Smoking and voting

Suggested teaching exercise using the CLOSER training dataset

Does smoking make you less likely to vote in general elections?

1. Cross-tabulating smoking and voting

Try cross-tabulating the variable at age 42 which looks at smoking, against the variable which asks whether the cohort member voted in the general election in May 1997.

Solution (SPSS syntax and output): cro smoking by vote97/cells=count row.

smoking CM current smoking status (age 42) * vote97 Voted in last General Election-May 97 (age 42) Crosstabulation

			vote97 Voted in last General Election-May 97 (age 42)				
			1 Yes	2 No	8 =Dont know	9 =Not answered	Total
smoking CM current smoking status (age 42)	1 never smoked cigarettes,	Count	2302	442	0	2	2746
		% within smoking CM current smoking status (age 42)	83.8%	16.1%	0.0%	0.1%	100.0%
	2 used to smoke but dont at all now	Count	1215	266	0	2	1483
		% within smoking CM current smoking status (age 42)	81.9%	17.9%	0.0%	0.1%	100.0%
	3 smoke cigarettes occasionally	Count	204	49	1	0	254
		% within smoking CM current smoking status (age 42)	80.3%	19.3%	0.4%	0.0%	100.0%
	4 smoke cigarettes every day	Count	934	335	0	2	1271
		% within smoking CM current smoking status (age 42)	73.5%	26.4%	0.0%	0.2%	100.0%
	8 Dont know	Count	0	0	2	0	2
		% within smoking CM current smoking status (age 42)	0.0%	0.0%	100.0%	0.0%	100.0%
	9 Not answered	Count	1	0	0	2	3
		% within smoking CM current smoking status (age 42)	33.3%	0.0%	0.0%	66.7%	100.0%
Total		Count	4656	1092	3	8	5759
		% within smoking CM current smoking status (age 42)	80.8%	19.0%	0.1%	0.1%	100.0%

What conclusion can we draw from this table?

We see a gradient showing that 73.5% of daily smokers say they have voted at the last election, compared with 84% of non-smokers, with moderate smokers and ex-smokers in the middle of the gradient. Can we really conclude that the act of smoking itself makes people less likely to vote?

Perhaps another characteristic, linked both to voting and smoking, might explain this apparent relationship? Try cross-tabulating social class at age 42 against the same voting variable.

cro sc by vote97/cells=count row.

SC (Current Job) Social Class (age 42) * vote97 Voted in last General Election-May 97 (age 42) Crosstabulation

			vote97 Voted in last General Election-May 97 (age 42)				
			1 Yes	2 No	8 =Dont know	9 =Not answered	Total
SC (Current Job) Social Class (age 42)	1.0 I Professional	Count	243	33	0	1	277
		% within SC (Current Job) Social Class (age 42)	87.7%	11.9%	0.0%	0.4%	100.0%
	2.0 II Managerial-technical	Count	1661	287	1	2	1951
		% within SC (Current Job) Social Class (age 42)	85.1%	14.7%	0.1%	0.1%	100.0%
	3.1 IIINM Skilled non-manual	Count	900	213	0	1	1114
		% within SC (Current Job) Social Class (age 42)	80.8%	19.1%	0.0%	0.1%	100.0%
	3.2 IIIM Skilled manual	Count	714	226	1	0	941
		% within SC (Current Job) Social Class (age 42)	75.9%	24.0%	0.1%	0.0%	100.0%
	4.0 IV Partly skilled	Count	492	133	0	2	627
		% within SC (Current Job) Social Class (age 42)	78.5%	21.2%	0.0%	0.3%	100.0%
	5.0 V Unskilled	Count	93	36	0	1	130
		% within SC (Current Job) Social Class (age 42)	71.5%	27.7%	0.0%	0.8%	100.0%
	6.0 Others	Count	6	0	0	0	6
		% within SC (Current Job) Social Class (age 42)	100.0%	0.0%	0.0%	0.0%	100.0%
Total		Count	4109	928	2	7	5046
		% within SC (Current Job) Social Class (age 42)	81.4%	18.4%	0.0%	0.1%	100.0%

Here we see a clear ‘class-gradient’, with those in higher social class categories being more likely to vote than those in lower ones. 88% of people in professional jobs say they voted in 1997, but only 71.5% of unskilled workers.

Similarly, try cross-tabulating that same social class variable against smoking:

cro sc by smoking/cells=count row.

