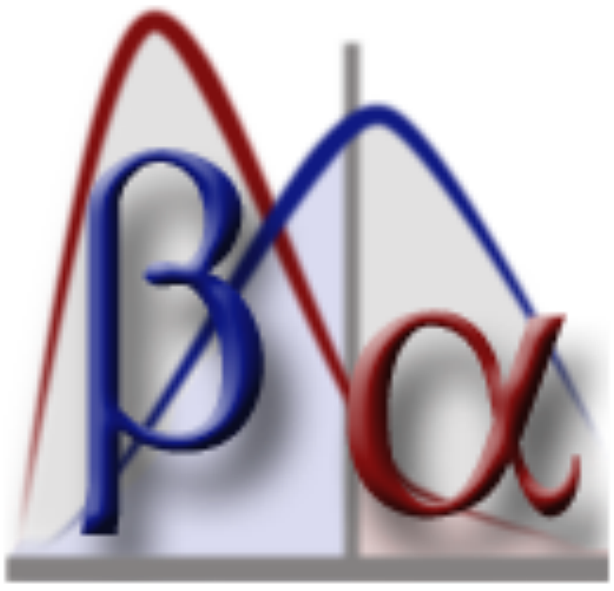
For other power analyses, more involved equations are required. Luckily we don't have to be proficient in using them in order to do power analyses. A powerful (and free) program is available.

G*Power
www.psycho.uni-duesseldorf.de/abteilungen/aap/gpower3/



- G*Power covers statistical power analyses for many different statistical tests such as: t test, F test, χ2-test. z test and some exact tests.

- G*Power offers five different types of statistical power analysis:

    - A priori (sample size N is computed as a function of power level 1-β, significance level α, and the to-be-detected population effect size)

    - Compromise (both α and 1-β are computed as functions of effect size, N, and an error probability ratio q = β/α)

    - Criterion (α and the associated decision criterion are computed as a function of 1-β, the effect size, and N)

    - Post-hoc (1-β is computed as a function of α, the population effect size, and N)

    - Sensitivity (population effect size is computed as a function of α, 1-β, and N)

- G*Power is available for Mac OS X and Windows. **G*Power is free.**