Block 3: Analysing two variables (and sometimes three)   3.3 Multiple response

3.3.1 Analysing multiple response with SPSS - an introduction

 [Original document 4 May 1990: last updated 20 July 2011]

Most surveys have at least one question which allows the respondent to give two or more responses. These may be open ended questions such as, "What are the things you most dislike about living in this house?" or questions with checklists such as subjects being studied at school or leisure activities pursued at least once a week.

In the old days coded data from such lists were transferred manually to punched cards[1]. Originally these were fed into a counter-sorter for (very time-consuming, especially if you made a mistake) mechanical analysis. Later, with the development of computers and appropriate software, they would be transferred via a card-reader on to magnetic tape or disk ready for input into data management and analytical computer programs.

In the academic and public sectors most data was "single-punched" (i.e. only one numeric or alphabetic punch per card-column), but in the commercial sector it was standard practice to use "multi-punching" (i.e. more than one numeric or zone punch in the same column), not just for more than one answer to the same question, but also for single answers to more than one question. Typically sex (1,2), agegroup (3,4,5,6) and marital status (7,8,9,0) would be punched together on the same column. This would save expense on cards, but both types of multi-punching required special software for analysis.

For many users, data supplied in this way from field agencies would be spread out on additional cards: any analysis involved production of separate tables which then had to added together by hand. Early versions of SPSS could not produce multiple response tables from single-punched data or read multipunching in the same column[2], but in later versions the **MULT RESPONSE** procedure can handle multiple response if the responses are spread out on additional cards or (preferably) punched separately in their own columns to start with.

There are two basic data layout schemes for handling multiple response questions. The first involves allocating a single field (usually, but not always, a single column) to each possible response. Unless there are strong technical reasons, this can be wasteful if there are 10 possible responses, but the maximum endorsed by any one respondent is only three. The other is to allocate a smaller number of fields and code the responses in any order in any column. In the above example there would be 3 columns, but 10 possible codes, thus saving a lot of key-depressions. Such technicalities need to be taken into consideration at the design stage.

For example, a survey of fifth formers in a North London comprehensive school[3] asked pupils to indicate which four subjects they were taking in addition to the three compulsory subjects, English, Maths and Social Studies. Four columns were therefore allocated and the codes for the subjects were then punched in these columns. It does not matter which code is punched where, as long as each code has a column to itself.

For technical and space reasons the original responses to Question 1 in the fifth form survey were coded using letters of the alphabet in columns 6 – 9 of card 1, but these were later recoded to numeric[4] before analysis (following the positional naming convention, yielding variables **v106**, **v107**, **v108** and **v109**). These numeric codes are used in this article.

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[1]   These were usually 80-column Hollerith cards with 12 hole-sites (digits 0-9 plus an upper and lower zone: combinations of these were used for alphabetic and special characters).
[2]   This was true when this paper was first written, but SPSS can now handle column binary input.
[3]   For a 1981 undergraduate research project by three students from the Polytechnic of North London
[4]   See Appendix 1 to find out how this was done with SPSS.

Q1.	Apart from English, Mathematics and Social Studies, which FOUR main subjects are you taking? (Please tick)		(6 — 9)	
	△ Human Biology	△ Geography	A	N
	△ General Science	△ History	B	O
	△ European Studies	△ Physics	C	P
	△ Religious Studies	△ Biology	D	Q
	△ Design	△ Chemistry	E	R
	△ Drama	△ French	F	S
	△ Home Economics	△ German	G	T
	△ Music	△ Art	H	U
	△ Needle Craft	△ Technical Drawing	J	V
	△ Office Skills	△ P.E.	K	X
	△ Woodwork		L	
	△ Metalwork		M	

[NB: For tutorial purposes I use the colour coding applied by SPSS in syntax files when you write your **commands**, **sub-commands** and **keywords**. I am aso using **UPPER CASE** for these and **lower case** for everything else, including **variable names**. However, when working I do everything in lower case and use abbreviated syntax.]

SPSS has a procedure, **MULT RESPONSE**, which effectively makes up four separate tables (one for each column) and then adds them all up into a single table. To do this it creates a temporary **group variable** which **cannot be saved**, but has to be re-created each time you want to use it in an SPSS run. It can only work in "**integer mode**"[5], and so any variables to be included in the groups have to be in numeric format. If they have been read in as alphanumeric they first have to be recoded to numeric using **RECODE**….**INTO**…...

