

Chapter 3: The IBM SPSS Statistics environment

Smart Alex's Solutions

Task 2

The data below show the score (out of 20) for 20 different students, some of whom are male and some female, and some of whom were taught using positive reinforcement (being nice) and others who were taught using punishment (electric shock). Enter these data into SPSS and save the file as **Method of Teaching.sav**. (Clue: the data should not be entered in the same way that they are laid out below.)

The data can be found in the file **Method of Teaching.sav** and should look like this:

	Method	Gender	Mark	var	var	var	var	var
1	Electric Shock	Female	6					
2	Electric Shock	Female	7					
3	Electric Shock	Female	5					
4	Electric Shock	Female	4					
5	Electric Shock	Female	8					
6	Electric Shock	Male	15					
7	Electric Shock	Male	14					
8	Electric Shock	Male	20					
9	Electric Shock	Male	13					
10	Electric Shock	Male	13					
11	Being Nice	Female	12					
12	Being Nice	Female	10					
13	Being Nice	Female	7					
14	Being Nice	Female	8					
15	Being Nice	Female	13					
16	Being Nice	Male	10					
17	Being Nice	Male	9					
18	Being Nice	Male	8					
19	Being Nice	Male	6					
20	Being Nice	Male	7					
21								
22								

Or with the value labels off, like this:

The screenshot shows the IBM SPSS Statistics Data Editor window for a file named 'Method Of Teaching.sav'. The window displays a data grid with 22 rows and 5 columns. The columns are labeled 'Method', 'Gender', 'Mark', and two empty columns labeled 'var'. The data is as follows:

	Method	Gender	Mark	var	var	var	var	var
1	0	0	6					
2	0	0	7					
3	0	0	5					
4	0	0	4					
5	0	0	8					
6	0	1	15					
7	0	1	14					
8	0	1	20					
9	0	1	13					
10	0	1	13					
11	1	0	12					
12	1	0	10					
13	1	0	7					
14	1	0	8					
15	1	0	13					
16	1	1	10					
17	1	1	9					
18	1	1	8					
19	1	1	6					
20	1	1	7					
21								
22								

Task 3

Thinking back to Labcoat Leni's Real Research 3.1, Oxoby also measured the minimum acceptable offer; these MAOs (in dollars) are below (again, these are approximations based on the graphs in the paper). Enter these data into the SPSS data editor and save this file as **Oxoby (2008) MAO.sav**.

- Bon Scott group: 2, 3, 3, 3, 3, 4, 4, 4, 4, 4, 4, 4, 4, 5, 5, 5, 5, 5
- Brian Johnson group: 0, 1, 2, 2, 3, 3, 3, 3, 3, 4, 4, 4, 4, 4, 4, 4, 4, 1

The data can be found in the file **Oxoby (2008) MAO.sav** and should look like this:

DISCOVERING STATISTICS USING SPSS

Oxoby (2008) MAO.sav [DataSet3] - IBM SPSS Statistics Data Editor

Visible: 2 of 2 Variables

	Music	MAO	var	var	var
1	Bonn Scott (It's a Long Way to the Top)	2			
2	Bonn Scott (It's a Long Way to the Top)	3			
3	Bonn Scott (It's a Long Way to the Top)	3			
4	Bonn Scott (It's a Long Way to the Top)	3			
5	Bonn Scott (It's a Long Way to the Top)	3			
6	Bonn Scott (It's a Long Way to the Top)	4			
7	Bonn Scott (It's a Long Way to the Top)	4			
8	Bonn Scott (It's a Long Way to the Top)	4			
9	Bonn Scott (It's a Long Way to the Top)	4			
10	Bonn Scott (It's a Long Way to the Top)	4			
11	Bonn Scott (It's a Long Way to the Top)	4			
12	Bonn Scott (It's a Long Way to the Top)	4			
13	Bonn Scott (It's a Long Way to the Top)	4			
14	Bonn Scott (It's a Long Way to the Top)	5			
15	Bonn Scott (It's a Long Way to the Top)	5			
16	Bonn Scott (It's a Long Way to the Top)	5			
17	Bonn Scott (It's a Long Way to the Top)	5			
18	Bonn Scott (It's a Long Way to the Top)	5			
19	Brian Johnson (Shoot to Thrill)	0			
20	Brian Johnson (Shoot to Thrill)	1			
21	Brian Johnson (Shoot to Thrill)	2			
22	Brian Johnson (Shoot to Thrill)	2			

