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if(!require(pwr)){
  install.packages("pwr",
  repos="http://ftp.heanet.ie/mirrors/cran.r-project.org/")
  # install.packages("pwr", lib="/home/tuusuario/R/x86_64-pc-linux-gnu-library/2.15", repos="http://ftp.heanet.ie/mirrors/cran.r-project.org/")
}

require(pwr)

# What is the power of a one-tailed t-test, with a significance level of 0.01, 25 people in each group, and an effect size equal to 0.75?
pwr.t.test(n=25,d=0.75,sig.level=.01,alternative="greater")
cat("</br></br>")

# Using a two-tailed test proportions, and assuming a significance level of 0.01 and a common sample size of 30 for each proportion, what effect size can be detected with a power of .75?
pwr.2p.test(n=30,sig.level=0.01,power=0.75)
cat("</br></br>")

# For a one-way ANOVA comparing 5 groups, calculate the sample size needed in each group to obtain a power of 0.80, when the effect size is moderate (0.25) and a significance level of 0.05 is employed.
pwr.anova.test(k=5,f=.25,sig.level=.05,power=.8)
cat("</br></br>")

{RR}
sig.level = 0.01
power = 0.5988572
alternative = greater

NOTE: n is number in *each* group

Difference of proportion power calculation for binomial distribution (arcsine transformation)

    h = 0.8392269
    n = 30
    sig.level = 0.01
    power = 0.75
    alternative = two.sided

NOTE: same sample sizes

Balanced one-way analysis of variance power calculation

    k = 5
    n = 39.1534
    f = 0.25
    sig.level = 0.05
    power = 0.8

NOTE: n is number in each group