The general format of the multiple response "group" specification is:

> **MULT RESPONSE   GROUPS =**
> <group variable> [**'** <label> **'**]
> **(** <variable list> **(** <min> **,** <max> **))**
> <group variable> ....

in which items in <chevrons> are user supplied, items in [square brackets] are optional and items in **bold** are compulsory.

Thus to specify a group variable from the fifth form survey for additional subjects taken:

> **MULT RESPONSE   GROUPS =**
> **q1** 'Subjects taken**'**
> **(v106 TO v109 (**1,21**))**

followed by a declaration of ordinary variables, if any, to be used for tables, using the same format as for variable declaration in integer mode for **FREQUENCIES** and **CROSSTABS**

e.g. sex of pupil was coded on card 3 column 48 and is accordingly named **v348**:

> **/VARIABLES = v348** (1,2)

and finally by the actual statistical analysis to be done.   The analyses available are frequency counts and contingency tables, but they are specified in a slightly different way, as **sub-commands** in the specification field.

For frequency tables the format is:

> **/FREQUENCIES =** <group variable> or <varlist>

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5   No longer used in later versions of SPSS: all numeric values except missing are now automatically included.

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and for contingency tables:

<div align="center">

/TABLES = <group variable> or <varlist>
BY <group variable> or <varlist>

</div>

If you want percentages in the contingency tables they have to be requested using a **/CELLS** sub-command just as in **CROSSTABS**. [NB: Default base for percent is the number of valid responses.]

Note: The original variables for most multiple response sets will rarely be used as such, and therefore do not normally need variable labels (unless you are using **multiple dichotomies**: see p.5). In **MULT RESPONSE** the group labels are entered (optionally) in the same way as variable labels, i.e. as labels in single primes. Value labels need be declared only for the first variable in the set.

In the fifth form survey, all students were required to study English, Maths and Social Studies, but had the choice of up to four additional subjects. To find what subjects are studied, a full example[6] might be:

```
GET              FILE = 'a:fifth.sav'.
MULT RESPONSE    GROUPS =
     q1     'Subjects taken'
            (v106 TO v109 (1,21))
     /VARIABLES = v348 (1,2)
     /FREQUENCIES = q1
     /TABLES = q1 BY v348
     /CELLS COUNT COLUMN .
```

The output[7] will look like this:

<div align="center">

q1 Additional subjects studied

</div>

		Responses		Percent of Cases
		N	Percent	
q1[a]	Human Biology	6	1.1%	4.3%
	General Science	33	6.2%	23.9%
	European Studies	21	3.9%	15.2%
	Relig Studies	6	1.1%	4.3%
	Design	20	3.7%	14.5%
	Drama	13	2.4%	9.4%
	Home Econ	11	2.1%	8.0%
	Music	5	.9%	3.6%
	Office Skills	42	7.9%	30.4%
	Geograph	83	15.5%	60.1%
	History	81	15.1%	58.7%
	Physics	46	8.6%	33.3%
	Biology	28	5.2%	20.3%
	Chemist	22	4.1%	15.9%
	French	43	8.0%	31.2%
	German	13	2.4%	9.4%
	Art	25	4.7%	18.1%
	Tech Drawing	37	6.9%	26.8%
Total		535	100.0%	387.7%

a. Group

In the table above, two sets of percentages are given. The first one is based on the total number of

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[6] [**Author's note:** The above layouts for SPSS syntax are used for clarity. The parts in **bold blue** indicate SPSS **commands** and the **specifications** and **sub-commands** are inset in **green**. In practice, provided commands start in the first column, the rest need only be inset by a single space. The forward slashes **/** separating sub-commands and specifications are **obligatory**. Additional group variables can be specified in sequence at the beginning, but don't need to be separated by slashes. The number of group variables which can be defined in a list (they don't need to be separated by slashes) is limited by the total number of values implied across the list: check the relevant manual.]

[7] This output is from SPSS 19. Output for SPSS 15 (unchanged since 1974) is different (see Appendix 2), but the syntax is the same.

responses (the 535 responses given in total) which always sums to 100%. The other is based on the number of cases (the 138 valid cases) in which the sum of percentages is greater than 100% because each respondent can give up to four answers: if it comes to more than 400% you have a problem!

