Why should I use a paired t test?

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To perform this test, select **Stat** > **Basic Statistics** > **Paired t**.

Use this analysis to:

- Determine whether the mean of the differences between two paired samples target value)
- Calculate a range of values that is likely to include the population mean of the

For example, suppose managers at a fitness facility want to determine whether thei program is effective. Because the "before" and "after" samples measure the same s test is the most appropriate analysis.

The paired t-test calculates the difference within each before-and-after pair of meas determines the mean of these changes, and reports whether this mean of the differ significant.

A paired t-test can be more powerful than a 2-sample t-test because the latter inclu variation occurring from the independence of the observations. A paired t-test is no variation because the paired observations are dependent. Also, a paired t-test does samples to have equal variance. Therefore, if you can logically address your researc paired design, it may be advantageous to do so, in conjunction with a paired t-test, t statistical power.

The paired t-test also works well when the assumption of normality is violated, but underlying distribution is symmetric, unimodal, and continuous. If the values are hig might be appropriate to use a nonparametric procedure, such as a 1-sample sign te

For Paired t, the hypotheses are:

Null hypothesis

H_0: $\mu_d = \mu_0$	The population mean of the differences (μ_d) equ hypothesized mean of the differences (μ_0).

Alternative hypothesis

Choose one:

H_1: $\mu_d \neq \mu_0$	The population mean of the differences (μ_d) doe hypothesized mean of the differences (μ_0).
H_1: $\mu_d > \mu_0$	The population mean of the differences (μ_d) is gr hypothesized mean of the differences (μ_0).
H_1: $\mu_d < \mu_0$	The population mean of the differences (μ_d) is le hypothesized mean of the differences (μ_0).

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