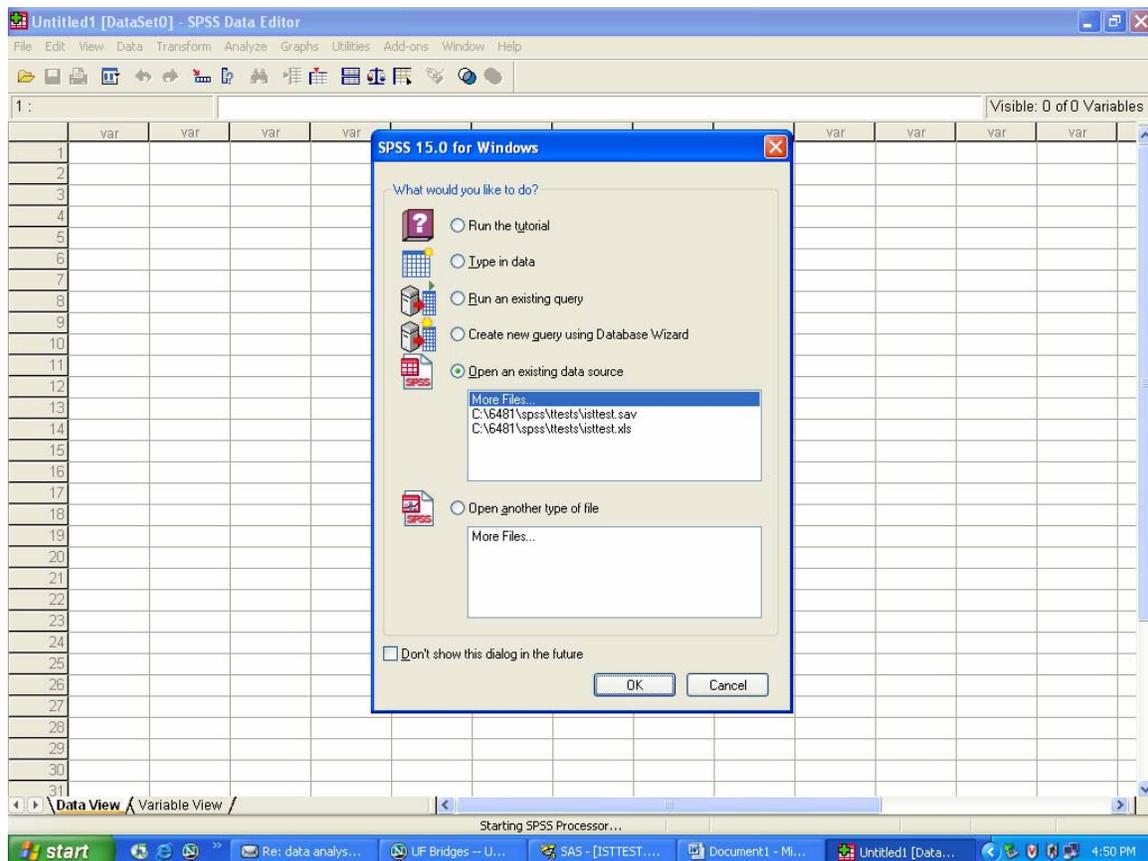


Independent Samples *t* test

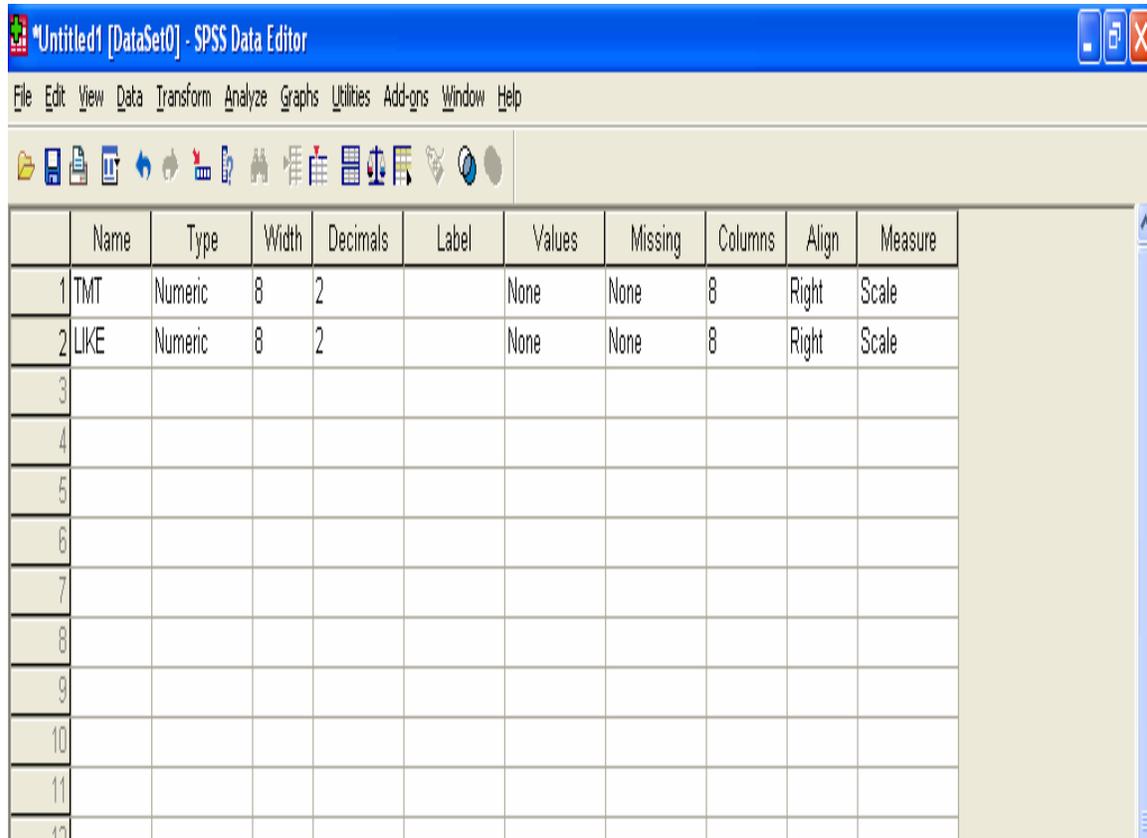
This example uses data from Stroeb, Insko, Thompson, and Layton (1972) in the Journal of Personality and Social Psychology. Each college student in the study reviewed materials describing a student of the opposite sex. The materials had been constructed to express opinions that were either similar or dissimilar to those held by the experimental students. Students were randomly assigned to the two conditions: similarity and dissimilarity. Among the data collected were ratings, on a 7-point scale, of how much the experimental student liked the target student.

