

SUMMARY

- ★ Analyzing qualitative data is an inductive process, involving the reduction of information that has been collected by organizing it into important themes and patterns.
 - The reduction of qualitative data is typically accomplished through the development of a coding scheme, which is used to group data that provide similar types of information.
 - The process of coding narrative data often necessitates rereading your data numerous times.
 - Once all narrative data have been coded, the main features of each of the categories must be described.
 - The final step of analyzing qualitative data involves the interpretation of the data that have been coded into categories.
 - Reflection throughout the process of inductive analysis is an essential component to remaining objective and open-minded while gaining a better understanding of your data.
 - Numerous computer software programs can aid the researcher with the organization and categorization of narrative data.
- ★ Analysis of quantitative data is a deductive process, using descriptive or inferential statistics.
- ★ Descriptive statistics are relatively simple mathematical procedures used to simplify, summarize, and organize large amounts of numerical data.

- Three categories of descriptive statistics include measures of central tendency, dispersion, and relationship.
 - Three measures of central tendency, which describe what is typical about a group, are the mean, the median, and the mode.
 - Two measures of dispersion, which indicate how much spread or diversity exists within a group of scores, are the range and the standard deviation.
 - A correlation coefficient is used to measure the degree of relationship that exists between two variables.
 - Data can also be “described” visually through the use of frequency distribution tables and such graphs as histograms, bar charts, and pie charts.
- ★ Inferential statistics are used to determine how likely a given statistical result is for an entire population, based on data collected from a smaller sample from that population.
- The most common types of inferential statistical tests are the independent-measures t test, the repeated-measures t test, analysis of variance, and the chi-square test.
 - An independent-measures t test is appropriate for designs where two groups are compared on a common dependent variable.
 - A repeated-measures t test is appropriate for designs involving two measures (such as a pretest and a posttest) on the same group.
 - Analysis of variance (or ANOVA) is appropriate for designs where more than two groups are being compared on a common dependent variable.
 - Chi-square analysis is used when data exist as frequency counts within categories.
 - Inferential statistics help the researcher determine statistical significance, which indicates a true difference between groups being compared, as opposed to differences due only to chance.
 - Statistical significance is determined by comparing the obtained p -value to the preestablished α -level, usually 0.05 in educational research studies.
 - When the p -value is less than the α -level, the results are said to be statistically significant.
 - There are numerous computer software programs available to assist in the analysis of numerical data.