Case Summary

| | Cases | | | | | |
| | Valid | | Missing | | Total | |
	N	Percent	N	Percent	N	Percent
q1[a]	138	97.2%	4	2.8%	142	100.0%
q1*v348	112	78.9%	30	21.1%	142	100.0%

a. Group

The output for the contingency table: [edited to two columns to display on same page] looks like this:

q1*v348 Crosstabulation

| | | | v348 | | Total |
			Boys	Girls	
q1[a]	Human Biology	Count	2	3	5
		% within v348	3.6%	5.3%	
	General Science	Count	11	14	25
		% within v348	20.0%	24.6%	
	European Studies	Count	7	8	15
		% within v348	12.7%	14.0%	
	Relig Studies	Count	1	3	4
		% within v348	1.8%	5.3%	
	Design	Count	11	0	11
		% within v348	20.0%	.0%	
	Drama	Count	5	6	11
		% within v348	9.1%	10.5%	
	Home Econ	Count	0	11	11
		% within v348	.0%	19.3%	
	Music	Count	1	4	5
		% within v348	1.8%	7.0%	
	Office Skills	Count	1	37	38
		% within v348	1.8%	64.9%	
	Geograph	Count	32	34	66
		% within v348	58.2%	59.6%	
	History	Count	31	36	67
		% within v348	56.4%	63.2%	
	Physics	Count	32	10	42
		% within v348	58.2%	17.5%	
	Biology	Count	15	9	24
		% within v348	27.3%	15.8%	
	Chemist	Count	13	7	20
		% within v348	23.6%	12.3%	
	French	Count	9	26	35
		% within v348	16.4%	45.6%	
	German	Count	8	5	13
		% within v348	14.5%	8.8%	
	Art	Count	10	12	22
		% within v348	18.2%	21.1%	
	Tech Drawing	Count	24	2	26
		% within v348	43.6%	3.5%	
Total		Count	55	57	112

Percentages and totals are based on respondents.
a. Group

Multiple dichotomies

Another useful application of **MULT RESPONSE** is to use it in a special way to pick out a single value across a set of variables (known as **multiple dichotomies**). For instance, one of the questions consisted of a set of agree-disagree items to measure attitudes to women[8].

Q33. Here are some statements made about women. We would like to know if you agree or disagree with them. (Please put a ring round the number which indicates your answer).

	Disagree Strongly	Disagree	Agree	Agree Strongly	
a) Careers are fine for women but real fulfilment is a home and kids.	1	2	3	4	(48)
b) Women should not expect men to pay for them when dating etc.	1	2	3	4	(49)
c) Half of all top jobs should be reserved for women.	1	2	3	4	(50)
d) It is a good thing that women can become airline pilots, plumbers etc.	1	2	3	4	(51)
e) Women are too emotional.	1	2	3	4	(52)
f) Women are not as ambitious as men.	1	2	3	4	(53)
g) Women are as intelligent as men.	1	2	3	4	(54)
h) Women do not need to be beautiful to be successful	1	2	3	4	(55)
j) Husbands rather than wives should have the final voice in family matters.	1	2	3	4	(56)
k) There is no difference in brain-power between men and women	1	2	3	4	(57)
l) If women are paid as much as men they should pay for themselves when dating etc.	1	2	3	4	(58)
m) Women should get equal pay for doing the same work as men.	1	2	3	4	(59)
n) Beauty contests are degrading to women and should stop.	1	2	3	4	(60)
o) Romantic love is dead	1	2	3	4	(61)

We can use **MULT RESPONSE** to produce a summary table of the number of "Strongly Agree" responses to these items.

We do this by specifying the group variable, not with a range of values, but with a **single value** in the nested brackets, e.g.

      MULT RESPONSE   GROUPS =
           agst33 'Agree Strongly at Q33' (**v248 TO v261** (4))
           /FREQUENCIES = agst33 .

---

8 This survey is used for the tutorials on teenage attitudes in An introduction to COUNT and COMPUTE

. . to yield:

Case Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
agst33[a]	103	72.5%	39	27.5%	142	100.0%

a. Dichotomy group tabulated at value 4.

