

Calculate by hand

Imagine we have two independent groups (20 Ss in each group). We want to know what the power is of a particular two-tailed experiment (with an α level of 0.05) where the difference between the group means is 2, and σ is 5.

δ	$\alpha = 0.05$
1	0.17
1.1	0.2
1.2	0.22
1.3	0.26
1.4	0.29
1.5	0.32

For the same experiment, how many total Ss would we need to have a design with a Power of 0.8?

Please work this out long hand first of all. Then use G*Power to check your answer.

δ	$\alpha = 0.05$
2.6	0.74
2.7	0.77
2.8	0.8
2.9	0.83
3	0.85
3.1	0.87