

The APP Procedure for estimating the Cohen's effect size

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Abstract

Cohen's d which indexes the difference in means in standard deviation units, is the most popular effect size measure in the social sciences and economics. Not surprisingly, researchers have developed statistical procedures for estimating sample sizes needed to have a desirable probability of rejecting the null hypothesis given assumed values for Cohen's d , or for estimating sample sizes needed to have a desirable probability of obtaining a confidence interval of a specified width. However, for researchers interested in using the sample Cohen's d to estimate the population value, these are insufficient. Therefore, it would be useful to have a procedure for obtaining sample sizes needed to be confident that the sample Cohen's d to be obtained is close to the population parameter the researcher wishes to estimate, an expansion of the a priori procedure (APP). We derive the necessary mathematics, provide computer simulations, provide links to free and user-friendly computer programs, and analyze real data sets for illustration of our main results.