The frequency table output has **variable labels** instead of value labels:

agst33 Frequencies

		Responses		Percent of Cases
		N	Percent	
agst33 Agree Strongly at Q33[a]	v248 Q.33a Women's fulfilment is kids	12	3.7%	11.7%
	v249 Q.33b Women should pay on dates	25	7.6%	24.3%
	v250 Q.33c Half jobs reserved for women	15	4.6%	14.6%
	v251 Q.33d Women in men's jobs	23	7.0%	22.3%
	v252 Q.33e Women too emotional	15	4.6%	14.6%
	v253 Q.33f Women are not ambitious	6	1.8%	5.8%
	v254 Q.33g Women are not as intelligent	47	14.3%	45.6%
	v255 Q.33h Women need to be beautiful	31	9.5%	30.1%
	v256 Q.33j Husbands have final say	15	4.6%	14.6%
	v257 Q.33k Equivalent brain power	33	10.1%	32.0%
	v258 Q.33l Equal pay so women go Dutch	26	7.9%	25.2%
	v259 Q.33m Equal pay for same work	59	18.0%	57.3%
	v260 Q.33n Beauty contests degrading	8	2.4%	7.8%
	v261 Q.33o Romantic love is dead	13	4.0%	12.6%
Total		328	100.0%	318.4%

a. Dichotomy group tabulated at value 4.

There don't seem to be many pupils strongly agreeing with most items, so it might be better to group the **agree** and **strongly agree** responses together using **RECODE**. However, this needs to be **temporary**, otherwise the data will be permanently recoded if you save your working file!

To do this we can write:

TEMP.
RECODE v248 TO v261 (3 = 4).
MULT RESPONSE   GROUPS =
            agree33   'Agree or agree strongly at q33'
                     (v248 TO v261(4))
            /FREQUENCIES = **agree33.**

To yield the following table [**NB** value 4 now includes value 3]

agree33 Frequencies

		Responses		Percent of Cases
		N	Percent	
agree33 Agree or agree strongly at q33[a]	v248 Q.33a Womens fulfilment is kids	39	3.9%	28.9%
	v249 Q.33b Women should pay on dates	81	8.1%	60.0%
	v250 Q.33c Half jobs reserved for women	63	6.3%	46.7%
	v251 Q.33d Women in mens jobs	94	9.4%	69.6%
	v252 Q.33e Women too emotional	63	6.3%	46.7%
	v253 Q.33f Women are not ambitious	29	2.9%	21.5%
	v254 Q.33g Women are not as intelligent	115	11.5%	85.2%
	v255 Q.33h Women need to be beautiful	105	10.5%	77.8%
	v256 Q.33j Husbands have final say	48	4.8%	35.6%
	v257 Q.33k Equivalent brain power	104	10.4%	77.0%
	v258 Q.33l Equal pay so women go Dutch	78	7.8%	57.8%
	v259 Q.33m Equal pay for same work	126	12.6%	93.3%
	v260 Q.33n Beauty contests degrading	28	2.8%	20.7%
	v261 Q.33o Romantic love is dead	25	2.5%	18.5%
Total		998	100.0%	739.3%

a. Dichotomy group tabulated at value 4.

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To tabulate the above table by sex we would need to write:

TEMP.
RECODE   v248 **TO** v261 (3 = 4).
MULT RESPONSE   **GROUPS =**
                    agree33   'Agree or Agree Strongly at Q33'
                        (**v248 TO v261** (4))
                    /VARIABLES = **v348** (1,2)
                    /TABLES = **agree33 BY v348**
                    /CELLS COUNT COLUMN .

agree33*v348 Crosstabulation

| | | | v348 Q.39 Sex | | Total |
			1 Boys	2 Girls	
agree33 Agree or Agree Strongly at Q33[a]	v248 Q.33a Womens fulfilment is kids	Count % within v348	26 47.3%	7 12.1%	33
	v249 Q.33b Women should pay on dates	Count % within v348	36 65.5%	34 58.6%	70
	v250 Q.33c Half jobs reserved for women	Count % within v348	12 21.8%	38 65.5%	50
	v251 Q.33d Women in mens jobs	Count % within v348	35 63.6%	43 74.1%	78
	v252 Q.33e Women too emotional	Count % within v348	38 69.1%	16 27.6%	54
	v253 Q.33f Women are not ambitious	Count % within v348	21 38.2%	4 6.9%	25
	v254 Q.33g Women are not as intelligent	Count % within v348	40 72.7%	55 94.8%	95
	v255 Q.33h Women need to be beautiful	Count % within v348	37 67.3%	53 91.4%	90
	v256 Q.33j Husbands have final say	Count % within v348	25 45.5%	11 19.0%	36
	v257 Q.33k Equivalent brain power	Count % within v348	41 74.5%	47 81.0%	88
	v258 Q.33l Equal pay so women go Dutch	Count % within v348	39 70.9%	29 50.0%	68
	v259 Q.33m Equal pay for same work	Count % within v348	52 94.5%	55 94.8%	107
	v260 Q.33n Beauty contests degrading	Count % within v348	6 10.9%	18 31.0%	24
	v261 Q.33o Romantic love is dead	Count % within v348	13 23.6%	7 12.1%	20
Total		Count	55	58	113

