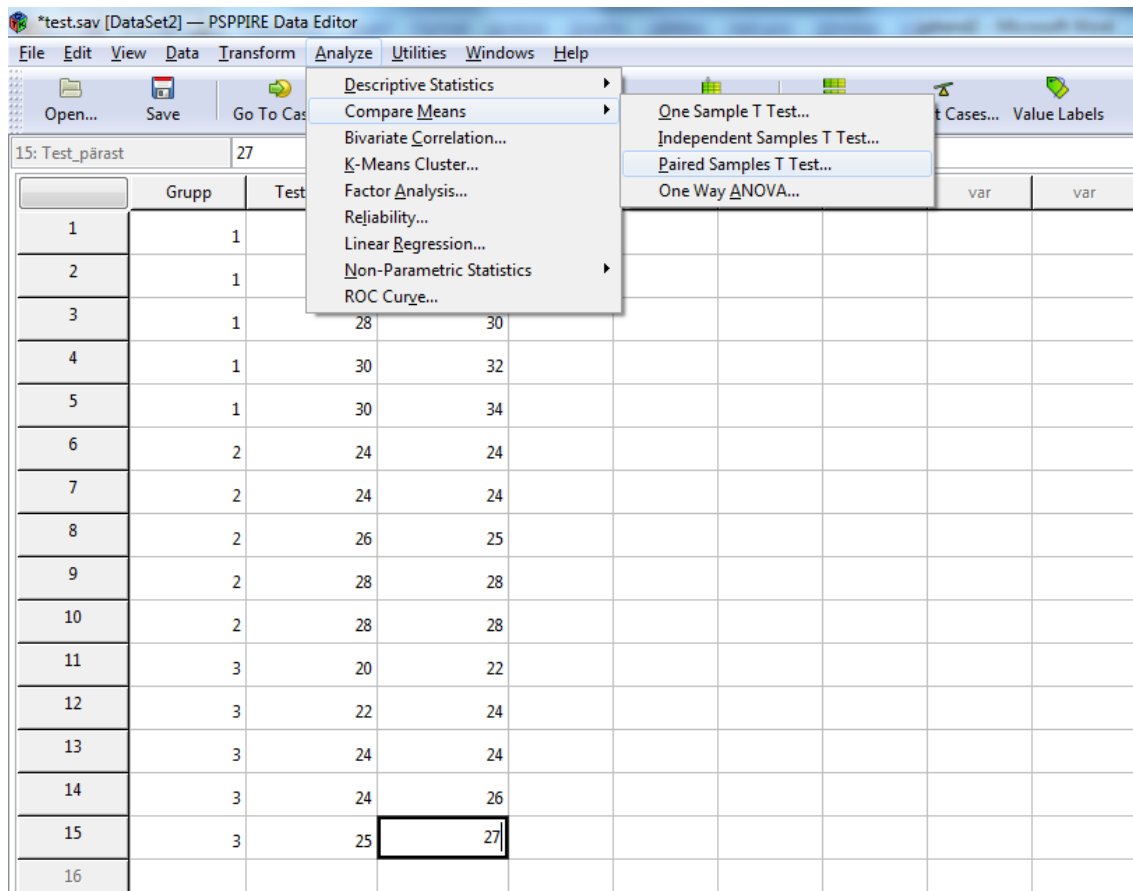


## T-test (kahe sõltuva grupi keskväärtuste võrdlemine)

Kas pärast õpetamist on testi tulemused paranenud? Kas erinevus on statistiliselt oluline?

