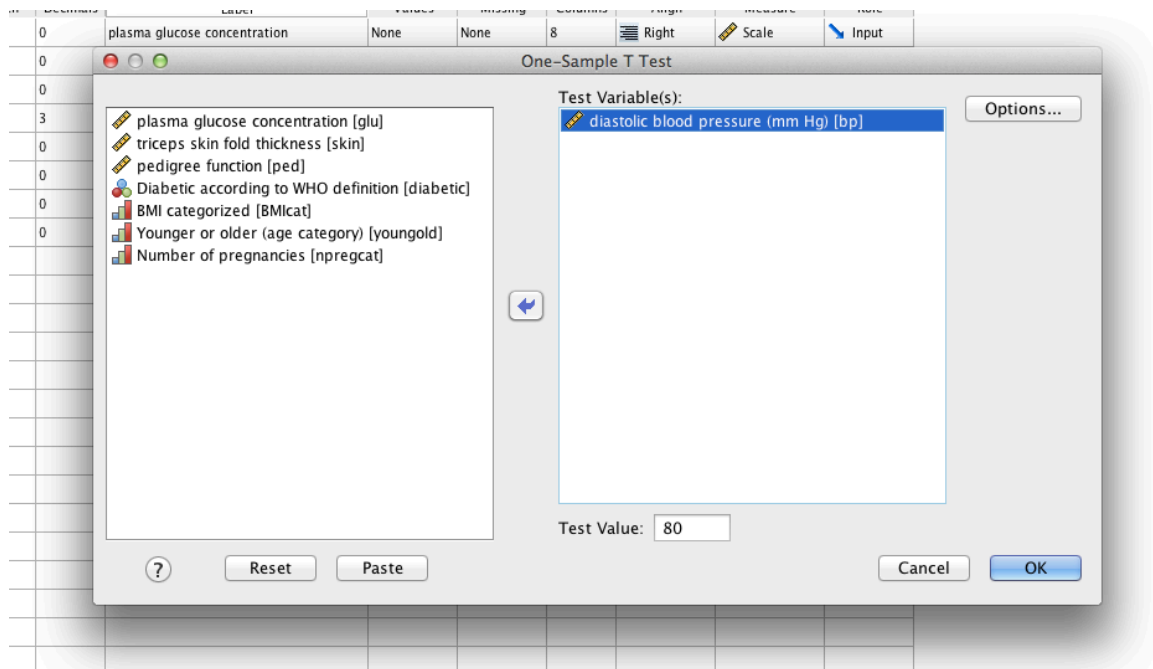


SPSS Tutorial 2: *t*-tests

1. The dataset for this tutorial is the same as in the first tutorial: **diabetes_data2.sav** (a *.sav file is an SPSS dataset, if you want to use other software, you can use **diabetes_data2.csv** instead, though some information will be lost (variable descriptions, variable level definitions, etc.))
2. First, do a one-sample *t*-test to determine whether the average diastolic blood pressure (bp) differs from the value 80. The test function can be found under the menu Analyze->Compare Means->One-Sample T Test.



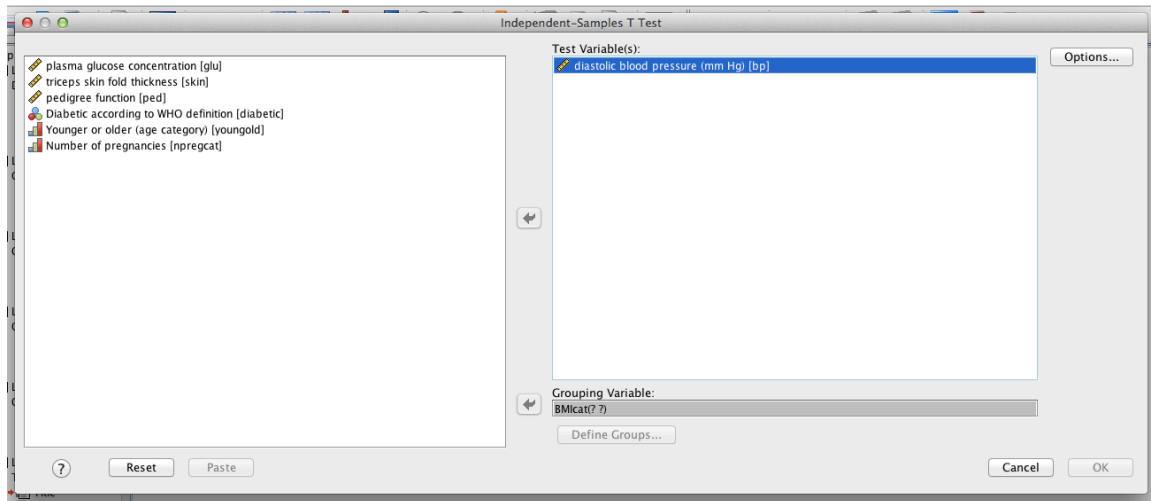
Make sure to move diastolic blood pressure to the test variable box. Enter the value 80 in the “Test Value” box at the bottom of the window. Then press Okay.

