SPSS 13.0 HELP SHEET: *t*-test

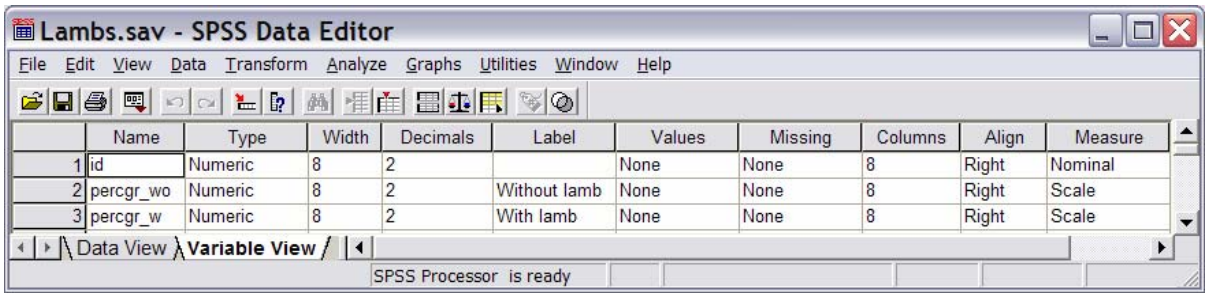
CONTENTS

1. How to enter data to do a *t*-test.

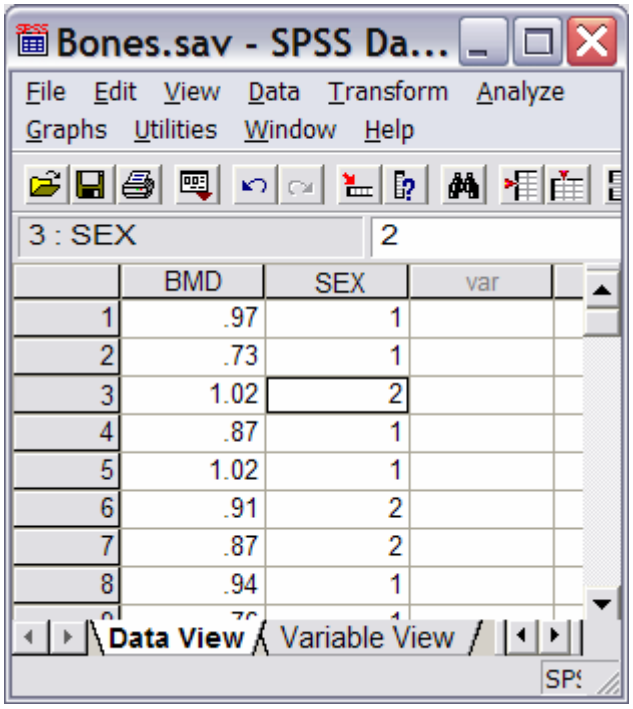
For general advice on data entry see the "**How to enter data into SPSS"** help sheet.

t-tests are used on unrelated data: Data for the dependent variable goes in one column and data for the independent variable goes in another. . In this example, the dependent variable is *BMD* and the independent variable is *SEX*. *BMD* is bone-density measurement measured in grams per square centimetre of the neck of the femur which is a scale level of measurement). *SEX* is measured at the nominal level: either 1 (value label = female) or 2 (value label = male).

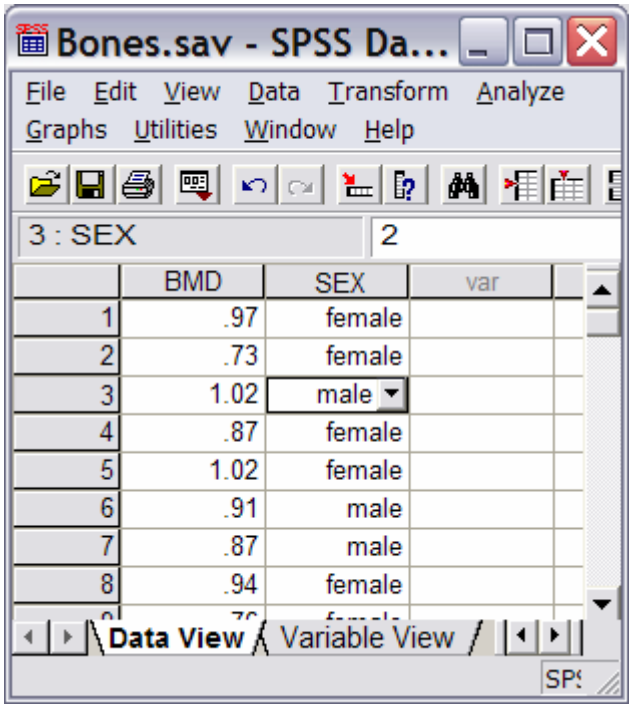
Variable View:



Data View (View – Value Labels off)



Data View (View – Value Labels on)



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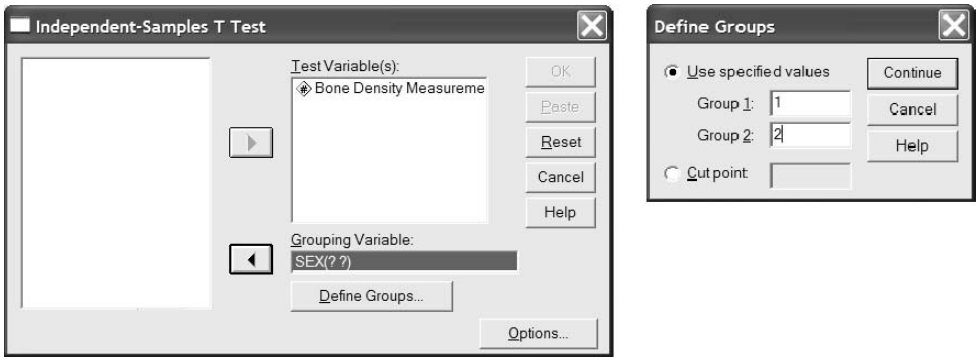
2. How to do a *t*-test.

To get SPSS to conduct a *t*-test :

Open your data file.

Select: Analyze – Compare Means – Independent-Samples T Test...

This will bring up the Independent-Samples T Test window (below, left):



Select the dependent variable, and send it to the **Test Variable(s) List** box (in the example above this is *Bone Density Measurement*). Select the independent variable, and send it to the **Grouping Variable** box (in the example above this is *Sex*).

Press the **Define Groups** button to bring up the Define Groups window (above right). Under **Group 1** type the number code for the first sample (in the example above this is *1*). Under **Group 2** type the number code for the first sample (in the example above this is *2*). Click Continue and then OK.

The key elements of the output are:

Group Statistics

	Sex	N	Mean	Std. Deviation	Std. Error Mean
Bone Density Measurement (g/square cm)	female	20	.8147	.11152	.02494
	male	20	.8800	.08709	.01947

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Bone Density Measurement (g/square cm)	Equal variances assumed	1.527	.224	-2.061	38	.046	-.06520	.03164	-.12925	-.00115
	Equal variances not assumed			-2.061	35.892	.047	-.06520	.03164	-.12938	-.00102

STATISTIC ***DEGRESS OF FREEDOM*** ***P***

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