SC (Current Job) Social Class (age 42) * smoking CM current smoking status (age 42) Crosstabulation

			smoking CM current smoking status (age 42)						
			1 never smoked cigarettes,	2 used to smoke but dont at all now	3 smoke cigarettes occasionally	4 smoke cigarettes every day	8 Dont know	9 Not answered	Total
SC (Current Job) Social Class (age 42)	1.0 I Professional	Count	160	78	13	26	0	0	277
		% within SC (Current Job) Social Class (age 42)	57.8%	28.2%	4.7%	9.4%	0.0%	0.0%	100.0%
	2.0 II Managerial-technical	Count	1064	503	84	298	1	1	1951
		% within SC (Current Job) Social Class (age 42)	54.5%	25.8%	4.3%	15.3%	0.1%	0.1%	100.0%
	3.1 IIINM Skilled non-manual	Count	548	285	45	236	0	0	1114
		% within SC (Current Job) Social Class (age 42)	49.2%	25.6%	4.0%	21.2%	0.0%	0.0%	100.0%
	3.2 IIIM Skilled manual	Count	387	246	39	269	0	0	941
		% within SC (Current Job) Social Class (age 42)	41.1%	26.1%	4.1%	28.6%	0.0%	0.0%	100.0%

	4.0 IV Partly skilled	Count	242	173	26	185	0	1	627
		% within SC (Current Job) Social Class (age 42)	38.6%	27.6%	4.1%	29.5%	0.0%	0.2%	100.0%
	5.0 V Unskilled	Count	51	26	6	46	0	1	130
		% within SC (Current Job) Social Class (age 42)	39.2%	20.0%	4.6%	35.4%	0.0%	0.8%	100.0%
	6.0 Others	Count	2	4	0	0	0	0	6
		% within SC (Current Job) Social Class (age 42)	33.3%	66.7%	0.0%	0.0%	0.0%	0.0%	100.0%
Total		Count	2454	1315	213	1060	1	3	5046
		% within SC (Current Job) Social Class (age 42)	48.6%	26.1%	4.2%	21.0%	0.0%	0.1%	100.0%

Each social class category is more likely to ‘smoke cigarettes every day’ than the one above it.

Should we conclude that social class is more likely to be ‘driving’ the propensity to vote (while also being associated with the likelihood of someone smoking), rather than smoking itself ‘causing’ voting?

2. What other analyses might you do to explore this issue further?

We could do a three way crosstab to look at smoking, class and voting:

cro sc by vote97 by smoking

SC (Current Job) Social Class (age 42) * vote97 Voted in last General Election-May 97 (age 42) * smoking CM current smoking status (age 42)

smoking CM current smoking status (age 42)				vote97 Voted in last General Election-May 97 (age 42) 1 Yes	2 No	8 =Dont know	9 =Not answered	Total
1 never smoked cigarettes,	SC (Current Job) Social Class (age 42)	1.0 I Professional	Count	146	13		1	160
			% within SC (Current Job) Social Class (age 42)	91.3%	8.1%		0.6%	100.0%
		2.0 II Managerial-technical	Count	918	146		0	1064
			% within SC (Current Job) Social Class (age 42)	86.3%	13.7%		0.0%	100.0%
		3.1 IIINM Skilled non-manual	Count	462	86		0	548
			% within SC (Current Job) Social Class (age 42)	84.3%	15.7%		0.0%	100.0%
		3.2 IIIM Skilled manual	Count	302	85		0	387
			% within SC (Current Job) Social Class (age 42)	78.0%	22.0%		0.0%	100.0%
		4.0 IV Partly skilled	Count	192	49		1	242
			% within SC (Current Job) Social Class (age 42)	79.3%	20.2%		0.4%	100.0%
		5.0 V Unskilled	Count	38	13		0	51
			% within SC (Current Job) Social Class (age 42)	74.5%	25.5%		0.0%	100.0%
		6.0 Others	Count	2	0		0	2
			% within SC (Current Job) Social Class (age 42)	100.0%	0.0%		0.0%	100.0%
	Total		Count	2060	392		2	2454
			% within SC (Current Job) Social Class (age 42)	83.9%	16.0%		0.1%	100.0%

2 used to smoke but dont at all now	SC (Current Job) Social Class (age 42)	1.0 I Professional	Count	66	12		0	78
			% within SC (Current Job) Social Class (age 42)	84.6%	15.4%		0.0%	100.0%
		2.0 II Managerial-technical	Count	427	75		1	503
			% within SC (Current Job) Social Class (age 42)	84.9%	14.9%		0.2%	100.0%
		3.1 IIINM Skilled non-manual	Count	228	57		0	285
			% within SC (Current Job) Social Class (age 42)	80.0%	20.0%		0.0%	100.0%
		3.2 IIIM Skilled manual	Count	197	49		0	246
			% within SC (Current Job) Social Class (age 42)	80.1%	19.9%		0.0%	100.0%
		4.0 IV Partly skilled	Count	142	31		0	173
			% within SC (Current Job) Social Class (age 42)	82.1%	17.9%		0.0%	100.0%
		5.0 V Unskilled	Count	19	7		0	26
			% within SC (Current Job) Social Class (age 42)	73.1%	26.9%		0.0%	100.0%
		6.0 Others	Count	4	0		0	4
			% within SC (Current Job) Social Class (age 42)	100.0%	0.0%		0.0%	100.0%
	Total		Count	1083	231		1	1315
			% within SC (Current Job) Social Class (age 42)	82.4%	17.6%		0.1%	100.0%