Percentages and totals are based on respondents.
a. Dichotomy group tabulated at value 4.

End of tutorial

Next tutorial: **3.3.2a [SPSS 15]   First exercise in multiple response**

[Back to Block 3 menu]

Appendix 1

Fifth form survey:

This survey was carried out under my supervision by three sophomore students on the BA Applied Social Studies (Social Research and Planning) on a single day in December 1981. They used a self-completion questionnaire administered during Social Studies classes to all fifth form pupils at a North London comprehensive school (11-18 mixed) who were present on the survey day.

Limitations of available technology (no MS-Word or SPSS for Windows in those days!) meant that the 5th Form questionnaire was produced on an IBM electric typewriter (brand new technology then) with a golf-ball head. Square brackets and boxes were not available, so the Δ character was used instead for pre-coded questions requiring respondents to check answers with a tick √

FIFTH-FORM VALUES AND ATTITUDES

In this survey we are interested in what you read and watch, and in your opinions on various social issues and problems. The questionnaire is voluntary and your answers will be confidential.

DO NOT PUT YOUR NAME ON THE QUESTIONNAIRE

This is not a test, and there are no right or wrong answers. Just put your own opinions. If you do not know how to answer a question, or do not wish to, leave it blank, Indicate your answers by ticking the triangles (e.g. ☒) or by circling the numbers (e.g. 1②3) as appropriate.

If you don't understand a question, just ask for help.

Paul Ahmed   Harriet Cain   Alan Cook   December 1981

Office use only

Please do not write in this column

CARD 1 –

Serial (1-3)

(4) BLANK

(5) 1

8

Facsimile of Question 1:

In addition to three compulsory subjects (English, Maths and Social Studies) there were 22 subjects to code. Using a two-digit numeric code 01 – 22 would have meant using 8 key-depressions to type them in and 8 columns of an 80-column card. To economise on cards and key-depressions we used letters of the alphabet in this and other questions with more than 9 possible responses. For this question it meant using only 4 key-depressions and 4 columns. The data were punched in columns 6-9 of card 1, read into SPSS in alphanumeric format as v106 to v109 and then recoded to numeric. In fact, given the possibility of punching errors, plus the use of upper and lower zones, the entire data set was fed in as alpha. Looks incredibly inefficient and cumbersome, but it's actually quicker and cheaper. The syntax in 1981 was as below:

```
FILE NAME       FIFTH1.SYS
VARIABLE LIST        SERIAL V106 TO V180 V206 TO V280 V306 TO V380
INPUT FORMAT        FIXED
                (I3,2X,75A1/5X,75A1/5X,75A1)
INPUT MEDIUM        FIFTH.DAT
N OF CASES   142
RECODE          V106 TO V380
                ('A'=1)('B'=2)('C'=3)('D'=4)('E'=5)('F'=6)('G'=7)
                ('H'=8)('J'=9)('K'=10)('L'=11)('M'=12)('N'=13)
                ('O'=14)('P'=15)('Q'=16)('R'=17)('S'=18)('T'=19)
                ('U'=20)('V'=21)('W'=22)('X'=23)('Y'=24)('Z'=25)
                (' ',  '=-1)('*'=30) (CONVERT)
DELETE VARS V175 TO V180 V279 V280 V376 TO V380
SAVE FILE   FIFTH1.SYS
FINISH
```

..but this no longer works in the Windows version. The **RECODE ….CONVERT** procedure is no longer available so **RECODE … INTO** has to be used instead. For subjects studied the variables now need to read in as alpha a106 to a109 and then recoded into v106 to v109:

```
data list file 'e:fifth.dat' records 3
        /1      a106 to a109 6-9 (a).
recode a106 to a109 ('a'=1)(('b'=2)…. (' ',  '=-1)('*'=30) into v106 to v109.
```

But even then you need to specify a pathway and directory (oops! folder) for the source and destination files). I find it easier to have raw data on drive **e:**, specify 'e:fifth.dat' and then use the menus **file …save as…** to put the saved file where I want it. SPSS will not save to **e:** so it's easier to create a specific folder and work from that, but it involves some quite long filenames (including pathways).