Data View Variable View

IBM SPSS Statistics Processor is ready

Or with the value labels off, like this:

Oxoby (2008) MAO.sav [DataSet3] - IBM SPSS Statistics Data Editor

Visible: 2 of 2 Variables

	Music	MAO	var	var	var
1		1	2		
2		1	3		
3		1	3		
4		1	3		
5		1	3		
6		1	4		
7		1	4		
8		1	4		
9		1	4		
10		1	4		
11		1	4		
12		1	4		
13		1	4		
14		1	5		
15		1	5		
16		1	5		
17		1	5		
18		1	5		
19		2	0		
20		2	1		
21		2	2		
22		2	2		

Data View Variable View

IBM SPSS Statistics Processor is ready

Task 4

According to some highly unscientific research done by a UK department store chain and reported in Marie Clare magazine (<http://ow.ly/9Dxvy>) shopping is good for you: they found that the average women spends 150 minutes and walks 2.6 miles when she shops, burning off around 385 calories. In contrast, men spend only about 50 minutes shopping, covering 1.5 miles. This was based on strapping a pedometer on a mere 10 participants. Although I don't have the actual data, some simulated data based on these means are below. Enter these data into SPSS and save them as **Shopping Exercise.sav**.

The data can be found in the file **Shopping Exercise.sav** and should look like this:

	Gender	Time	Distance	var	var
1	Female	22	1.40		
2	Female	140	1.81		
3	Female	160	1.96		
4	Female	183	3.02		
5	Female	245	4.82		
6	Male	15	.16		
7	Male	30	.40		
8	Male	37	1.36		
9	Male	65	1.99		
10	Male	103	3.61		
11					
12					

Or with the value labels off, like this:

	Gender	Time	Distance	var	var	var	var	var
1	1	22	1.40					
2	1	140	1.81					
3	1	160	1.96					
4	1	183	3.02					
5	1	245	4.82					
6	0	15	.16					
7	0	30	.40					
8	0	37	1.36					
9	0	65	1.99					
10	0	103	3.61					
11								
12								

Task 5

I was taken by two new stories. The first was about a Sudanese man who was forced to marry a goat after being caught having sex with it (<http://ow.ly/9DyyP>). I'm not sure he treated the goat to a nice dinner in a posh restaurant before taking advantage of her, but either way you have to feel sorry for the goat. I'd barely had time to recover from that story when another appeared about an Indian man forced to marry a dog to atone for stoning two dogs and stringing them up in a tree 15 years earlier (<http://ow.ly/9DyFn>). Why anyone would think it's a good idea to enter a dog into matrimony with a man with a history of violent behaviour towards dogs is beyond me. Still, I wondered whether a goat or dog made a better spouse. I found some other people who had been forced to marry goats and dogs and measured their life satisfaction and, also, how much they like animals. Enter these data into SPSS and save as **Goat or Dog.sav**.

The data can be found in the file **Goat or Dog.sav** and should look like this:

	wife	animal	life_satisfaction	var	vai
1		Goat	69	47	
2		Goat	25	6	
3		Goat	31	47	
4		Goat	29	33	
5		Goat	12	13	
6		Goat	49	56	
7		Goat	25	42	
8		Goat	35	51	
9		Goat	51	42	
10		Goat	40	46	
11		Goat	23	27	
12		Goat	37	48	
13		Dog	16	52	
14		Dog	65	66	
15		Dog	39	65	
16		Dog	35	61	
17		Dog	19	60	
18		Dog	53	68	
19		Dog	27	37	
20		Dog	44	72	
21					

Or with the value labels off, like this:

	wife	animal	life_satisfaction	var	var	var
1	1	1	69	47		
2	1	1	25	6		
3	1	1	31	47		
4	1	1	29	33		
5	1	1	12	13		
6	1	1	49	56		
7	1	1	25	42		
8	1	1	35	51		
9	1	1	51	42		
10	1	1	40	46		
11	1	1	23	27		
12	1	1	37	48		
13	2	16	52			
14	2	65	66			
15	2	39	65			
16	2	35	61			
17	2	19	60			
18	2	53	68			
19	2	27	37			
20	2	44	72			
21	2	44	72			

