$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\left(\frac{(N_1-1)s_1^2 + (N_2-1)s_2^2}{N_1 + N_2 - 2}\right)\left(\frac{1}{N_1} + \frac{1}{N_2}\right)}}$$

Social Science Statistics

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\left(\frac{(N_1-1)s_1^2 + (N_2-1)s_2^2}{N_1 + N_2 - 2}\right)\left(\frac{1}{N_1}\right.}}$$

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Effect Size Calculator for T-Test

For the independent samples T-test, Cohen's d is determined by calculating the mean difference between your two groups, and then dividing the result by the *pooled* standard deviation.

Cohen's $d = (M_2 - M_1) / SD_{pooled}$

where:

$SD_{pooled} = \sqrt{(SD_1^2 + SD_2^2) / 2}$

Glass's Delta and Hedges' G

Cohen's d is the appropriate effect size measure if two groups have similar standard deviations and are of the same size. Glass's *delta*, which uses only the standard deviation of the control group, is an alternative measure if each group has a different standard deviation. Hedges' g, which provides a measure of effect size weighted according to the relative size of each sample, is an alternative where there are different sample sizes. (This is important! If you've got different sample sizes then you should use Hedges' g.)

Enter Your Values

Please enter the sample mean (M), sample standard deviation (s) and sample size (n) for each group. Two things to note: (1) if you intend to report Glass's *delta*, then you need to enter your control group values as *Group 1*; and (2) if you don't provide values for n, the calculator will still calculate Cohen's d and Glass's *delta*, but it won't generate a value for Hedges' g.

Group 1	*Group 2*
Mean (M):	Mean (M):
Standard deviation (s):	Standard deviation (s):
Sample size (n):	Sample size (n):

[Calculate]

Please enter your values in the boxes above, and press the "Calculate" button.

Cohen's d: Not yet calculated

Glass's *delta*: Not yet calculated

Hedges' g: Not yet calculated