3. Check the table in the output. What can you say about the mean diastolic blood pressure from these results?

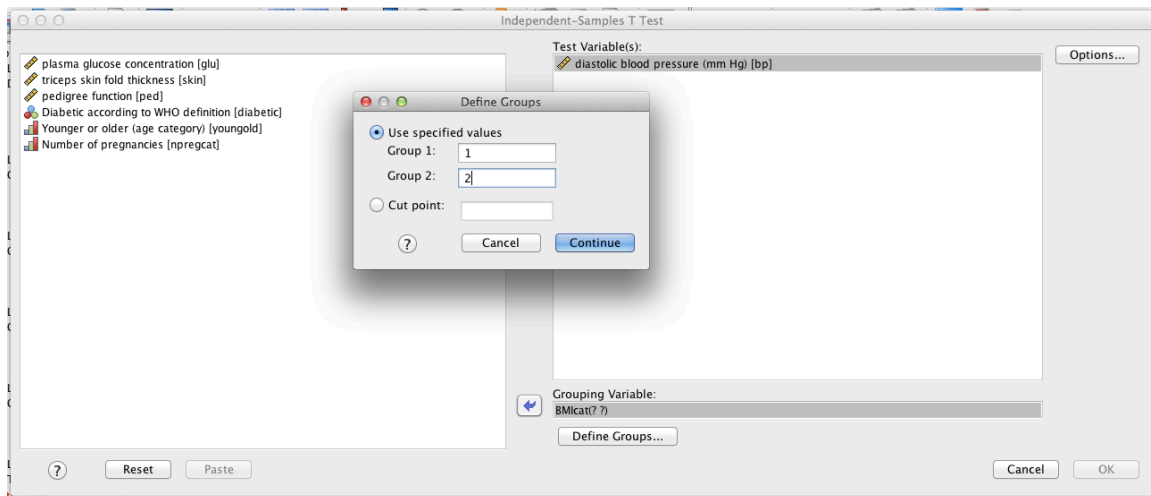
One-Sample Test						
	Test Value = 80					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
diastolic blood pressure (mm Hg)	-10.767	199	.000	-8.740	-10.34	-7.14

p-value <0.001

- Do an independent-samples *t*-test to compare diastolic blood pressure (bp) in the higher/lower BMI categories (BMICat). This can be found under the menu Analyze->Compare Means->Independent-samples T test. Put diastolic blood pressure as a test variable, and categorized BMI as the grouping variable.



Click on “Define Groups” and enter the numbers 1 and 2 to define the two groups (this corresponds to the 1’s and 2’s you see under BMICat in the data view... this could also be text... e.g. “male”/“female”). Press “Continue” and “Okay”.



- Check the output for the test. What can you conclude?

Independent Samples Test									
		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower Upper
diastolic blood pressure (mm Hg)	Equal variances assumed	.018	.894	-2.606	198	.010	-4.172	1.601	-7.329 -1.016
	Equal variances not assumed			-2.606	197.620	.010	-4.172	1.601	-7.329 -1.015

6. Perform another independent-samples t -test to compare the mean plasma glucose concentration (glu) in the young/old groups (youngold). Who has higher plasma glucose concentration on average? Is the difference significant?