Appendix 2 (Output from SPSS 15)

```
Group Q1   SUBJECTS TAKEN
```

			Pct of	Pct of
Category label	Code	Count	Responses	Cases
Human Biology	1	6	1.1	4.3
General Science	2	33	6.2	23.9
European Studies	3	21	3.9	15.2
Relig Studies	4	6	1.1	4.3
Design	5	20	3.7	14.5
Drama	6	13	2.4	9.4
Home Econ	7	11	2.1	8.0
Music	8	5	.9	3.6
Office Skills	10	42	7.9	30.4
Geograph	13	83	15.5	60.1
History	14	81	15.1	58.7
Physics	15	46	8.6	33.3
Biology	16	28	5.2	20.3
Chemist	17	22	4.1	15.9
French	18	43	8.0	31.2
German	19	13	2.4	9.4
Art	20	25	4.7	18.1
Tech Drawing	21	37	6.9	26.8
		-------	-----	-----
Total responses		535	100.0	387.7

```
4 missing cases;  138 valid cases
```

```
          * * *  C R O S S T A B U L A T I O N  * * *

         Q1 (group)   SUBJECTS TAKEN by V348   Q.39 Sex
```

V348

Count Col pct	Boys	Girls	Row Total
	1	2	
Q1			
1 Human Biology	2 / 3.6	3 / 5.3	5 / 4.5
2 General Science	11 / 20.0	14 / 24.6	25 / 22.3
3 European Studies	7 / 12.7	8 / 14.0	15 / 13.4
4 Relig Studies	1 / 1.8	3 / 5.3	4 / 3.6
5 Design	11 / 20.0	0 / .0	11 / 9.8
6 Drama	5 / 9.1	6 / 10.5	11 / 9.8
7 Home Econ	0 / .0	11 / 19.3	11 / 9.8
8 Music	1 / 1.8	4 / 7.0	5 / 4.5
10 Office Skills	1 / 1.8	37 / 64.9	38 / 33.9

Count Col pct	Boys	Girls	Row Total
	1	2	
Q1			
13 Geograph	32 / 58.2	34 / 59.6	66 / 58.9
14 History	31 / 56.4	36 / 63.2	67 / 59.8
15 Physics	32 / 58.2	10 / 17.5	42 / 37.5
16 Biology	15 / 27.3	9 / 15.8	24 / 21.4
17 Chemist	13 / 23.6	7 / 12.3	20 / 17.9
18 French	9 / 16.4	26 / 45.6	35 / 31.3
19 German	8 / 14.5	5 / 8.8	13 / 11.6
20 Art	10 / 18.2	12 / 21.1	22 / 19.6
21 Tech Drawing	24 / 43.6	2 / 3.5	26 / 23.2
Column Total	55 / 49.1	57 / 50.9	112 / 100.0

