INDEPENDENT GROUPS T-TEST

To run one or more independent groups t-tests, specify the grouping variable (here, sex) and the two values that represent the groups to compare (here, 1 and 2). SPSS will perform a separate t-test for each dependent variable that you specify on the second line (here, nc and ach100).

```
t-test groups = sex(1,2)
   /vars = nc ach100 .
```

T-Test

Group Statistics

	Sex 1=m 2=f	N	Mean	Std. Deviation	Std. Error Mean
Need for Cognition	male	28	3.85936	.35909	6.786E-02
	female	78	3.61161	.62739	7.104E-02
Achievement, 100 cases	male	28	.35359	8.8279E-02	1.668E-02
	female	78	.38851	8.5837E-02	9.719E-03

The first part of the output (above) shows you the sample size, mean, and standard deviation for each group being compared (here, males and females).

The second part of the output (below) shows you the actual t-test results. You can use Levene's test to determine whether the group variances are approximately equal (i.e., whether the homogeneity of variance assumption is satisfied). As a rule of thumb, if the p value for Levene's test (labeled as "Sig.") is greater than or equal to .05, the group variances do not differ enough to be concerned about, and you can use the "Equal variances assumed" line to look up the t-test results. If the Levene test p value is less than .05, you can use the "Equal variances not assumed" line instead to adjust for unequal group variances. The t value, degrees of freedom, and p value (labeled "Sig. (2-tailed)") appear to the right.

For the analyses conducted here, note that Levene's test suggests that group variances differ appreciably for the Need for Cognition variable. The t-test results, t(83.46) = 2.52, p = .014, reveal a reliable group difference. Levene's test suggests that group variances do not differ for Achievement, and the t-test results, t(104) = -1.83, p = .070, reveal a marginally reliable group difference. You would need to consult the group means listed above to help interpret the results of each t-test.

Independent Samples Test

		Levene's Test for Equality of Variances	
		F	Sig.
Need for Cognition	Equal variances assumed	11.161	.001
	Equal variances not assumed		
Achievement, 100 cases	Equal variances assumed	.011	.917
	Equal variances not assumed		

Independent Samples Test

		t-test for Equality of Means			
		t	df	Sig. (2-tailed)	Mean Difference
Need for Cognition	Equal variances assumed	1.973	104	.051	.24775
	Equal variances not assumed	2.522	83.455	.014	.24775
Achievement, 100 cases	Equal variances assumed	-1.833	104	.070	-3.49E-02
	Equal variances not assumed	-1.809	46.556	.077	-3.49E-02

Independent Samples Test

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Need for Cognition	Equal variances assumed	.12558	-1.3E-03	.49677
	Equal variances not assumed	9.8243E-02	5.24E-02	.44313
Achievement, 100 cases	Equal variances assumed	1.9052E-02	-7.3E-02	2.85E-03
	Equal variances not assumed	1.9308E-02	-7.4E-02	3.92E-03