

Power Analysis for Program Evaluation
Level I: Defining and Understanding Statistical Power

Key Word Definitions:

Study design—the set of methods and procedures used by researchers that provide an overall strategy for integrating different study components, such as sampling, data collection, and analysis.

Sample size—the number of experimental units (e.g., sites, organizations, people) observed over a given number of time points or measures.

Impact estimate—the computed difference between study groups (e.g., treatment and control) associated with the program or intervention in the units of the outcome (e.g., ACT scores, income dollars, etc.)

Statistical analysis-- methods used to estimate the size of the program or intervention's impact and its statistical significance, assuming a particular study design.

Effect size—the impact estimate standardized into a scale-free statistic (Cohen's d, correlation, etc.)

Significance level—the likelihood of the statistical result (or more extreme) assuming the null hypothesis is true.

Standard error, Margin of error, Confidence level—various metrics used to estimate statistical significance that are based on the estimated uncertainty of the sampled data.