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Choose Your Level of Analysis before You Begin Your Study

The information you and your audience need from your program evaluation should dictate the complexity of your quantitative analysis.

Decide how you will use your data before you collect it. In other words, if you want to test formal hypotheses with significance tests, you should design your evaluation with that end in mind. If you collect your data before you know what you want to do with it, you run the risk of not collecting information that can help answer your central evaluation question. You also run the risk of not satisfying your stakeholders.

One way to think about what level of analysis you want to use for your program evaluation is to think about analyzing numerical data at three different levels – Basic, Intermediate or Advanced.

Levels of Analysis

Basic – Gives a straightforward description of your program participants and their characteristics. The descriptive statistics you use might include:

- Counts, frequencies, percentages
- Averages, if the data are numeric

Example of a statement that includes a basic level of analysis: Sixty percent of the June 2002 participants scored a 90 or above on the knowledge test.

Intermediate – Describes differences between groups. The statistical methods you use might include:

- Measures of association (correlation)
- Measures of change (related samples sign test)
- Measures of difference (independent samples t-test)

Example of a statement that includes an intermediate level of analysis:

Women were more likely than men to report washing the cutting board after cutting meat ($p < .05$). As you see in this example, the reporting of “p” or probability level implies significance testing.

Advanced – Examines relative influences of different factors on variables of interest; can also be used for prediction. The statistical methods you use could include:

- Linear regression for continuous variables
- Logistic regression for dichotomous variables
- Analysis of variance for more than two groups

Example of a statement that describes advanced analysis: Household income ($p < .001$) and years of education ($p < .05$), both significantly accounted for variance in pro-land use planning attitudes in the population studied.