Block 3: Analysing two variables   3.3 Multiple response

3.3.3 Multiple response questions in the 1986 British Social Attitudes survey

[Last updated: 5 March 2017]

Previous tutorials: **3.3.1 Analysing multiple response with SPSS - an introduction**
                               3.3.2 [SPSS 15]   First exercise in multiple response

Exemplar: British Social Attitudes survey (1986 wave)

There are several questions in the 1986 survey which allow for multiple response and can legitimately have more than one answer. Some of these are pre-coded (either read out from the questionnaire itself or using show-cards): others are open-ended questions for which up to three, up to five or even more (recorded verbatim) answers have been post-coded.

The coding schemes and data layout vary. In some questions each of the possible response codes has been allocated a separate data field, so that a particular code will always appear in the same field. In others, there may be many codes, but only a few fields allocated: codes can appear in any field and in any order. Some questions use lists of responses in which the (pre-) codes run from 1 to 7 and then start again at 1 so that some recoding of values is necessary.

The data for a single case are spread over 23 x 80-column records, eg:

```
1020501010310721870610          020512          02
10205022103220231121111121321   312251121122111113442113   05
1020503
1020504                    12   012   2004   3121
1020505                       030113121255111112 21221221    2113501    111111
10205060102051113111111   2111113102001         010400   1111122         411 2      5
1020507    5     11111833124225   2211121222222        23668656531112221230801030722
1020508222111 2         2          1 2         2          2    6          312
      09
1020510
1020511
1020512
1020513
1020514                                        02   2                              2
102051502115212501                                         22 011
1020516                   9721    063010807327408   001010131  112112            103
10205171360108083234087   01981015102021           4     03   11 11310501870300486111
1020518
1020519
102052033323222343123443212222222233232333211112212221222422244112111121222212212
10205213333334231232222224413322322121111112232222222221222241422244222
1020522222224244222313222
1020523  00.6666 04 4 1 02 2 4 06 2 07 08 6 5 4 4 4 4 2 1 08 04 3 6 1 1 1 5
```

The questionnaire has two versions, A and B, each comprising a set of core questions asked of all respondents, plus a separate set of questions asked only of each of two sub-samples (totals for sample A = 1552, sample B = 1548). The core questions are numbered differently in each version of the questionnaire and the variable labels for some questions in the main SPSS saved file have dual question numbers at the beginning to reflect this: the questionnaire extracts which follow are from version B of the questionnaire.

1a: Single (fixed) field allocated for each code [Single question]

AQ109/BQ117 a) Have you passed exams or got any other qualifications?
[Filter question] [codes **1** or **2** in col 65 of record 15]

b) [If YES] **Educational qualifications obtained**
[precoded with showcard] 16 possible codes of which 15 valid (**01-15**) each in fixed location, one field per code (cols 66-67, 68-69 ... 78-79 of record 15 and columns 08-09,10-11 . . . 22-23 of record 16) plus **one only** of missing codes 97,98 or 99 in cols 24-25 of record 16. Total of 16 fields, 32 columns.

ASK ALL CARD CC		(1565)	
117.a) Have you passed any exams or got any of the qualifications on this card?	Yes	1	b)
	No, none	2	Q.118
IF YES (CODE 1 AT a)			
b) Which ones? Any others?	CSE Grades 2-5	01	(1566-7)
CODE ALL THAT APPLY	CSE Grade 1 GCE 'O' level School certificate Scottish (SCE) Ordinary	02	(1568-9)
	GCE 'A' level/'S' level Higher certificate Matriculation Scottish (SCE) Higher	03	(1570-1)
	Overseas School Leaving Exam/Certificate	04	(1572-3)
	Recognised trade apprenticeship completed	05	(1574-5)
	RSA/other clerical, commercial qualification	06	(1576-7)
City & Guilds Certificate - Craft/Intermediate/Ordinary/Part I		07	(1578-9)
City & Guilds Certificate - Advanced/Final/Part II or Part III		08	(1608-9)
City & Guilds Certificate - Full technological		09	(1610-11)
BEC/TEC General/Ordinary National Certificate (ONC) or Diploma (OND)		10	(1612-3)
BEC/TEC Higher/Higher National Certificate (HNC) or Diploma (HND)		11	(1614-5)
	Teachers training qualification	12	(1616-7)
	Nursing qualification	13	(1618-9)
	Other technical or business qualification/certificate	14	(1620-1)
	University or CNAA degree or diploma	15	(1622-3)
Other (SPECIFY) _____		97	(1624-5)

