

## Epi Brown-Bag

### A primer on post-hoc power analysis

Sometimes it happens that editors ask about a post-hoc power analysis esp. in cases of no significant findings (of course you should have performed an appropriate sample size estimation). To our understanding, a post hoc power analysis is meaningless. To convince your editor you might cite these papers:

1. [The importance of statistical power.](#)
2. [Observed power, and what to do if your editor asks for post-hoc power analyses](#)
3. [Post hoc power analysis: is it an informative and meaningful analysis?](#)

In brief, as most studies are conducted based on a random sample from a study population of interest, results from power analysis - performed after the data have been analyzed (post-hoc) - become meaningless, as the random component in the study disappears once data are collected. Furthermore, such power estimates are not informative in indicating probability to detect statistically significant differences already observed.