Dependent t-test — Analysis of 2-within-Group Data with a Quantitative DV

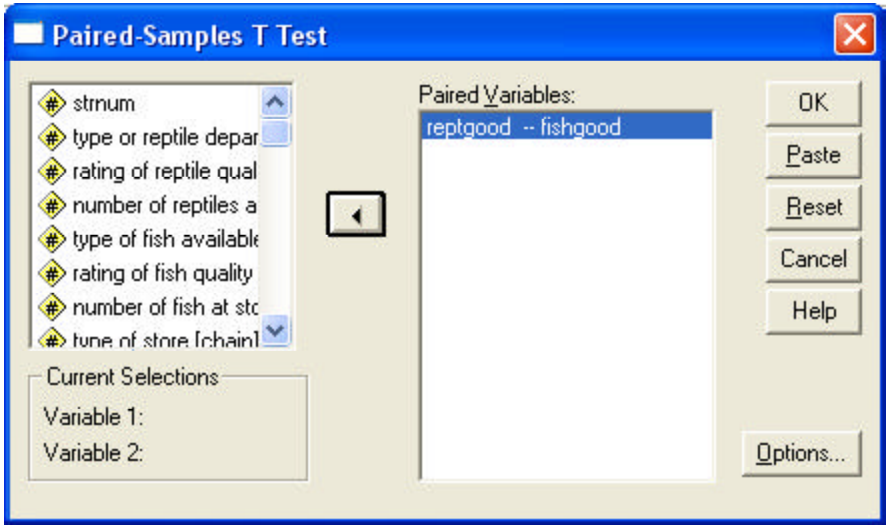
Application: To compare the means of two quantitative variables obtained from dependent samples (repeated measures or matched groups). The two scores might be the same variable measured at two different times or under two different conditions, two comparable variables measured at the same time, or some combination.

Research Hypothesis: The researcher hypothesized that a store's fish would be of higher quality than its reptiles, because of the greater difficulty obtaining and maintaining healthy reptiles.

H0: for this analysis: The quality ratings of reptiles and fish displayed by pet stores have the same means.

Analyze ➔ Compare Means ➔ Paired-Samples T-Test

- highlight the **two** variables that are the DV for the two IV conditions and click the arrow



Output:

the “pairs=” subcommand specifies a dependent t-test be completed on all pairs of the variables listed.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	‘rating of reptile quality - 1-10 scale’	5.67	12	2.50	.72
	‘rating of fish quality - 1-10 scale’	6.67	12	2.15	.62

Univariate statistics for reptgood

Univariite statistics for fishgood

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	‘rating of reptile quality - 1-10 scale’ & ‘rating of fish quality - 1-10 scale’	12	-.311	.325

This tells the correlation between the two variables.

This is the p-value for the t-test

There is no difference between the mean quality rating of the fish and the reptiles in these stores.

Paired Samples Test

		Paired Differences			t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean			
Pair 1	‘rating of reptile quality - 1-10 scale’ - ‘rating of fish quality - 1-10 scale’	-1.00	3.77	1.09	-.920	11	.377

Reporting the Results

Contrary to the research hypothesis, there was no difference between the mean quality ratings given to fish (mean = 5.67, std = 2.50) and those given to reptiles (mean = 6.67, std = 2.15) in these stores (t(11) = -.92, p = .377).