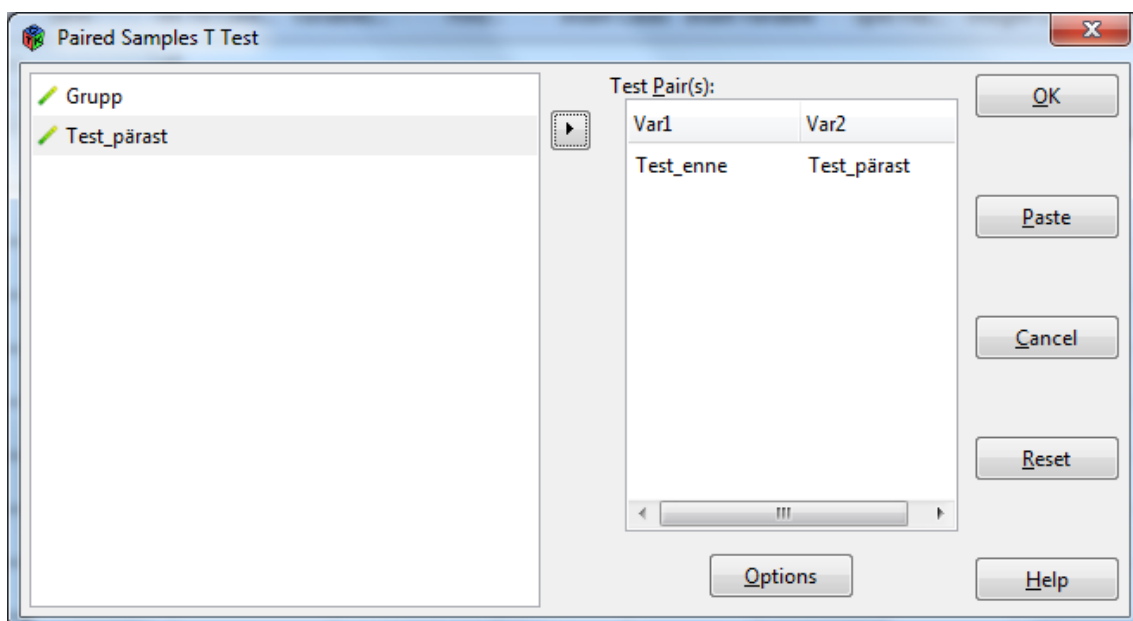
### Analyze/Compare Means/Paired Samples T Test



The screenshot shows the SPSS Data Editor window with a dataset named 'test.sav'. The data is organized into columns: 'Grupp' and 'Test'. The 'Test' column has two columns of data, with the second column containing values from 27 to 34. The 'Analyze' menu is open, and the path 'Compare Means > Paired Samples T Test...' is selected.

	Grupp	Test		
1	1			
2	1			
3	1	28	30	
4	1	30	32	
5	1	30	34	
6	2	24	24	
7	2	24	24	
8	2	26	25	
9	2	28	28	
10	2	28	28	
11	3	20	22	
12	3	22	24	
13	3	24	24	
14	3	24	26	
15	3	25	27	
16				

Vali esimene testitav tunnus ning vii noolega *Test Pair* väljale. Vali teine tunnus ning vii samuti *Test Pair* väljale



Tulemused esitatakse *Output* failis järgmiselt:

Paired Sample Statistics				
	Mean	N	Std. Deviation	S.E. Mean
Pair 0 Test_enne	25,67	15	2,85	,73
Test_pärast	26,87	15	3,29	,85

Paired Samples Correlations			
	N	Correlation	Sig.
Pair 0 Test_enne & Test_pärast	15	,90	,00

Paired Samples Test									
		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 0	Test_enne - Test_pärast	-1,20	1,42	,37	-1,99	-,41	-3,26	14	,01

Vastus meie esitatud küsimusele on alumises tabelis:

Oleme tõestanud, et pärast õpetamist on tulemused paranenud (H1),  $\alpha < 0,01$

\*\*\*\*\*

Sama ülesande tulemus SPSS-s on järgmine:



#### T-Test

[DataSet1] C:\Users\Kasutaja\Desktop\imke\test.sav

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Test_enne	25,67	15	2,845	,735
	Test_pärast	26,87	15	3,292	,850

Paired Samples Correlations			
	N	Correlation	Sig.
Pair 1 Test_enne & Test_pärast	15	,902	,000

Paired Samples Test									
		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	Test_enne - Test_pärast	-1,200	1,424	,368	-1,989	-,411	-3,263	14	,006