# Relation between Shieh’s d and Cohen’s d, when n1=n2?

## General formula

|  |  |
| --- | --- |
| Shieh’s δ | Cohen’s δ |
| =  = *(because n = N/2)*  =  = | =  = *(because N =2n)*  =  =  = |
| As a conclusion,   * **Cohen’s Shieh’s** (whatever) | |

# Relation between Shieh’s d and Cohen’s d, whatever n1=n2 or not, when sd1=sd2

**When sd1=sd2**, Shieh’s d can be expressed as a function of the n-ratio :

We know that the biggest shieh’s d is obtained when n1=n2. In that case :

Shieh=

One can deduce that the required correction in order to compute which measure of shieh we would have if n1 was equal to n2 is :

Correction = = =

It works as long as sd1=sd2.

Because we know that when n1=n2, **Cohen’s Shieh’s** , it means that when sd1=sd2,

**Cohen’s Shieh’s**

When using this formula, one has a measure that perfectly fit with Cohen’s d when there is homocedasticity, but that does not fit with Cohen’s d hen there is heteroscedasticity, which is exactly what we want !

* The question is : does this new measure meet all required mathematical properties met by Shieh’s d?