

BRIDGE Patient to Investigator Training Optional Module Overview of Statistical Analysis Key Terms and Definitions

Analysis of Variance (ANOVA): Analysis of variance is used to determine whether there are any statistically significant differences between the means of three or more independent (unrelated) groups.

Causation: Causation means one variable or event is 100 percent responsible for another event or variable.

Chi-Square Test: Chi-square tests tell you how significant the differences between groups are when using proportions; in other words, it lets you know if those differences comparing proportions (two thirds compared to one half) could have happened by chance.

Clinical Significance: If a study has clinical significance, its results or findings will be of practical use to health care providers and patients.

Correlation: A statistical calculation of if and how much two paired variables are related.

Demographics: Demographics are statistical data relating to a study's participants, such as age, race, sex, income, education, etc.

Mean: The mean is the average of a set of numbers.

Median: The middle of a sorted list of numbers is the median. To find the median, place the numbers in value order and find the middle number. When there are two middle numbers, the average of those two numbers is the median.

Mode: The mode is the number which occurs most often in a set of numbers.

P Value: *P* value is the way significance is reported statistically. *P* value measures how likely the results could have just occurred from chance. The lower a *p* value, the more “real” the results (not a result of coincidence). The results of a study are statistically significant when *p* value is ≤ 0.05 ; In other words, there is a 5 percent or less likelihood that the results are due to chance.

Quantitative data: Data which can be measured and given a numeric value and shown in tables and graphs.

Regression Analysis: Regression analysis is used to find trends in data. It provides an equation that can be used to graph the data, which can often show predictions that can be made from the data.

Statistics: Statistics is a branch of math focused on the collection, analysis, interpretation and presentation of numerical data or information.

Statistical Significance: Statistical significance is the measurement of how confident we are that a difference or relationship exists between two variables and is not just a result of chance.

T-Test: T-tests tell you how significant the differences between groups are; In other words it lets you know if those differences (measured in means/averages) could have happened by chance.