

Statistical Approaches Useful for Outcome Evaluations

Descriptive analyses

Descriptive statistics are used to organize and make your data understandable and should be provided for each analysis. They include percentages, measures of central tendency and variability, and ranges.

- Percentages indicated how, for example, reentry program participants differ from jail inmates in general.
- Measures of central tendency: statistics that inform you about the most common score around which other scores tend to cluster, which allows you to compare two or more groups in terms of typical performance.
 - Mean: the average score.
 - Median: the middle score.
 - Mode: the most frequently occurring score.
- Range is the difference between the largest and smallest measurements in a sample.
- Standard deviation is the statistic that expresses the degree of variation by measuring how spread out the distribution of each score is around its mean.

Bivariate statistics

Bivariate analysis, analyzing the relationship of one variable to another, is at the core of many statistical questions. The goal is usually to see whether two variables are related (correlated).

Basic bivariate analyses often include cross-tabulations which present the relationship between two variables by showing their joint frequency in a cross-tabulation table.

For example, you might find that only 30 percent of participants who received cognitive-behavioral programming before and after release were reincarcerated within a year, compared with 60 percent who did not receive the programming. Chi square statistics will tell us whether the two variables considered are statistically associated with one another.

Multivariate statistics

Often many variables need to be incorporated into your analysis to understand the relationship between the initiative or program and the outcome, since people are very complex and rarely is a single variable the reason why someone acts the way they do.

For example, the previous bivariate example found that that only 30 percent of participants who received cognitive-behavioral programming before and after release were reincarcerated within a year, compared with 60 percent who did not receive the

programming. With a multivariate analysis, we could factor in other variables, such as age, gender, risk and needs scores, educational level, and type of program, to determine how much of the outcome is influenced by these variables.

You may want to work with researchers at a nearby university or college when designing your outcome evaluation. Some jails are reluctant to work with academics for fear that the findings will be misinterpreted or used without their permission. More often, problems surface from the focus and timing of the study and the different needs and interests of academic researchers and jail practitioners. These concerns may be offset with a memorandum of understanding with the university or by engaging university officials fully with overarching system initiatives, criminal justice councils, or other efficiency initiatives tied with jurisdiction-wide improvement of the criminal justice system. A template for such a memorandum of understanding is provided at the end of this section.