[Extract of 3 cases from raw data: records 15 and 16]

```
10192150312601163111362                              222012
1019216              1     999021117998999  99999  933              07

10203150142801                                       2   032
1020316                    999021117998999  99999  933

10080150512319137l 1022 1032 2102                    2220210102
1008016              1  1  045040805318302  0005101132222222        05
```

2

1b: Single (fixed) field allocated per code [Double question]

Q53 Priorities for Government spending [precoded with show-card H]

		1st Priority (531-32)	2nd Priority (533-34)
53.	CARD H Here are some items of government spending. Which of them, if any, would be your highest priority for <u>extra</u> spending? And which next? Please read through the whole list before deciding. <u>ONE CODE ONLY IN EACH COL.</u>		
	Education	01	01
	Defence	02	02
	Health	03	03
	Housing	04	04
	Public transport	05	05
	Roads	06	06
	Police and prisons	07	07
	Social security benefits	08	08
	Help for industry	09	09
	Overseas aid	10	10
	(NONE OF THESE)	11	11
	(Don't know)	98	98

[Two replies only, 11 valid codes (01 to 11) 2 missing (98,99) two fields, cols 31-32 and 33-34 of record 5]

[Extract of 3 cases from raw data: record 05, two reply codes entered in 31-2 and 33-4]

```
101920 5203      2    443    070313221222222222 11311213     113220707111113

102030 5203      2    443    090414112322222332 31811123     233220401111111

102050 5          030113121255111112 21221221     2113501   111111
```

2: More codes used than fields allocated:

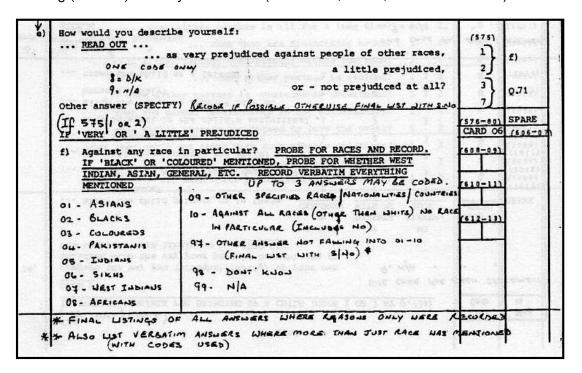### Q70e How prejudiced against other races?   [Filter question]

```
e) │ How would you describe yourself:                              │(575)│
   │ ... READ OUT ...                                             │     │
   │              ... as very prejudiced against people of other  │  1 ┐│ f)
   │                                                  races,      │    ││
   │                              a little prejudiced,            │  2 ┘│
   │                      or - not prejudiced at all?             │  3 ┐│
   │                                                             │    ││ Q.71
   │ Other answer (SPECIFY) _____ │  7 ┘│
```

Q70f Groups prejudiced against   [Post-coded: asked only if code 1 or 2 at Q70e]

```
                                                        │(576-80)│ SPARE
   IF 'VERY' OR ' A LITTLE' PREJUDICED                  │CARD 06 │(606-07)
                                                        │        │
f)  Against any race in particular?   PROBE FOR RACES AND RECORD. │(608-09)│
    IF 'BLACK' OR 'COLOURED' MENTIONED, PROBE FOR WHETHER WEST    │        │
    INDIAN, ASIAN, GENERAL, ETC.   RECORD VERBATIM EVERYTHING     │        │
    MENTIONED                                           │(610-11)│
                                                        │        │
                                                        │        │
                                                        │(612-13)│
```

Up to three verbatim replies, post-coded, 13 possible codes of which 10 valid (01 – 10) and three missing (97 - 99) but only three fields (cols 08-09, 10-11, 12-13 of record 6)

[Extract of 3 cases from raw data: record 06]

```
1019206        3323122111  1112211801501    007800  1111222     511

1020306 03     8813112311  1332111100601    003120  3222222     21212    5

1020506 010205 1113111111  2111113102001    010400  1111122     411 2    5
```

4

3a: One (fixed) field allocated for each code, but codes are repeated:

BQ86a Action would take }
  } to stop or change an unjust law [precoded with showcard **P**]
BQ86b Action ever taken }

[9 possible substantive replies, but only 7 codes allocated!!]

This is a complex one for multiple response. Columns 71 to 79 of record 6 and columns 08 to 16 of record 7 (2 x 9 = 18 columns) are allocated as fixed fields. Codes **1** and **2** are repeated at cols 6/78-79 and 7/15-16, but refer to different replies from the list: **they need changing!** Be careful if you're thinking of changing them to codes 8 and 9 which are used for denoting missing values! (8 = DK, 9 = NA on 6/79 and 7/16) You need to change the missing values 8 and 9 to 88 and 99 inside SPSS first. There's only 1 digit allowed in a single column in the raw data, but values inside SPSS are not limited like this.

