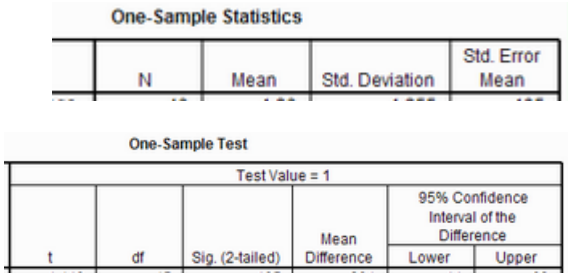
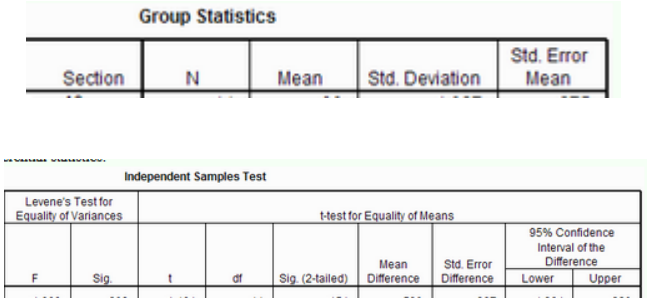
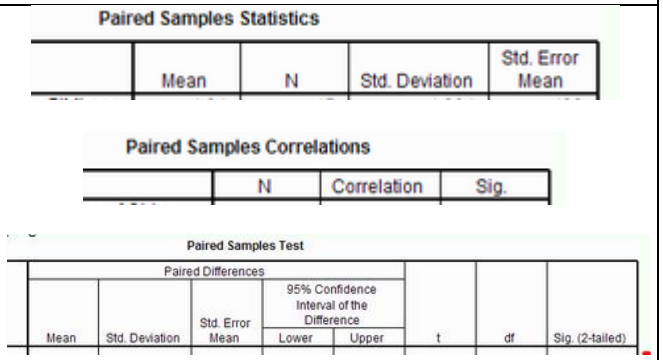
One Sample t-Tests	Independent Sample t-tests	Pair Sample t-tests
Determine if the mean from a sample is different from a particular value	Compare the mean of two different samples	Compare the mean of a variable under different conditions
H_0: there is no difference between the tested mean and the value H_1: there is larger/smaller than the tested mean and the value If $p \leq \alpha$, then reject H_0 ; otherwise, fail to reject H_0	H_0: there is no difference in the tested variable between the two groups H_1: there is difference in the tested variable between the two groups If $p \leq \alpha$, then reject H_0 ; otherwise, fail to reject H_0	H_0: there is no difference between the two conditions H_1: there is difference between the two conditions If $p \leq \alpha$, then reject H_0 ; otherwise, fail to reject H_0
Analyze – Compare Means – One-Sample T Test ➢ Select the desired variable. ➢ Paste	Analyze – Compare Means – Independent-Samples T Test ➢ Test Variable box: select the desired variable. ➢ Group variable box: define the two groups ➢ Continue. ➢ Paste.	Analyze - Compare Means – Paired-Sample T Test ➢ Select a pair of variables ➢ Paste
t-test **/testval= ?** **variables= Tested-Variable** *? in testval is the particular value that we want to compare our mean with. **For example**, if we want to compare the mean of our tested variable, "grade," with "100," then our test val is 100, thus the code will be: t-test /testval = 1**00** variables = **grade**	**t-test groups=Grouped-Variable(? ?)** **/variables=Tested-Variable.** *(? ?) is the two independent group. **For example**, if we need to test for a math score, "math," for the "gender" variable, with "0" is male and "1" is female, then the code will be: t-test groups = **gender (0 1)** /variables = **math**	**t-test** **pairs= Variable1 with Variable2 (paired).** **For example**, students need to take an English exam including two sections: reading and writing. Each section gives its own score as 'reading' and 'writing.' We want to compare the test score of students in these two sections, then the code will be: t-test pairs = **reading** with **writing** (paired)
		
A *t* test **<failed/succeeded>** to reveal a statistically reliable difference between the mean of **<tested-variable (M, s)>** and **<tested-value>, *t*(<df>), *p**** (* $p \leq \alpha$ or $> \alpha$ depending on whether we reject or fail to reject H_0)	A *t* test **<failed/succeeded>** to reveal a statistically reliable difference between the mean number of **<tested-variable>** in **<group1 (M_1 , s_1)>** and **<group 2 (M_2, s_2)>, *t*(<df>), *p**** (* $p \leq \alpha$ or $> \alpha$ depending on whether we reject or fail to reject H_0)	A paired samples *t* test **<failed/succeeded>** to reveal a statistically reliable difference between the mean number of **<condition1 (M_1, s_1)>** and **<condition 2 (M_2, s_2), *t*(<df>), *p**** (* $p \leq \alpha$ or $> \alpha$ depending on whether we reject or fail to reject H_0)