When you start SPSS, the following will appear



Click on cancel and the SPSS data editor opens in the data view:

Click on the white space in row 1 under name and you can type in the name of your first variable. Continue on for as many variables as you have. In my example I have two variables. The first is called TMT, consists of the numbers 1 and 2, and indicates which the level (similarity or dissimilarly) to which a student was assigned. The second is called LIKE and indicated the liking rating.



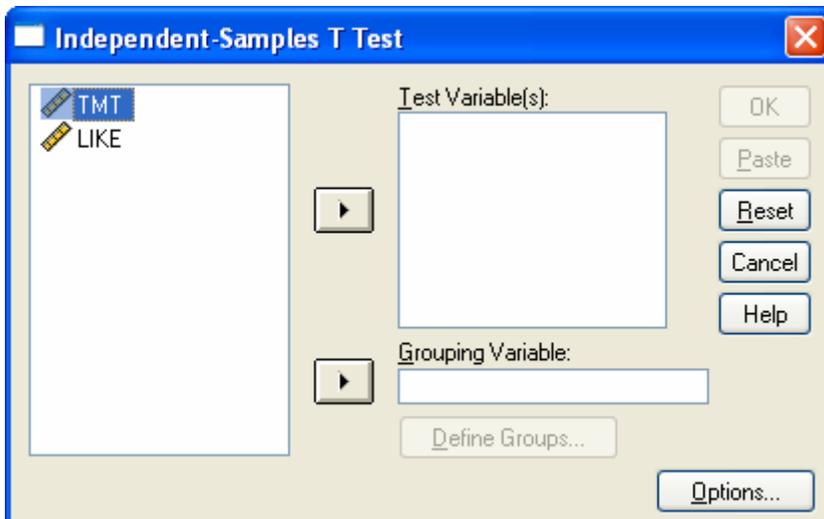
The click on the data view tab at the bottom of the window and once it opens begin typing the data. On the next page is an example:

The screenshot displays the SPSS Data Editor window for a dataset named 'Untitled2 [DataSet1]'. The window shows a grid with 31 rows and 2 columns. The first column is labeled 'TMT' and the second column is labeled 'LIKE'. The data values are as follows:

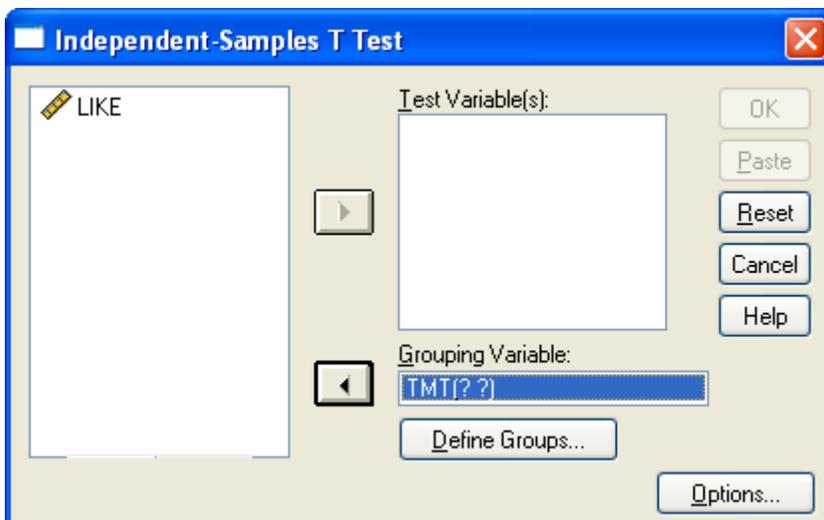
Row	TMT	LIKE
1	1	7
2	1	7
3	1	7
4	1	7
5	1	7
6	1	7
7	1	7
8	1	7
9	1	7
10	1	7
11	1	7
12	1	7
13	1	6
14	1	6
15	1	6
16	1	6
17	1	6
18	1	6
19	1	6
20	1	6
21	1	6
22	1	6
23	1	6
24	1	6
25	1	6
26	1	6
27	1	6
28	1	6
29	1	6
30	1	6
31	1	6

The interface includes a menu bar (File, Edit, View, Data, Transform, Analyze, Graphs, Utilities, Add-ons, Window, Help), a toolbar with various icons, and a status bar at the bottom indicating 'SPSS Processor is ready'.

Once the data are typed in, click on analyze → compare means → independent samples t test. The following screen is displayed



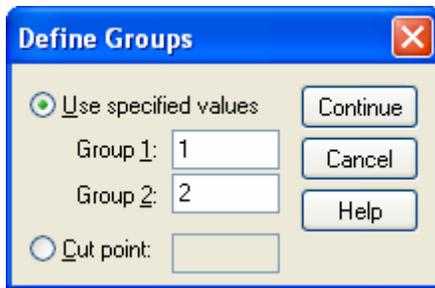
Note that TMT is highlighted. Click on the arrow next to Grouping Variable and you get the following screen:



