Mean & SD Conversions

This Includes:

1) Standard Error between two groups to SD (σ):

If you want to estimate standard deviation (σ) from Standard Error (SE) between two groups, define the following values:
a) Standard Error between two groups
b) Sample size of Experimental group (Ne)
c) Sample size of Control group (Nc)

Put each of which into the corresponding cell of the Inputs >> click calculate >>
you'll get the standard deviation for both groups in the Outputs squares

Inputs	
SE to find the SD	
SE	
Ne	
Nc	

Output	
σ	

The output was calculated upon the following equation:

$$SD = \frac{SE}{\sqrt{\frac{1}{N_E} + \frac{1}{N_C}}}$$

Example:

$$SD = \frac{1.37}{\sqrt{\frac{1}{25} + \frac{1}{22}}} = 4.69$$

2) P- value between two groups to SD(σ):

If you want to estimate standard deviation (σ) from P-value between two groups,
define the following values:
a) P-value (between two groups)
b) Sample size of Experimental group (Ne)
c) Sample size of Control group (Nc)
d) Difference in means (two groups)

Inputs 1	
P-value between groups	
p-value	
Ne	
Nc	
Output 1	
t-value	

Inputs 2	
t-value to find the SE	
t-value	
Difference in means	
Output 2	
SE	

Inputs 3	
SE to find the SD	
SE	
Ne	
Nc	
Output 3	
σ	

1) Put P- value, (Ne) and (Nc) into the corresponding cell of Input 1 >> Output 1 (t-value)
2) Put difference in means into the corresponding cell in the Input 2 >> Standard Error(SE)

Note:

*Once you add Ne,Nc, t-value and SE, they'll directly transported into their other similar cells

The final output will be Standard deviation (σ) for both groups

The output was calculated upon the following equations:

$$SE = \frac{MD}{t} \quad \text{then} \quad SD = \frac{SE}{\sqrt{\frac{1}{N_E} + \frac{1}{N_C}}}$$

3) Confidence Intervals between two groups to SD(CIs)(σ):

If you want to estimate standard deviation (σ) from Confidence Intervals between two groups, define the following values:

a) Upper limit

b) Lower limit

c) Sample size of Experimental group (Ne)

d) Sample size of Control group (Nc)

e) % CIs used(Usually 95% CI)

Input 1	
Confidence Intervals to find the SD	
Upper limit	
Lower limit	
% CI used	
Ne	
Nc	
divisor	

Inputs 2	
SE to find the SD	
SE	
Ne	
Nc	

Output 2	
σ	

Output 1	
SE	

1) Put Upper limit, Ne and Nc into the corresponding cell of Input 1 >> Output 1 (SE)

* Note:

Once you add Ne, Nc and Calculate SE in output 1 >> these data will be transported into the corresponding cells of the output 2

Finally, you'll get the standard deviation(σ) for both groups in the Outputs squares

The Output was calculated upon the following equations:

SE = (upper limit − lower limit)/3.92

$$SD = \frac{SE}{\sqrt{\frac{1}{N_E} + \frac{1}{N_C}}}$$

(1) 1. Higgins JPT, Green S. Cochrane handbook for systematic reviews of interventions. 2008.