Percents and totals based on respondents

```
              112 valid cases;  30 missing cases
```

```
Group AGST33  Agree Strongly at Q33
     (Value tabulated = 4)


                                                   Pct of   Pct of
Dichotomy label                      Name   Count  Responses  Cases

Q.33a Womens fulfilment is kids      V248     12     3.7     11.7
Q.33b Women should pay on dates      V249     25     7.6     24.3
Q.33c Half jobs reserved for women   V250     15     4.6     14.6
Q.33d Women in mens jobs             V251     23     7.0     22.3
Q.33e Women too emotional            V252     15     4.6     14.6
Q.33f Women are not ambitious        V253      6     1.8      5.8
Q.33g Women are not as intelligent   V254     47    14.3     45.6
Q.33h Women need to be beautiful     V255     31     9.5     30.1
Q.33j Husbands have final say        V256     15     4.6     14.6
Q.33k Equivalent brain power         V257     33    10.1     32.0
Q.33l Equal pay so women go Dutch    V258     26     7.9     25.2
Q.33m Equal pay for same work        V259     59    18.0     57.3
Q.33n Beauty contests degrading      V260      8     2.4      7.8
Q.33o Romantic love is dead          V261     13     4.0     12.6
                                           -------  -----    -----
                      Total responses       328   100.0    318.4

39 missing cases;  103 valid cases



Group AGREE33  AGREE or AGREE STRONGLY at Q33
     (Value tabulated = 4)


                                                   Pct of   Pct of
Dichotomy label                      Name   Count  Responses  Cases

Q.33a Womens fulfilment is kids      V248     39     3.9     28.9
Q.33b Women should pay on dates      V249     81     8.1     60.0
Q.33c Half jobs reserved for women   V250     63     6.3     46.7
Q.33d Women in mens jobs             V251     94     9.4     69.6
Q.33e Women too emotional            V252     63     6.3     46.7
Q.33f Women are not ambitious        V253     29     2.9     21.5
Q.33g Women are not as intelligent   V254    115    11.5     85.2
Q.33h Women need to be beautiful     V255    105    10.5     77.8
Q.33j Husbands have final say        V256     48     4.8     35.6
Q.33k Equivalent brain power         V257    104    10.4     77.0
Q.33l Equal pay so women go Dutch    V258     78     7.8     57.8
Q.33m Equal pay for same work        V259    126    12.6     93.3
Q.33n Beauty contests degrading      V260     28     2.8     20.7
Q.33o Romantic love is dead          V261     25     2.5     18.5
                                           -------  -----    -----
                      Total responses       998   100.0    739.3

7 missing cases;  135 valid cases
```

AGREE33 (tabulating 4) Agree or Agree Strongly at Q33by V348 Q.39 Sex

Q1   (Group) SUBJECTS TAKEN   BY V348   Q.39 Sex

```
                 Count :Boys     Girls
                 Col  % :                    Row
                       :      1 :      2 : Total
Q1               --------:--------:--------:
                     1 :      2 :      3 :      5
  Human    Biology    :    3.6 :    5.1 :    4.3
                       :--------:--------:
                     2 :     11 :     14 :     25
  General Science      :   19.6 :   23.7 :   21.7
                       :--------:--------:
                     3 :      7 :      9 :     16
  European Studies     :   12.5 :   15.3 :   13.9
                       :--------:--------:
                     4 :      0 :      3 :      3
  Relig.   Studies     :    0.0 :    5.1 :    2.6
                       :--------:--------:
                     5 :     12 :      0 :     12
  Design               :   21.4 :    0.0 :   10.4
                       :--------:--------:
                     6 :      4 :      6 :     10
  Drama                :    7.1 :   10.2 :    8.7
                       :--------:--------:
                     7 :      0 :     12 :     12
  Home     Econ.       :    0.0 :   20.3 :   10.4
                       :--------:--------:
                     8 :      1 :      4 :      5
  Music                :    1.8 :    6.8 :    4.3
                       :--------:--------:
                    10 :      1 :     38 :     39
  Office   Skills      :    1.8 :   64.4 :   33.9
                       :--------:--------:
                    13 :     32 :     35 :     67
  Geograph             :   57.1 :   59.3 :   58.3
                       :--------:--------:
                    14 :     34 :     38 :     72
  History              :   60.7 :   64.4 :   62.6
                       :--------:--------:
                    15 :     33 :     10 :     43
  Physics              :   58.9 :   16.9 :   37.4
                       :--------:--------:
                    16 :     14 :     10 :     24
  Biology              :   25.0 :   16.9 :   20.9
                       :--------:--------:
                    17 :     14 :      7 :     21
  Chemist.             :   25.0 :   11.9 :   18.3
                       :--------:--------:
                    18 :      9 :     26 :     35
  French               :   16.1 :   44.1 :   30.4
                       :--------:--------:
                    19 :      8 :      6 :     14
  German               :   14.3 :   10.2 :   12.2
                       :--------:--------:
                    20 :     10 :     12 :     22
  Art                  :   17.9 :   20.3 :   19.1
                       :--------:--------:
                    21 :     25 :      2 :     27
  Tech.    Drawing     :   44.6 :    3.4 :   23.5
                       :--------:--------:
                Column      56       59      115
```

    Percents and totals based on respondents

    115 valid cases   27 missing cases