Task 6

*One of my favourite activities, especially when trying to do brain-melting things like writing statistics books, is drinking tea. I am English, after all. Fortunately, tea improves your cognitive function, well, in old Chinese people at any rate (Feng, Gwee, Kua, & Ng, 2010). I may not be Chinese and I'm not that old, but I nevertheless enjoy the idea that tea might help me think. Here's some data based on Feng et al.'s study that measured the number of cups of tea drunk and cognitive functioning in 15 people. Enter these data in SPSS and save the file as **Tea Makes You Brainy 15.sav**.*

The data can be found in the file **Tea Makes You Brainy 15.sav** and should look like this:

Tea Makes You Brainy 15.sav [DataSet4] - IBM SPSS Statistics Data Editor

File Edit View Data Transform Analyze Direct Marketing Graphs Utilities Add-ons Window Help

Visible: 2 of 2 Variables

	Cups_of_Tea	Cognitive_Function	var	var	var
1	2	60			
2	4	47			
3	3	31			
4	4	62			
5	2	44			
6	3	41			
7	5	49			
8	5	56			
9	2	45			
10	5	56			
11	1	57			
12	3	40			
13	3	54			
14	4	34			
15	1	46			
16					
17					

Data View Variable View

IBM SPSS Statistics Processor is ready

Task 7

*Men get homicidal and suicidal in response to infidelity, whereas women feel undesirable and insecure (Shackelford, LeBlanc, & Drass, 2000). Let's imagine we did some similar research: we took some men and women and got their partners to tell them they had slept with someone else. We then took each person to two shooting galleries and each time gave them a gun and 100 bullets. In one gallery was a human-shaped target with a picture of their own face on it, and in the other was a target with their partner's face on it. They were left alone with each target for 5 minutes and the number of bullets used was measured. The data are below; enter them into SPSS and save them as **Infidelity.sav**. (Clue: They are not entered in the format in the table.)*

The data can be found in the file **Infidelity.sav** and should look like this:

DISCOVERING STATISTICS USING SPSS

The screenshot shows the IBM SPSS Statistics Data Editor window for a file named 'Infidelity.sav'. The window title is 'Infidelity.sav [DataSet2] - IBM SPSS Statistics Data Editor'. The menu bar includes File, Edit, View, Data, Transform, Analyze, Direct Marketing, Graphs, Utilities, Add-ons, Window, and Help. The toolbar contains various icons for file operations and analysis. The data grid shows 22 rows of data with columns for Gender, Partner, and Self. The status bar at the bottom indicates 'IBM SPSS Statistics Processor is ready'.

	Gender	Partner	Self	var	var	var	var	var
1	Male	69	33					
2	Male	76	26					
3	Male	70	10					
4	Male	76	51					
5	Male	72	34					
6	Male	65	28					
7	Male	82	27					
8	Male	71	9					
9	Male	71	33					
10	Male	75	11					
11	Male	52	14					
12	Male	34	46					
13	Female	70	97					
14	Female	74	80					
15	Female	64	88					
16	Female	43	100					
17	Female	51	100					
18	Female	93	58					
19	Female	48	95					
20	Female	51	83					
21	Female	74	97					
22	Female	73	89					

Or with the value labels off, like this:

The screenshot shows the same IBM SPSS Statistics Data Editor window, but the 'Gender' column now contains numerical values instead of text labels. The status bar at the bottom indicates 'IBM SPSS Statistics Processor is ready'.

	Gender	Partner	Self	var	var	var	var	var
1	1.00	69	33					
2	1.00	76	26					
3	1.00	70	10					
4	1.00	76	51					
5	1.00	72	34					
6	1.00	65	28					
7	1.00	82	27					
8	1.00	71	9					
9	1.00	71	33					
10	1.00	75	11					
11	1.00	52	14					
12	1.00	34	46					
13	2.00	70	97					
14	2.00	74	80					
15	2.00	64	88					
16	2.00	43	100					
17	2.00	51	100					
18	2.00	93	58					
19	2.00	48	95					
20	2.00	51	83					
21	2.00	74	97					
22	2.00	73	89					