[Extract from raw data: records 06 and 07]

```
1019206      3323122111  1112211801501      007800  1111222      511 21
1019207 1          34444444123555  2132132212223      52655616541233333330104010211

102030603      8813112311  1332111100601      003120  3222222      21212      5
102030 7      2 22222888121776  2112112122451      23636666343111131180107030411

1020506 0102051113111111  2111113102001      010400  1111122      411 2      5
102050 7      5    11111833124225  2211121222222      23668656531112221230801030722
```

5

3b: One (fixed) field allocated for each code, but codes are repeated:

AQ117/BQ125 Welfare benefits received [showcard **GG**]

ASK ALL			
CARD G G			
125. Have you or anyone in this household been in receipt of any of the benefits on this card during the last five years?			
IF YES: Which ones? Any others?	Child benefit (family allowance)	1	(1739)
CODE ALL THAT APPLY	Maternity benefit or allowance	2	(1740)
	One parent benefit	3	(1741)
	Family Income Supplement	4	(1742)
	State retirement or widow's pension	5	(1743)
	Supplementary pension	6	(1744)
	Invalidity or disabled pension or benefit	1	(1745)
	Attendance/Invalid care/Mobility allowance	2	(1746)
	Sickness or injury benefit	3	(1747)
	Unemployment benefit	4	(1748)
	Supplementary benefit	5	(1749)
	Rate or rent rebate or allowance	6	(1750)
Other benefit(s) volunteered (SPECIFY) _____		7	(1751)
	NO, NONE	0	(1752)

6

ASK ALL ✓		
CARD GG		
117 Have you or anyone in this household been in receipt of any of the benefits on this card during the last <u>five years</u>?		
IF YES: Which ones? Any others? Child benefit (family allowance)	1	(1739)
<u>CODE ALL THAT APPLY</u> Maternity benefit or allowance	2	(1740)
One parent benefit	3	(1741)
Family Income Supplement	4	(1742)
8 = D/K on col 1752 State retirement or widow's pension	5	(1743)
9 = N/A on col 1752 Supplementary pension	6	(1744)
N.B. If Benefit is Private Invalidity or disabled pension or benefit	1	(1745)
e.g. PRIVATE PENSION, ALIMONY, Attendance/Invalid care/Mobility allowance	2	(1746)
or LOCAL EDUCATION AUTHORITY Sickness or injury benefit	3	(1747)
BENEFIT e.g. MILK TOKENS DELETE		
CODES → IF NECESSARY RECODE Unemployment benefit	4	(1748)
To 1752/0 Supplementary benefit	5	(1749)
Housing based Rate or rent rebate or allowance	6	(1750)
Other benefit(s) volunteered (SPECIFY) RECODE IF POSSIBLE OTHERWISE	7	(1751)
FINAL LIST WITH S.No.		
* NEW CODE 1752/1 = GRADUATED, SUPERANNUATION WHERE NOT NO, NONE CLEAR IF PRIVATE OR STATE	0	(1752)

This is another complex one for multiple response. There were 12 possible pre-coded replies, but only 6 substantive codes (1 – 6 used twice) allocated! 12 columns (39-50) of record 17 Code 7 for "other" in col 51 codes 1-6 repeated from col 17/45 to 17/50 and **need changing**

 [Extract of 3 cases from raw data: record 17]

```
101921700030105012136 01   00051025198981          3        98 21113105518700305861 31

102031 7                            03031      5        03 11112906018700300486231

102051713601080832340 8   01981015102021        4        03 11113105018700300486111
```

4:   Binary variables (dichotomous)

Sets of questions with only two response categories (Yes, No) can be analysed as a block by treating them as multiple response questions.   Indeed, any variable can be dichotomised and thus treated. An example in this data set is:

AQ112/BQ120a Actions as Trade Union member (Yes, No – precoded)

cols 59-64 of record 16 (codes 1, 2)

[Extract of 3 cases from raw data: record 16]

```
101921 6              1     999021117998999  99999  933                      07

102031 6                    999021117998999  99999  933

102051 6              9721  063010807327408  001010131  112112                103
```

End of note: These examples will be used in the next set of tutorials.

Next tutorial: 3.3.3.1 Analysing multiple response exercise 1 - One field per code

Deals with a question on qualifications obtained by education and/or training. There is a list of 15 qualifications (coded from 01 to 15) each of which has been allocated its own fixed 2-column field: the tutorial demonstrates how to read in the raw data, specify a group variable for qualifications obtained and produce a grouped frequency table.

Back to: **3.3 Multiple response**