels are a bit untidy, but you can sort that out later.

La	bel
R's marital status	Q900aNI900a
Respondent's sex	Q901aNI901a
Respondent's age	Q901bNI901b

Task 2:Create a new variable agegroup by recoding age into four groups, 18 -29, 30 -44,
45 -59, 60 and over.

recode

age	(18 thru 29 = 1)
	(30 thru 44 = 2)
	(45 thru 59 = 3)
	(60 thru 97 = 4)
	(else = sysmis) into agegroup.



Run the job to get:

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Note that for **agegroup** Measure is displayed as Unknown and Decimals as 2.

If you switch to Data View, you will see that there are no values entered for agegroup. This is because SPSS is waiting for a command requiring a data pass. At bottom right you will see:

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Go back to the Syntax Editor and type in :

execute.

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Values have now been entered for **agegroup**, but there are two superfluous decimal places. You can get rid of these manually in the **Data Editor** by clicking on the cell under **Decimals**

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In the Measure column for agegroup, Unknown has changed to Nominal. This because SPSS detected only four values and set it to the default Nominal. You can change this to Ordinal in the

Data Editor by clicking on

Nominal 🔽 and ab

and changing it to Ordinal:

😞 Nominal 💌	🚽 Ordinal 👻
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This is easy for just one variable, but cumbersome for many and doesn't save any syntax for possible later use. It's better practice to use syntax to set measurement levels and formats:

Use the VARIABLE LEVEL and FORMATS commands

Go back to your Syntax Editor and type in:

variable level marital sex (nominal) age (scale) agegroup (ordinal). formats agegroup (f1.0).

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3	age	Numeric	2	0	Respondent's age	Q901bNI901b	{-1, Skpd,no further person}	None	6	Right	🖋 Scale	
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If you switch to **Data View**, you will see that the values for **agegroup** are now all integer (no decimal places).

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Add data dictionary information:

variable labels agegroup	'Age group of respondent' .
value labels	

```
agegroup 1 '18 - 29'
2 '30 - 44'
3 '45 - 59'
4 '60 or over'.
```

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variable labels							<u> </u>
value labels	Line Co	ommand Inform	nation				
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Run both new commands: variable and value labels have now been added to agegroup:

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2	sex	Numeric	1	0	Respondent's sex	Q901aNI901a	{0, Skpd,no furth	her person}	None	8	≡ Right	🗞 Nominal
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The file now needs tidying up a bit. Since analyses with demographic variables are often specified using **<varname> to <varname>** as in marital to agegroup we need to make sure that variables with many values are outside this block. Variable age needs to be moved to the end of the file, well out of harm's way.

Left click on row number 3:

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Left click on 3 again, but hold the button down and drag age to the bottom of the file:

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4	age	Numeric	2	0	Respondent's age	Q901bNI901b	{0, 98+}	None	8	≡ Right	🖉 Scale	
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Each time you rename variables or recode your data, you should always check that the transformations have been correctly executed. In this case we need to check the renamed variables marital and sex and the new variable agegroup:

frequencies marital sex agegroup.



Run the command to get:

	Statistics										
		R's marital status Q900aNI900a	Respondent's sex Q901aNI901a	Age group of respondent							
N	Valid	3024	3025	3015							
IN	Missing	1	0	10							

There are 3025 cases in the file. There is one missing case for **marital**, no missing cases for **sex**, and 10 cases where **agegroup** is missing.

Frequency Tables

	R's ma	rital status	Q90	0aNI900a	
		Frequency	Percent	Valid Percent	Cumulative
					Feiceni
	Married	1948	64.4	64.4	64.4
	Livng as married	114	3.8	3.8	68.2
Valid	Separtd/divorced	183	6.0	6.1	74.2
valiu	Widowed	276	9.1	9.1	83.4
	Not married	503	16.6	16.6	100.0
	Total	3024	100.0	100.0	
Missing	99	1	.0		
Total		3025	100.0		

	R	espondent's s	sex	Q901aNI901a	
		Frequency	Percent	Valid Percent	Cumulative Percent
	Male	1393	46.0	46.0	46.0
Valid	Female	1632	54.0	54.0	100.0
	Total	3025	100.0	100.0	

		Age grou	ip of respon	dent	
		Frequency	Percent	Valid Percent	Cumulative Percent
	18 - 29	668	22.1	22.2	22.2
	30 - 44	839	27.7	27.8	50.0
Valid	45 - 59	725	24.0	24.0	74.0
	60 or over	783	25.9	26.0	100.0
	Total	3015	99.7	100.0	
Missing	System	10	.3		
Total		3025	100.0		

If we had left age where it was and used:

frequencies marital to agegroup.

. . there would have been a very large frequency table for age as well !!

Save the new version of the file as **bsa89rename.sav**.

File > Save as:

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Save as type:	SPSS Statistics (*.sav)	Paste	Save as type:	SPSS Statistics (*.sav)	Paste
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. . and click on Save :

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	3	age	Numeric	2	0	Respondent's age	Q901bNI901b	{-1,	Skpd,no further person}	None	6	疆 Right	🛷 Scale	
	4	agegroup	Numeric	1	0	Age group of respond	lent	{1,	18 - 29}	None	10	≡ Right	🚽 Ordinal	
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D	ata View	Variable View	,											
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bsa89rename2.sav

You should also save the syntax file as **bsa89rename.sps**:



You can do this bit by yourself! ... but if you can't

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Change Syntax ** to **bsa89rename and press Save**.

Alternatively you can use the SPSS **SAVE** command:

save out 'e:\weebly downloads\bsa89rename.sav'.

Your folder e:\weebly downloads\ should now look like this.

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	🕞 fifthx	05/06/2013 12:20	SPSS Statistics Dat	61 KB
	强 myclass	05/06/2013 12:21	SPSS Statistics Dat	7 KB
hea%	myclass	05/06/2013 11:17	TXT File	7 KB
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9 items				

This folder could also now do with a bit of house-keeping to create a sub-folder for the bsa89*** files. Click on New folder :

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. . and call it **bsa89**.

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Highlight all the **bsa89****** files and drag them to the new folder:

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Folder e:\weebly downloads\bsa89 should now look like this:

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End of 2.3.1.2b Rename and recode homework

Next session: [to be decided as remaining tutorials in this section are being revised to add more interesting and apposite variables, and to provide incremental steps via conditional frequencies towards some serious data analysis of two or more variables using **CROSSTABS** and **MEANS**.]

Back to page 2.3 Data transformations

[Back to Block 2 menu]

Forward to page: Block 3: Analysing two variables (and sometimes three)