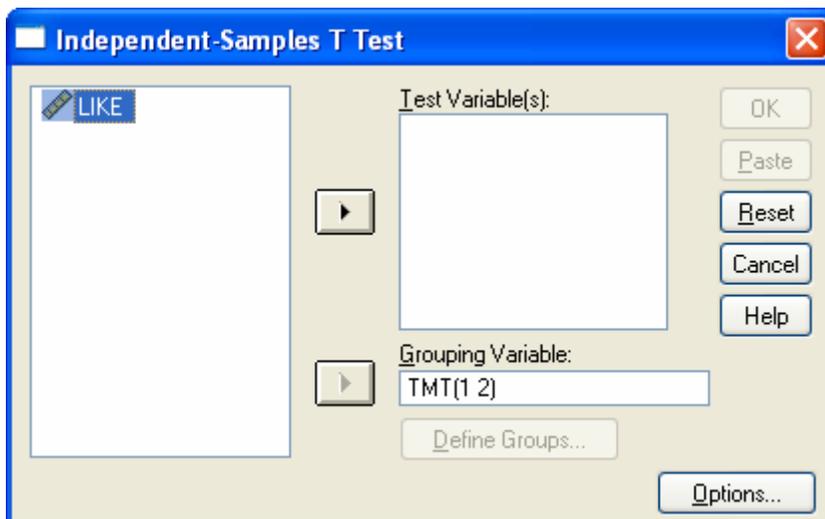
Click on define groups to get the following screen:



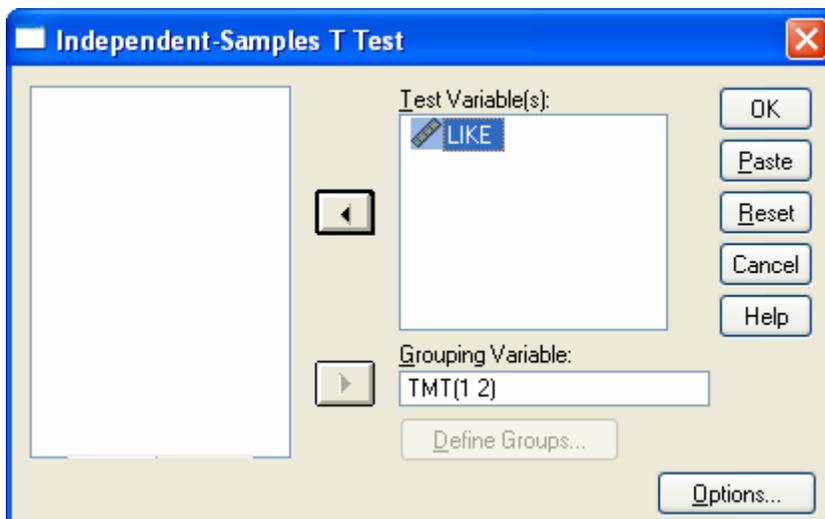
Type 1 in the white space opposite Group 1: and 2 in the white space opposite Group 2:



Click Continue. In the following screen



Highlight LIKE and click on the arrow for the Test Variable(s): slot. The screen shows



Click OK. Here are the results:

```

GET
  FILE='C:\6481\spss\ttests\isttest.sav'.
DATASET NAME DataSet1 WINDOW=FRONT.
T-TEST
  GROUPS = TMT(1 2)
  /MISSING = ANALYSIS
  /VARIABLES = LIKE
  /CRITERIA = CI(.95) .

```

T-Test

[DataSet1] C:\6481\spss\ttests\isttest.sav

Group Statistics

	TMT	N	Mean	Std. Deviation	Std. Error Mean
LIKE	1	60	5.70	1.124	.145
	2	60	3.27	1.364	.176

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	
LIKE	Equal variances assumed	2.176	.143	10.664	118	.000	2.433	.228	1.981	2.885
	Equal variances not assumed			10.664	113.864	.000	2.433	.228	1.981	2.885