3 smoke cigarettes occasionally	SC (Current Job) Social Class (age 42)	1.0 I Professional	Count	11	2	0		13
			% within SC (Current Job) Social Class (age 42)	84.6%	15.4%	0.0%		100.0%
		2.0 II Managerial-technical	Count	75	9	0		84
			% within SC (Current Job) Social Class (age 42)	89.3%	10.7%	0.0%		100.0%
		3.1 IIINM Skilled non-manual	Count	34	11	0		45
			% within SC (Current Job) Social Class (age 42)	75.6%	24.4%	0.0%		100.0%
		3.2 IIIM Skilled manual	Count	31	7	1		39
			% within SC (Current Job) Social Class (age 42)	79.5%	17.9%	2.6%		100.0%
		4.0 IV Partly skilled	Count	20	6	0		26
			% within SC (Current Job) Social Class (age 42)	76.9%	23.1%	0.0%		100.0%
		5.0 V Unskilled	Count	5	1	0		6
			% within SC (Current Job) Social Class (age 42)	83.3%	16.7%	0.0%		100.0%
	Total		Count	176	36	1		213
			% within SC (Current Job) Social Class (age 42)	82.6%	16.9%	0.5%		100.0%

4 smoke cigarettes every day	SC (Current Job) Social Class (age 42)	1.0 I Professional	Count	20	6		0	26
			% within SC (Current Job) Social Class (age 42)	76.9%	23.1%		0.0%	100.0%
		2.0 II Managerial-technical	Count	241	57		0	298
			% within SC (Current Job) Social Class (age 42)	80.9%	19.1%		0.0%	100.0%
		3.1 IIINM Skilled non-manual	Count	176	59		1	236
			% within SC (Current Job) Social Class (age 42)	74.6%	25.0%		0.4%	100.0%
		3.2 IIIM Skilled manual	Count	184	85		0	269
			% within SC (Current Job) Social Class (age 42)	68.4%	31.6%		0.0%	100.0%
		4.0 IV Partly skilled	Count	138	47		0	185
			% within SC (Current Job) Social Class (age 42)	74.6%	25.4%		0.0%	100.0%
		5.0 V Unskilled	Count	30	15		1	46
			% within SC (Current Job) Social Class (age 42)	65.2%	32.6%		2.2%	100.0%
	Total		Count	789	269		2	1060
			% within SC (Current Job) Social Class (age 42)	74.4%	25.4%		0.2%	100.0%

8 Dont know	SC (Current Job) Social Class (age 42)	2.0 II Managerial-technical	Count			1		1
			% within SC (Current Job) Social Class (age 42)			100.0%		100.0%
	Total		Count			1		1
			% within SC (Current Job) Social Class (age 42)			100.0%		100.0%
9 Not answered	SC (Current Job) Social Class (age 42)	2.0 II Managerial-technical	Count	0			1	1
			% within SC (Current Job) Social Class (age 42)	0.0%			100.0%	100.0%
		4.0 IV Partly skilled	Count	0			1	1
			% within SC (Current Job) Social Class (age 42)	0.0%			100.0%	100.0%
		5.0 V Unskilled	Count	1			0	1
			% within SC (Current Job) Social Class (age 42)	100.0%			0.0%	100.0%
	Total		Count	1			2	3
			% within SC (Current Job) Social Class (age 42)	33.3%			66.7%	100.0%

Total	SC (Current Job) Social Class (age 42)	1.0 I Professional	Count	243	33	0	1	277
			% within SC (Current Job) Social Class (age 42)	87.7%	11.9%	0.0%	0.4%	100.0%
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		4.0 IV Partly skilled	Count	492	133	0	2	627
			% within SC (Current Job) Social Class (age 42)	78.5%	21.2%	0.0%	0.3%	100.0%
		5.0 V Unskilled	Count	93	36	0	1	130
			% within SC (Current Job) Social Class (age 42)	71.5%	27.7%	0.0%	0.8%	100.0%
		6.0 Others	Count	6	0	0	0	6
			% within SC (Current Job) Social Class (age 42)	100.0%	0.0%	0.0%	0.0%	100.0%
	Total		Count	4109	928	2	7	5046
			% within SC (Current Job) Social Class (age 42)	81.4%	18.4%	0.0%	0.1%	100.0%

What can you conclude from this quite complex table? One approach is to look at each of the different ‘smoking’ categories and see how class relates to voting behaviour. This shows, for example, among the ‘never smoked’ that 91% of people in professional jobs say they voted in 1997, compared with 74.5% of unskilled workers. What other tests or analyses could you do to examine this relationship more thoroughly?