Effect sizes can be grouped in two families ([Rosenthal, 1994)](https://www.frontiersin.org/articles/10.3389/fpsyg.2013.00863/full#B39): The *d* family (consisting of standardized mean differences) and the *r* family (measures of strength of association).  – See lakens 2013

A further differentiation between effect sizes is whether they correct for bias or not (e.g., [Thompson, 2007](https://www.frontiersin.org/articles/10.3389/fpsyg.2013.00863/full#B44)). Population effect sizes are almost always estimated on the basis of samples, and all population effect size estimates based on sample averages overestimate the true population effect (for a more detailed explanation, see [Thompson, 2006](https://www.frontiersin.org/articles/10.3389/fpsyg.2013.00863/full#B43)). Therefore, corrections for bias are used (even though these corrections do not always lead to a completely unbiased effect size estimate). In the *d* family of effect sizes, the correction for Cohen's *d* is known as Hedges' *g*, and in the *r* family of effect sizes, the correction for eta squared (η2) is known as omega squared (ω2).

**Calculating effect sizes to estimate the magnitude of an effect**

**Between-subjects design** (Cohen’s ds):

Diagram, schematic

Description automatically generated

**Within-subjects design** (Cohen’s dz):

Text

Description automatically generated

To quantify the Cohen’s d effect size, the following rule is used: ~0.2 = Low effect size, ~0.5 = Moderate effect size, and ~ 0.8+ = High effect size

Reference for the above:

Lakens, D. (2013). Calculating and reporting effect sizes to facilitate cumulative science: a practical primer for t-tests and ANOVAs. *Frontiers in psychology, 4*, 863.

I usually perform the above calculations after the statistical tests to explore the differences further (so these are not representative of sample size).

There are many calculators for estimating effect sizes online, but I use this one:

<https://lbecker.uccs.edu>