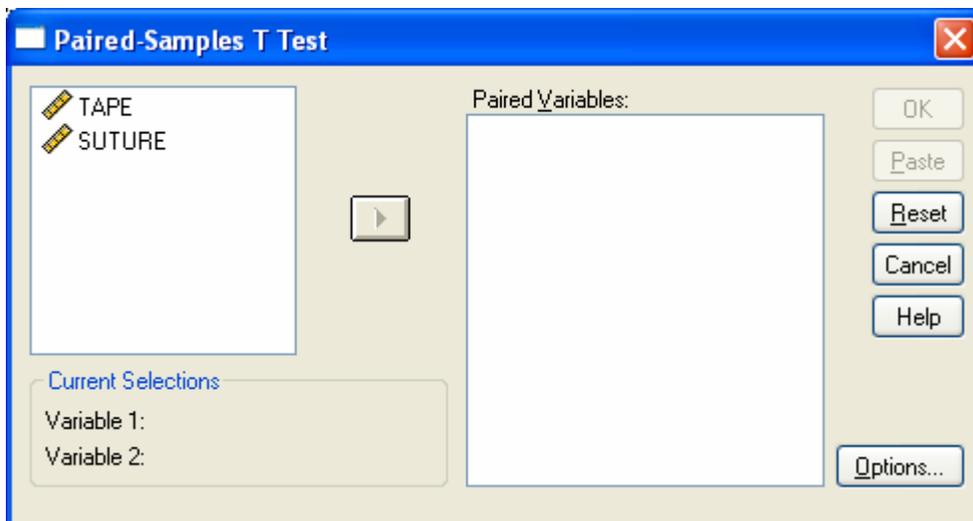
Dependent Samples t test

Ten rats were incised on either side of the back. One incision was closed with tape, the other with sutures. The method used to close the incisions was determined randomly. The data are a measure of the tensile strengths of the wounds, ten days after they were closed. These data are used to illustrate calculation of the dependent samples t test.

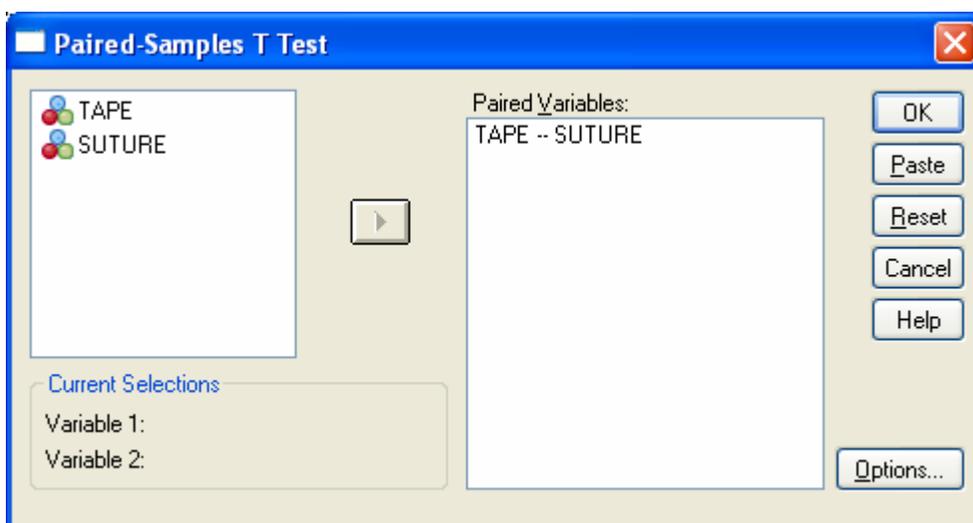
Follow the same steps as in the independent samples t test to input the data, but do not input an indicator for the treatment. Instead input one variable for each level of the within-subjects factor. In my example the first one is TAPE and the second is SUTURE. TAPE contains the tensile strength measurements for tape-closed wounds and SUTURE contains the tensile strength measurements for suture-closed wounds.

	TAPE	SUTURE	var						
1	659	452							
2	984	587							
3	397	460							
4	574	787							
5	447	351							
6	479	277							
7	676	234							
8	761	516							
9	647	577							
10	577	513							
11									
12									
13									
14									
15									
16									
17									
18									
19									

Click Analyze → Compare means → Paired-Sample T Test to get the following screen:



Highlight TAPE and SUTURE and use the arrow to move these variables to the Paired Variables: slot:



Then click OK. The results are on the following page,

T-Test

[DataSet1] C:\6481\spss\ttests\dsttests.sav

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	TAPE	620.10	10	170.381	53.879
	SUTURE	475.40	10	162.217	51.298

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	TAPE & SUTURE	10	.288	.420

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	TAPE - SUTURE	144.700	198.556	62.789	2.662	286.738	2.305	9	.047