

Sample Size/Power Analysis:

Some things to think about before contacting your friendly statistician

UCLA School of Nursing Office of Research & Innovation

Statistical Support Core

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1. *What's a ballpark estimate for a feasible sample size (think in terms of financial, practical, credible...)?* You might need to change your mind on this when statistical power computations are done—but at least it gives the statistician something to think about.
2. *What are your specific aims and hypotheses (or at least general research questions as a place to start)?* E.g. a) are you looking at differences between groups, simple relationships, complex relationships, patterns? b) do you need to consider mediating/moderating variables or covariates? c) is the primary focus on feasibility/acceptability of an intervention component (pilot study) or on formal hypothesis testing?
3. *What are other important aspects of design, e.g. number of groups, number of observations over time?*
4. *What are outcome variables and how are they measured, e.g. will subjects give or get a “score” value on a scale or variable or will variables be yes/no or other categorical type (i.e., interval vs. nominal level, or continuous/normally distributed vs. categorical)?* Bring examples of typical descriptive stats for such variables, e.g. means and standard deviations, from these measures for a comparable sample (pilot data or results of other similar or related studies). What would you expect to be the “usual” values (without intervention) in your sample? To do a complete job of power analysis, one should look at required sample size for every outcome and hypothesis—but you might be able to get by looking at 2-3 primary variables for major hypotheses.
5. *Do you already have a particular type of analysis in mind?* If so, do you have an example of a similar type of study that has used the analysis?
6. *What size effects (e.g. how big a difference between groups or how strong a relationship) would you... a) expect to find (based on results from pilot data or from other studies in the literature) or b) would be clinically interesting? or c) have been found in related studies?* Best if you have pilot data with effect sizes (or statistics that can be used to calculate effect sizes, e.g. means & standard deviations or correlations) as relevant to the analyses you're planning to do. If no pilot data, then what can you find in the literature for studies with similar topics & populations?